

Circuit protection.

Eaton's global range of high quality low voltage and medium voltage circuit protection products cover a vast array of solutions ideally suitable for residential, commercial, industrial, alternative energy and utility market segments offering both advanced circuit breaker and fuse protection technologies to maximise the operational availability, safety and integrative capacity of your system. Combined with Eaton's world class assembly solutions no matter whether you need an individual electrical application or a fully integrated system, Eaton has the best solution to increase your electricity related performance to cut your operating costs.



EATON
Powering Business Worldwide

IEC DIN MCB

| | |
|--|-------|
| Residential/Commercial/Industrial MCBs, RCDs & RCBOs | pg 3 |
| Controlling & switching devices | pg 14 |
| DIN MCB chassis | pg 17 |

IEC MCCB

| | |
|---|-------|
| NZM family overview | pg 19 |
| NZM thermomagnetic type | pg 21 |
| NZM electronic type | pg 23 |
| NZM motor protection type | pg 24 |
| NZM switch disconnectors | pg 24 |
| NZM auxiliary contacts | pg 25 |
| NZM undervoltage & shunt trip release devices | pg 26 |
| NZM handles and locking devices | pg 27 |
| NZM shroud and connection kits | pg 28 |
| NZM remote operators and mechanical interlocks | pg 29 |
| NZM paralleling mechanisms, energy metering and communication | pg 30 |
| NZM earth leakage protection | pg 31 |
| NZM chassis | pg 33 |
| SASY 60i busbar system | pg 35 |

Air circuit breakers

xEnergy

LV Switchgear

| | |
|---------------------------------|-------|
| QM switch disconnectors | pg 42 |
| Dumeco panelboard switches | pg 42 |
| Dumeco switches & disconnectors | pg 43 |
| QSA switches & disconnectors | pg 45 |
| QA switches & disconnectors | pg 47 |
| K-Line series handles | pg 48 |
| Q-line/Dumeco accessories | pg 49 |
| MEMPROOF Isolators | pg 51 |

Fusegear

| | |
|--|-------|
| House service fuse chassis | pg 52 |
| Street lighting products | pg 52 |
| Photo electric controllers | pg 52 |
| Bussmann series BS88 industrial fuse links | pg 54 |
| Bussmann series mining & traction fuses & fuse holders - 1200v | pg 66 |
| Bussmann series DIN industrial fuses & fuse holders | pg 67 |
| Bussmann series high speed fuse links. | pg 73 |
| Bussmann series solar products. | pg 87 |
| Bussmann series North American fuse links & fuse holders. | pg 89 |
| Bussmann series medium voltage fuse links. | pg 93 |
| Bussmann series miniature & automotive fuse links. | pg 97 |

Quicklag MCB

| | |
|-------------------------------------|--------|
| Quicklag Miniature circuit breakers | pg 99 |
| ELQ Earth Leakage breaker | pg 99 |
| Quicklag accessories | pg 100 |
| Quickmov™ Surge Protection Device | pg 101 |
| Quicklag Chassis | pg 101 |
| Quicklag Dimensional data | pg 102 |
| Quicklag Technical data | pg 103 |
| LCQ Metal Loadcentres | pg 107 |

Aftermarket and Mining MCCB

| | |
|---------------------------------------|--------|
| Series C – F Frame MCCBs | pg 109 |
| The Rock – F Frame mining MCCBs | pg 109 |
| Series C – J Frame MCCBs | pg 111 |
| The Rock – J Frame mining MCCBs | pg 111 |
| Series C – K Frame MCCBs | pg 113 |
| The Rock – K Frame mining MCCBs | pg 113 |
| Series C – L Frame MCCBs | pg 115 |
| The Rock – L Frame mining MCCBs | pg 115 |
| Series G – N Frame MCCBs | pg 117 |
| The Rock – N Frame mining MCCBs | pg 117 |
| Series G – R Frame MCCBs | pg 119 |
| The Rock – R Frame mining MCCBs | pg 119 |
| Aftermarket MCCB comparison chart | pg 121 |
| The Rock mining MCCB application data | pg 122 |

xBoard panelboards

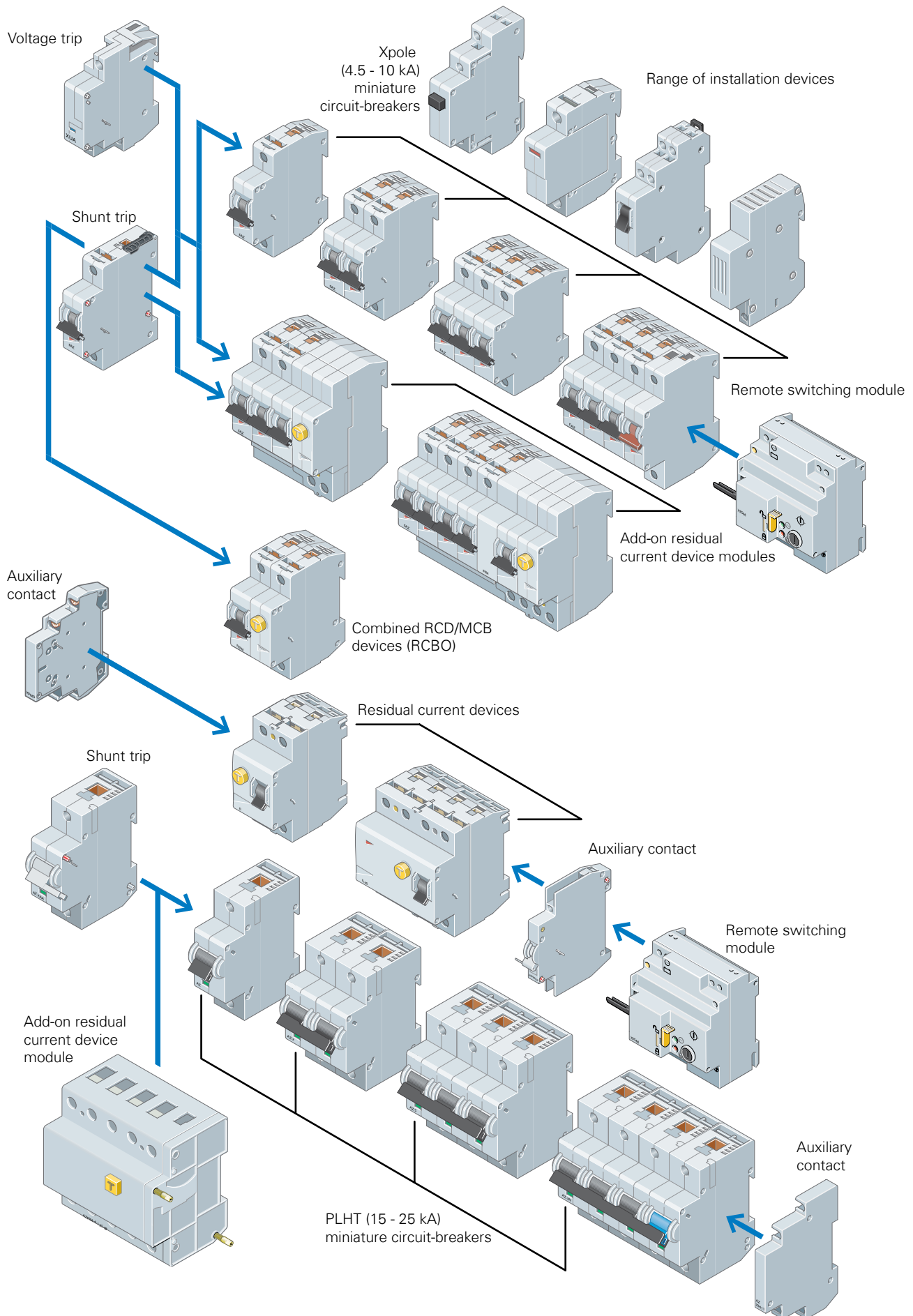
| | |
|--|--------|
| xBoard panelboards (xDB) | pg 125 |
| xBoard Plus panelboards (xDBP) | pg 126 |
| xBoard Weatherproof panelboards (xDBW) | pg 127 |
| xBoard Plus Quicklag panelboards (xDBPQ) | pg 129 |
| xBoard technical data | pg 130 |

Medium voltage products

| | |
|---|--------|
| Magnifix MD4 | pg 133 |
| XIRIA | pg 134 |
| XIRIA-E | pg 135 |
| Innovac SVS | pg 136 |
| W-VACi | pg 137 |
| T-VAC(R) medium voltage vacuum circuit breakers | pg 138 |
| SL medium voltage vacuum contactors | pg 139 |
| Power Xpert Ux | pg 140 |
| Power Xpert FMX | pg 141 |
| Medium voltage generator circuit breakers | pg 141 |

Circuit protection

IEC DIN MCB



Residential/commercial/industrial MCBs, RCDs & RCBOs

Main switches/isolating switches IS

| Rated uninterrupted current | Poles | Item no. |
|-----------------------------|-------|-----------------|
| Iu, A | | |
| 40 | 1 | IS-40/1 |
| 63 | 1 | IS-63/1 |
| 80 | 1 | IS-80/1 |
| 100 | 1 | IS-100/1 |
| 125 | 1 | IS-125/1 |
| 40 | 2 | IS-40/2 |
| 63 | 2 | IS-63/2 |
| 80 | 2 | IS-80/2 |
| 100 | 2 | IS-100/2 |
| 125 | 2 | IS-125/2 |
| 40 | 3 | IS-40/3 |
| 63 | 3 | IS-63/3 |
| 80 | 3 | IS-80/3 |
| 100 | 3 | IS-100/3 |
| 125 | 3 | IS-125/3 |
| 40 | 4 | IS-40/4 |
| 63 | 4 | IS-63/4 |
| 80 | 4 | IS-80/4 |
| 100 | 4 | IS-100/4 |
| 125 | 4 | IS-125/4 |



IS-63/1



IS-63/2



IS-63/3



IS-63/4

Miniature circuit breakers PLS4

- High-quality miniature circuit breakers for household applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- 48 VDC rating (per pole, max. 2 poles)
- Terminal capacity 1-25mm²
- Rated currents up to 63A
- Tripping characteristics C
- Rated breaking capacity 4.5kA according to IEC/EN 60898-1
- Australian Standards AS/NZS60898 Approval Number NSW16860



PLS4-C50/1-AU

| Rated current In, A | 1-Pole Item no. | 2-Pole Item no. | 3-Pole Item no. |
|--|----------------------|----------------------|----------------------|
| 4.5 kA, trip curve C: Rated current up to 63 A, Rated breaking capacity 4.5 kA to IEC/EN 60898 6 | | | |
| 6 | PLS4-C6/1-AU | PLS4-C6/2-AU | PLS4-C6/3-AU |
| 10 | PLS4-C10/1-AU | PLS4-C10/2-AU | PLS4-C10/3-AU |
| 16 | PLS4-C16/1-AU | PLS4-C16/2-AU | PLS4-C16/3-AU |
| 20 | PLS4-C20/1-AU | PLS4-C20/2-AU | PLS4-C20/3-AU |
| 25 | PLS4-C25/1-AU | PLS4-C25/2-AU | PLS4-C25/3-AU |
| 32 | PLS4-C32/1-AU | PLS4-C32/2-AU | PLS4-C32/3-AU |
| 40 | PLS4-C40/1-AU | PLS4-C40/2-AU | PLS4-C40/3-AU |
| 50 | PLS4-C50/1-AU | PLS4-C50/2-AU | PLS4-C50/3-AU |
| 63 | PLS4-C63/1-AU | PLS4-C63/2-AU | PLS4-C63/3-AU |



PLS4-C6/2-AU



PLS4-C10/3-AU

Residential/commercial/industrial MCBs, RCDs & RCBOs

Miniature circuit breakers PLS6



PLS6-C50/1-AU

- High-quality miniature circuit breakers for commercial & industrial applications
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- 48 VDC rating (per pole, max. 2 poles)
- Terminal capacity 1-25mm²
- Rated currents up to 63 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA according to IEC/EN 60898-1
- Australian Standards AS/NZS60898 Approval Number NSW16860



PLS6-C63/2-AU



PLS6-C25/3-AU

| Rated current In, A | 1-Pole Item no. | 2-Pole Item no. | 3-Pole Item no. | 4-Pole Item no. |
|--|-----------------|-----------------|-----------------|-----------------|
| 6 kA, trip curve B: Rated current up to 63 A, Rated breaking capacity 6 kA to IEC/EN 60898 | | | | |
| 6 | PLS6-B6/1-AU | PLS6-B6/2-AU | PLS6-B6/3-AU | PLS6-B6/4-AU |
| 10 | PLS6-B10/1-AU | PLS6-B10/2-AU | PLS6-B10/3-AU | PLS6-B10/4-AU |
| 16 | PLS6-B16/1-AU | PLS6-B16/2-AU | PLS6-B16/3-AU | PLS6-B16/4-AU |
| 20 | PLS6-B20/1-AU | PLS6-B20/2-AU | PLS6-B20/3-AU | PLS6-B20/4-AU |
| 25 | PLS6-B25/1-AU | PLS6-B25/2-AU | PLS6-B25/3-AU | PLS6-B25/4-AU |
| 32 | PLS6-B32/1-AU | PLS6-B32/2-AU | PLS6-B32/3-AU | PLS6-B32/4-AU |
| 40 | PLS6-B40/1-AU | PLS6-B40/2-AU | PLS6-B40/3-AU | PLS6-B40/4-AU |
| 50 | PLS6-B50/1-AU | PLS6-B50/2-AU | PLS6-B50/3-AU | PLS6-B50/4-AU |
| 63 | PLS6-B63/1-AU | PLS6-B63/2-AU | PLS6-B63/3-AU | PLS6-B63/4-AU |
| 6 kA, trip curve C: Rated current up to 63 A, Rated breaking capacity 6 kA to IEC/EN 60898 | | | | |
| 1 | PLS6-C1/1-AU | PLS6-C1/2-AU | PLS6-C1/3-AU | PLS6-C1/4-AU |
| 2 | PLS6-C2/1-AU | PLS6-C2/2-AU | PLS6-C2/3-AU | PLS6-C2/4-AU |
| 3 | PLS6-C3/1-AU | PLS6-C3/2-AU | PLS6-C3/3-AU | PLS6-C3/4-AU |
| 4 | PLS6-C4/1-AU | PLS6-C4/2-AU | PLS6-C4/3-AU | PLS6-C4/4-AU |
| 6 | PLS6-C6/1-AU | PLS6-C6/2-AU | PLS6-C6/3-AU | PLS6-C6/4-AU |
| 10 | PLS6-C10/1-AU | PLS6-C10/2-AU | PLS6-C10/3-AU | PLS6-C10/4-AU |
| 16 | PLS6-C16/1-AU | PLS6-C16/2-AU | PLS6-C16/3-AU | PLS6-C16/4-AU |
| 20 | PLS6-C20/1-AU | PLS6-C20/2-AU | PLS6-C20/3-AU | PLS6-C20/4-AU |
| 25 | PLS6-C25/1-AU | PLS6-C25/2-AU | PLS6-C25/3-AU | PLS6-C25/4-AU |
| 32 | PLS6-C32/1-AU | PLS6-C32/2-AU | PLS6-C32/3-AU | PLS6-C32/4-AU |
| 40 | PLS6-C40/1-AU | PLS6-C40/2-AU | PLS6-C40/3-AU | PLS6-C40/4-AU |
| 50 | PLS6-C50/1-AU | PLS6-C50/2-AU | PLS6-C50/3-AU | PLS6-C50/4-AU |
| 63 | PLS6-C63/1-AU | PLS6-C63/2-AU | PLS6-C63/3-AU | PLS6-C63/4-AU |

Miniature circuit breakers PLN6



PLN6-B6/1N

- Top-quality miniature circuit breakers 1P+N with a width of 1 module unit requiring little space for installation
- Contact position indicator red - green
- Guide for secure terminal connection
- Comprehensive range of accessories for subsequent installation
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA according to IEC/EN 60898
- Terminal capacity 1-16mm²
- Australian Standards AS/NZS60898 Approval Number NSW25330

| Rated current In, A | 1+N-Pole item no. |
|---------------------|-------------------|
| 6 kA, trip curve B | |
| 6 | PLN6-B6/1N |
| 10 | PLN6-B10/1N |
| 13 | PLN6-B13/1N |
| 16 | PLN6-B16/1N |
| 20 | PLN6-B20/1N |
| 25 | PLN6-B25/1N |
| 32 | PLN6-B32/1N |
| 40 | PLN6-B40/1N |
| 6 kA, trip curve C | |
| 6 | PLN6-C6/1N |
| 10 | PLN6-C10/1N |
| 13 | PLN6-C13/1N |
| 16 | PLN6-C16/1N |
| 20 | PLN6-C20/1N |
| 25 | PLN6-C25/1N |
| 32 | PLN6-C32/1N |
| 40 | PLN6-C40/1N |

Residential/commercial/industrial MCBs, RCDs & RCBOs

Miniature circuit breakers PLSM

- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Terminal capacity 1-25mm²
- 48 VDC rating (per pole, max. 2 poles)
- Rated currents up to 63 A
- Tripping characteristics B, C, D
- Rated breaking capacity 10 kA according to IEC/EN 60898-1
- Australian Standards AS/NZS60898 Approval Number NSW16860



PLSM-C32/1-AU

| Rated current In, A | 1-Pole Item no. | 2-Pole Item no. | 3-Pole Item no. | 4-Pole Item no. |
|------------------------|--------------------|--------------------|--------------------|--------------------|
|------------------------|--------------------|--------------------|--------------------|--------------------|

10 kA, trip curve B: Rated current up to 63 A, Rated breaking capacity 10 kA to IEC/EN 60898, Colour-coded toggle switch indicates current rating

| | | | | |
|----|---------------|---------------|---------------|---------------|
| 1 | PLSM-B1/1-AU | PLSM-B1/2-AU | PLSM-B1/3-AU | PLSM-B1/4-AU |
| 2 | PLSM-B2/1-AU | PLSM-B2/2-AU | PLSM-B2/3-AU | PLSM-B2/4-AU |
| 3 | PLSM-B3/1-AU | PLSM-B3/2-AU | PLSM-B3/3-AU | PLSM-B3/4-AU |
| 4 | PLSM-B4/1-AU | PLSM-B4/2-AU | PLSM-B4/3-AU | PLSM-B4/4-AU |
| 6 | PLSM-B6/1-AU | PLSM-B6/2-AU | PLSM-B6/3-AU | PLSM-B6/4-AU |
| 10 | PLSM-B10/1-AU | PLSM-B10/2-AU | PLSM-B10/3-AU | PLSM-B10/4-AU |
| 16 | PLSM-B16/1-AU | PLSM-B16/2-AU | PLSM-B16/3-AU | PLSM-B16/4-AU |
| 20 | PLSM-B20/1-AU | PLSM-B20/2-AU | PLSM-B20/3-AU | PLSM-B20/4-AU |
| 25 | PLSM-B25/1-AU | PLSM-B25/2-AU | PLSM-B25/3-AU | PLSM-B25/4-AU |
| 32 | PLSM-B32/1-AU | PLSM-B32/2-AU | PLSM-B32/3-AU | PLSM-B32/4-AU |
| 40 | PLSM-B40/1-AU | PLSM-B40/2-AU | PLSM-B40/3-AU | PLSM-B40/4-AU |
| 50 | PLSM-B50/1-AU | PLSM-B50/2-AU | PLSM-B50/3-AU | PLSM-B50/4-AU |
| 63 | PLSM-B63/1-AU | PLSM-B63/2-AU | PLSM-B63/3-AU | PLSM-B63/4-AU |

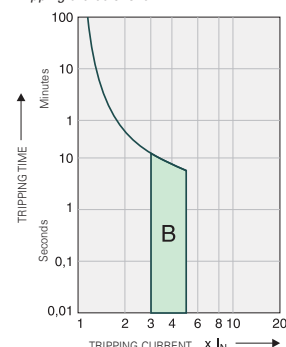
10 kA, trip curve C: Rated current up to 63 A, Rated breaking capacity 10 kA to IEC/EN 60898, Colour-coded toggle switch indicates current rating

| | | | | |
|----|---------------|---------------|---------------|---------------|
| 1 | PLSM-C1/1-AU | PLSM-C1/2-AU | PLSM-C1/3-AU | PLSM-C1/4-AU |
| 2 | PLSM-C2/1-AU | PLSM-C2/2-AU | PLSM-C2/3-AU | PLSM-C2/4-AU |
| 3 | PLSM-C3/1-AU | PLSM-C3/2-AU | PLSM-C3/3-AU | PLSM-C3/4-AU |
| 4 | PLSM-C4/1-AU | PLSM-C4/2-AU | PLSM-C4/3-AU | PLSM-C4/4-AU |
| 6 | PLSM-C6/1-AU | PLSM-C6/2-AU | PLSM-C6/3-AU | PLSM-C6/4-AU |
| 10 | PLSM-C10/1-AU | PLSM-C10/2-AU | PLSM-C10/3-AU | PLSM-C10/4-AU |
| 16 | PLSM-C16/1-AU | PLSM-C16/2-AU | PLSM-C16/3-AU | PLSM-C16/4-AU |
| 20 | PLSM-C20/1-AU | PLSM-C20/2-AU | PLSM-C20/3-AU | PLSM-C20/4-AU |
| 25 | PLSM-C25/1-AU | PLSM-C25/2-AU | PLSM-C25/3-AU | PLSM-C25/4-AU |
| 32 | PLSM-C32/1-AU | PLSM-C32/2-AU | PLSM-C32/3-AU | PLSM-C32/4-AU |
| 40 | PLSM-C40/1-AU | PLSM-C40/2-AU | PLSM-C40/3-AU | PLSM-C40/4-AU |
| 50 | PLSM-C50/1-AU | PLSM-C50/2-AU | PLSM-C50/3-AU | PLSM-C50/4-AU |
| 63 | PLSM-C63/1-AU | PLSM-C63/2-AU | PLSM-C63/3-AU | PLSM-C63/4-AU |

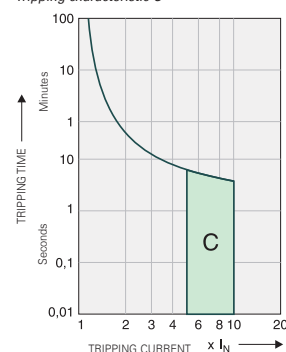
10 kA, trip curve D: Rated current up to 40 A, Rated breaking capacity 10 kA to IEC/EN 60898, Colour-coded toggle switch indicates current rating

| | | | | |
|----|---------------|---------------|---------------|---------------|
| 1 | PLSM-D1/1-AU | PLSM-D1/2-AU | PLSM-D1/3-AU | PLSM-D1/4-AU |
| 2 | PLSM-D2/1-AU | PLSM-D2/2-AU | PLSM-D2/3-AU | PLSM-D2/4-AU |
| 3 | PLSM-D3/1-AU | PLSM-D3/2-AU | PLSM-D3/3-AU | PLSM-D3/4-AU |
| 4 | PLSM-D4/1-AU | PLSM-D4/2-AU | PLSM-D4/3-AU | PLSM-D4/4-AU |
| 6 | PLSM-D6/1-AU | PLSM-D6/2-AU | PLSM-D6/3-AU | PLSM-D6/4-AU |
| 10 | PLSM-D10/1-AU | PLSM-D10/2-AU | PLSM-D10/3-AU | PLSM-D10/4-AU |
| 16 | PLSM-D16/1-AU | PLSM-D16/2-AU | PLSM-D16/3-AU | PLSM-D16/4-AU |
| 20 | PLSM-D20/1-AU | PLSM-D20/2-AU | PLSM-D20/3-AU | PLSM-D20/4-AU |
| 25 | PLSM-D25/1-AU | PLSM-D25/2-AU | PLSM-D25/3-AU | PLSM-D25/4-AU |
| 32 | PLSM-D32/1-AU | PLSM-D32/2-AU | PLSM-D32/3-AU | PLSM-D32/4-AU |
| 40 | PLSM-D40/1-AU | PLSM-D40/2-AU | PLSM-D40/3-AU | PLSM-D40/4-AU |

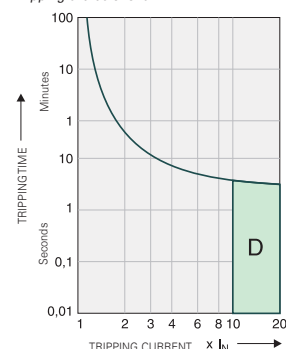
Tripping characteristic B



Tripping characteristic C



Tripping characteristic D



Residential/commercial/industrial MCBs, RCDs & RCBOs

Miniature circuit breakers PLHT

- High-quality miniature circuit breakers for commercial & industrial applications
- Contact position indicator red - green
- Accessories suitable for subsequent installation
- 60 VDC rating (per pole, max. 2 poles)
- Terminal capacity 2.5-50mm²
- 1.5 DIN modules per pole
- Rated currents up to 125 A
- Tripping characteristics B, C, D
- Rated breaking capacity up to 25 kA according to EN 60947-2



PLHT-B20/1-AA



PLHT-B25/2-AA



PLHT-B32/3-AA



PLHT-B25/4-AA



Z-LHASA/230

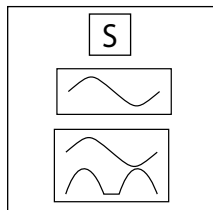
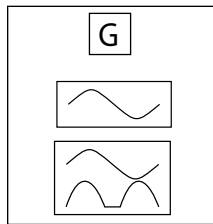
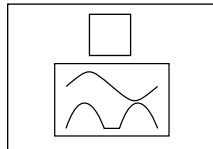
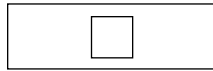
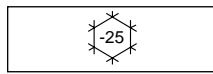
| Rated current I _n , A | kA rating | 1-Pole Item no. | 2-Pole Item no. | 3-Pole Item no. | 4-Pole Item no. |
|----------------------------------|-----------|-----------------|-----------------|-----------------|-----------------|
| Trip Curve B | | | | | |
| 20 | 25 | PLHT-B20/1-AA | PLHT-B20/2-AA | PLHT-B20/3-AA | PLHT-B20/4-AA |
| 25 | 25 | PLHT-B25/1-AA | PLHT-B25/2-AA | PLHT-B25/3-AA | PLHT-B25/4-AA |
| 32 | 25 | PLHT-B32/1-AA | PLHT-B32/2-AA | PLHT-B32/3-AA | PLHT-B32/4-AA |
| 40 | 25 | PLHT-B40/1-AA | PLHT-B40/2-AA | PLHT-B40/3-AA | PLHT-B40/4-AA |
| 50 | 25 | PLHT-B50/1-AA | PLHT-B50/2-AA | PLHT-B50/3-AA | PLHT-B50/4-AA |
| 63 | 25 | PLHT-B63/1-AA | PLHT-B63/2-AA | PLHT-B63/3-AA | PLHT-B63/4-AA |
| 80 | 20 | PLHT-B80/1-AA | PLHT-B80/2-AA | PLHT-B80/3-AA | PLHT-B80/4-AA |
| 100 | 20 | PLHT-B100/1-AA | PLHT-B100/2-AA | PLHT-B100/3-AA | PLHT-B100/4-AA |
| 125 | 15 | PLHT-B125/1-AA | PLHT-B125/2-AA | PLHT-B125/3-AA | PLHT-B125/4-AA |
| Trip Curve C | | | | | |
| 20 | 25 | PLHT-C20/1-AA | PLHT-C20/2-AA | PLHT-C20/3-AA | PLHT-C20/4-AA |
| 25 | 25 | PLHT-C25/1-AA | PLHT-C25/2-AA | PLHT-C25/3-AA | PLHT-C25/4-AA |
| 32 | 25 | PLHT-C32/1-AA | PLHT-C32/2-AA | PLHT-C32/3-AA | PLHT-C32/4-AA |
| 40 | 25 | PLHT-C40/1-AA | PLHT-C40/2-AA | PLHT-C40/3-AA | PLHT-C40/4-AA |
| 50 | 25 | PLHT-C50/1-AA | PLHT-C50/2-AA | PLHT-C50/3-AA | PLHT-C50/4-AA |
| 63 | 25 | PLHT-C63/1-AA | PLHT-C63/2-AA | PLHT-C63/3-AA | PLHT-C63/4-AA |
| 80 | 20 | PLHT-C80/1-AA | PLHT-C80/2-AA | PLHT-C80/3-AA | PLHT-C80/4-AA |
| 100 | 20 | PLHT-C100/1-AA | PLHT-C100/2-AA | PLHT-C100/3-AA | PLHT-C100/4-AA |
| 125 | 15 | PLHT-C125/1-AA | PLHT-C125/2-AA | PLHT-C125/3-AA | PLHT-C125/4-AA |
| Trip Curve D | | | | | |
| 20 | 25 | PLHT-D20/1-AA | PLHT-D20/2-AA | PLHT-D20/3-AA | PLHT-D20/4-AA |
| 25 | 25 | PLHT-D25/1-AA | PLHT-D25/2-AA | PLHT-D25/3-AA | PLHT-D25/4-AA |
| 32 | 25 | PLHT-D32/1-AA | PLHT-D32/2-AA | PLHT-D32/3-AA | PLHT-D32/4-AA |
| 40 | 25 | PLHT-D40/1-AA | PLHT-D40/2-AA | PLHT-D40/3-AA | PLHT-D40/4-AA |
| 50 | 25 | PLHT-D50/1-AA | PLHT-D50/2-AA | PLHT-D50/3-AA | PLHT-D50/4-AA |
| 63 | 25 | PLHT-D63/1-AA | PLHT-D63/2-AA | PLHT-D63/3-AA | PLHT-D63/4-AA |
| 80 | 20 | PLHT-D80/1-AA | PLHT-D80/2-AA | PLHT-D80/3-AA | PLHT-D80/4-AA |
| 100 | 15 | PLHT-D100/1-AA | PLHT-D100/2-AA | PLHT-D100/3-AA | PLHT-D100/4-AA |

Miniature circuit breakers PLHT accessories

| Description | Item no. |
|---|-------------|
| Auxiliary switch (0.5 MU) | Z-LHK |
| Shunt trip release 110-415 Vac (1.5 MU) | Z-LHASA/230 |
| Shunt trip release 12-60 Vac (1.5 MU) | Z-LHASA/24 |

Residential/commercial/industrial MCBs, RCDs & RCBOs

Short description of the most important RCD types:



AC

A

G

S

R

U

Eaton standard. Suitable for outdoor installation (distribution boxes for outdoor installation and building sites) up to -25° C.

Conditionally surge-current proof (>250 A, 8/20 μs) for general application.

RCD sensitive to pulsating DC for application where residual pulsating DC may occur. Non-selective, instantaneous. Protects only against special forms of residual pulsating DC which have not been smoothed.

RCD of type G (min 10 ms time delay) surge current-proof up to 3 kA. For system components where protection against unwanted tripping is compulsory to avoid personal injury and damage to property. Also for systems involving long lines and high line capacity. Some versions are sensitive to pulsating DC.

RCD of type S (selective, min 40 ms time delay) surge current-proof up to 5 kA. Mainly used as main switch according to ÖVE/ÖNORM E 8001-1 § 12.1.5, as well as in combination with surge arresters. This is the only RCD suitable for series connection with other types if the rated tripping current of the downstream RCD does not exceed one third of the rated tripping current of the device of type S. Some versions are sensitive to pulsating DC.

"X-ray-proof", for avoiding unwanted tripping caused by x-ray devices.

"Frequency converter-proof", for avoiding unwanted tripping caused by frequency converters, speed-controlled drives, etc.

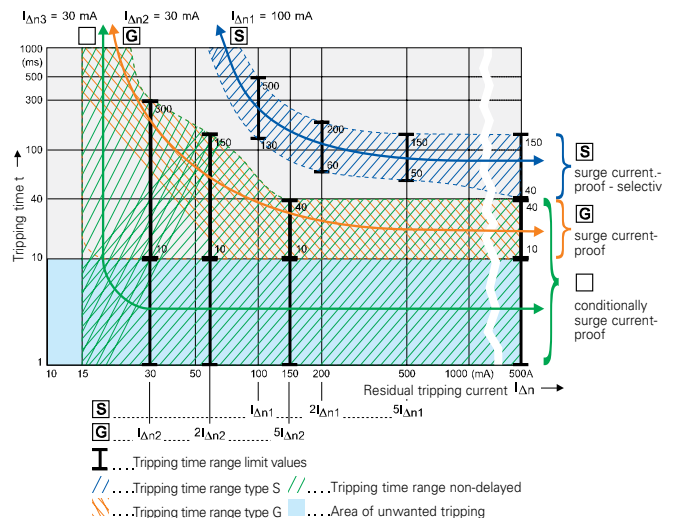
Tripping characteristics (IEC/EN 61008)

AS/NZS 3000 - 2.6 deals with additional protection and provides essentially the following: In circuits with outlets and lighting points up to 20A with fault current/residual current protection by protective earthing, protective multiple earthing or residual current devices (RCDs), additional residual current protection devices with a rated tripping current of 0.03A must be installed.

Testing:

RCDs with tripping time delay (Types -G and -S) may be function tested with conventional testing equipment which must be set according to the instructions for operation of the testing device. Due to reasons inherent in the measuring process, the tripping time determined in this way may be longer than expected in accordance with the specifications of the manufacturer of the measuring instrument. However, the device is ok if the result of measurement is within the time range specified by the manufacturer of the measuring instrument.

Tripping characteristics, tripping time range and selectivity of instantaneous, surge current-proof "G" and surge current-proof - selective "S" residual current devices.





eRB6-32/1/C/003-AU

Residential/commercial/industrial MCBs, RCDs & RCBOs

eRB6 range

- Rated breaking capacity 6kA
- Single module electronic RCBO
- More compact and easier wiring
- Fully conforms to AS/NZS61009.1:2004 +A1
- Approval number NSW25350
- Terminal capacity 1-25mm²
- Complete with 950mm long pigtail
- Type AC

| Description 1-Pole | Rating (A) | Width (mm) | Trip curve | Sensitivity (mA) | Item no. |
|--------------------------------------|------------|------------|------------|------------------|---------------------------|
| eRB6 RCBO 6A 1P 6kA C curve 30mA | 6 | 18 | C | 30 | eRB6-6/1/C/003-AU |
| eRB6 RCBO 10A 1P 6kA C curve 30mA | 10 | 18 | C | 30 | eRB6-10/1/C/003-AU |
| eRB6 RCBO 16A 1P 6kA C curve 30mA | 16 | 18 | C | 30 | eRB6-16/1/C/003-AU |
| eRB6 RCBO 20A 1P 6kA C curve 30mA | 20 | 18 | C | 30 | eRB6-20/1/C/003-AU |
| eRB6 RCBO 25A 1P 6kA C curve 30mA | 25 | 18 | C | 30 | eRB6-25/1/C/003-AU |
| eRB6 RCBO 32A 1P 6kA C curve 30mA | 32 | 18 | C | 30 | eRB6-32/1/C/003-AU |
| eRB6 RCBO 40A 1P 6kA C curve 30mA | 40 | 18 | C | 30 | eRB6-40/1/C/003-AU |
| eRB6 RCBO 45A 1P 6kA C curve 30mA | 45 | 18 | C | 30 | eRB6-45/1/C/003-AU |

* 10mA version available - consult Eaton for details



eRBM-20/1/C/003-A-AU

eRBM range

- Rated breaking capacity 10kA
- Single module electronic RCBO
- More compact and easier wiring
- Fully conforms to AS/NZS61009.1:2004 +A1
- Approval number NSW25350
- Terminal capacity 1-25mm²
- Complete with 950mm long pigtail
- Type A - pulsating DC

| Description 1-Pole | Rating (A) | Width (mm) | Trip Curve | Sensitivity (mA) | Item no. |
|---------------------------------------|------------|------------|------------|------------------|-----------------------------|
| eRBM RCBO 6A 1P 10kA C-curve 30mA | 6 | 18 | C | 30 | eRBM-6/1/C/003-A-AU |
| eRBM RCBO 10A 1P 10kA C-curve 30mA | 10 | 18 | C | 30 | eRBM-10/1/C/003-A-AU |
| eRBM RCBO 16A 1P 10kA C-curve 30mA | 16 | 18 | C | 30 | eRBM-16/1/C/003-A-AU |
| eRBM RCBO 20A 1P 10kA C-curve 30mA | 20 | 18 | C | 30 | eRBM-20/1/C/003-A-AU |
| eRBM RCBO 25A 1P 10kA C-curve 30mA | 25 | 18 | C | 30 | eRBM-25/1/C/003-A-AU |
| eRBM RCBO 32A 1P 10kA C-curve 30mA | 32 | 18 | C | 30 | eRBM-32/1/C/003-A-AU |
| eRBM RCBO 40A 1P 10kA C-curve 30mA | 40 | 18 | C | 30 | eRBM-40/1/C/003-A-AU |
| eRBM RCBO 45A 1P 10kA C-curve 30mA | 45 | 18 | C | 30 | eRBM-45/1/C/003-A-AU |
| eRBM RCBO 6A 1P 10kA D-curve 30mA | 6 | 18 | D | 30 | eRBM-6/1/D/003-A-AU |
| eRBM RCBO 10A 1P 10kA D-curve 30mA | 10 | 18 | D | 30 | eRBM-10/1/D/003-A-AU |
| eRBM RCBO 16A 1P 10kA D-curve 30mA | 16 | 18 | D | 30 | eRBM-16/1/D/003-A-AU |
| eRBM RCBO 20A 1P 10kA D-curve 30mA | 20 | 18 | D | 30 | eRBM-20/1/D/003-A-AU |

* 10mA, 100mA and 300mA versions available - consult Eaton for details

Residential/commercial/industrial MCBs, RCDs & RCBOs

Combined residual current devices/miniature circuit breaker device PKNM,
1 pole + N (RCBO)

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Wide variety of rated tripping currents
- Rated currents up to 40A
- Tripping characteristics B, C
- Type AC
- Rated breaking capacity 10kA
- Australian Standards AS/NZS 61009.1 Approval Number NSW21900
- Terminal capacity 1-25mm²

| A | mA | 2-Pole Item no. |
|---------------------|-----|---------------------|
| 10 kA, trip curve C | | |
| 6 | 10 | PKNM-6/1N/C/001-AU |
| 10 | 10 | PKNM-10/1N/C/001-AU |
| 16 | 10 | PKNM-16/1N/C/001-AU |
| 6 | 30 | PKNM-6/1N/C/003-AU |
| 10 | 30 | PKNM-10/1N/C/003-AU |
| 16 | 30 | PKNM-16/1N/C/003-AU |
| 20 | 30 | PKNM-20/1N/C/003-AU |
| 25 | 30 | PKNM-25/1N/C/003-AU |
| 32 | 30 | PKNM-32/1N/C/003-AU |
| 40 | 30 | PKNM-40/1N/C/003-AU |
| 6 | 100 | PKNM-6/1N/C/01-AU |
| 10 | 100 | PKNM-10/1N/C/01-AU |
| 16 | 100 | PKNM-16/1N/C/01-AU |
| 20 | 100 | PKNM-20/1N/C/01-AU |
| 25 | 100 | PKNM-25/1N/C/01-AU |
| 32 | 100 | PKNM-32/1N/C/01-AU |
| 40 | 100 | PKNM-40/1N/C/01-AU |
| 6 | 300 | PKNM-6/1N/C/03-AU |
| 10 | 300 | PKNM-10/1N/C/03-AU |
| 16 | 300 | PKNM-16/1N/C/03-AU |
| 20 | 300 | PKNM-20/1N/C/03-AU |
| 25 | 300 | PKNM-25/1N/C/03-AU |
| 32 | 300 | PKNM-32/1N/C/03-AU |
| 40 | 300 | PKNM-40/1N/C/03-AU |



PKNM-16/1N/C/001-AU

Combined residual current devices/miniature circuit breaker devices PKNM (RCBO)

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Guide for secure terminal connection
- 3-position DIN rail clip, permits removal from existing busbar system
- Comprehensive range of accessories suitable for subsequent installation
- Wide variety of rated tripping currents
- Rated currents up to 40 A
- Tripping characteristics B, C
- Type A - pulsating DC
- Rated breaking capacity 10 kA
- Australian Standards AS/NZS 61009.1 Approval Number NSW21900
- Terminal capacity 1-25mm²

| A | mA | 2-Pole Item no. |
|---------------------|-----|-----------------------|
| 10 kA, trip curve C | | |
| 6 | 10 | PKNM-6/1N/C/001-A-AU |
| 10 | 10 | PKNM-10/1N/C/001-A-AU |
| 16 | 10 | PKNM-16/1N/C/001-A-AU |
| 6 | 30 | PKNM-6/1N/C/003-A-AU |
| 10 | 30 | PKNM-10/1N/C/003-A-AU |
| 16 | 30 | PKNM-16/1N/C/003-A-AU |
| 20 | 30 | PKNM-20/1N/C/003-A-AU |
| 25 | 30 | PKNM-25/1N/C/003-A-AU |
| 32 | 30 | PKNM-32/1N/C/003-A-AU |
| 40 | 30 | PKNM-40/1N/C/003-A-AU |
| 6 | 100 | PKNM-6/1N/C/01-A-AU |
| 10 | 100 | PKNM-10/1N/C/01-A-AU |
| 16 | 100 | PKNM-16/1N/C/01-A-AU |
| 20 | 100 | PKNM-20/1N/C/01-A-AU |
| 25 | 100 | PKNM-25/1N/C/01-A-AU |
| 32 | 100 | PKNM-32/1N/C/01-A-AU |
| 40 | 100 | PKNM-40/1N/C/01-A-AU |
| 6 | 300 | PKNM-6/1N/C/03-A-AU |
| 10 | 300 | PKNM-10/1N/C/03-A-AU |
| 16 | 300 | PKNM-16/1N/C/03-A-AU |
| 20 | 300 | PKNM-20/1N/C/03-A-AU |
| 25 | 300 | PKNM-25/1N/C/03-A-AU |
| 32 | 300 | PKNM-32/1N/C/03-A-AU |
| 40 | 300 | PKNM-40/1N/C/03-A-AU |



PKNM-16/1N/C/001-A-AU

Residential/commercial/industrial MCBs, RCDs & RCBOs

Residual current devices PFIM



- A complete spectrum of compact residual current devices for a wide range of applications
- For residual current protection & additional protection
- Wide variety of nominal currents
- Comprehensive range of accessories
- Contact position indicator red-green
- Automatic re-setting possible
- Australian Standards AS/NZS61008.1 Approval Number NSW21900
- Terminal capacity 1.5-35mm²



PFIM-16/2/001-AU



PFIM-40/4/003-AU

| A | mA | 2-Pole Item no. | A | mA | 4-Pole Item no. |
|---|-----|---------------------------|-----|-----|---------------------------|
| Conditionally surge current-proof 250 A, type AC  | | | | | |
| 16 | 10 | PFIM-16/2/001-AU | 40 | 30 | PFIM-40/4/003-AU |
| | | | 40 | 100 | PFIM-40/4/01-AU |
| 25 | 30 | PFIM-25/2/003-AU | 40 | 300 | PFIM-40/4/03-AU |
| 25 | 100 | PFIM-25/2/01-AU | | | |
| 25 | 300 | PFIM-25/2/03-AU | 63 | 30 | PFIM-63/4/003-AU |
| | | | 63 | 100 | PFIM-63/4/01-AU |
| 40 | 30 | PFIM-40/2/003-AU | 63 | 300 | PFIM-63/4/03-AU |
| 40 | 100 | PFIM-40/2/01-AU | | | |
| 40 | 300 | PFIM-40/2/03-AU | 80 | 30 | PFIM-80/4/003-AU |
| | | | 80 | 100 | PFIM-80/4/01-AU |
| 63 | 30 | PFIM-63/2/003-AU | 80 | 300 | PFIM-80/4/03-AU |
| 63 | 100 | PFIM-63/2/01-AU | 80 | 500 | PFIM-80/4/05-AU |
| 63 | 300 | PFIM-63/2/03-AU | | | |
| | | | 100 | 30 | PFIM-100/4/003 |
| 80 | 30 | PFIM-80/2/003-AU | 100 | 100 | PFIM-100/4/01 |
| 80 | 100 | PFIM-80/2/01-AU | 100 | 300 | PFIM-100/4/03 |
| 80 | 300 | PFIM-80/2/03-AU | 100 | 500 | PFIM-100/4/05 |
| | | | | | |
| 100 | 30 | PFIM-100/2/003 | | | |
| 100 | 100 | PFIM-100/2/01 | | | |
| 100 | 300 | PFIM-100/2/03 | | | |
| Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A  | | | | | |
| 16 | 10 | PFIM-16/2/001-A-AU | 25 | 300 | PFIM-25/4/03-A-AU |
| 25 | 30 | PFIM-25/2/003-A-AU | 40 | 30 | PFIM-40/4/003-A-AU |
| 25 | 100 | PFIM-25/2/01-A-AU | 40 | 100 | PFIM-40/4/01-A-AU |
| 25 | 300 | PFIM-25/2/03-A-AU | 40 | 300 | PFIM-40/4/03-A-AU |
| | | | | | |
| 40 | 30 | PFIM-40/2/003-A-AU | 63 | 30 | PFIM-63/4/003-A-AU |
| 40 | 100 | PFIM-40/2/01-A-AU | 63 | 100 | PFIM-63/4/01-A-AU |
| 40 | 300 | PFIM-40/2/03-A-AU | 63 | 300 | PFIM-63/4/03-A-AU |
| | | | | | |
| 63 | 30 | PFIM-63/2/003-A-AU | 80 | 30 | PFIM-80/4/003-A-AU |
| 63 | 100 | PFIM-63/2/01-A-AU | 80 | 300 | PFIM-80/4/03-A-AU |
| 63 | 300 | PFIM-63/2/03-A-AU | | | |
| | | | 100 | 30 | PFIM-100/4/003-A |
| 100 | 100 | PFIM-100/2/01-A | 100 | 100 | PFIM-100/4/01-A |
| 100 | 300 | PFIM-100/2/03-A | 100 | 300 | PFIM-100/4/03-A |
| | | | 100 | 500 | PFIM-100/4/05-A |

Residential/commercial/industrial MCBs, RCDs & RCBOs

Residual current devices PFIM







- A complete spectrum of compact residual current devices for a wide range of applications
- For residual current protection & additional protection
- Wide variety of nominal currents
- Comprehensive range of accessories
- Contact position indicator red-green
- Automatic re-setting possible
- Australian Standards AS/NZS61008.1 Approval Number NSW21900
- Terminal capacity 1.5-35mm²



PFIM-40/2/003-G-AU



PFIM-63/4/003-G-AU

| A | mA | 2-Pole Item no. | A | mA | 4-Pole Item no. |
|--|-----|------------------------------|-----|-----|------------------------------|
| Surge current-proof 3 kA, type G  | | | | | |
| | | | 40 | 30 | PFIM-40/4/003-G-AU |
| | | | 40 | 100 | PFIM-40/4/01-G-AU |
| 40 | 30 | PFIM-40/2/003-G-AU | 63 | 30 | PFIM-63/4/003-G-AU |
| 40 | 100 | PFIM-40/2/01-G-AU | 63 | 100 | PFIM-63/4/01-G-AU |
| | | | 100 | 30 | PFIM-100/4/003-G |
| | | | 100 | 300 | PFIM-100/4/03-G |
| Surge current-proof 3 kA, sensitive to residual pulsating DC, type G/A  | | | | | |
| 40 | 30 | PFIM-40/2/003-G/A-AU | 40 | 30 | PFIM-40/4/003-G/A-AU |
| 63 | 30 | PFIM-63/2/003-G/A-AU | 63 | 30 | PFIM-63/4/003-G/A-AU |
| 100 | 30 | PFIM-100/2/003-G/A-AU | 100 | 30 | PFIM-100/4/003-G/A-AU |
| 100 | 300 | PFIM-100/2/03-G/A-AU | 100 | 300 | PFIM-100/4/03-G/A-AU |
| Surge current-proof 3 kA, X-ray application, type R  | | | | | |
| | | | 63 | 30 | PFIM-63/4/003-R |
| | | | 100 | 30 | PFIM-100/4/003-R |
| Selective + surge current-proof 5 kA, type S  | | | | | |
| | | | 63 | 300 | PFIM-63/4/03-S/A-AU |
| | | | 80 | 300 | PFIM-80/4/03-S/A-AU |
| Selective + surge current-proof 5 kA, frequency converter-proof, type U  | | | | | |
| | | | 40 | 100 | PFIM-40/4/01-U |
| | | | 40 | 300 | PFIM-40/4/03-U |
| | | | 63 | 100 | PFIM-63/4/01-U |
| | | | 63 | 300 | PFIM-63/4/03-U |
| | | | 80 | 300 | PFIM-80/4/03-U |
| | | | 100 | 300 | PFIM-100/4/03-U |
| Short-time delayed + surge current-proof 3 kA, frequency converter-proof, type U  | | | | | |
| | | | 63 | 30 | PFIM-63/4/003-U |

Residential/commercial/industrial MCBs, RCDs & RCBOs

Accessories

- Auxiliary switch
- RCD tripping module
- Shunt release
- U/V release
- Remote control & automatic switching device



ZP-IHK



Z-ASA/24



Z-FAM



Z-USA/115



Z-FW-LP



Z-FW-LP/MO

Auxiliary switches

| For protective device/function | Item no. | For protective device/function | Item no. |
|---|--------------------------|---|---------------------|
| Auxiliary Switch Z-HK, Z-AHK, Tripping Signal Switch Z-NHK. | Design: for screw fixing | Auxiliary Switch ZP-IHK, ZP-WHK, Tripping Signal Switch ZP-NHK. | Design: snap fixing |
| PFIM 1NO+1NC | Z-HK | PLS, PKN, 1NO+1NC | ZP-IHK |
| PLS 1NO+1NC | Z-AHK | PLS, PKN, 1CO | ZP-WHK |
| PLS, PFIM, 2CO | Z-NHK | PLS, PKN, 2CO | ZP-NHK |

RCD-tripping module Z...AM

| For protective device | Item no. |
|-----------------------|--------------|
| PFIM, RCD | Z-FAM |
| PKNM, RCBO | Z-KAM |

Shunt trip release Z-ASA, ZP-ASA

| Operational voltage range (V~) | Item no. |
|--------------------------------|-------------------|
| 12 - 110 Vac - screw fixing | Z-ASA/24 |
| 110 - 415 Vac - screw fixing | Z-ASA/230 |
| 12 - 110 Vac - snap on fixing | ZP-ASA/24 |
| 110 - 415 Vac - snap on fixing | ZP-ASA/230 |

Undervoltage release Z-USA, Z-USD

| Operational voltage range (V~)/function | Item no. |
|---|------------------|
| 115 Vac non-delayed | Z-USA/115 |
| 230 Vac non-delayed | Z-USA/230 |
| 400 Vac non-delayed | Z-USA/400 |
| 115 Vac delayed 0.4s | Z-USD/115 |
| 230 Vac delayed 0.4s | Z-USD/230 |

Remote control & automatic switching device Z-FW

| Function | Item no. |
|-------------------------------|-----------------|
| Automatic restarting 230VAC | Z-FW-LP |
| Automatic restarting 24-48VDC | Z-FW-LPD |
| + Remote control ON/OFF/TEST | Z-FW-MO |

Remote control & automatic switching device Z-FW

| Function | Item no. |
|---|--------------------|
| Pre-mounted sets Z-FW: Set consisting of automatic switching device Z-FW-LP. & switching module Z-FW-MO | |
| 230 VAC | Z-FW-LP/MO |
| 24-48 VDC | Z-FW-LPD/MO |

Remote control & automatic switching device Z-FW

| Function | Item no. |
|---|-----------------|
| Remote Testing Module Z-FW (for Z-FW-LP./MO set use only) | |
| 0,01 A | Z-FW/001 |
| 0,03 A | Z-FW/003 |
| 0,1 A | Z-FW/010 |
| 0,3 A | Z-FW/030 |
| 0,5 A | Z-FW/050 |

Controlling & switching devices

Installation relays for light & power distribution

- Installation relays & contactors
- Impulse relays
- Signalling devices

| Rated current In | | Contacts | Actuating voltage | Item no. |
|---|---------|--------------|-----------------------|-----------------------|
| A (AC1) | A (AC3) | | | |
| Rated current 20 A AC1, 18 mm modules: 1, Finger & hand touch safe to VGB 4, Low switching noise, no humming, Easy coil feed connection with Pozidrive screws | | | | |
| 20 | – | 1 N/O | 240 V AC | Z-R230/S |
| | | 2 N/O | | Z-R230/SS |
| | | 1 N/O, 1 N/C | | Z-R230/SO |
| | | 2 N/C | | Z-R230/OO |
| 20 | – | 1 N/O | 24 V AC | Z-R24/S |
| | | 2 N/O | | Z-R24/SS |
| | | 1 N/O, 1 N/C | | Z-R24/SO |
| | | 2 N/C | | Z-R24/OO |
| Suitable for auxiliary contacts Z-SC, 18 mm modules: 2 | | | | |
| 25 | 9 | 3 N/O, 1 N/C | 240 V AC | Z-SCH230/25-31 |
| | | 2 N/O, 2 N/C | | Z-SCH230/25-22 |
| | | 4 N/O | | Z-SCH230/25-40 |
| | | 4 N/C | Z-SCH230/25-04 | |
| | | 4 N/O | 24 V AC | Z-SCH24/25-40 |
| | | 2 N/O, 2 N/C | 24 V AC | Z-SCH24/25-22 |



Z-R230/S



Z-SCH230/25-31

Installation contactors for light & power distribution

| Rated current In | | Contacts | Actuating voltage | Item no. |
|--|---------|--------------|-------------------|-----------------------|
| A (AC1) | A (AC3) | | | |
| Suitable for auxiliary contacts Z-SC, 18 mm modules: 3 | | | | |
| 40 | 27 | 3 N/O, 1 N/C | 240 V AC | Z-SCH230/40-31 |
| | | 2 N/O, 2 N/C | | Z-SCH230/40-22 |
| | | 4 N/O | | Z-SCH230/40-40 |
| | | 2 N/O | | Z-SCH230/40-20 |
| 63 | 30 | 4 N/O | 240 V AC | Z-SCH230/63-40 |
| | | 3 N/O, 1 N/C | | Z-SCH230/63-31 |
| | | 2 N/O, 2 N/C | | Z-SCH230/63-22 |
| | | 2 N/O | | Z-SCH230/63-20 |



Z-DST

Accessories

| | |
|--|--------------------|
| Sealing cover 25 A, 2 modules wide | Z-SCHAK-2TE |
| Sealing cover 40, 63 A, 3 modules wide | Z-SCHAK-3TE |
| Auxiliary switch | Z-SC |
| Spacer | Z-DST |



Z-S230/SO

Impulse relays

| Rated current In | | Contacts | Actuating voltage | Item no. |
|--|--|--------------|-------------------|------------------|
| AC1 | | | | |
| Rated current 16 A AC1, 18 mm modules: 1 | | | | |
| 16 | | 1 N/O | 240 V AC | Z-S230/S |
| | | 1 N/O, 1 N/C | | Z-S230/SO |
| | | 2 N/O | | Z-S230/SS |
| | | 1 N/O | 24 V AC | Z-S24/S |
| | | 1 N/O, 1 N/C | | Z-S24/SO |
| | | 2 N/O | | Z-S24/SS |
| Accessories | | | | |
| Twin diode block | | | | Z-SC/GP |



Z-SC/GP

Technical application data within technical section refer to pages 394-397



Z-EL/R230



Z-SWM



Z-EMER-E



Z-EMER-DIN



Controlling & switching devices

| Description | Colour push button | Item no. |
|---|--------------------|--------------|
| Signal lamps | | |
| ○ White | – | Z-EL/WH230 |
| ● Red | – | Z-EL/R230 |
| ● Green | – | Z-EL/G230 |
| ● Orange | – | Z-EL/OR230 |
| ● Blue | – | Z-EL/BL230 |
| Pushbuttons | | |
| 16 A, 1 N/O | ● | Z-PU/S |
| 16 A, 2 N/O | ● | Z-PU/SS |
| 16 A, 1 N/O + 1 N/C | ● | Z-PU/SO |
| 16 A, 1 N/C | ● | Z-PU/OO |
| Illuminated Pushbuttons | | |
| 16 A, 2 N/O | ● | Z-PUL230/SS |
| 16 A, 1 N/O + 1 N/C | ● | Z-PUL230/SO |
| Changeover switch | | |
| 2 C/O, I – O – II | | Z-S/WM |
| 2 C/O, DAY – O – NIGHT | | Z-S/WTN |
| Hour run counter: display 5 + 2 digit | | |
| 230 V, 50 Hz | | BSZ/24 |
| | | BSZ/230 |
| Emergency lighting test kit | | |
| Enclosed | | Z-EMER-E |
| DIN rail mounting | | Z-EMER-DIN |
| General accessories | | |
| Padlocking attachment for xPole PLS & eRB devices | | Z-IS/SPE-1TE |
| Padlocking attachment for xPole PKNM, PFIM & IS devices | | IS/SPE-1TE |
| Pole filler 1 strip = 6 poles | | AP-45-W |

Busbar combs

Commoning busbars

| Description | No. of poles | A Max. no. of devices | Rated operational current, Ie, A | Item no. | | |
|--|--|---|----------------------------------|----------|--------------------------|------------------------|
| Commoning busbars, 1.25 mm thick For miniature circuit-breakers without auxiliary contacts with fork connectors, for combination box terminal | 1 | – | 2 x 1P | 85 | EVG-16/1PHAS/2MODUL | |
| | 1 | – | 6 x 1P | 85 | EVG-16/1PHAS/6MODUL | |
| | 1 | – | 12 x 1P | 85 | EVG-16/1PHAS/12MODUL | |
| | 2 | 2 & 4 pole version can be used for PFIM | 2 x 2P | 100 | EVG-16/2PHAS/4MODUL | |
| | 2 | | 3 x 2P | 100 | EVG-16/2PHAS/6MODUL | |
| | 2 | | 6 x 2P | 100 | EVG-16/2PHAS/12MODUL | |
| | 3 | – | 2 x 3P | 100 | EVG-16/3PHAS/6MODUL | |
| | 3 | – | 4 x 3P | 100 | EVG-16/3PHAS/12MODUL | |
| | 4 | 2 & 4 pole version can be used for PFIM | 2 x 4P | 100 | EVG-16/4PHAS/8MODUL | |
| | 4 | | 3 x 4P | 100 | EVG-16/4PHAS/12MODUL | |
| | For miniature circuit-breakers with auxiliary contacts | 1 | – | 2 x 1P | 85 | EVG-16/1PHAS/2MODUL/HI |
| | | 1 | – | 6 x 1P | 85 | EVG-16/1PHAS/6MODUL/HI |
| 1 | | – | 9 x 1P | 85 | EVG-16/1PHAS/9MODUL/HI | |
| 2 | | 2 pole version can be used for PFIM | 2 x 2P | 100 | EVG-16/2PHAS/4MODUL/HI | |
| 2 | | | 3 x 2P | 100 | EVG-16/2PHAS/6MODUL/HI | |
| 2 | | | 5 x 2P | 100 | EVG-16/2PHAS/10MODUL/HI | |
| 3 | | – | 2 x 3P | 100 | EVG-16/3PHAS/6MODUL/HI | |
| 3 | | – | 4 x 3P | 100 | EVG-16/3PHAS/12MODUL/HI | |
| 3 | | – | 6 x 1P | 100 | EVG-16/3X1PHAS/6MODUL/HI | |
| 3 | | – | 8 x 1P | 100 | EVG-16/3X1PHAS/8MODUL/HI | |
| 3 | | – | 9 x 1P | 100 | EVG-16/3X1PHAS/9MODUL/HI | |

Controlling & switching devices

ETR2 electronic timing relays, 17.5 mm wide

| Description | Rated operational current AC-11 | | Conventional thermal current I _{th} A | Time Range | Item no. |
|---|---------------------------------|------------------------------|--|--------------|------------------|
| | 230 V I _e A | 400 V I _e A | | | |
| One changeover contact | | | | | |
| On-delayed timing functions | 3 | - | 6 | | ETR2-11 |
| Off-delayed timing functions | 3 | - | 6 | 0.05 - 1 s | ETR2-12 |
| Fleeting contact on energization timing functions | 3 | - | 6 | 0.5 - 10 s | ETR2-21 |
| Flashing, pulse initiating timing functions | 3 | - | 6 | 5 - 100 s | ETR2-42 |
| Flashing, 2 speeds (ON/OFF times variable) timing functions | 3 | - | 6 | 0.5 - 10 min | ETR2-44 |
| Multifunction relay timing functions | 3 | - | 6 | 5 - 100 min | ETR2-69 |
| Two changeover contacts | | | | | |
| On-delayed timing functions | 3 | - | 6 | 0.05 - 1 s | ETR2-11-D |
| Off-delayed timing functions | 3 | - | 6 | 0.5 - 10 s | ETR2-12-D |
| Multifunction relay timing functions | 3 | 0.75 | 6 | 5 - 100 s | ETR2-69-D |
| | | | | 0.5 - 10 min | |
| | | | | 5 - 100 min | |



ETR2-44



ETR2-11-D



PE18SW

PE Consumer boards

| No. of poles | Type of mounting | Type of door | Item no. |
|------------------------|------------------|--------------|--------------------|
| Protection rating IP42 | | | |
| 1 | Flush | Opaque | PE1E |
| 2 | Flush | Opaque | PE2E |
| 4 | Flush | Opaque | PE4E |
| 8 | Flush | Opaque | PE8E |
| 12 | Flush | Transparent | PE12FT |
| 12 | Flush | Opaque | PE12FW |
| 12 | Surface | Transparent | PE12ST |
| 12 | Surface | Opaque | PE12SW |
| 18 | Flush | Transparent | PE18FT |
| 18 | Flush | Opaque | PE18FW |
| 18 | Surface | Transparent | PE18ST |
| 18 | Surface | Opaque | PE18SW |
| 24 | Flush | Transparent | PE24FT |
| 24 | Flush | Opaque | PE24FW |
| 24 | Surface | Transparent | PE24ST |
| 24 | Surface | Opaque | PE24SW |
| 36 | Flush | Transparent | PE36FT |
| 36 | Flush | Opaque | PE36FW |
| 36 | Surface | Transparent | PE36ST |
| 36 | Surface | Opaque | PE36SW |
| Protection rating IP55 | | | |
| 4 | Surface | Transparent | PE4ST-IP55 |
| 6 | Surface | Transparent | PE6ST-IP55 |
| 8 | Surface | Transparent | PE8ST-IP55 |
| 12 | Surface | Transparent | PE12ST-IP55 |
| 18 | Surface | Transparent | PE18ST-IP55 |
| 24 | Surface | Transparent | PE24ST-IP55 |



PE1E



PE12SW



PE12ST

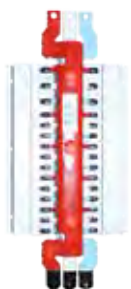


PE24ST



Available complete with MCCBs & RCDs fitted.

**NEW IXC
ISOLATION
CHASSIS
COMING
SOON**



DIN MCB chassis

Miniature circuit-breaker chassis

- Rated current 250 A
- Fault rating 25 kA for 0.1 s
- Hybrid versions accommodate MCB from 0.5 A to 125 A
- Suits PLS & PLHT MCB and eRB RCBO's
- 4 pole versions suits PFIM/PKNM RCD & RCBO
- Rated current 400 A
- Fault rating 30 kA for 0.1 s

| No. of poles | Pitch between fingers | Width mm | Length mm | Height with MCB | No. of poles | | 250A Item no. | 400A Item no. |
|---|-----------------------|----------|-----------|-----------------|--------------|-------|------------------|---------------------|
| | | | | | 18 mm | 27 mm | | |
| 3-phase, 250 A, 1 module, suits 6 & 10 kA miniature circuit breakers and RCBO's | | | | | | | | |
| 12 | | | 258 | | - | - | XCH3/12 | XCH4003/12 |
| 18 | | | 312 | | - | - | XCH3/18 | XCH4003/18 |
| 24 | | | 366 | | - | - | XCH3/24 | XCH4003/24 |
| 30 | | | 420 | | - | - | XCH3/30 | XCH4003/30 |
| 36 | | | 474 | | - | - | XCH3/36 | XCH4003/36 |
| 42 | 18 | 230 | 528 | 95 | - | - | XCH3/42 | XCH4003/42 |
| 48 | | | 582 | | - | - | XCH3/48 | XCH4003/48 |
| 60 | | | 690 | | - | - | XCH3/60 | XCH4003/60 |
| 72 | | | 798 | | - | - | XCH3/72 | XCH4003/72 |
| 84 | | | 852 | | - | - | XCH3/84 | XCH4003/84 |
| 96 | | | 1040 | | - | - | XCH3/96 | XCH4003/96 |
| 3-phase hybrid, 1 & 1.5 module, suits 6, 10, 15, 20 & 25 kA miniature circuit breakers and RCBO's | | | | | | | | |
| 12 | | | 282 | | 6 | 6 | XCHE3/12 | XCH400E3/12 |
| 18 | | | 336 | | 12 | 6 | XCHE3/18 | XCH400E3/18 |
| 24 | | | 390 | | 18 | 6 | XCHE3/24 | XCH400E3/24 |
| 30 | | | 444 | | 24 | 6 | XCHE3/30 | XCH400E3/30 |
| 36 | 18 + 27 | 230 | 498 | 95 | 30 | 6 | XCHE3/36 | XCH400E3/36 |
| 42 | | | 581 | | 30 | 12 | XCHE3/42 | XCH400E3/42 |
| 48 | | | 635 | | 36 | 12 | XCHE3/48 | XCH400E3/48 |
| 60 | | | 743 | | 48 | 12 | XCHE3/60 | XCH400E3/60 |
| 72 | | | 851 | | 60 | 12 | XCHE3/72 | XCH400E3/72 |
| 3-phase & neutral, 250 A, suits 2 or 4-pole combinations RCD/MCB [Ⓞ] | | | | | | | | |
| 12 | | | 258 | | - | - | XCHA4_/12 | XCH400A4_/12 |
| 20 | | | 330 | | - | - | XCHA4_/20 | XCH400A4_/18 |
| 24 | | | 366 | | - | - | XCHA4_/24 | XCH400A4_/24 |
| 32 | 18 + N | 230 | 438 | 95 | - | - | XCHA4_/32 | XCH400A4_/30 |
| 36 | | | 474 | | - | - | XCHA4_/36 | XCH400A4_/36 |
| 48 | | | 582 | | - | - | XCHA4_/48 | XCH400A4_/48 |
| 60 | | | 690 | | - | - | XCHA4_/60 | XCH400A4_/60 |
| 72 | | | 798 | | - | - | XCHA4_/72 | XCH400A4_/72 |
| 3-phase, 250 A, 1.5 module, suits 15, 20 & 25kA miniature circuit-breakers | | | | | | | | |
| 12 | | | 306 | | - | - | XCHC3/12 | XCH400C3/12 |
| 18 | | | 388 | | - | - | XCHC3/18 | XCH400C3/18 |
| 24 | | | 471 | | - | - | XCHC3/24 | XCH400C3/24 |
| 30 | | | 553 | | - | - | XCHC3/30 | XCH400C3/30 |
| 36 | 27 | 230 | 636 | 95 | - | - | XCHC3/36 | XCH400C3/36 |
| 42 | | | 718 | | - | - | XCHC3/42 | XCH400C3/42 |
| 48 | | | 801 | | - | - | XCHC3/48 | XCH400C3/48 |
| 60 | | | 966 | | - | - | XCHC3/60 | XCH400C3/60 |
| 72 | | | 1131 | | - | - | XCHC3/72 | XCH400C3/72 |

[Ⓞ] Please replace _ underscore symbol in Item No. with either 1 (for 2 pole devices) or 3 (for 4 pole devices).

Main switches for chassis

| Poles | Current rating | Item no. |
|---|----------------|-------------------|
| For direct connection to 250A XCH 3 or 4 pole chassis & mounting in XDBP distribution boards | | |
| 3 | 250 | 70039930 |
| 4 | 250 | 25E04025 |
| Main Switch For direct connection to 400A XCH 3 pole chassis & mounting in XDBP distribution boards | | |
| 3 | 400 | PB400MS3PD |

Accessories

| For Switch | Description | Item no. |
|---------------------|----------------------|-----------------|
| 70039930 & 25E04025 | Handle (padlockable) | 70022491 |
| 70039930 | Line side shroud | 70019564 |
| 70039930 | Load side shroud | 70036193 |

DIN MCB chassis

xCap chassis

- Rated current I_n 250A
- Rated short-time current I_{cs} 25kA for 0.1s
- Rated short-time current I_{cs} 10kA for 1.0s
- Encapsulated busbar housing made from halogen-free material
- Testing limited to relevant clauses of IEC 61439.1 Ed. 2.0 and IEC 61439-2 Ed. 2.0
- Tests also satisfy the relevant requirements of AS/NZS 3439.1
- Rated impulse withstand voltage U_{imp} 6kV
- Rated voltage U_n 415V
- Tee-offs 100% capped
- Top feed as standard configuration and dual feed also available
- Direct retrofit replacement for Eaton 250A XCH3 chassis series

| Description | Item no. |
|--|---------------------|
| xCap 250A chassis 12 pole DIN 18mm top feed | XCAP3/12 ① |
| xCap 250A chassis 18 pole DIN 18mm top feed | XCAP3/18 ① |
| xCap 250A chassis 24 pole DIN 18mm top feed | XCAP3/24 ① |
| xCap 250A chassis 30 pole DIN 18mm top feed | XCAP3/30 ① |
| xCap 250A chassis 36 pole DIN 18mm top feed | XCAP3/36 ① |
| xCap 250A chassis 42 pole DIN 18mm top feed | XCAP3/42 ① |
| xCap 250A chassis 48 pole DIN 18mm top feed | XCAP3/48 ① |
| xCap 250A chassis 60 pole DIN 18mm top feed | XCAP3/60 ① |
| xCap 250A chassis 72 pole DIN 18mm top feed | XCAP3/72 ① |
| xCap 250A chassis 84 pole DIN 18mm top feed | XCAP3/84 ① |
| xCap 250A chassis 96 pole DIN 18mm top feed | XCAP3/96 ① |
| xCap 250A chassis 12 pole DIN 18mm sticker kit | XCAP3/12PRSK |
| xCap 250A chassis 18 pole DIN 18mm sticker kit | XCAP3/18PRSK |
| xCap 250A chassis 24 pole DIN 18mm sticker kit | XCAP3/24PRSK |
| xCap 250A chassis 30 pole DIN 18mm sticker kit | XCAP3/30PRSK |
| xCap 250A chassis 36 pole DIN 18mm sticker kit | XCAP3/36PRSK |
| xCap 250A chassis 42 pole DIN 18mm sticker kit | XCAP3/42PRSK |
| xCap 250A chassis 48 pole DIN 18mm sticker kit | XCAP3/48PRSK |
| xCap 250A chassis 60 pole DIN 18mm sticker kit | XCAP3/60PRSK |
| xCap 250A chassis 72 pole DIN 18mm sticker kit | XCAP3/72PRSK |
| xCap 250A chassis 84 pole DIN 18mm sticker kit | XCAP3/84PRSK |
| xCap 250A chassis 96 pole DIN 18mm sticker kit | XCAP3/96PRSK |
| xCap LOAD side shroud for Eaton 3P 250A isolator | 61267792 ② |



- ① For 'dual feed' arrangement; add a -DF suffix to part number e.g. XCAP3/12-DF
- ② New shroud is required when replacing old 250A XCH3 series chassis

xCap Increased flexibility options.

Select the two standard chassis required e.g. XCAP3/12 and XCAP3/18



If no loss of pole space is required, use a screwdriver to unclip the end cap mouldings from both chassis



Apply sticker kit to the chassis to be positioned in the lower part of the assembly e.g. item XCAP3/12PRSK is shown applied



Mount both chassis units into the assembly and butt the housings together to ensure no lost pole spaces



Split chassis simplicity.

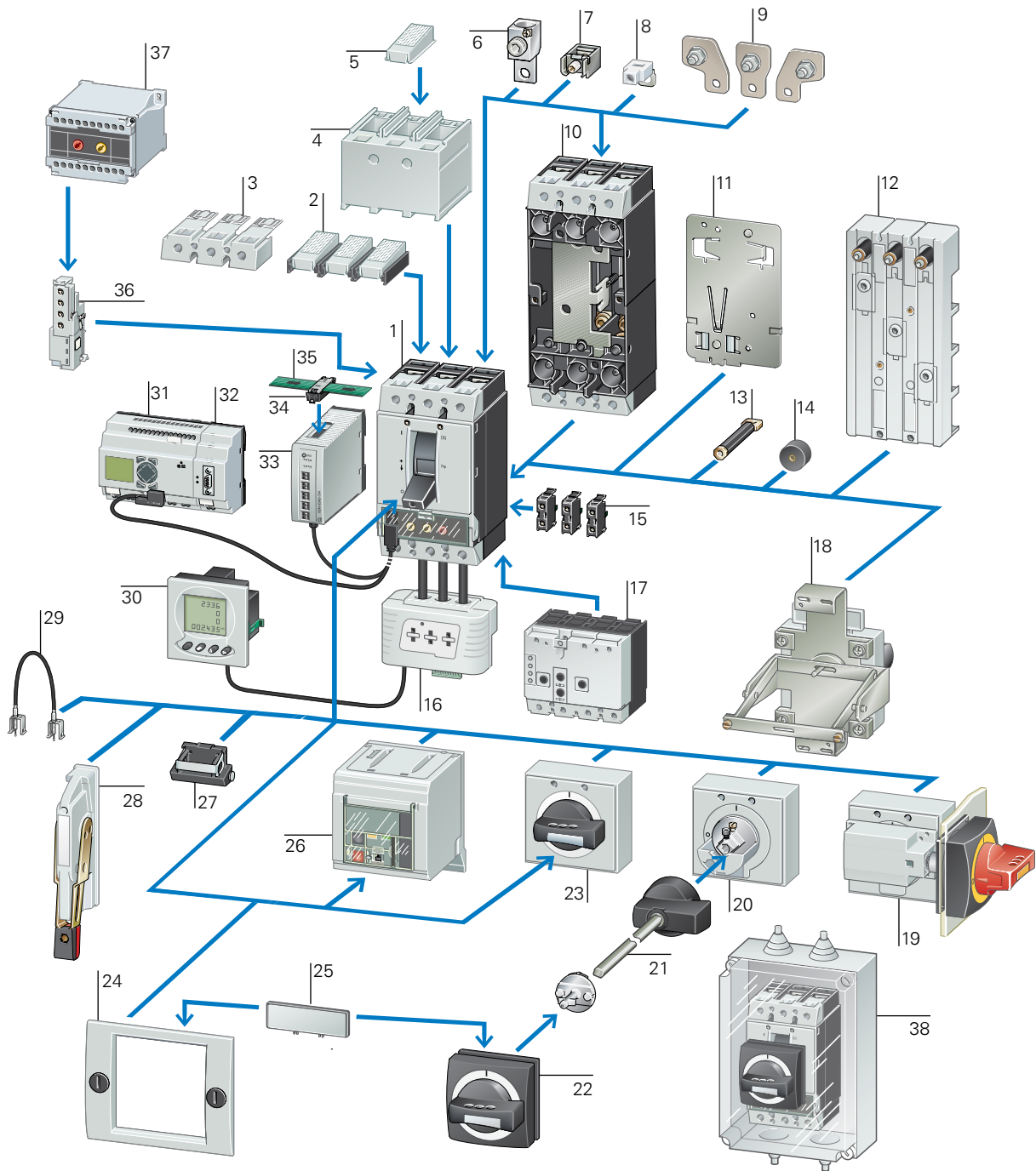
The new Eaton xCap busbar chassis system is design verified to relevant clauses of IEC61439, suitable for Eaton xPole IEC DIN MCBs and RCBOs and features a fully encapsulated busbar housing. The new xCap product allows the user to quickly configure split chassis arrangements with standard parts making complex installation requirements highly flexible with added ease of installation.

Circuit protection

IEC MCCB

NZM range

System overview Circuit-breakers, Switch-disconnectors



- | | | | |
|---|---|---|---|
| 1. Switch-disconnector, circuit-breaker, circuit-breaker for North America; Moulded case switches for North America | 9. Connection width extension | 18. Rear driver | 29. Mechanical interlock |
| 2. IP2X protection against contact with a finger | 10. Plug-in and withdrawable unit | 19. Main switch rotary handle for side panel mounting | 30. Display |
| 3. Terminal cover, knockout | 11. Adapter plate | 20. Door coupling rotary handle | 31. Data management interface (DMI module) |
| 4. Terminal cover | 12. Busbar adapters | 21. Extension shaft | 32. PROFIBUS-DP interface |
| 5. IP2X protection against contact with a finger | 13. Connection on rear | 22. Door coupling rotary handle | 33. NZM communication module |
| 6. Tunnel terminal | 14. Spacers | 23. Rotary handle | 34. NZM communication module |
| 7. Box terminals | 15. Standard auxiliary contact (HIV), trip-indicating auxiliary switch (HIA), voltage release | 24. Insulating surrounds | 35. NZM communication module for Smartwire-DT |
| 8. Control circuit terminal | 16. Measuring and communication module | 25. External warning plate/ marking plate | 36. Early-make auxiliary contacts |
| | 17. Residual-current protection device | 26. Remote operator | 37. Delay unit for undervoltage releases |
| | | 27. Toggle lever locking device | 38. Insulated enclosures |
| | | 28. Side operator handle | |

NZM range

The new range up to 1600 A – New ideas for better circuit-breakers

The new Eaton circuit-breakers cover a range from 15 to 1600 A with just four frame sizes. And they are optimally matched to one another. The wide application spectrum covers every requirement as Eaton has closely examined what every customer needs and implemented the appropriate solutions. Outstanding, for example, is the continuous switching power range – which extends from the smallest to the largest circuit-breaker or the modular system which can be matched without difficulty to suit the specific application. Thus, the circuit-breakers can be used universally – from the smallest of service distribution boards, to machine controls or motor starter combinations, up to large energy distribution systems with a short-circuit breaking capacity of up to 150 kA.



1-pole

3-pole circuit-breaker

Excellent under load – Switch-disconnector's for safe switching under load

Even under load conditions the Eaton switch-disconnector operates safely. The reason: the 3- or 4-pole snap-action closing mechanism which is also applied with circuit-breakers.

That's why the rated short time withstand current is so high and can handle currents up to 150000 A. The long lifetime with up to 7500 switching operations in AC3 mode enables usage as a motor switch, in order to switch large motors during operation. Application as a main switch with an emergency-stop function via a remote pushbutton is easily implemented in conjunction with the double early-make auxiliary contacts and undervoltage release. This in conjunction with the UL/CSA approvals is a prerequisite for use in process and processing machines which are destined for export.



4-pole circuit-breaker

Control circuit terminals

The control circuit terminals are simply screwed onto the respective connection type. The tap-offs for voltage meters, control transformers and undervoltage releases are implemented quickly.

The spacer – saving time and expense

All switches including the accessories fitted on them were designed with the grid spacing of the spacer. Different depths of switches are evened-out simply by means of inexpensive, rapidly fitted spacers. The result is a cost-effective alternative to the door coupling rotary handle with extension shaft for external operation of the circuit-breaker. This worldwide innovation gains time and saves expense.

Clever installation and terminations

Fast and efficient top-hat rail installation with the use of a clip plate. Just simply attach the clip plate from the rear onto the circuit-breaker and clip it onto the top-hat rail. No need to drill holes in the mounting plate. The particular advantage of the small NZM1: the "standard dimension" enables side-by-side installation with miniature circuit breakers in service distribution boards.



Thermomagnetic release



| Rated current = rated uninterrupted current | Overload release 1-pole | Overload release Setting range overload release | Short-circuit release 1-pole | Short-circuit release adjustable 3-pole |
|--|-------------------------------|---|------------------------------------|--|
| $I_n=I_u$ A | I_r A | I_r A | I_i A | I_i A |
| Supplied with box terminals | | | | |
| 16 | 16 | - | 350 | - |
| 20 | 20 | 15-20 | 350 | 350 |
| 25 | 25 | 20-25 | 350 | 350 |
| 32 | 32 | 25-32 | 350 | 350 |
| 40 | 40 | 32-40 | 350 | 320-400 |
| 50 | 50 | 40-50 | 600 | 300-500 |
| 63 | 63 | 50-63 | 600 | 380-630 |
| 80 | 80 | 63-80 | 1000 | 480-800 |
| 100 | 100 | 80-100 | 1000 | 600-1000 |
| 125 | 125 | 100-125 | 1000 | 750-1250 |
| 160 | 160 | 125-160 | - | 1280 |
| Supplied with screw terminals | | | | |
| 20 | | 15-20 | | 350 |
| 25 | | 20-25 | | 350 |
| 32 | | 25-32 | | 350 |
| 40 | | 32-40 | | 320-400 |
| 50 | | 40-50 | | 300-500 |
| 63 | | 50-63 | | 380-630 |
| 80 | | 63-80 | | 480-800 |
| 100 | | 80-100 | | 600-1000 |
| 125 | | 100-125 | | 750-1250 |
| 160 | | 125-160 | | 960-1600 |
| 160 | | 125-160 | | 960-1600 |
| 200 | | 160-200 | | 1280-2000 |
| 200 | | 160-200 | | 1280-2000 |
| 250 | | 200-250 | | 1500-2500 |
| 250 | | 200-250 | | 1500-2500 |
| 300 | | 240-300 | | 2000-2500 |
| 300 | | 240-300 | | 2000-2500 |
| Supplied with screw terminals | | | | |
| 320 | | 250-320 | | 1920-3200 |
| 320 | | 250-320 | | 1920-3200 |
| 400 | | 320-400 | | 2400-4000 |
| 400 | | 320-400 | | 2400-4000 |
| 500 | | 400-500 | | 3000-5000 |
| 500 | | 400-500 | | 3000-5000 |

- ① Applies for NZM1
- ② Applies for NZM2 and NZM3
- ③ 60% release on neutral pole

Thermomagnetic release

| Circuit-breaker with Basic switching capacity 25 kA at 415 V 50/60 Hz | | Circuit-breaker with Basic switching capacity 25 kA at 415 V 50/60 Hz | | Circuit-breaker with Normal switching capacity 50 kA at 415 V 50/60 Hz | | Circuit-breaker with High switching capacity 100 ^① /150 ^② kA at 415 V 50/60 Hz | |
|---|--------------------|---|--------------------|--|--------------------|--|-------------------------------|
| Part no. 1-pole | Part no. 3-pole | Part no. 4-pole | Part no. 3-pole | Part no. 4-pole | Part no. 3-pole | Part no. 4-pole | Part no. 4-pole |
| Supplied with box terminals | | | | | | | |
| NZMB1-1-AF16 | - | - | - | - | - | - | - |
| NZMB1-1-AF20 | NZMB1-A20 | NZMB1-4-A20 | NZMN1-A20 | NZMN1-4-A20 | NZMH1-A20 | NZMH1-4-A20 | NZMH1-4-A20 |
| NZMB1-1-AF25 | NZMB1-A25 | NZMB1-4-A25 | NZMN1-A25 | NZMN1-4-A25 | NZMH1-A25 | NZMH1-4-A25 | NZMH1-4-A25 |
| NZMB1-1-AF32 | NZMB1-A32 | NZMB1-4-A32 | NZMN1-A32 | NZMN1-4-A32 | NZMH1-A32 | NZMH1-4-A32 | NZMH1-4-A32 |
| NZMB1-1-AF40 | NZMB1-A40 | NZMB1-4-A40 | NZMN1-A40 | NZMN1-4-A40 | NZMH1-A40 | NZMH1-4-A40 | NZMH1-4-A40 |
| NZMB1-1-AF50 | NZMB1-A50 | NZMB1-4-A50 | NZMN1-A50 | NZMN1-4-A50 | NZMH1-A50 | NZMH1-4-A50 | NZMH1-4-A50 |
| NZMB1-1-AF63 | NZMB1-A63 | NZMB1-4-A63 | NZMN1-A63 | NZMN1-4-A63 | NZMH1-A63 | NZMH1-4-A63 | NZMH1-4-A63 |
| NZMB1-1-AF80 | NZMB1-A80 | NZMB1-4-A80 | NZMN1-A80 | NZMN1-4-A80 | NZMH1-A80 | NZMH1-4-A80 | NZMH1-4-A80 |
| NZMB1-1-AF100 | NZMB1-A100 | NZMB1-4-A100 | NZMN1-A100 | NZMN1-4-A100 | NZMH1-A100 | NZMH1-4-A100 | NZMH1-4-A100 |
| NZMB1-1-AF125 | NZMB1-A125 | NZMB1-4-A125 | NZMN1-A125 | NZMN1-4-A125 | NZMH1-A125 | NZMH1-4-A125 | NZMH1-4-A125 |
| - | NZMB1-A160 | NZMB1-4-A160 | NZMN1-A160 | NZMN1-4-A160 | NZMH1-A160 | NZMH1-4-A160 | NZMH1-4-A160 |
| Supplied with screw terminals | | | | | | | |
| - | - | - | - | - | NZMH2-A20 | NZMH2-4-A20 | NZMH2-4-A20 |
| - | - | - | - | - | NZMH2-A25 | NZMH2-4-A25 | NZMH2-4-A25 |
| - | - | - | - | - | NZMH2-A32 | NZMH2-4-A32 | NZMH2-4-A32 |
| - | - | - | - | - | NZMH2-A40 | NZMH2-4-A40 | NZMH2-4-A40 |
| - | - | - | - | - | NZMH2-A50 | NZMH2-4-A50 | NZMH2-4-A50 |
| - | - | - | - | - | NZMH2-A63 | NZMH2-4-A63 | NZMH2-4-A63 |
| - | - | - | - | - | NZMH2-A80 | NZMH2-4-A80 | NZMH2-4-A80 |
| - | - | - | - | - | NZMH2-A100 | NZMH2-4-A100 | NZMH2-4-A100 |
| - | - | - | - | - | NZMH2-A125 | NZMH2-4-A125 | NZMH2-4-A125 |
| - | NZMB2-A160 | NZMB2-4-A160 | NZMN2-A160 | NZMN2-4-A160 | NZMH2-A160 | NZMH2-4-A160 | NZMH2-4-A160 |
| - | - | NZMB2-4-A160/100 ^③ | - | NZMN2-4-A160/100 ^③ | - | NZMH2-4-A160/100 ^③ | NZMH2-4-A160/100 ^③ |
| - | NZMB2-A200 | NZMB2-4-A200 | NZMN2-A200 | NZMN2-4-A200 | NZMH2-A200 | NZMH2-4-A200 | NZMH2-4-A200 |
| - | - | NZMB2-4-A200/125 ^③ | - | NZMN2-4-A200/125 ^③ | - | NZMH2-4-A200/125 ^③ | NZMH2-4-A200/125 ^③ |
| - | NZMB2-A250 | NZMB2-4-A250 | NZMN2-A250 | NZMN2-4-A250 | NZMH2-A250 | NZMH2-4-A250 | NZMH2-4-A250 |
| - | - | NZMB2-4-A250/160 ^③ | - | NZMN2-4-A250/160 ^③ | - | NZMH2-4-A250/160 ^③ | NZMH2-4-A250/160 ^③ |
| - | NZMB2-A300 | NZMB2-4-A300 | NZMN2-A300 | NZMN2-4-A300 | NZMH2-A300 | NZMH2-4-A300 | NZMH2-4-A300 |
| - | - | NZMB2-4-A300/200 ^③ | - | NZMN2-4-A300/200 ^③ | - | NZMH2-4-A300/200 ^③ | NZMH2-4-A300/200 ^③ |
| Supplied with screw terminals | | | | | | | |
| - | - | - | NZMN3-A320 | NZMN3-4-A320 | NZMH3-A320 | NZMH3-4-A320 | NZMH3-4-A320 |
| - | - | - | - | NZMN3-4-A320/200 ^③ | - | NZMH3-4-A320/200 ^③ | NZMH3-4-A320/200 ^③ |
| - | - | - | NZMN3-A400 | NZMN3-4-A400 | NZMH3-A400 | NZMH3-4-A400 | NZMH3-4-A400 |
| - | - | - | - | NZMN3-4-A400/250 ^③ | - | NZMH3-4-A400/250 ^③ | NZMH3-4-A400/250 ^③ |
| - | - | - | NZMN3-A500 | NZMN3-4-A500 | NZMH3-A500 | NZMH3-4-A500 | NZMH3-4-A500 |
| - | - | - | - | NZMN3-4-A500/320 ^③ | - | NZMH3-4-A500/320 ^③ | NZMH3-4-A500/320 ^③ |

① Applies for NZM1

② Applies for NZM2 and NZM3

③ 60% release on neutral pole

Circuit breakers with electronic trip units



| Rated current = rated current $I_n = I_u$ A | Overload release Setting range overload release I_r A | Short circuit release Non-Delayed $I_i = I_n \times A$ | Circuit breaker with normal switching capacity 50kA at 415V 50/60Hz | Circuit breaker with high switching capacity 150 ^① /85kA ^② at 415V 50/60Hz |
|--|---|--|---|--|
| Protection of systems and cables 3 pole | | | | |
| 250 | 125-250 | 500-2750 | NZMN3-AE250 | NZMH3-AE250 |
| 400 | 200-400 | 800-4400 | NZMN3-AE400 | NZMH3-AE400 |
| 630 | 315-630 | 1260-5040 | NZMN3-AE630 | NZMH3-AE630 |
| 630 | 315-630 | 1260-7560 | NZMN4-AE630 | NZMH4-AE630 |
| 800 | 400-800 | 1600-9600 | NZMN4-AE800 | NZMH4-AE800 |
| 1000 | 500-1000 | 2000-12000 | NZMN4-AE1000 | NZMH4-AE1000 |
| 1250 | 630-1250 | 2500-15000 | NZMN4-AE1250 | NZMH4-AE1250 |
| 1600 | 800-1600 | 3200-19200 | NZMN4-AE1600 | NZMH4-AE1600 |
| Protection of systems and cables 4 pole | | | | |
| 400 | 200-400 | 800-4400 | NZMN3-4-AE400 | NZMH3-4-AE400 |
| 630 | 315-630 | 1260-5040 | NZMN3-4-AE630 | NZMH3-4-AE630 |
| 800 | 400-800 | 1600-9600 | NZMN4-4-AE800 | NZMH4-4-AE800 |
| 1000 | 500-1000 | 2000-12000 | NZMN4-4-AE1000 | NZMH4-4-AE1000 |
| 1250 | 630-1250 | 2500-15000 | NZMN4-4-AE1250 | NZMH4-4-AE1250 |
| 1600 | 800-1600 | 3200-19200 | NZMN4-4-AE1600 | NZMH4-4-AE1600 |
| Systems protection, cable protection, selectivity, generator protection, 3 pole | | | | |
| 100 | 50-100 | 1200A fixed | NZMN2-VE100 | NZMH2-VE100 |
| 160 | 80-160 | 1920A fixed | NZMN2-VE160 | NZMH2-VE160 |
| 250 | 125-250 | 3000A fixed | NZMN2-VE250 | NZMH2-VE250 |
| 250 | 125-250 | 500-2750 | NZMN3-VE250 | NZMH3-VE250 |
| 400 | 200-400 | 800-4400 | NZMN3-VE400 | NZMH3-VE400 |
| 630 | 315-630 | 1260-5040 | NZMN3-VE630 | NZMH3-VE630 |
| 630 | 315-630 | 1260-7560 | NZMN4-VE630 | NZMH4-VE630 |
| 800 | 400-800 | 1600-9600 | NZMN4-VE800 | NZMH4-VE800 |
| 1000 | 500-1000 | 2000-12000 | NZMN4-VE1000 | NZMH4-VE1000 |
| 1250 | 630-1250 | 2500-15000 | NZMN4-VE1250 | NZMH4-VE1250 |
| 1600 | 800-1600 | 3200-19200 | NZMN4-VE1600 | NZMH4-VE1600 |
| Systems protection, cable protection, selectivity, generator protection, 4 pole | | | | |
| 100 | 50-100 | 1200A fixed | NZMN2-4-VE100 | NZMH2-4-VE100 |
| 160 | 80-160 | 1920A fixed | NZMN2-4-VE160 | NZMH2-4-VE160 |
| 250 | 125-250 | 3000A fixed | NZMN2-4-VE250 | NZMH2-4-VE250 |
| 400 | 200-400 | 800-4400 | NZMN3-4-VE400 | NZMH3-4-VE400 |
| 630 | 315-630 | 1260-5040 | NZMN3-4-VE630 | NZMH3-4-VE630 |
| 800 | 400-800 | 1600-9600 | NZMN4-4-VE800 | NZMH4-4-VE800 |
| 1000 | 500-1000 | 2000-12000 | NZMN4-4-VE1000 | NZMH4-4-VE1000 |
| 1250 | 630-1250 | 2500-15000 | NZMN4-4-VE1250 | NZMH4-4-VE1250 |
| 1600 | 800-1600 | 3200-19200 | NZMN4-4-VE1600 | NZMH4-4-VE1600 |

① Applies for NZM2 and NZM3

② Applies for NZM4

Circuit breakers motor protection

| Rated operational current = rated uninterrupted current $I_n = I_u$ A | Overload releases Setting range I_r A | Short-circuit releases Non-delayed $I_s = I_n \times \dots$ | Rated operating power AC-3 50/60 Hz 400 V P kW | Rated operational current AC-3 50/60 Hz 400V I_o A | Basic switching capacity 25 kA 400/415V 50/60 Hz Item no. | Normal switching capacity 50 kA 400/415V 50/60 Hz Item no. | High switching capacity 85 kA ① / 100kA ② / 150kA ③ 400/415V 50/60 Hz Item no. |
|---|--|---|---|---|---|--|--|
|---|--|---|---|---|---|--|--|

Motor protection, thermomagnetic release NZM...1-M...: with phase failure sensitivity, tripping class 10 A

Box Terminals standard - Terminal screws as accessories

| 40 | 32-40 | 8 - 14 | 18.5 | 36 | NZMB1-M40 | NZMN1-M40 | NZMH1-M40 |
|-----|--------|----------|------|----|------------|------------|------------|
| 50 | 40-50 | 8 - 14 | 22 | 41 | NZMB1-M50 | NZMN1-M50 | NZMH1-M50 |
| 63 | 50-63 | 8 - 14 | 30 | 55 | NZMB1-M63 | NZMN1-M63 | NZMH1-M63 |
| 80 | 63-80 | 8 - 14 | 37 | 68 | NZMB1-M80 | NZMN1-M80 | NZMH1-M80 |
| 100 | 80-100 | 8 - 12.5 | 45 | 81 | NZMB1-M100 | NZMN1-M100 | NZMH1-M100 |

Terminal screws standard - Box terminals as accessories

| | | | | | | | |
|-----|---------|--------|-----|-----|------------|------------|------------|
| 125 | 100-125 | 8 - 14 | 55 | 99 | NZMB2-M125 | NZMN2-M125 | NZMH2-M125 |
| 160 | 125-160 | 8 - 14 | 75 | 134 | NZMB2-M160 | NZMN2-M160 | NZMH2-M160 |
| 200 | 160-200 | 8 - 14 | 110 | 196 | NZMB2-M200 | NZMN2-M200 | NZMH2-M200 |

Motor protection, electronic releases with phase failure sensitivity, tripping class adjustable

Terminal screws standard - Box terminals as accessories

| | | | | | | |
|------|----------|--------|-----|------|--------------|--------------|
| 220 | 110-220 | 2 - 14 | 110 | 196 | NZMN3-ME220 | NZMH3-ME220 |
| 350 | 175-350 | 2 - 14 | 200 | 349 | NZMN3-ME350 | NZMH3-ME350 |
| 450 | 225-450 | 2 - 12 | 250 | 437 | NZMN3-ME450 | NZMH3-ME450 |
| 550 | 275-550 | 2 - 14 | 315 | 544 | NZMN4-ME550 | NZMH4-ME550 |
| 875 | 483-875 | 2 - 14 | 500 | 820 | NZMN4-ME875 | NZMH4-ME875 |
| 1400 | 700-1400 | 2 - 14 | 630 | 1066 | NZMN4-ME1400 | NZMH4-ME1400 |

- ① Applies for NZMH4
- ② Applies for NZMH1
- ③ Applies for NZMH2 & NZMH3

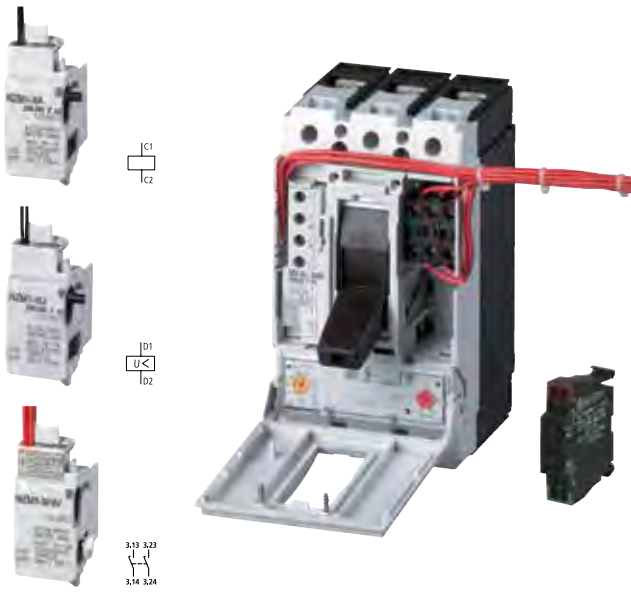


Switch disconnectors

| Switch-disconnectors | 3-pole IEC | | 4-pole IEC | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Rated current = Rated uninterrupted current $I_n = I_u$ A | 2 switch positions ① | 3 switch positions ② | 2 switch positions ① | 3 switch positions ② |
| Box terminals standard - Terminal screws as accessories | | | | |
| 63 | PN1-63 | N1-63 | PN1-4-63 | N1-4-63 |
| 100 | PN1-100 | N1-100 | PN1-4-100 | N1-4-100 |
| 125 | PN1-125 | N1-125 | PN1-4-125 | N1-4-125 |
| 160 | PN1-160 | N1-160 | PN1-4-160 | N1-4-160 |
| Terminal screws standard - Box terminals screws as accessories | | | | |
| 200 | PN2-200 | N2-200 | PN2-4-200 | N2-4-200 |
| 250 | PN2-250 | N2-250 | PN2-4-250 | N2-4-250 |
| 400 | PN3-400 | N3-400 | PN3-4-400 | N3-4-400 |
| 630 | PN3-630 | N3-630 | PN3-4-630 | N3-4-630 |
| 800 | | N4-800 | | N4-4-800 |
| 1000 | | N4-1000 | | N4-4-1000 |
| 1250 | | N4-1250 | | N4-4-1250 |
| 1600 | | N4-1600 | | N4-4-1600 |

- ① 2 switch positions I,0; cannot be tripped remotely
- ② 3 switch position I,+0; can be tripped remotely with undervoltage or shunt trip devices





System benefits – the universal accessory range

The method of functioning and fitting of the accessories is identical for every size. Contact elements from the RMQ-Titan® range of control circuit devices are used for the entire NZM range of circuit-breakers.

This has many advantages: it ensures a reduction in the variety of types, a decrease in ordering expense and effort and consequently, simpler inventory management. The contact elements can be simply clipped-on from the front. The position determines the function: signalling contact or trip-indicating auxiliary contact, and like all auxiliary contacts and releases, they are available with terminal bolts or spring-loaded connections, for circuit-breakers or switch-disconnector's.

The new twin contacts provide twice as many auxiliary and signalling contacts in the same amount of space. They feature spring-loaded terminal connections.

Flexible solutions for safety and interlock functions
Effective shunt or undervoltage releases, combined also with early-make auxiliary contacts for Emergency-Stop functions or load-shedding circuits, offer elegant solutions for a wide range of functioning applications. All contact points are available with sturdy bolt connection.

Auxiliary contacts

| Item no. | Version | For use with | Max no. of auxiliary contacts per switch | Contacts | |
|--|--|----------------------------------|--|---------------------|-----------------------|
| | | | | N/O = normally open | N/C = normally closed |
| Standard auxiliary contact (HIN). Switching with the main contacts. Used for indicating and interlocking tasks. | | | N(S)1, PN1, NZM1: 1 | | |
| | | | N(S)2, PN2, NZM2: 2 | | |
| | | | N(S)3, PN3, NZM3: 3 | | |
| | | | N(S)4, NZM4: 3 | | |
| M22-K10 | | NZM1(-4), 2(-4), 3(-4), 4(-4) | | 1 N/O | - |
| M22-K01 | With bolt connection | PN1(-4), 2(-4), 3(-4) | | - | 1 N/C |
| | | N(S)1(-4), 2(-4), 3(-4), 4(-4) | | | |
| M22-CK11 | | NZM1(-4), 2(-4), 3(-4), 4(-4) | | 1 N/O | 1 N/C |
| M22-CK20 | With cage clamp connection. | PN1(-4), 2(-4), 3(-4) | | 2 N/O | - |
| M22-CK02 | | N(S)1(-4), 2(-4), 3(-4), 4(-4) | | - | 2 N/C |
| Early-make auxiliary contacts For interlock and load-shedding circuits, as well as for early-make switching of the undervoltage release with main switch / emergency-Stop applications | | | | | |
| NZM1-XHIV | With clamp terminal on the left-hand switch side. | NZM1(-4) PN1(-4) N(S)1(-4) | | 2 N/O | - |
| NZM1-XHIVR | With clamp terminal on the right-hand switch side. | NZM1(-4) PN1(-4) N(S)1(-4) | | 2 N/O | - |
| NZM1-XHIVL | With 3 m connecting cables instead of bolt connection. | NZM1(-4) PN1(-4) N(S)1(-4) | | 2 N/O | - |
| NZM2/3-XHIV | | NZM2(-4), 3(-4) | N(S)1, NZM1: 1 | 2 N/O | - |
| | With bolt connection | PN2(-4), 3(-4) | N(S)2, NZM2: 1 | | |
| | | N(S)2(-4), 3(-4) | N(S)3, NZM3: 1 | | |
| | | | N(S)4, NZM4: 2 | | |
| NZM4-XHIV | | NZM4(-4) N(S)4(-4) | | 2 N/O | - |
| Trip indicating auxiliary contact (HIA)¹⁾ General trip indication "+" with trip by voltage release, overload release or short-circuit release | | | | | |
| M22-K10 | | NZM1(-4), 2(-4), 3(-4), 4(-4) | | 1 N/O | - |
| M22-K01 | With bolt connection | N(S)1(-4), 2(-4), 3(-4), 4(-4) | | - | 1 N/C |
| M22-CK11 | | NZM1(-4), 2(-4), 3(-4), 4(-4) | | 1 N/O | 1 N/C |
| M22-CK20 | With cage clamp connection. | N(S)1(-4), 2(-4), 3(-4), 4(-4) | | 2 N/O | - |
| M22-CK02 | | | | - | 2 N/C |

¹⁾ not in conjunction with switch-disconnector PN

Undervoltage & shunt trip release devices

| Release | Version | For use with | Undervoltage release ① | | Shunt trip release ② | |
|---|--|--------------------|-----------------------------|----------------------------|------------------------------|----------------------------|
| | | | Item no. | Rated control voltage Us V | Item no. | Rated control voltage Us V |
| With clamp terminal on the left-hand side | N(ZM1(-4), N(S)1(-4)) | | NZM1-XU24AC | 24 V 50/60 Hz | NZM1-XA12AC/DC | 12V AC/DC |
| | | | NZM1-XU110-130AC | 110V-130V 50/60 Hz | NZM1-XA24AC/DC | 24V AC/DC |
| | | | NZM1-XU208-240AC | 208V-240V 50/60 Hz | NZM1-XA110-130AC/DC | 110V-130V AC/DC |
| | | | NZM1-XU380-440AC | 380V-440V 50/60 Hz | NZM1-XA208-250AC/DC | 208V-250V AC/DC |
| | | | NZM1-XU12DC | 12V DC | NZM1-XA380-440AC/DC | 380V-440V AC/DC |
| | | | NZM1-XU24DC | 24V DC | | |
| | | | NZM1-XU110-130DC | 110V-130V DC | | |
| | | | NZM1-XU220-250DC | 220V-250V DC | | |
| | | | NZM1-XUL24AC | 24 V 50/60 Hz | NZM1-XAL12AC/DC | 12V AC/DC |
| | | | NZM1-XUL110-130AC | 110V-130V 50/60 Hz | NZM1-XAL24AC/DC | 24V AC/DC |
| | NZM1-XUL208-40AC | 208V-240V 50/60 Hz | NZM1-XAL110-130AC/DC | 110V-130V AC/DC | | |
| | NZM1-XUL380-440AC | 380V-440V 50/60 Hz | NZM1-XAL208-250AC/DC | 208V-250V AC/DC | | |
| | NZM1-XUL12DC | 12V DC | NZM1-XAL380-440AC/DC | 380V-440V AC/DC | | |
| | NZM1-XUL24DC | 24V DC | | | | |
| | NZM1-XUL110-130DC | 110V-130V DC | | | | |
| | NZM1-XUL220-250DC | 220V-250V DC | | | | |
| With clamp-type terminals | N(ZM2(-4), N2(-4), N(ZM3(-4), n(s)3(-4)) | | NZM2/3-XU24AC | 24 V 50/60 Hz | NZM2/3-XA12AC/DC | 12V AC/DC |
| | | | NZM2/3-XU110-130AC | 110V-130V 50/60 Hz | NZM2/3-XA24AC/DC | 24V AC/DC |
| | | | NZM2/3-XU208-240AC | 208V-240V 50/60 Hz | NZM2/3-XA110-130AC/DC | 110V-130V AC/DC |
| | | | NZM2/3-XU380-440AC | 380V-440V 50/60 Hz | NZM2/3-XA208-250AC/DC | 208V-250V AC/DC |
| | | | NZM2/3-XU12DC | 12V DC | NZM2/3-XA380-440AC/DC | 380V-440V AC/DC |
| | | | NZM2/3-XU24DC | 24V DC | | |
| | | | NZM2/3-XU110-130DC | 110V-130V DC | | |
| | | | NZM2/3-XU220-250DC | 220V-250V DC | | |
| | | | NZM4-XU24AC | 24 V 50/60 Hz | NZM4-XA12AC/DC | 12V AC/DC |
| | | | NZM4-XU110-130AC | 110V-130V 50/60 Hz | NZM4-XA24AC/DC | 24V AC/DC |
| | NZM4-XU208-240AC | 208V-240V 50/60 Hz | NZM4-XA110-130AC/DC | 110V-130V AC/DC | | |
| | NZM4-XU380-440AC | 380V-440V 50/60 Hz | NZM4-XA208-250AC/DC | 208V-250V AC/DC | | |
| | NZM4-XU12DC | 12V DC | NZM4-XA380-440AC/DC | 380V-440V AC/DC | | |
| | NZM4-XU24DC | 24V DC | | | | |
| | NZM4-XU110-130DC | 110V-130V DC | | | | |
| | NZM4-XU220-250DC | 220V-250V DC | | | | |



① non-delayed shut down of circuit-breaker NZM or switch-disconnector N with drop of the control voltage below 35 – 70% U_c . For use with Emergency-Stop devices in conjunction with Emergency-Stop button.
② switches are tripped by a voltage pulse or by the application of uninterrupted voltage.

Door coupling rotary handles



| Item no. | For use with | Version |
|--------------------|--|--|
| NZM1-XTVDV | NZM1(-4), PN1(-4), N(S)1(-4) | Black/Grey |
| NZM2-XTVDV | NZM2(-4), PN2(-4), N(S)2(-4) | Lockable on handle and switch. |
| NZM3-XTVDV | NZM3(-4), PN3(-4), N(S)3(-4) | Can be locked in 0 position, with adequate modification also in I position. Lockable door as additional feature, locking facility on circuit-breaker in 0 position. |
| NZM4-XTVDV | NZM4(-4), N(S)4(-4) | |
| NZM1-XTVDVR | NZM1(-4), PN1(-4), N(S)1(-4) | Red-yellow for Emergency-Stop |
| NZM2-XTVDVR | NZM2(-4), PN2(-4), N(S)2(-4) | Lockable on handle and switch. Can be locked in 0 position, with adequate modification also in I position. Lockable door as additional feature, locking facility on circuit-breaker in 0 position. |
| NZM3-XTVDVR | NZM3(-4), PN3(-4), N(S)3(-4) | |
| NZM4-XTVDVR | NZM4(-4), N(S)4(-4) | |
| NZM1/2-XV4 | NZM1(-4), PN1(-4), N(S)1(-4), NZM2(-4), PN2(-4), N(S)2(-4) | Extension shaft 400 mm |
| NZM3/4-XV4 | NZM3(-4), PN3(-4), N(S)3(-4), NZM4(-4), N(S)4(-4) | Max. mounting depth |
| NZM1/2-XV6 | NZM1(-4), PN1(-4), N(S)1(-4), NZM2(-4), PN2(-4), N(S)2(-4) | 600 mm |
| NZM3/4-XV6 | NZM3(-4), PN3(-4), N(S)3(-4), NZM4(-4), N(S)4(-4) | Max. mounting depth |



Rotary handles direct mount



| Item no. | For use with | Version |
|------------------|------------------------------|---|
| NZM1-XDV | NZM1(-4), PN1(-4), N(S)1(-4) | |
| NZM2-XDV | NZM2(-4), PN2(-4), N(S)2(-4) | Black/Grey |
| NZM3-XDV | NZM3(-4), PN3(-4), N(S)3(-4) | Lockable in 0 position on switch with up to 3 padlocks. |
| NZM4-XDV | NZM4(-4), N(S)4(-4) | |
| NZM1-XDVR | NZM1(-4), PN1(-4), N(S)1(-4) | |
| NZM2-XDVR | NZM2(-4), PN2(-4), N(S)2(-4) | Red-yellow for Emergency-Stop |
| NZM3-XDVR | NZM3(-4), PN3(-4), N(S)3(-4) | Lockable in 0 position on switch with up to 3 padlocks. |
| NZM4-XDVR | NZM4(-4), N(S)4(-4) | |

* other handle options available contact Eaton for details.

Toggle lever locking devices



| Item no. | For use with | Version |
|--------------------|-----------------------------------|---------------------------------|
| NZM1-XKAV | NZM1(-4), PN2(-4), N(S)1(-4) | Toggle lever locking facilities |
| NZM2/3-XKAV | NZM2/3(-4), PN2/3(-4), (S)2/3(-4) | |

Fixed Padlocking devices

| For use with | Item no. |
|---------------|--------------------------|
| NZM1, PN1, N1 | PADLOCK-BRKT-NZM1 |
| NZM2, PN2, N2 | PADLOCK-BRKT-NZM2 |
| NZM3, PN3, N3 | PADLOCK-BRKT-NZM3 |
| NZM4, N4 | PADLOCK-BRKT-NZM4 |

Shrouds & connection kits

| Item no. | For use with | No. of poles | Comments |
|--------------------------------|---|--------------|---|
| Terminal shrouds | | | |
| NZM1-1-XKSA | NZM1-1 | 1 pole | Contains enough items for either LINE or LOAD side only |
| NZM1-XKSA | NZM1, PN1, N1 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM1-4-XKSA | NZM1-4, PN1-4, N1-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-XKSA | NZM2, PN2, N2 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-4-XKSA | NZM2-4, PN2-4, N2-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-XKSA | NZM3, PN3, N3 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-4-XKSA | NZM3-4, PN3-4, N3-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-XKSA | NZM4, N4 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-4-XKSA | NZM4-4, N4-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| Tunnel terminals | | | |
| NZM1-XKA | NZM1, PN1, N1 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM1-4-XKA | NZM1-4, PN1-4, N1-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-XKA | NZM2, PN2, N2 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-4-XKA | NZM2-4, PN2-4, N2-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-XKA2 | NZM3, PN3, N3 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-4-XKA2 | NZM3-4, PN3-4, N3-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-XKA | NZM4, N4 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-4-XKA | NZM4-4, N4-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| Rear connection kits | | | |
| NZM1-XKR | NZM1, PN1, N1 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM1-4-XKR | NZM1-4, PN1-4, N1-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-XKR | NZM2, PN2, N2 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM2-4-XKR | NZM2-4, PN2-4, N2-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-XKR | NZM3, PN3, N3 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM3-4-XKR | NZM3-4, PN3-4, N3-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-XKR | NZM4, N4 | 3 pole | Contains enough items for either LINE or LOAD side only |
| NZM4-4-XKR | NZM4-4, N4-4 | 4 pole | Contains enough items for either LINE or LOAD side only |
| Control cable terminals | | | |
| NZM1-XSTS | NZM1, PN1, N1 & NZM1-4, PN1-4, N1-4 | 3 & 4 pole | Contains only 2 pieces |
| NZM2-XSTS | NZM2, PN2, N2 & NZM2-4, PN2-4, N2-4 | 3 & 4 pole | Contains only 2 pieces |
| NZM3/4-XSTS | NZM3, PN3, N3 & NZM3-4, PN3-4, N3-4 & NZM4, N4 & NZM4-4, N4-4 | 3 & 4 pole | Contains only 2 pieces |

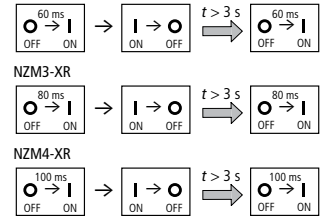


Remote operators



| Description | For use with | Rated control voltage Us, V | Item no. |
|---|--------------|-----------------------------|---------------------------|
| Remote operators, for remote switching of circuit-breakers & switch-disconnectors ON & OFF switching & resetting by means of 2-wire or 3-wire control Can be synchronised. Local switching by hand possible. Lockable in the 0 position of the remote operator with up to 3 padlocks (hasp thickness: 4 – 8 mm) | N2 | 110 – 130 V 50/60 Hz | NZM2-XR110-130AC |
| | | 208 – 240 V 50/60 Hz | NZM2-XR208-240AC |
| | | 380 – 440 V 50/60 Hz | NZM2-XR380-440AC |
| | | 24 – 30 V DC | NZM2-XR24-30DC |
| | N3 | 110 – 130 V 50/60 Hz | NZM3-XR110-130AC |
| | | 208 – 240 V 50/60 Hz | NZM3-XR208-240AC |
| | | 380 – 440 V 50/60 Hz | NZM3-XR380-440AC |
| | | 24 – 30 V DC | NZM3-XR24-30DC |
| | N4 | 110 – 130 V 50/60 Hz | NZM4-XR110-130AC |
| | | 208 – 240 V 50/60 Hz | NZM4-XR208-240AC |
| | | 380 – 440 V 50/60 Hz | NZM4-XR380-440AC Ⓢ |
| | | 24 – 30 V DC | NZM4-XR24-30DC |

Ⓢ Not UL/CSA approved.
Remote operators are combinable with NZM circuit-breakers & N switch-disconnectors but not with PN switch-disconnectors. A standard auxiliary contact (HIN) for the switch position detection is supplied.
Switching cycle: NZM2-XR.
The time interval between OFF & ON is 3 seconds.
On commands received during the time interval are ignored within the first 3 seconds after switch off.



Accessories, mechanical interlock

| Description | For use with | Item no. |
|--|-------------------------------------|---------------------|
| Spacers Enables fast & low-priced adjustment of differing frame sizes with/without rotary handle to the same front depth | NZM1, PN1, N1, NZM2, PN2, N2 | NZM1/2-XAB |
| | NZM3, PN3, N3, NZM4, N4 | NZM3-XAB |
| Interpole phase barriers - 2 pieces per set | NZM1, PN1, N1 | NZM1-XKP |
| | NZM2, PN2, N2 | NZM2-XKP |
| | NZM3, PN3, N3 | NZM3-XKP |
| | NZM4, N4 | NZM4-XKP |
| Mechanical interlocking of (door coupling) rotary handles | NZM1, PN1, N1 | NZM1-XMV |
| | NZM2, PN2, N2 | NZM2-XMV |
| | NZM3, PN3, N3 | NZM3-XMV |
| | NZM4, N4 | NZM4-XMV |
| Bowden cables For mechanical interlocking of (door coupling) rotary handles | NZM1, PN1, N1 | NZM-XBZ225 |
| | NZM2, PN2, N2 | NZM-XBZ600 |
| | NZM3, PN3, N3, NZM4, N4 | NZM-XBZ1000 |
| Mechanical interlock for remote operator For 2 switches of the same or next frame size with each other. Mounting beside one another. Type contains parts for both switches | NZM2(-4), N2(-4) + NZM2(-4), N2(-4) | NZM2-XMVR |
| | NZM2(-4), N2(-4) + NZM3(-4), N3(-4) | NZM2/3-XMVR |
| | NZM3(-4), N3(-4) + NZM3(-4), N3(-4) | NZM3-XMVR |
| | NZM3(-4), N3(-4) + NZM4(-4), N4(-4) | NZM3/4-XMVR |
| | NZM4(-4), N4(-4) + NZM4(-4), N4(-4) | NZM4-XMVR |
| Mechanical interlock for remote operator For 2 switches of the same or next frame size with each other. Extra long Bowden cables for mounting in neighbouring control panel fields. Type contains parts for both switches | NZM2(-4), N2(-4) + NZM2(-4), N2(-4) | NZM2-XMVRL |
| | NZM2(-4), N2(-4) + NZM3(-4), N3(-4) | NZM2/3-XMVRL |
| | NZM3(-4), N3(-4) + NZM3(-4), N3(-4) | NZM3-XMVRL |
| | NZM3(-4), N3(-4) + NZM4(-4), N4(-4) | NZM3/4-XMVRL |
| | NZM4(-4), N4(-4) + NZM4(-4), N4(-4) | NZM4-XMVRL |



Paralleling mechanisms, energy metering and communication

| Description | For use with | Item no. |
|---|--------------|-------------------|
| Paralleling mechanisms, simultaneous actuation of 2 PN switch-disconnectors of the same type mounted side-by-side | PN1 + PN1 | PN1-XPA ① |
| | PN2 + PN2 | PN2-XPA ① |
| | PN3 + PN3 | PN3-XPA ①② |



① A non-lockable rotary handle is supplied (necessary due to the double torque).
 ② Rotary handle on switch or door coupling rotary handle per PN... is additionally required. Combinations as required are also possible. Cannot be combined with mechanical interlock, insulating surrounds, side wall operators or remote operators.

PN3-XPA: Only in conjunction with non lockable rotary handles or door coupling rotary handles.

Rotary handle on switch: NZM3...-XD • Door coupling rotary handle: NZM3...-XTD Not suitable for use as a main switch.

| Description | Item no. |
|--|----------------------|
| Diagnostic & configurator software for NZM & DMI (at the machine) PC software for direct connection to all new NZM circuit-breakers with electronic releases (IEC & UL/CSA devices) or for direct connection to the DMI module, including the connection cable. Protection parameters: Online display & characteristic representation, export option to "CurveSelect" characteristics program. Warning & trip messages: Read of the diagnostics memory even in a no-voltage state. Load currents: Display & trend representation. Recording & export feature to MS-Excel for load currents & diagnostic messages. Configuration of the DMI: motor starter, remote operator, assignment of the DMI inputs & outputs & displays. | NZM-XPC-KIT |
| Data Management Interface (DMI Module) | |
| Query of diagnostics & operational data, display of currents, motor starter function, parameterisation & control of the circuit-breaker with electronic release. Comprehensive remote diagnostic options & remote operation via fieldbus in combination with fieldbus connection. Inclusive NZM-XDMI-CAB connection cable between NZM & DMI (length: 2m). | NZM-XDMI612 |
| Expansion unit, networking Connection to the DMI module for transfer of the phase currents, parameter-, status- & diagnostics data as well as the position of the circuit-breaker (wiring of the auxiliary contact to the DMI inputs). DMI configuration via field bus. Actuation of the DMI motor starter function & the NZM remote operator (via DMI output wiring). Detection of digital inputs & actuation of the outputs via the fieldbus. | |
| Fieldbus interface: to PROFIBUS-DPV1 slave. Can be operated with class 1 & class 2 masters. Addresses available: 1 to 126 | NZM-XDMI-DPV1 |
| Fieldbus connection to CANopen Addresses available: 1 to 127 | EASY221-CO |
| Fieldbus connection to DeviceNet Addresses available: 0 to 63 | EASY222-DN |



Flexible fault current protection

The new Eaton relay/transducer combination covers operating currents in a range from 1 to 1800 A. The wide spectrum of applications ranges from general power distribution tasks to individual Motor controls. The fault currents which are detected and processed by the relay range from 30 mA to 5 A. The adjustable relay provides a pre-warn function which alerts before the set fault current is exceeded. The prewarning allows preventative action to be taken to prevent shutdown of the electrical energy.

The application range of the relay/transducer combinations extend – depending on the regulations which apply – from personnel protection to fire protection, and even extends up to protection of systems for 1 to 4 pole power grids. The current relay signals that the set fault current has been exceeded with a changeover contact. Depending on the application, the contact signal can be subsequently processed in the controls, as well as by the shunt or undervoltage releases of a circuit-breaker which initiate the trip. The relay and transducer can be combined with every circuit-breaker. The compact ring-type transducer with no particular space requirement is placed at a suitable position on the cable run. The relay simply requires a free electrical cable connection.

Compact, safe, adaptable... just as it should be, the fault current protection which is particularly suited for cramped spaces such as for example in service distribution systems. Ring-type transducers which are arranged in a space saving manner on the cabling run and the measuring relay which is simply snapped onto the DIN mounting rail, combine to form a functional unit.

After a critical fault current has been exceeded, the output signal can be optionally channelled to an acoustic/optical signalling device, upstream control or directly to the shunt or undervoltage release of a motor-protective circuitbreaker/circuit-breaker for instantaneous shutdown. Three different relay variants are available

for different protective tasks: 30 mA as well as 300 mA sensitivity with a fixed setting and 30 mA to 5 A adjustable in fixed steps, which can be combined with a time delay of 20 ms to 5 s.

The non-delayed standard devices are particularly suited for protection of systems. The time-delayed variants are intended for discriminative series connection of multiple switch/relay combinations. This ensures, that only the switch in the direct vicinity of the fault will trip.

Two colour LED's signal operating and fault states. Possible wiring faults between relay and transducers are indicated by illumination of both LED's. Diagnostics function with adjustable PFR-5 relay:

If the set fault current is exceeded by more than 25, 50 or 75%, the red LED will flash at different frequencies. This alert feature ensures that trouble-shooting for the cause of the fault can commence before a critical state is reached.

Two pushbuttons enable test and reset of the relay Test: The function of the relay electronics is tested and the trip signal can be used to control the shunt or undervoltage release of the connected circuit-breaker. This test checks the operation of the entire function chain comprised of measured value input, processing, signal routing as well as switch release. Reset: The release signal is reset regardless of if it is received from a fault current or by operation of the test button.



| Description | | Item no. |
|--|--|------------------|
| Residual current relay Pulse current sensitive | Rated control voltage: Us = 230V A.C. (50/60 Hz) Integrated auxiliary switch (1 changeover contact) | |
| Rated fault current I n = 0.03 A | | PFR-003 |
| Rated fault current I n = 0.3 A | | PFR-03 |
| Rated fault current I n = 0.03...5 A Adjustable fault current and delay time Fault current prewarning by flashing red LED | PFR-5: Adjustable fault current: 0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 A Adjustable delay time: 0.02 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 s | PFR-5 |
| Ring-type transducer | | |
| Internal diameter 20 mm | PFR-W-20 and PFR-W-30 | PFR-W-20 |
| Internal diameter 30 mm | incl. attachment clip for DIN top-hat rail | PFR-W-30 |
| Internal diameter 35 mm | PFR-W-35 and all larger transducers | PFR-W-35 |
| Internal diameter 70 mm | incl. screw fitting | PFR-W-70 |
| Internal diameter 105 mm | Engineering note: The transducer diameter must be selected to be 1.5 times larger than the diameter of the conductor lead through (see Technical Data). | PFR-W-105 |
| Internal diameter 140 mm | | PFR-W-140 |
| Internal diameter 210 mm | | PFR-W-210 |

Flexible fault current protection

The residual-current protection modules can be connected to the bottom of the circuit-breaker NZM1 and NZM2, and on the NZM1 also on the right hand side with the same contour design. A compact and mounting friendly solution. An external auxiliary voltage is not required. The residual current protection module of the NZM2 is independent of the mains voltage. It is available in pulse current sensitive and also in AC/DC current sensitive devices. In almost every mains configuration 3-pole and 4-pole variants as well as rated fault currents from 30 mA to time-discriminating 3 A are on offer.

During a fault the rising fault current will initially be indicated by an LED on the RCCB for the NZM1. The circuit breaker trips via the residual-current release only after the set fault current is exceeded, i.e. the main contacts will be opened. The cause of the fault is indicated mechanically on the device with the NZM1 and 2. Optional auxiliary contacts can be clipped on in order to remotely indicate the trip. The circuit breaker and the residual-current release must be reset and switched back on in order to restore the power supply.



Accessories

Earth-fault release

| Rated fault current | For use with | 3 pole Item no. | For use with | 4 pole Item no. |
|--|--------------|---------------------|----------------|-----------------------|
| Not UL/CSA approved. Suitability for use in three- & single-phase systems. | | | | |
| Pulse current sensitive acc. to core-balance principle | | | | |
| For 3 & 4 pole circuit-breakers NZM1(-4) & switch-disconnectors N1(-4), dependant on mains power $U_e = 200 - 415 \text{ V } 50/60 \text{ Hz}$, lateral mounting on the right hand side up to 125 A | | | | |
| Rated fault current $I_{\Delta n} = 0.03 \text{ A}$ | NZM1 N1 | NZM1-XFI30R | NZM1-4 | NZM1-4-XFI30R |
| Rated fault current $I_{\Delta n} = 0.3 \text{ A}$ | | NZM1-XFI300R | N1-4 | NZM1-4-XFI300R |
| Rated fault current $I_{\Delta n} = 0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 \text{ A}$ | | NZM1-XFIR | | |
| Delay time $t_v = 10 - 60 - 150 - 300 - 450 \text{ ms}$. | | | NZM1-4 N1-4 | NZM1-4-XFIR |
| For 3 & 4 pole circuit-breakers NZM1(-4) & switch-disconnectors N1(-4), dependant on mains power $U_e = 200 - 415 \text{ V } 50/60 \text{ Hz}$, bottom mounting up to 100 A | | | | |
| Rated fault current $I_{\Delta n} = 0.03 \text{ A}$ | NZM1 N1 | NZM1-XFI30U | | NZM1-4-XFI30U |
| Rated fault current $I_{\Delta n} = 0.3 \text{ A}$ | | NZM1-XFI300U | NZM1-4 | NZM1-4-XFI300U |
| Rated fault current $I_{\Delta n} = 0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 \text{ A}$, delay time $t_v = 10 - 60 - 150 - 300 - 450 \text{ ms}$. | | NZM1-XFIU | N1-4 | NZM1-4-XFIU |
| Pulse current sensitive acc. to core-balance principle | | | | |
| For 4 pole circuit-breakers NZM2-4 & switch-disconnectors N2-4, independent of mains voltage $U_e = 280 - 690 \text{ V } 50/60 \text{ Hz}$, bottom mounting up to 250 A | | | | |
| Rated fault current $I_{\Delta n} = 0.03 \text{ A}$ | | | NZM2-4 | NZM2-4-XFI30 |
| Rated fault current $I_{\Delta n} 0.1 - 0.3 - 1 - 3 \text{ A}$, delay time $t_v = 60 - 150 - 300 - 450 \text{ ms}$ | | | N2-4 | NZM2-4-XFI |
| Core-balance principle with AC/DC current sensitivity (in range 0 - 100 kHz) | | | | |
| For 4 pole circuit-breakers NZM2-4 & switch-disconnectors N2-4, internal power supply $U_e = 50 - 400 \text{ V}$, bottom mounting up to 250 A | | | | |
| Rated fault current $I_{\Delta n} = 0.03 \text{ A}$ | | | | NZM2-4-XFIA30 |
| Rated fault current $I_{\Delta n} 0.1 - 0.3 - 1 \text{ A}$, delay time $t_v = 60 - 150 - 300 - 450 \text{ ms}$ | | | NZM2-4 N2-4 | NZM2-4-XFIA |

Moulded case circuit breaker chassis for NZM

High current chassis

| Description | Rating | Item no. |
|---|------------------|------------------------------|
| High current Chassis Tested to: | | |
| • 50 kA for 0.1 second | | |
| • 40 kA for 1 second | | |
| 630 A, NZM1 Chassis | | |
| Chassis 630A NZM1 6 Pole | 630A 40kA 1 sec | CH06NZM1-6P |
| Chassis 630A NZM1 12 Pole | 630A 40kA 1 sec | CH06NZM1-12P |
| Chassis 630A NZM1 18 Pole | 630A 40kA 1 sec | CH06NZM1-18P |
| Chassis 630A NZM1 24 Pole | 630A 40kA 1 sec | CH06NZM1-24P |
| Chassis 630A NZM1 30 Pole | 630A 40kA 1 sec | CH06NZM1-30P |
| Chassis 630A NZM1 36 Pole | 630A 40kA 1 sec | CH06NZM1-36P |
| Chassis 630A NZM1 42 Pole | 630A 40kA 1 sec | CH06NZM1-42P |
| Chassis 630A NZM1 48 Pole | 630A 40kA 1 sec | CH06NZM1-48P |
| Chassis 630A NZM1 60 Pole | 630A 40kA 1 sec | CH06NZM1-60P |
| Chassis 630A NZM1 72 Pole | 630A 40kA 1 sec | CH06NZM1-72P |
| 630A, NZM2 Chassis | | |
| Chassis 630A NZM2 6 Pole | 630A 40kA 1 sec | CH06NZM2-6P |
| Chassis 630A NZM2 12 Pole | 630A 40kA 1 sec | CH06NZM2-12P |
| Chassis 630A NZM2 18 Pole | 630A 40kA 1 sec | CH06NZM2-18P |
| Chassis 630A NZM2 24 Pole | 630A 40kA 1 sec | CH06NZM2-24P |
| Chassis 630A NZM2 30 Pole | 630A 40kA 1 sec | CH06NZM2-30P |
| Chassis 630A NZM2 36 Pole | 630A 40kA 1 sec | CH06NZM2-36P |
| Chassis 630A NZM2 42 Pole | 630A 40kA 1 sec | CH06NZM2-42P |
| Chassis 630A NZM2 48 Pole | 630A 40kA 1 sec | CH06NZM2-48P |
| 630A NZM1 - NZM2 Hybrid Chassis | | |
| Chassis 630A Hybrid NZM1 6 Pole NZM2 6 Pole | 630A 40kA 1 sec | CH06NZM1-6P/NZM2-6P |
| Chassis 630A Hybrid NZM1 6 Pole NZM2 12 Pole | 630A 40kA 1 sec | CH06NZM1-6P/NZM2-12P |
| Chassis 630A Hybrid NZM1 12 Pole NZM2 6 Pole | 630A 40kA 1 sec | CH06NZM1-12P/NZM2-6P |
| Chassis 630A Hybrid NZM1 12 Pole NZM2 12 Pole | 630A 40kA 1 sec | CH06NZM1-12P/NZM2-12P |
| Chassis 630A Hybrid NZM1 18 Pole NZM2 6 Pole | 630A 40kA 1 sec | CH06NZM1-18P/NZM2-6P |
| Chassis 630A Hybrid NZM1 18 Pole NZM2 12 Pole | 630A 40kA 1 sec | CH06NZM1-18P/NZM2-12P |
| 1000A NZM1 Chassis | | |
| Chassis 1000A NZM1 6 Pole | 1000A 50kA 1 sec | CH10NZM1-6P |
| Chassis 1000A NZM1 12 Pole | 1000A 50kA 1 sec | CH10NZM1-12P |
| Chassis 1000A NZM1 18 Pole | 1000A 50kA 1 sec | CH10NZM1-18P |
| Chassis 1000A NZM1 24 Pole | 1000A 50kA 1 sec | CH10NZM1-24P |
| Chassis 1000A NZM1 30 Pole | 1000A 50kA 1 sec | CH10NZM1-30P |
| Chassis 1000A NZM1 36 Pole | 1000A 50kA 1 sec | CH10NZM1-36P |
| Chassis 1000A NZM1 42 Pole | 1000A 50kA 1 sec | CH10NZM1-42P |
| Chassis 1000A NZM1 48 Pole | 1000A 50kA 1 sec | CH10NZM1-48P |
| Chassis 1000A NZM1 60 Pole | 1000A 50kA 1 sec | CH10NZM1-60P |
| Chassis 1000A NZM1 72 Pole | 1000A 50kA 1 sec | CH10NZM1-72P |
| 1000A NZM2 Chassis | | |
| Chassis 1000A NZM2 6 Pole | 1000A 50kA 1 sec | CH10NZM2-6P |
| Chassis 1000A NZM2 12 Pole | 1000A 50kA 1 sec | CH10NZM2-12P |
| Chassis 1000A NZM2 18 Pole | 1000A 50kA 1 sec | CH10NZM2-18P |
| Chassis 1000A NZM2 24 Pole | 1000A 50kA 1 sec | CH10NZM2-24P |
| Chassis 1000A NZM2 30 Pole | 1000A 50kA 1 sec | CH10NZM2-30P |
| Chassis 1000A NZM2 36 Pole | 1000A 50kA 1 sec | CH10NZM2-36P |
| Chassis 1000A NZM2 42 Pole | 1000A 50kA 1 sec | CH10NZM2-42P |
| Chassis 1000A NZM2 48 Pole | 1000A 50kA 1 sec | CH10NZM2-48P |

Custom built chassis to suit NZM breakers are available on request, contact Eaton.

Moulded case circuit breaker chassis for NZM

High current chassis

| Description | Rating | Item no. |
|--|------------------|------------------------------|
| 1000A NZM1 - NZM2 Hybrid Chassis | | |
| Chassis 1000A Hybrid NZM1 6 Pole NZM2 6 Pole | 1000A 50kA 1 sec | CH10NZM1-6P/NZM2-6P |
| Chassis 1000A Hybrid NZM1 6 Pole NZM2 12 Pole | 1000A 50kA 1 sec | CH10NZM1-6P/NZM2-12P |
| Chassis 1000A Hybrid NZM1 12 Pole NZM2 6 Pole | 1000A 50kA 1 sec | CH10NZM1-12P/NZM2-6P |
| Chassis 1000A Hybrid NZM1 12 Pole NZM2 12 Pole | 1000A 50kA 1 sec | CH10NZM1-12P/NZM2-12P |
| Chassis 1000A Hybrid NZM1 18 Pole NZM2 6 Pole | 1000A 50kA 1 sec | CH10NZM1-18P/NZM2-6P |
| Chassis 1000A Hybrid NZM1 18 Pole NZM2 12 Pole | 1000A 50kA 1 sec | CH10NZM1-18P/NZM2-12P |
| 1000A NZM3 Chassis | | |
| Chassis 1000A NZM3 3 Pole | 1000A 50kA 1 sec | CH10NZM3-3P |
| Chassis 1000A NZM3 6 Pole | 1000A 50kA 1 sec | CH10NZM3-6P |
| Chassis 1000A NZM3 9 Pole | 1000A 50kA 1 sec | CH10NZM3-9P |
| Chassis 1000A NZM3 12 Pole | 1000A 50kA 1 sec | CH10NZM3-12P |
| 2000A NZM1 Chassis | | |
| Chassis 2000A NZM1 6 Pole | 2000A 50kA 1 sec | CH20NZM1-6P |
| Chassis 2000A NZM1 12 Pole | 2000A 50kA 1 sec | CH20NZM1-12P |
| Chassis 2000A NZM1 18 Pole | 2000A 50kA 1 sec | CH20NZM1-18P |
| Chassis 2000A NZM1 24 Pole | 2000A 50kA 1 sec | CH20NZM1-24P |
| Chassis 2000A NZM1 30 Pole | 2000A 50kA 1 sec | CH20NZM1-30P |
| Chassis 2000A NZM1 36 Pole | 2000A 50kA 1 sec | CH20NZM1-36P |
| Chassis 2000A NZM1 42 Pole | 2000A 50kA 1 sec | CH20NZM1-42P |
| Chassis 2000A NZM1 48 Pole | 2000A 50kA 1 sec | CH20NZM1-48P |
| Chassis 2000A NZM1 60 Pole | 2000A 50kA 1 sec | CH20NZM1-60P |
| Chassis 2000A NZM1 72 Pole | 2000A 50kA 1 sec | CH20NZM1-72P |
| Chassis 2000A NZM2 6 Pole | 2000A 50kA 1 sec | CH20NZM2-6P |
| Chassis 2000A NZM2 12 Pole | 2000A 50kA 1 sec | CH20NZM2-12P |
| Chassis 2000A NZM2 18 Pole | 2000A 50kA 1 sec | CH20NZM2-18P |
| Chassis 2000A NZM2 24 Pole | 2000A 50kA 1 sec | CH20NZM2-24P |
| Chassis 2000A NZM2 30 Pole | 2000A 50kA 1 sec | CH20NZM2-30P |
| Chassis 2000A NZM2 36 Pole | 2000A 50kA 1 sec | CH20NZM2-36P |
| Chassis 2000A NZM2 42 Pole | 2000A 50kA 1 sec | CH20NZM2-42P |
| Chassis 2000A NZM2 48 Pole | 2000A 50kA 1 sec | CH20NZM2-48P |
| Chassis 2000A NZM3 3 Pole | 2000A 50kA 1 sec | CH20NZM3-3P ① |
| Chassis 2000A NZM3 6 Pole | 2000A 50kA 1 sec | CH20NZM3-6P ① |
| Chassis 2000A NZM3 9 Pole | 2000A 50kA 1 sec | CH20NZM3-9P ① |
| Chassis 2000A NZM3 12 Pole | 2000A 50kA 1 sec | CH20NZM3-12P ① |
| Chassis 2000A NZM3 15 Pole | 2000A 50kA 1 sec | CH20NZM3-15P ① |
| Chassis 2000A NZM3 18 Pole | 2000A 50kA 1 sec | CH20NZM3-18P ① |
| Chassis 2000A NZM3 21 Pole | 2000A 50kA 1 sec | CH20NZM3-21P ① |
| Chassis 2000A NZM3 24 Pole | 2000A 50kA 1 sec | CH20NZM3-24P ① |



| Description | Rating | Item no. |
|--|------------------|--|
| 2000A NZM1 - NZM2 - NZM3 Hybrid Chassis | | |
| Chassis 2000A HYBRID NZM1 6 Pole NZM2 6 Pole NZM3 6 Pole | 2000A 50kA 1 sec | CH20NZM1-6P/NZM2-6P/NZM3-6P ① |
| Chassis 2000A HYBRID NZM1 6 Pole NZM2 12 Pole NZM3 6 Pole | 2000A 50kA 1 sec | CH20NZM1-6P/NZM2-12P/NZM3-6P ① |
| Chassis 2000A HYBRID NZM1 12 Pole NZM2 6 Pole NZM3 6 Pole | 2000A 50kA 1 sec | CH20NZM1-12P/NZM2-6P/NZM3-6P ① |
| Chassis 2000A HYBRID NZM1 12 Pole NZM2 12 Pole NZM3 3 Pole | 2000A 50kA 1 sec | CH20NZM1-12P/NZM2-12P/NZM3-3P ① |
| Chassis 2000A HYBRID NZM1 18 Pole NZM2 6 Pole NZM3 3 Pole | 2000A 50kA 1 sec | CH20NZM1-18P/NZM2-6P/NZM3-3P ① |
| Chassis 2000A HYBRID NZM1 18 Pole NZM2 12 Pole NZM3 3 Pole | 2000A 50kA 1 sec | CH20NZM1-18P/NZM2-12P/NZM3-3P ① |

Custom built chassis to suit NZM breakers are available on request, contact Eaton.

① Connection block NZM3-XKR13 required for fitting NZM3 to CH20 chassis.

Eaton SASY 60i busbar system

The Eaton SASY 60i busbar system is a cost effective and flexible system allowing easy connection of Eaton's extensive world class circuit protection and Motor control components into your own custom requirements.



BBS-3/FL



BBC-FL10



BBA-TP3-120



NZM2-XAD250

| Description | Item no. |
|---|--------------------------|
| Busbar system components. | |
| IEC busbar support 3 pole 630A suitable for 12-30mm x 5/10mm copper profiles. | BBS-3/FL |
| End cover, to cover the busbar ends for BBS-3/FL | ES-BBS-3/FL |
| Busbar cover, suitable for 12-30mm x 5mm busbar - 1000mm long | BBC-FL5 |
| Busbar cover, suitable for 12-30mm x 10mm busbar - 1000mm long | BBC-FL10 |
| Incoming connection kit components. | |
| 300A rated connection kit suitable for 6-50mm ² conductor; 54mm wide | BBA-TP3/50 ① |
| 440A rated connection kit suitable for 35-120mm ² conductor; 81mm wide | BBA-TP3/120 ① |
| 560A rated connection kit suitable for 120-300mm ² conductor; 180-240mm wide | BBA-TP3/300 ② |
| 800A rated connection kit suitable for 30x25 solid conductor; 180-240mm wide | BBA-TP3/CU-BAND ③ |
| Busbar adaptors NZM breakers | |
| Busbar adapter for mounting NZM1 MCCBs to busbar system, 90mm wide | NZM1-XAD160 |
| Busbar adapter for mounting NZM2 MCCBs to busbar system, 106mm wide | NZM2-XAD250 |
| Busbar adapter for mounting NZM3 MCCBs to busbar system, 140mm wide | NZM3-XAD630 |
| Adaptor terminal cover | |
| NZM2 terminal cover for connection end when using NZM2-XAD250 | NZM2-XKR4 |
| NZM3 terminal cover for connection end when using NZM3-XAD630 | NZM3-XKR13 |

① Suitable for 12-30mm x 5/10mm copper busbar.

② Suitable for 20-30mm x 5/10mm copper busbar.

③ Suitable for 20-30mm x 5/10mm copper busbar, flexible copper conductor can also be used as incomer, please consult Eaton for details.

For adaptors suitable to mount Eaton Motor control devices please refer to page 219



Arcflash Reduction Maintenance System.



A circuit breaker equipped with an Arcflash Reduction Maintenance System can improve safety by providing a simple and reliable method of reduce fault clearing time. Work locations downstream of a circuit breaker with an Arcflash Reduction Maintenance system unit can have a significantly lower indecent energy level.

Eaton LV switchgear is now available in the innovative PowerCad electrical engineering design software.

Eaton products that are featured on PowerCad-5™ :

- Eaton Magnum MWI Series Air Circuit Breakers – up to 6300A.
- Eaton NZM Series Moulded Case Circuit Breakers – up to 1600A including the B, N & H type breaking capacity options and the A, M, AE, VE & ME type trip units.
- Eaton PLS6, PLSM and PLHT MCB ranges.
- Eaton eRB6, eRBM and PKNM RCBO ranges.
- Eaton Dumeco Load Break Switches ranging from 160A to 3150A



Circuit protection

Air circuit breakers

Air circuit breakers

IZMX16

The IZMX16 of the NRX series is the smallest 1600 A air circuit breaker (ACB) worldwide: With a volume of only 0.024 m³ and a front surface of only 0.092 m², it is just slightly bigger than the size of a A4 sheet of paper! And all this without any loss in terms of performance.

The innovative concept allows the user to install two circuit breakers side by side in withdrawable design, in a 600 mm wide section. This fact provides for a more cost-effective setup of the section and, in addition, it helps to save operating space. And where remote switching is required, this volume can even accommodate a motor for charging the stored-energy spring mechanism and releases for electrical operation. High performance combined with reduced space is exceptional value to customer.

IZMX40

The IZMX40 of the NRX series is a circuit breaker for up to 4000 A with depth less than 400mm for the drawout version, without the need to install any additional "copper mines" in the connection area. Tests to integrate it into Eaton switchgear systems, such as Modan, xEnergy, Power Xpert and Capitol 40 confirm its outstanding technical data and optimal compatibility thanks to the flexible connection system.

The modular structure, integrated solutions as well as a complete range of accessories and additional functions make it easy to adapt the circuit breaker to any of the required applications. Optionally it can be configured right at the factory – without any extra cost for additional installation work at the circuit breaker.



Small, flexible, efficient.

The next generation trip unit platform: Power Xpert Release (PXR)

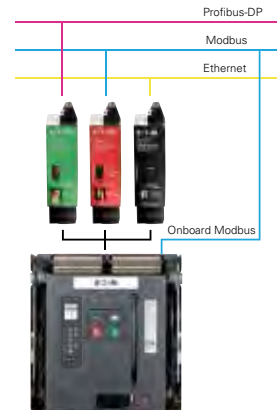
- LCD display with multilingual capability
- Current metering on PXR20 and power metering on PXR25
- Extended range for pickup value and delay timing setting
- "OFF" setting available for ground fault(G) and non-delayed instantaneous trip(I)
- Onboard Modbus communication(standard on PXR25 and optional on PXR20)
- MicroUSB for computer connection
- PXR Configuration and Test Tool to remotely configure and test the trip unit
- Trip test
- Waveform capture
- Diagnostics
- Long trip curve setting
- ZSI/Thermal Memory on/off



Increased operating safety and flexibility based on communication

With the respective communication module - PCAM, MCAM or ECAM (Profibus-DP / Modbus / Ethernet Communications Adapter Module) - every circuit breaker of the NRX series is equipped for modern communication and is fit for the future. The databus not only allows to transmit information, but also to receive commands/settings.

Onboard Modbus communication is standard on the PXR25 (U type) trip unit and optional on the PXR20(V type) trip unit upon order. Additional PCAM, MCAM or ECAM module can be installed externally for PXR25 to expand the communication capability. (No more than one external CAM module can be installed)



Arcflash Reduction Maintenance System™

Eaton's patented Arcflash Reduction Maintenance System technology provides maintenance staff improved safety of downstream maintenance locations using a simple and reliable method to reduce fault clearing times and energy in an arc flash event (radiation, sound, pressure, temperature).

Arcflash Reduction Maintenance System uses a separate analog trip circuit providing faster signal processing and interruption times than the standard (digital) "instantaneous" protection.

The Arcflash Reduction Maintenance System function is activated either directly on the circuit breaker through a local switch or remotely through communications or a contact input. Arcflash Reduction Maintenance System is optional on both PXR20 and PXR25 trip units.

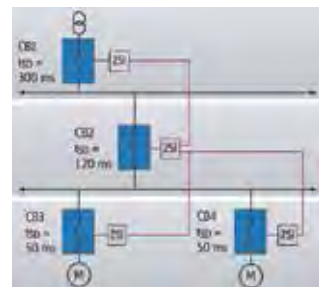


Zone selectivity ZSI

Circuit breakers are directly connected to a signal line, without any additional modules. So, in case of a malfunction, they ensure that only the circuit breaker immediately upstream the point of failure will break a short-circuit without delay.

The advantage of the zone selectivity feature - compared to ordinary time selectivity - is the significantly reduced time until switch-off and the reduced amount of energy released in case of a short-circuit.

For additional safety of maintenance staff we recommend combining ZSI functionality with Arcflash Reduction Maintenance System.



Easy maintenance and service

Maintenance and service can be conveniently performed on the draw-out breaker as the primary finger clusters (blue) and levering mechanism are part of the breaker instead of the cassette. Eaton also offers many field installable accessories and parts, extending the life of the breaker.



Circuit protection

xEnergy

xEnergy

IEC/EN 61439

Eaton implements the new series of standards for low voltage switchgear assemblies as early as NOW – and makes it significantly easier for panel builders to do their job. To ensure the safety of low voltage switchgear assemblies, many and the most varied characteristics of the individual components need to be harmonized and defined in a generally applicable standard. So far the IEC/EN60439 series of standards covered this requirement. As of 2014, it has been replaced by the new standard in Europe and this will be adopted in the future in ANZ.

Innovations at a glance

The new standard makes a difference between the manufacturers – as usually practiced – between the original manufacturers on the one hand and the panel builders on the other hand. These two parties involved in building a switchboard system have to separately provide evidence of conformity to show that the part each one is responsible for meets the requirements of the standard.

This actually means that the panel builder now has to pay a lot more attention to providing the evidence of conformity for his part of the technical execution.

- The distinction between “type-tested assembly TTA” and “partially type-tested assembly PTTA” no longer exists in the new standard.

- Evidence of conformity with the standard is provided through design verifications, they include tests, calculations and the verification of whether the design rules have been respected – i.e. that from now on the systems will be design verified. Panel builders who already build TTAs now do not have to expect many changes.
- The panel builder can – depending on the type of system – choose between three different ways of providing evidence of conformity: Verification by testing, Verification by design rules or Verification by calculation. All of them are equally valid, as defined by the standard.
- The term “TTA Switchgear assembly and controlgear

assembly according to IEC/EN 60439-1” will be replaced by: “Power switchgear and controlgear assembly according to IEC/EN 61439-2, design verification by testing”.

- If the panel builder carries out changes in the original system of a switchgear and controlgear assembly that are not covered in the design verification, these changes must be specified in a separate design-verification document.
- The new standard also includes requirements of the standard for empty enclosures, such as resistance to corrosion, resistance to heat of enclosure parts made of insulating material and protection against mechanical impacts.

xEnergy, in conformity with the standard

As an original manufacturer, we will continue to provide evidence of conformity for the system in the future as well. In order to make it easier for the panel builder to provide evidence of conformity for his part of the responsibility, a large number of applications have been split up into standardized modules and the design verification by testing has been carried out for them to provide the evidence of conformity.

These modules, assembled in accordance with the corresponding instructions, will enable you to carry out your projects in a cost-effective way and in compliance with the requirements of the standard.



Shift to future.

xEnergy

XP Power Sections

- Incoming supplies, outgoing and couplings with circuit breakers
- Internal separation up to form 4
- Cable connection from the top or bottom
- Incoming supply system for drill-free cable connection

XF Fixed

- Power outgoing with circuit breakers and fuse switch disconnectors up to 630 A
- Internal separation up to form 4
- Individual outgoing, such as controlgear, motor starters, small power outgoing etc

XR Removable

- Power outgoing with circuit breakers and strip type switch-disconnector-fuse, up to 630 A
- Empty modules for individual applications
- Plug-in modules and strip type switch-disconnector-fuse can be replaced under live-line working conditions
- Internal separation up to form 4
- Easy maintenance and reduced down times

XG General

- Power factor correction
- Fitting systems for sub-distribution with devices for modular installation
- Control technology with SASY 60i and xStart
- Individual fixed units on a mounting plate

XW Withdrawable

- Power outgoing with circuit breakers up to 630 A
- Outgoing for motor starters up to 250 KW
- Empty drawers for individual applications
- Easy and uniform handling for all drawer sizes
- Drawers can be replaced under live-line working conditions
- Internal separation up to form 4
- Unambiguous position indicator for operating, test or de-energized status
- Easy maintenance without the need of using any special tools for replacement jobs
- Minimum down times



Eaton Partner program

The key to your success with xEnergy switchboard systems is the Eaton Partner program. Joining the program is well worth it: Not only will you receive a wealth of insider information, you will also be the first to get informed about facts and innovations regarding xEnergy. After you register under www.xenergy-partner.com first you will be given a login and all the benefits of the Eaton Partner program will instantly be available to you. For more information visit us at www.xenergy-partner.com

Benefits

- | | | |
|--|---|--|
| • Listing as a Licensed Partner on the Eaton website | • Continuously up-dated product information | • Information material for your customers, such as catalogues and flyers |
| • Access to BAs, AWAs (building and assembly instructions), configurator, certificates and technical data sheets | • Software downloads | • Certificates of conformity and guidelines regarding IEC standards |
| | • Installation instructions | |



Proven solutions for switching and isolation.



EATON

Powering Business Worldwide

Eaton has earned a worldwide reputation for reliable, high quality switches and fusegear products – an area we are clear market leaders.

Incorporating the latest technological advances, our switches are the result of a comprehensive ongoing development program and fully complies with the industry's most rigorous standards. This all serves to make Eaton an industry benchmark, with unsurpassed quality and performance guaranteed.

Our extensive product range, together with our lengthy experience and specialist knowledge serves to make Eaton the only source for your panel mounting switch requirements. Eaton switches for panel mounting can be used for any type of load, including motor loads and capacitive loads. They can be applied for:

- All isolating & disconnecting applications such as incoming and outgoing feeders.
- Bus couplers in switchgear and control gear assemblies.
- Safety switches with interlocking facilities.
- Motor emergency switches in motor starter units.
- **Dumeco switch-disconnectors and isolators.**
- **QSA switch-disconnector fuse switches.**
- **K-Line handle and knobs.**
- **Bussmann fuse protection products.**

Switches & disconnectors

QM switch disconnectors

Designed for general & industrial applications, Eaton QM Switch Disconnectors features:

- Safe operation, IP20 terminals
- Snap-on DIN rail mounting
- Compliance to IEC 60947-3
- QM63 have tunnel terminals suitable for 2.5mm² - 16mm² conductor
- QM100 have tunnel terminals suitable for 10mm² - 35mm² conductor

QM version D: base mount multi-pole (switch only)

| Current rating | AC-23A kW 415V | Description | Handle type | Shaft X-section mm | Item no. |
|----------------|----------------|---------------------------------------|-------------|--------------------|----------------|
| 50A | 22kW | QM 63 Load Break 6P, base mtg, Ver D | K2SD | 6 x 6 | 1319806 |
| 80A | 37kW | QM 100 Load Break 6P, base mtg, Ver D | K2SD | 6 x 6 | 1319814 |
| 50A | 22kW | QM 63 Load Break 8P, base mtg, Ver D | K2SD | 6 x 6 | 1319904 |
| 80A | 37kW | QM 100 Load Break 8P, base mtg, Ver D | K2SD | 6 x 6 | 1319905 |

QM version E: base mount changeover 1-0-2 (switch only)

| Current rating | AC-23A kW 415V | Description | Handle type | Shaft X-section mm | Item no. |
|----------------|----------------|---|-------------|--------------------|----------------|
| 63A | 22kW | QM 63 Load Break 3+3P, base mtg, Ver E | K02SD | 6 x 6 | 1319807 |
| 100A | 37kW | QM 100 Load Break 3+3P, base mtg, Ver E | K02SD | 6 x 6 | 1319815 |
| 63A | 22kW | QM 63 Load Break 4+4P, base mtg, Ver E | K02SD | 6 x 6 | 1319915 |
| 100A | 37kW | QM 100 Load Break 4+4P, base mtg, Ver E | K02SD | 6 x 6 | 1319916 |

QM switch accessories

| Description | Item no. |
|--|----------------|
| Handle, K-Line K1D - Compact type, with 6mm coup, IP65 for Version D switches | 1818031 |
| Handle, K-Line K2SD - Larger type, with 6mm coup, IP65 for Version D switches | 1818034 |
| Handle, K-Line K02SD - 3 Position, with 6mm door coup, IP65 for Version E switches | 1818072 |
| Handle, Direct mount, for Version D & E switches | 1818002 |
| Extension clamp 6 x 6mm (Required for Version D & E when using K-Line Handles) | 1319833 |
| Extension shaft 300mm long, 6 x 6mm (Required for version D & E when using K-Line handles) | 1319831 |
| QM63 Aux. contact 1NO & 1NC, Version D & E | 1319851 |
| QM100 Aux. contact 1NO & 1NC, Version D & E | 1319853 |
| Terminal cover 3 Pole QM63 | 1319870 |
| Terminal cover 3 Pole QM100 | 1319872 |
| Terminal cover 4 Pole QM63 | 1319871 |
| Terminal cover 4 Pole QM100 | 1319873 |
| Busbar connection kit, QM63 Version E | 1319969 |
| Busbar connection kit, QM100 Version E | 1319967 |

Typical Ordering Examples (100A Switch Options Shown):
 QM100D Type = 1319905 + 1319833 + 1319831 + 1818034
 QM100E Type = 1319815 + 1319833 + 1319831 + 1818071

Dumeco panelboard switches

- Fault-make/load-break isolators for fitting in panelboards as main switches
- Provides visible indication of contact position.
- Lockable in the ON & OFF Position
- 4 Pole units available on request

Dumeco panelboard switches

| Description | Item no. |
|--|-------------------|
| Main switch 3 pole 250A - DIN Cutout | PB250MS3PD |
| Main switch 3 pole 400A - DIN Cutout | PB400MS3PD |
| Terminal Cover for 250A/400A Main Switches | 1314735 |
| Main switch to DIN chassis link kit 250A | PB250LINK |
| Replacement handle with shaft | 4102003 |



Circuit protection

LV Switchgear



Dumeco switches & disconnectors

Dumeco switch disconnectors 125-3150A

Designed for general & industrial applications - switchboard industries Eaton Dumeco switch disconnectors feature:

- Safe operation, Visible Contact Separation (160-3150A)
- Add-on Aux contacts, for remote indication
- Shallow design to fit in low depth and compact spaces
- 690V AC, KEMA certified
- Compliance to IEC 60947-3
- Utilisation Categories AC21A, AC22A & AC23A
- Excellent Technical Specifications

**NEW
2500A
and
3150A
MODELS**

Dumeco: 3 pole base mount (switch only)

| Current rating | AC-23A kW 415V | Rated shorttime withstand - Icw | Description | Handle type | Shaft X-section mm | Item no. |
|----------------|----------------|---------------------------------|--|-------------|--------------------|----------------|
| 125A | 30kW | 2.5kA - 1 Sec | DMM125 3P+ Solid Neutral Switch | K2SD | 6 x 6 | 1314203 |
| 160A | 90kW | 8kA - 0.2 Sec | DMV160 3P Switch | K2SD | 6 x 6 | 1814178 |
| 160A | 90kW | 8kA - 0.2 Sec | DMV160 3P Switch, with tunnel terminals | K2SD | 6 x 6 | 1814175 |
| 250A | 147kW | 12kA - 0.3 Sec | DMV250 3P Switch | K3KD | 10 x 10 | 1814408 |
| 400A | 180kW | 12kA - 0.3 Sec | DMV400 3P Switch | K3KD | 10 x 10 | 1814411 |
| 630A | 375kW* | 36kA - 0.3 Sec | DMV630 3P Switch | K5D | 14 x 14 | 1814442 |
| 1000A | 425kW* | 36kA - 0.3 Sec | DMV1000 3P Switch | K5D | 14 x 14 | 1814445 |
| 1250A | 750kW | 50kA - 1 Sec | DMV1250 3P Switch | K6D | 14 x 14 | 1814590 |
| 1600A | 750kW | 50kA - 1 Sec | DMV1600 3P Switch | K6D | 14 x 14 | 1814595 |
| 2000A | 750kW | 50kA - 1 Sec | DMV2000 3P Switch | K6D | 14 x 14 | 1814065 |
| 2500A | - | 65kA - 1 Sec | DMV2500 3P Switch complete with shaft and handle kit | K6D | 14 x 14 | 6093244 |
| 3150A | - | 65kA - 1 Sec | DMV3150 3P Switch complete with shaft and handle kit | K6D | 14 x 14 | 6084848 |

Dumeco: 4 pole base mount (switch only)

| Current rating | AC-23A kW 415V | Rated shorttime withstand - Icw | Description | Handle type | Shaft X-section mm | Item no. |
|----------------|----------------|---------------------------------|--|-------------|--------------------|----------------|
| 125A | 30kW | 2.5kA - 1 Sec | DMM125 4P Switch | K2SD | 6 x 6 | 1314204 |
| 160A | 90kW | 8kA - 0.2 Sec | DMV160 4P Switch | K2SD | 6 x 6 | 1814179 |
| 250A | 147kW | 12kA - 0.3 Sec | DMV250 4P Switch | K3KD | 10 x 10 | 1814410 |
| 400A | 180kW | 12kA - 0.3 Sec | DMV400 4P Switch | K3KD | 10 x 10 | 1814413 |
| 630A | 375kW* | 36kA - 0.3 Sec | DMV630 4P Switch | K5D | 14 x 14 | 1814444 |
| 1000A | 425kW* | 36kA - 0.3 Sec | DMV1000 4P Switch | K5D | 14 x 14 | 1814447 |
| 1250A | 750kW | 50kA - 1 Sec | DMV1250 4P Switch | K6D | 14 x 14 | 1814592 |
| 1600A | 750kW | 50kA - 1 Sec | DMV1600 4P Switch | K6D | 14 x 14 | 1814597 |
| 2500A | - | 65kA - 1 Sec | DMV2500 4P Switch complete with shaft and handle kit | K6D | 14 x 14 | 6093242 |
| 3150A | - | 65kA - 1 Sec | DMV3150 4P Switch complete with shaft and handle kit | K6D | 14 x 14 | 6084846 |

* Products have an AC-23B kW rating.

Dumeco: handles & shafts

| Description | Item no. |
|--|----------------|
| Shaft, DMM125, 6x6mm, 172mm long | 1314334 |
| Shaft, DMV160, 6x6mm, 270mm long | 1314692 |
| Shaft, DMV250/400, 10x10mm, 245mm long | 1050242 |
| Shaft, DMV630/1000, 14x14mm, 300mm long | 1050246 |
| Shaft, DMV1250/1600/2000, 14x14mm, 280mm long | 1050249 |
| Shaft, DMV2500/3150, 14x14mm, 200mm long, with clamp | 1050257 |
| Handle, K-Line K2SD, with 6mm coup, IP65 for DMM125/DMV160 | 1818034 |
| Handle, K-Line K3KD, with 10mm coup, IP65 for DMV250/400 | 1818069 |
| Handle, K-Line K5D, with 14mm coup, IP65 for DMV630/1000 | 1818058 |
| Handle, K-line K6D, with 14mm coup, IP65 for DMV1250/1600/2000/2500/3150 | 1818064 |

Typical Ordering Example (630A 3 pole Switch Option Shown): DMV630 Type = 1814442 + 1050246 + 1818058.

Dumeco switches & disconnectors

Dumeco manual changeover/multi-pole Accessories

Required parts for changeover switches (160A - 1000A):

- 2 Switch Disconnectors
- 1 Changeover driving mechanism with position indication 1-0-2
- 1 Handle operating shaft
- 1 K-line operating handle (Changeover type)

Required parts for changeover switches (1250A - 2000A):

- 2 Switch Disconnectors
- 1 Changeover driving mechanism with position indication 1-0-2
- 2 Handle operating shafts
- 2 K-line operating handles (Changeover type)

Required parts for multi-pole switches:

- 2 Switch disconnectors
- 1 Multipole driving mechanism with position indication I/O
- 1 Handle operating shaft
- 1 K-line operating handle

All mechanisms are supplied with shafts to connect the switches to the mechanism. Shaft is required to join mechanism to handle.



Changeover/multi-pole mechanisms

| Description | Item no. |
|---|----------|
| Dumeco changeover mechanism, 1-0-2, DMV160 | 1314314 |
| Dumeco changeover mechanism, 1-0-2, DMV250/400 | 1314884 |
| Dumeco changeover mechanism, 1-0-2, DMV630/1000 | 1314682 |
| Dumeco changeover mechanism, 1-0-2, DMV1250/1600/2000 | 1314336 |
| Dumeco multipole mechanism, DMV160 | 1314337 |
| Dumeco multipole mechanism, DMV250/400A | 1314039 |
| Dumeco multipole mechanism, DMV630/1000 | 1314040 |
| Shaft, to suit 160A mechanisms | 1314322 |
| Shaft, to suit 250/400A mechanisms | 1050252 |
| Shaft, to suit 630/1000A mechanisms | 1050253 |
| Shaft, to suit 1250/1600/2000A mechanisms | 1050255* |
| Handle, K-Line K02SD - 3 Position changeover, with 6mm door coup, IP65 for DMV160 | 1818072 |
| Handle, K-Line K03KD - 3 Position changeover, with 10mm door coup, IP65 for DMV250/400 | 1818115 |
| Handle, K-Line K05D - 3 Position changeover, with 14mm door coup, IP65 for DMV630/1000 | 1818075 |
| Handle, K-Line K6D - 2 position changeover, with 14mm door coup, IP65 for DMV1250/1600/2000 | 1818077* |
| Handle, K-Line K2SD - Multipole, with 6mm coup, IP65 for DMV160 | 1818034 |
| Handle, K-Line K3KD - Multipole, with 10mm coup, IP65 for DMV250/400 | 1818069 |
| Handle, K-Line K5D - Multipole, with 14mm coup, IP65 for DMV630/1000 | 1818058 |

* Two of these items required for each DMV1250/1600/2000 Changeover arrangement.

Typical Ordering Example (400A 3 pole / 400A 3 pole Changeover Arrangement Shown):
DMV400 Type = 2 x 1814411 + 1 x 1314884 + 1 x 1050252 + 1 x 1818115.

Circuit protection

LV Switchgear



QSA switches & disconnectors

QSA switch disconnecter fuses - SDFs

Eaton QSA Switch Disconnecter Fuses 40-800A. Designed for general & industrial applications.

Switch Fuse Disconnectors features:

- Add-on Aux. contacts, for remote indication
- High withstand strength, 80kA
- Self extinguishing material
- 690V AC, KEMA certified
- Compliance to IEC 60947-3
- Ideal for motor protection, AC23 Rating
- Unique moving contact systems

Q-Line QSA: 3 pole base mount with BS88 fuse posts (switch only)

| Frame size | Current rating | AC-23B Amp 415V | AC-23B kW 415V | Fuse type | Description | Handle type | Shaft X-section mm | Item no. |
|------------|----------------|-----------------|----------------|-----------|----------------------------|-------------|--------------------|----------------|
| 0 | 40A | 40A* | 22kW* | A3 | QSA40N0 3P Fuse Switch BS | K2SD | 6 x 6 | 1320200 |
| 0 | 63A | 63A* | 30kW* | A3 | QSA63N0 3P Fuse Switch BS | K2SD | 6 x 6 | 1320202 |
| 1 | 63A | 63A | 30kW | A3 | QSA63N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318011 |
| 1 | 100A | 100A | 55kW | A4 | QSA100N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318016 |
| 1 | 125A | 125A | 59kW | B1-B2 | QSA125N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318020 |
| 1 | 160A | 160A | 90kW | B1-B2 | QSA160N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318023 |
| 2 | 200A | 200A | 110kW | B1-B2 | QSA200N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319065 |
| 2 | 250A | 250A | 147kW | B1-B4 | QSA250N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319074 |
| 2 | 315A | 315A | 184kW | B1-B4 | QSA315N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319095 |
| 2 | 400A | 400A | 220kW | B1-B4 | QSA400N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319103 |
| 3 | 630A | 630A | 375kW | C1-C3 | QSA630 3P Fuse Switch BS | K4D | 12 x 12 | 1318544 |
| 3 | 800A | 800A | 500kW | C1-C3 | QSA800 3P Fuse Switch BS | K4D | 12 x 12 | 1319175 |

Q-Line QSA: 3 pole base mount with DIN fuse posts (switch only)

| Frame size | Current rating | AC-23B Amp 415V | AC-23B kW 415V | Fuse type | Description | Handle type | Shaft X-section mm | Item no. |
|------------|----------------|-----------------|----------------|-----------|-----------------------------|-------------|--------------------|----------------|
| 0 | 40A | 40A* | 22kW* | 000-00 | QSA40N0 3P Fuse Switch DIN | K2SD | 6 x 6 | 1320201 |
| 0 | 63A | 63A* | 30kW* | 000-00 | QSA63N0 3P Fuse Switch DIN | K2SD | 6 x 6 | 1320203 |
| 1 | 63A | 63A | 30kW | 000-00 | QSA63N1 3P Fuse Switch DIN | K2D | 8 x 8 | 1318027 |
| 1 | 125A | 125A | 59kW | 000-00 | QSA125N1 3P Fuse Switch DIN | K2D | 8 x 8 | 1318030 |
| 1 | 160A | 160A | 90kW | 000-00 | QSA160N1 3P Fuse Switch DIN | K2D | 8 x 8 | 1318033 |
| 2 | 200A | 200A | 110kW | 1-2 | QSA200N 3P Fuse Switch DIN | K3KD | 10 x 10 | 1318547 |
| 2 | 250A | 250A | 147kW | 1-2 | QSA250N 3P Fuse Switch DIN | K3KD | 10 x 10 | 1318526 |
| 2 | 315A | 315A | 184kW | 1-2 | QSA315N 3P Fuse Switch DIN | K3KD | 10 x 10 | 1318548 |
| 2 | 400A | 400A | 220kW | 1-2 | QSA400N 3P Fuse Switch DIN | K3KD | 10 x 10 | 1318533 |
| 3 | 630A | 630A | 375kW | 3 | QSA630 3P Fuse Switch DIN | K4D | 12 x 12 | 1318542 |

* Products have AC-23A rating.

Q-Line QSA: handles & shafts

| Description | Item no. |
|---|-----------------|
| Shaft, QSA40N0/63N0, 6x6mm, 300mm Long | 1319831 |
| Shaft, QSA63N1-QSA160N1, 8x8mm, 300mm Long | 1319311 |
| Shaft, QSA200N-QSA400N, 10x10mm, 300mm Long | 1319319 |
| Shaft, QSA630/800, 12x12mm, 115mm Long | 1319331* |
| Shaft, QSA630/800, 12x12mm, 300mm Long | 1319326* |
| Shaft Link, 12mmx12mm, required for QSA630/800 | 1319336* |
| Handle, K-Line K2SD, with 6mm coup, IP65 for QSA40N0/QSA63N0 | 1818034 |
| Handle, K-Line K2D, with 8mm coup, IP65 for QSA63N1-QSA160N1 | 1818037 |
| Handle, K-Line K3KD, with 10mm coup, IP65 for QSA200N-QSA400N | 1818069 |
| Handle, K-Line K4D, with 12mm coup, IP65 for QSA630/800 | 1818052 |

*Frame size 3 switches require 2 shafts and 1 link.

Typical Ordering Example (QSA160 BS88 Switch Option Shown): QSA160 = 1318023 + 1319311 + 1818037.

QSA switches & disconnectors

QSA plug-in switch disconnecter fuses

Eaton QSA Switch Disconnecter Fuses 63-800A
Designed for general & industrial applications.

Switch Disconnecter Fuses features:

- Add-on Aux. contacts, for remote indication
- Plug-in, for easy replacement on site
- Self extinguishing material
- 690V AC, KEMA certified
- Compliance to IEC 60947-3
- Ideal for Motor Isolation AC23 Rating
- Unique moving contact systems



Q-Line QSA: 3 pole plug-in with BS88 fuse posts (switch only)

| Frame size | Current rating | AC-23B Amp 415V | AC-23B kW 415V | Fuse type | Description | Handle type | Shaft X-section mm | Item no. |
|------------|----------------|-----------------|----------------|-----------|----------------------------|-------------|--------------------|----------------|
| 1 | 63A | 63A | 30kW | A3 | QSA63N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318046 |
| 1 | 125A | 125A | 59kW | B1-B2 | QSA125N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318047 |
| 1 | 160A | 160A | 90kW | B1-B2 | QSA160N1 3P Fuse Switch BS | K2D | 8 x 8 | 1318048 |
| 2 | 250A | 250A | 147kW | B1-B4 | QSA250N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319084 |
| 2 | 400A | 400A | 220kW | B1-B4 | QSA400N 3P Fuse Switch BS | K3KD | 10 x 10 | 1319114 |
| 3 | 630A | 630A | 375kW | C1-C3 | QSA630 3P Fuse Switch BS | K4D | 12 x 12 | 4100004 |
| 3 | 800A | 800A | 500kW | C1-C3 | QSA800 3P Fuse Switch BS | K4D | 12 x 12 | 4100005 |

Q-Line QSA: 3 pole plug-in with DIN fuse posts (switch only)

| Frame size | Current rating | AC-23B Amp 415V | AC-23B kW 415V | Fuse type | Description | Handle type | Shaft X-section mm | Item no. |
|------------|----------------|-----------------|----------------|-----------|-----------------------------|-------------|--------------------|----------------|
| 1 | 160A | 160A | 90kW | 000-00 | QSA160N1 3P Fuse Switch DIN | K2D | 8 x 8 | 1318052 |
| 2 | 400A | 400A | 220kW | 1-2 | QSA400N 3P Fuse Switch DIN | K3KD | 10 x 10 | 1319113 |
| 3 | 630A | 630A | 375kW | 3 | QSA630 3P Fuse Switch DIN | K4D | 12 x 12 | 4100006 |

Q-Line QSA: handles/shafts

| Description | Item no. |
|---|-----------------|
| Shaft, QSA63N1-QSA160N1, 8x8mm, 300mm Long | 1319311 |
| Shaft, QSA200N-QSA400N, 10x10mm, 300mm Long | 1319319 |
| Shaft, QSA630/800, 12x12mm, 115mm Long | 1319331* |
| Shaft, QSA630/800, 12x12mm, 300mm Long | 1319326* |
| Shaft Link, 12mmx12mm, required for QSA630/800 | 1319336* |
| Handle, K-Line K2D, with 8mm coup, IP65 for QSA40N1-QSA160N1 | 1818037 |
| Handle, K-Line K3KD, with 10mm coup, IP65 for QSA200N-QSA400N | 1818069 |
| Handle, K-Line K4D, with 12mm coup, IP65 for QSA630/800 | 1818052 |

*Frame size 3 switches require 2 shafts and 1 link.

Typical Ordering Example (QSA250 BS88 Switch Option Shown): QSA250 = 1319084 + 1319319 + 1818069.



QA switches & disconnectors

Switch disconnectors type QA

Eaton QA Switch Disconnectors 125A-1000A. Ideal for the switching of 3 phase AC motors.

QA Switch Disconnectors feature:

- Add-on Aux contacts, for remote indication
- Self extinguishing material
- 690V AC, KEMA certified
- Compliance to IEC 60947-3
- Ideal for Motor Duty
- High isolation level

Q-Line QA: 3 pole base mount (switch only)

| Frame size | Current rating | AC-23B Amp 415V | AC-23B kW 415V | Rated shorttime withstand - Icw | Description | Handle type | Shaft X-section (mm) | Item no. |
|------------|----------------|-----------------|----------------|---------------------------------|---------------------------|-------------|----------------------|----------------|
| 1 | 125A | 125A | 59kW | 4kA - 1 Sec | QA125N1 Load Break Switch | K2D | 8 x 8 | 1318001 |
| 1 | 160A | 160A | 90kW | 4kA - 1 Sec | QA160N1 Load Break Switch | K2D | 8 x 8 | 1318005 |
| 1 | 200A | 200A | 110kW | 4kA - 1 Sec | QA200N1 Load Break Switch | K2D | 8 x 8 | 1318008 |
| 2 | 400A | 400A | 220kW | 15kA - 1 Sec | QA400N Load Break Switch | K3KD | 10 x 10 | 1318504 |
| 2 | 630A | 630A | 375kW | 15kA - 1 Sec | QA630N Load Break Switch | K3KD | 10 x 10 | 1318506 |
| 3 | 1000A | 1000A | 600kW | 50kA - 1 Sec | QA1000 Load Break Switch | K4D | 12 x 12 | 1319128 |

Q-Line QA, QP and QE: handles and shafts

| Description | Item no. |
|---|-----------------|
| Shaft, QA125N1-200N1, 8x8mm, 300mm Long | 1319311 |
| Shaft, QA400N/630N, 10x10mm, 300mm Long | 1319319 |
| Shaft, QA1000, 12x12mm, 115mm Long | 1319331* |
| Shaft, QA1000, 12x12mm, 300mm Long | 1319326* |
| Shaft Link, 12mmx12mm, required for QA1000 | 1319336* |
| Handle, K-Line K2D, with 8mm coup, IP65 for QA125N1-200N1 | 1818037 |
| Handle, K-Line K3KD, with 10mm coup, IP65 for QA400N/630N | 1818069 |
| Handle, K-Line K4D, with 12mm coup, IP65 for QA1000 | 1818052 |

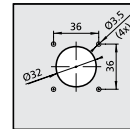
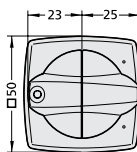
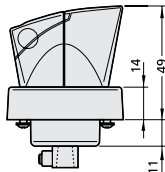
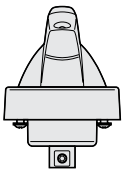
*Frame size 3 switches require 2 shafts and 1 link.
 Typical Ordering Example (QA400 Switch Option Shown): QA400 = 1318504 + 1319319 + 1818069.

K-Line handles

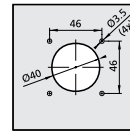
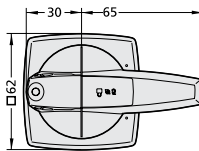
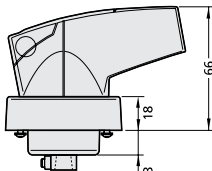
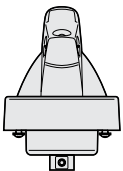
The K-Line handle was designed to enable a uniform handle design to be used with both the Dumeco & Q-Line switch products. The design & range of product variations within the K-Line product range also allows it to be used on other manufactures switch products including circuit breakers to give a uniform appearance to the switchboard. Importantly a higher level of safety is achieved because all switches are operated & locked in identical & familiar fashion.

Features of the K-Line range are:

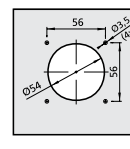
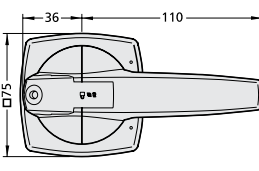
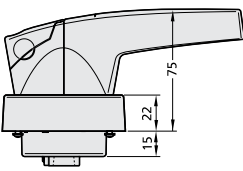
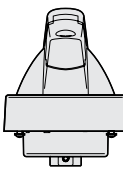
- The K-Line range of product can be fitted to products with a shaft diameter of 6, 8, 10, 12 & 14mm square
- IP65 Ingress protection rating
- Various locking applications e.g. padlock in ON position
- Fixed position of the handle when the door is open



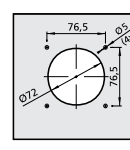
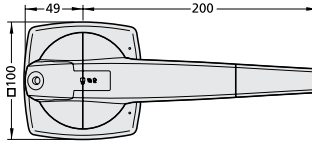
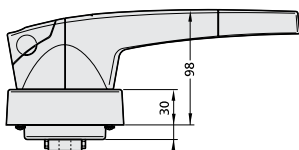
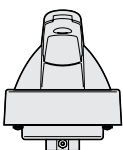
Type K1D - suitable for 6mm square shafts



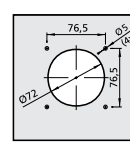
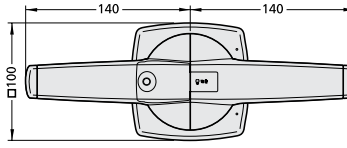
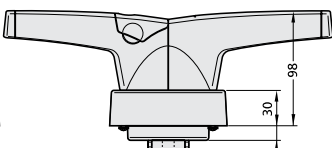
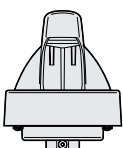
Type K2D & K2SD - versions available for both 6mm + 8mm square shafts



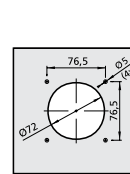
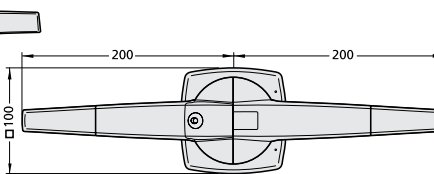
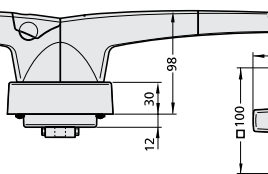
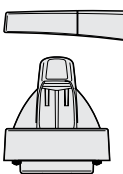
Type K3KD - suitable for 10mm square shafts



Type K4D - suitable for 12mm square shafts



Type K5D - suitable for 14mm square shafts



Type K6D - versions available for both 12mm + 14mm square shafts

Q-line/Dumeco accessories

Auxiliary contacts: Dumeco & Q-Line switches



| Description | Max per switch | Pack qty | Item no. |
|--|----------------|----------|----------------|
| Auxiliary contact to suit DMM125 1NO + 1NC | 1 | 1 | 1314300 |
| Auxiliary contact to suit DMM125 2NO + 2NC | 1 | 1 | 1314301 |
| Auxiliary contact to suit DMV160 1NO + 1 NC | 2 | 1 | 1314398 |
| Auxiliary contact to suit DMV250-DMV2000 1NO + 1 NC | 2 | 1 | 1314736 |
| Auxiliary contact to suit Q-Line switches - Frame size 0, 1NO + 1NC | 1 | 1 | 6028293 |
| Auxiliary contact to suit Q-Line switches - Frame size 1, 2, 1NO + 1NC | 2 | 1 | 6028293 |
| Auxiliary contact to suit Q-Line switches - Frame size 3, 1NO + 1NC | 1 | 1 | 6101137 |

Terminal covers: Dumeco & Q-Line switches



| Description | Pack qty | Item no. |
|--|----------|----------------|
| Dumeco terminal cover to suit DMM125 | 1 | 1314330 |
| Dumeco terminal cover to suit DMV160 | 1 | 1314230 |
| Dumeco terminal cover to suit DMV250/400 | 1 | 1314735 |
| Dumeco terminal cover to suit DMV630/1000 | 1 | 1314830 |
| Q-Line 1 Pole, fully shrouded for M6 Connection bolt | 1 | 1319409 |
| Q-Line 1 Pole, fully shrouded for M8 Connection bolt | 1 | 1319411 |
| Q-Line 1 Pole, fully shrouded for M10 Connection bolt | 1 | 1319413 |
| Q-Line 1 Pole, fully shrouded for M12 Connection bolt | 1 | 1319415 |
| Q-Line 3 Pole, front terminal protection for Frame Size 0 Switches | 1 | 1320239 |
| Q-Line 3 Pole, front terminal protection for Frame Size 1 Switches | 1 | 1319432 |
| Q-Line 3 Pole, front terminal protection for Frame Size 2 Switches | 1 | 1319418 |

Switch covers: Q-Line switches



| Description | Pack qty | Item no. |
|---|----------|----------------|
| Q-Line Fuse Switch front cover, suit QSA40N0/63N0 BS, QSA63N1 BS & QSA100N1 DIN | 1 | 1320237 |
| Q-Line Fuse Switch front cover, suit QSA63N1-QSA125N1 DIN | 1 | 1319435 |
| Q-Line Fuse Switch front cover, suit QSA160N1 DIN | 1 | 1318476 |
| Q-Line Fuse Switch front cover, suit QSA100N1 BS | 1 | 1319423 |
| Q-Line Fuse Switch front cover, suit QSA125N1/160N1 BS | 1 | 1319438 |
| Q-Line Fuse Switch front cover, suit QSA200N-QSA400N BS & DIN | 1 | 1319429 |
| Q-Line Fuse Switch front cover, suit QSA630/800 BS & DIN | 1 | 1319426 |
| Q-Line 3 Pole kit, front or rear cover set, suit QA125N1-200N1 | 3 | 1319439 |
| Q-Line 3 Pole kit, rear cover set, suit QSA63N1-160N1 | 3 | 1319439 |
| Q-Line 3 Pole kit, front or rear cover set, suit QA400N | 3 | 1319441 |
| Q-Line 3 Pole kit, rear cover set, suit QSA200N-400N | 3 | 1319441 |
| Q-Line Front cover shroud, QA400N/630N | 1 | 1319425 |
| Q-Line Rear cover kit, suit QSA630/800, QA1000 | 1 | 1319417 |

Loose busplug units 3+4 pole



| Description | Pack Qty | Item no. |
|---|----------|----------------|
| Plug assembly 3 Pole 125/160A, Plug onto 60mm dropper busbars | 1 x 3P | 1318268 |
| Plug assembly 3 Pole 250/400A, Plug onto 60mm dropper busbars | 1 x 3P | 1319635 |
| Plug assembly 3 Pole 630/800A, Plug onto 60mm dropper busbars | 2 x 3P | 1318902 |
| Plug assembly 4 Pole 125/160A, Plug onto 60mm dropper busbars | 2 x 2P | 1318269 |
| Plug assembly 4 Pole 630/800A, Plug onto 60mm dropper busbars | 4 x 2P | 1318903 |

Q-line/Dumeco accessories

Handles & shafts: Q-line & Dumeco switches

| Description | Item no. |
|--|----------|
| Direct mount knob handle, K1A, Red, for 6mm shaft | 1818002 |
| Direct mount knob handle, K2A, Red, for 8mm shaft | 1818006 |
| Direct mount knob handle, K3A, Red, for 10mm shaft | 1818111 |
| Direct mount knob handle, K4A, Red, for 12mm shaft | 1818010 |
| Direct mount knob handle, K5A, Red, for 14mm shaft | 1818012 |
| Handle, K-Line K2S, Red/yellow, with 6mm coup, IP65 for 6mm shaft | 1818033 |
| Handle, K-Line K2, Red/yellow, with 8mm coup, IP65 for 8mm shaft | 1818036 |
| Handle, K-Line K3, Red/yellow, with 10mm coup, IP65 for 10mm shaft | 1818096 |
| Handle, K-Line K4, Red/yellow, with 12mm coup, IP65 for 12mm shaft | 1818051 |
| Handle, K-Line K5, Red/yellow, with 14mm coup, IP65 for 14mm shaft | 1818057 |
| Handle, K-Line K6, Red/yellow, with 14mm coup, IP65 for 14mm shaft | 1818063 |
| Handle with Cylinder locking, K2S, Grey, with coup for 6mm shaft | 1818040 |
| Handle with Cylinder locking, K2, Grey, with coup for 8mm shaft | 1818043 |
| Handle with Cylinder locking, K3, Grey, with coup for 10mm shaft | 1818070 |
| Handle with Cylinder locking, K4, Grey, with coup for 12mm shaft | 1818055 |
| Handle with Cylinder locking, K5, Grey, with coup for 14mm shaft | 1818061 |
| Handle with Cylinder locking, K6, Grey, with coup for 14mm shaft | 1818067 |
| Padlock ON Conversion kit for K1 | 1818103 |
| Padlock ON Conversion kit for K2 | 1818104 |
| Padlock ON Conversion kit for K3 | 1818105 |
| Padlock ON Conversion kit for K4-K5-K6 | 1818106 |
| Extension shaft 6x6mm, 300mm long, suit QM & Q-Line | 1319831 |
| Extension shaft 8x8mm, 300mm long, suit Q-Line | 1319311 |
| Extension shaft 10x10mm, 300mm long, suit Q-Line | 1319319 |
| Extension shaft 12x12mm, 300mm long, suit Q-Line | 1319326 |
| Extension shaft 12x12mm, turn 45 degrees, 115mm long, suit Q-Line | 1319331 |
| Extension clamp for 6x6mm shafts | 1319833 |
| Extension clamp for 8x8mm shafts | 1319332 |
| Extension clamp for 10x10mm shafts | 1319334 |
| Extension clamp for 12x12mm shafts | 1319336 |
| Extension shaft 6x6mm, 400mm long, suit DMV160 | 1314693 |
| Extension shaft 10x10mm, 400mm long, suit DMV250/400 | 1050243 |
| Extension shaft 14x14mm, 400mm long, suit DMV630/1000 | 1050247 |
| Extension shaft 14x14mm, 400mm long, suit DMV1250/1600/2000 | 1050250 |
| Extension shaft, with clamp, 14x14mm, 200mm long, suit DMS | 1050257 |
| Shaft transition link, 10x10mm to 12x12mm | 1319398 |
| Shaft transition link, 12x12mm to 14x14mm | 1318685 |



1818111



1818033



1818055



1818104



1319831



1319332



1050247



1319398

Q-line/Dumeco accessories

Side termination kits: QA & QSA switches



| Description | Pack qty | Item no. |
|---|----------|----------------|
| 160A - Left side line connection, suit QA125N1/160N1 + QSA63N1/160N1 | 1 | 1319502 |
| 160A - Right side line connection, suit QA125N1/160N1 + QSA63N1/160N1 | 1 | 1319508 |
| 250A - Left side line connection, suit QSA200N/250N | 1 | 1319509 |
| 250A - Right side line connection, suit QSA200N/250N | 1 | 1319511 |
| 400A - Left side line connection, suit QA400N + QSA315N/400N | 1 | 1319513 |
| 400A - Right side line connection, suit QA400N + QSA315N/400N | 1 | 1319515 |

Note: Above products cannot be used with Plug-In type QSA switches.



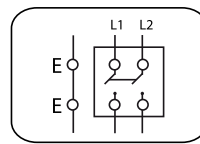
4th pole & neutral link kits: Q-Line switches

| Description | Pack qty | Item no. |
|--|----------|----------------|
| 63 Amp Switched neutral, suit QSA40N0/63N0 + QSA63N1 | 1 | 1319462 |
| 125 Amp Switched neutral, suit QA125N1 + QSA100N1/125N1 | 1 | 1319467 |
| 200 Amp Switched neutral, suit QA160N1/200N1 + QSA160N1 | 1 | 1319474 |
| 200 Amp Switched neutral, suit QSA200N | 1 | 1319476 |
| 500 Amp Switched neutral, suit QA400N/630N, QSA250N-400N | 1 | 1319482 |
| 630 Amp Switched neutral, suit QA1000, QSA630/800 | 1 | 1319662 |
| 63 Amp Solid neutral, suit QSA40N0/63N0 + QSA63N1 | 1 | 1319460 |
| 125 Amp Solid neutral, suit QA125N1 + QSA100N1/125N1 | 1 | 1319466 |
| 200 Amp Solid neutral, suit QA160N1/200N1 + QSA160N1 | 1 | 1319472 |
| 200 Amp Solid neutral, suit QSA200N | 1 | 1319473 |
| 400 Amp Solid neutral, suit QA400N/630N, QSA250N-400N | 1 | 1319480 |
| 1000 Amp Solid neutral, suit QA1000 + QSA630/800 | 1 | 1319486 |

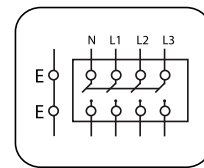
MEMPROOF Enclosed weather/dust proof isolators 20-63A

Can be used for spa & pool pumps, air conditioning, commercial kitchen exhaust fans. MEM Isolators have the following features:

- Suitable for isolating all types of circuit
- Available in 2 & 4 pole versions
- Dust & weatherproof to IP56
- Cable capacity up to 25mm²
- Tested to IEC 9473 240/415Vac 50/60Hz
- 4 conduit/cable entries
- High Impact Strength
- Padlocking in the OFF position
- Includes double screw earth terminal



Double pole



Triple pole and Switched Neutral

Triple pole & switched neutral

| Current rating | kW rating AC-23A | Dimensions (WxHxD) | Item no. |
|----------------|------------------|--------------------|---------------|
| 20A | 9kW | 82x165x81mm | MP203N |
| 35A | 15kW | 82x165x81mm | MP353N |
| 45A | 21kW | 82x165x81mm | MP453N |
| 63A | 29kW | 82x165x81mm | MP633N |

Double pole

| Current rating | kW rating AC-23A | Dimensions (WxHxD) | Item no. |
|----------------|------------------|--------------------|--------------|
| 20A | 3kW | 82x165x81mm | MP202 |
| 35A | 5kW | 82x165x81mm | MP352 |

House service fuse chassis

Fuse chassis

| Description | Item no. |
|---------------------------------------|---------------|
| 12 pole HSF chassis 315A, 262 x 252mm | HSF12P |
| 18 pole HSF chassis 315A, 391 x 252mm | HSF18P |
| 24 pole HSF chassis 315A, 520 x 252mm | HSF24P |
| 36 pole HSF chassis 315A, 778 x 252mm | HSF36P |

Suitable for front wire fuse-base versions only.



Power industry products

Street lighting fuse-links

Eaton Street Lighting fuse-links for use in single phase of street light cut-outs or similar installations. Eaton street lighting fuse-links feature:

- Fuse-links with low watts loss, cooler running
- ASTA 20 Certified, ISO 9002
- AC Rating, 50kA, 240V to BS88 - 1

Street lighting fuse-links

| Description | Item no. |
|------------------------------------|--------------|
| Lighting fuse-link 2A 240Vac 38mm | LST2 |
| Lighting fuse-link 4A 240Vac 38mm | LST4 |
| Lighting fuse-link 6A 240Vac 38mm | LST6 |
| Lighting fuse-link 10A 240Vac 38mm | LST10 |
| Lighting fuse-link 16A 240Vac 38mm | LST16 |
| Lighting fuse-link 20A 240Vac 38mm | LST20 |
| Lighting fuse-link 25A 240Vac 38mm | LST25 |



Eaton Bill street cut-outs

Designed for the thermal & short circuit protection of all street lights. Bill street light cut-outs features:

- High impact strength, improved safety during accidental pole damage
- Easy to connect, reduced installation time
- Made in Australia
- Compact dimensions, fit into small pole designs
- High degree of protection, increased operator safety

Eaton Bill street cut-outs

| Description | Item no. |
|--|---------------|
| Single circuit + double pole, PVC grommets | SLA3D1 |
| Double circuit + double pole, PVC grommets | SLA3D2 |



Photo electric controllers

SELC street light controllers

- A highly regulated transformer power supply
- State-of-the-art micro-controlled circuitry for control, R.A.T. switch sequencing
- Relay Assisted Triac (R.A.T.) solid state switching circuit.
- All SELC PECU's are fitted with mains transient suppressors so as to increase both the life of the unit & lantern
- The hard-wired configuration for high vandalism areas

Photo electric controllers

| Description | Item no. |
|---|---------------|
| SELC 841 20 LUX 1:2 230Vac PE Cell | 841077 |
| SELC 841-H hardwire 20LUX 1:2 230Vac PE | 841078 |
| SELC 841 20A 20LUX 1:2 230Vac PE Cell | 841079 |
| SELC 844 Wall mount NEMA socket | 844001 |
| SELC 843 NEMA socket | 843002 |
| SELC 843 NEMA socket C/W studs | 843003 |
| SELC 849 1P 20LUX 1:2 230Vac PE Cell | 849031 |
| SELC 849 2P 20LUX 1:2 230Vac PE Cell | 849032 |



The protection you rely on.



BUSSMANN SERIES



Powering Business Worldwide

Our Bussmann series products reflect a longstanding tradition of leading fusible circuit protection and electrical safety solutions that protect equipment and enable reliable, efficient power distribution.

With Eaton you get the industry's top innovator in fuse technology and unmatched expertise in circuit breakers.

Our heritage in circuit breaker development coupled with the number one name in fuses means the choice is no longer fuse or breaker. It's fuse and breaker—it's leadership in circuit protection.

[Expanding our products.](#)
[Expanding our thinking.](#)
[Energising your business.](#)

Eaton.com/bussmannseries

Busmann series BS88 industrial fuse links

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty |
|---------------------------|----------|--------|-----------------|-------|--------|---------|
| Clip in type. | | | | | | |
| NSD2 | NS2 | 2 | | | | |
| NSD4 | NS4 | 4 | | | | |
| NSD6 | NS6 | 6 | | | | |
| NSD10 | NS10 | 10 | 32NNS* SC32* | 550 | 58.5mm | 20 |
| NSD16 | NS16 | 16 | | | | |
| NSD20 | NS20 | 20 | | | | |
| NSD25 | NS25 | 25 | | | | |
| NSD32 | NS32 | 32 | | | | |
| NSD20M25 | NS20M25 | 20M25 | | | | |
| NSD20M32 | NS20M32 | 20M32 | | | | |
| NSD32M36 | NS32M36 | 32M36 | 32NNS* SC32* | 415 | 58.5mm | 20 |
| NSD32M40 | NS32M40 | 32M40 | | | | |
| NSD32M50 | NS32M50 | 32M50 | | | | |
| NSD32M63 | NS32M63 | 32M63 | | | | |
| SSD2 | SS2 | 2 | | | | |
| SSD4 | SS4 | 4 | | | | |
| SSD6 | SS6 | 6 | | | | |
| SSD10 | SS10 | 10 | | 240 | 47.0mm | 20 |
| SSD16 | SS16 | 16 | | | | |
| SSD20 | SS20 | 20 | | | | |
| SSD25 | SS25 | 25 | | | | |
| SSD32 | SS32 | 32 | | | | |
| ESD2 | | 2 | | | | |
| ESD4 | | 4 | | | | |
| ESD6 | | 6 | | | | |
| ESD10 | | 10 | | | | |
| ESD16 | | 16 | | | | |
| ESD20 | | 20 | 63ENS* SC63* | 550 | 68.0mm | 20 |
| ESD25 | | 25 | | | | |
| ESD32 | | 32 | | | | |
| ESD40 | ES40 | 40 | | | | |
| ESD50 | ES50 | 50 | | | | |
| ESD63 | ES63 | 63 | | | | |
| ESD63M80 | ES63M80 | 63M80 | 63ENS* SC63* | 415 | 68.0mm | 20 |
| ESD63M100 | | 63M100 | | | | |
| Offset bolted tags | | | | | | |
| STD2 | LST2 | 2 | | | | |
| STD4 | LST4 | 4 | | | | |
| STD6 | LST6 | 6 | | | | |
| STD10 | LST10 | 10 | | 240 | 35.0mm | 20 |
| STD16 | LST16 | 16 | | | | |
| STD20 | LST20 | 20 | | | | |
| STD25 | LST25 | 25 | | | | |
| STD32 | LST32 | 32 | | | | |



NSD32



SSD32



ESD63



STD10

Bussmann series BS88 industrial fuse links

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty |
|---------------------------|--------------------|---------|-----------------------|-------|--------|---------|
| Offset bolted tags | | | | | | |
| NITD2 | NIT2L | 2 | CM-32FC RS20* | 550 | 44.5mm | 20 |
| NITD4 | NIT4L | 4 | | | | |
| NITD6 | NIT6L | 6 | | | | |
| NITD10 | NIT10L | 10 | | | | |
| NITD16 | NIT16L | 16 | | | | |
| NITD20 | NIT20L | 20 | | | | |
| NITD25 | NIT25L | 25 | | | | |
| NITD32 | NIT32L | 32 | | | | |
| NITD20M25 | NIT20M25L | 20M25 | | | | |
| NITD20M32 | NIT20M32L | 25M32 | | | | |
| NITD32M40 | NIT32M40L | 32M40 | CM-32FC RS32* | 415 | 44.5mm | 20 |
| NITD32M50 | NIT32M50L | 32M50 | | | | |
| NITD32M63 | NIT32M63L | 32M63 | | | | |
| | | | | | | |
| AAO2 | TIA2L | 2 | CM32F RS32 RS63 | 550 | 73.5mm | 20 |
| AAO4 | TIA4L | 4 | | | | |
| AAO6 | TIA6L | 6 | | | | |
| AAO10 | TIA10L | 10 | | | | |
| AAO16 | TIA16L | 16 | | | | |
| AAO20 | TIA20L | 20 | | | | |
| AAO25 | TIA25L | 25 | | | | |
| AAO32 | TIA32L | 32 | | | | |
| AAO32M40 | TIA32M40L | 32M40 | | | | |
| AAO32M50 | TIA32M50L | 32M50 | | | | |
| AAO32M63 | TIA32M63L | 32M63 | | | | |
| BAO35 | TIS35L | 35 | CM63F RS63 | 550 | 73.5mm | 20 |
| BAO40 | TIS40L | 40 | | | | |
| BAO50 | TIS50L | 50 | | | | |
| BAO63 | TIS63L | 63 | | | | |
| BAO63M80 | TIS63M80L | 63M80 | | | | |
| BAO63M100 | TIS63M100L | 63M100 | | | | |
| OSD80 | OS80 | 80 | CM100F | 415 | 73.0mm | 20 |
| OSD100 | OS100 | 100 | | | | |
| OSD100M125 | OS100M125 | 100M125 | | | | |
| OSD100M160 | OS100M160 | 100M160 | | | | |
| CEO32 | | 32 | RS100* | 550 | 94.0mm | 10 |
| CEO40 | | 40 | | | | |
| CEO50 | | 50 | | | | |
| CEO63 | | 63 | | | | |
| CEO80 | TCP80L | 80 | | | | |
| CEO100 | TCP100L | 100 | RS100* | 415 | 94.0mm | 10 |
| CEO100M125 | TCP100M125L | 100M125 | | | | |
| CEO100M160 | TCP100M160L | 100M160 | | | | |
| CEO100M200 | TCP100M200L | 100M200 | | | | |
| DEO125 | TFP125L | 125 | | 415 | 94.0mm | 5 |
| DEO160 | TFP160L | 160 | | | | |
| DEO200 | TFP200L | 200 | | | | |
| DEO200M250 | TFP200M250L | 200M250 | | | | |
| DEO200M315 | TFP200M315L | 200M315 | | | | |



NITD6



AAO32



BAO63



OSD100



DEO200

Bussmann series BS88 industrial fuse links

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty |
|--|-------------|---------|-------------|-------|---------------|---------|
| Centre bolted tags - 2 hole fixing. | | | | | | |
| AC2 | | 2 | | | | |
| AC4 | | 4 | | | | |
| AC6 | | 6 | | | | |
| AC10 | | 10 | | | | |
| AC16 | | 16 | | | | |
| AC20 | | 20 | | | | |
| AC25 | | 25 | | 550 | 97.5mm | 20 |
| AC32 | | 32 | | | | |
| AC40 | | 40 | | | | |
| AC50 | | 50 | | | | |
| BC63 | | 63 | | | | |
| BC63M80 | | 63M80 | | | | |
| BC63M100 | | 63M100 | | | | |
| AD2 | | 2 | | | | |
| AD4 | | 4 | | | | |
| AD6 | | 6 | | | | |
| AD10 | | 10 | | | | |
| AD16 | | 16 | | | | |
| AD20 | | 20 | RS200* | 550 | 111.5mm | 20 |
| AD25 | | 25 | | | | |
| AD32 | | 32 | | | | |
| BD40 | | 40 | | | | |
| BD50 | | 50 | | | | |
| BD63 | | 63 | | | | |
| CD80 | TC80L | 80 | RS200* | 550 | 111.0mm | 10 |
| CD100 | TC100L | 100 | | | | |
| CD100M125 | | 100M125 | | | | |
| CD100M160 | | 100M160 | RS200* | 415 | 111.0mm | 10 |
| CD100M160 | | 100M200 | | | | |
| DD125 | TF125L | 125 | | | | |
| DD160 | TF160L | 160 | | | | |
| DD200 | TF200L | 200 | RS200* | 415 | 111.0mm | 5 |
| DD200M250 | TF200M250L | 200M250 | | | | |
| DD200M315 | TF200M315L | 200M315 | | | | |
| ED250 | TKF250L | 250 | | | | |
| ED315 | TKF315L | 315 | | | | |
| ED355 | TMF355L | 355 | | 415 | 111mm | 1 |
| ED400 | TMF400L | 400 | | | | |
| ED315M400 | TKF315M400L | 315M400 | | | | |
| ED400M500 | | 400M500 | | 550 | 111mm | 1 |
| EFS125 | | 125 | | | | |
| EFS160 | | 160 | | | | |
| EFS200 | | 200 | RS400* | 415 | 133mm | 1 |
| EFS250 | TKM250L | 250 | | | | |
| Centre bolted tags - 4 hole fixing. | | | | | | |
| EFS315 | TKM315L | 315 | | 415 | 133/ 184mm | 1 |
| EF355 | TM355L | 355 | | | | |
| EF400 | TM400L | 400 | | 415 | 133/ 184mm | 1 |
| EF400M500 | | 400M500 | | 550 | | |



AC32



AD32



DD200



ED315



EFS315

Bussmann series BS88 industrial fuse links



FF630



GG710



200N20



NITD6

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty | |
|--|----------|-------|-------------|-----------------|---------------|---------|----|
| Centre bolted tags - 4 hole fixing. | | | | | | | |
| FF450 | TTM450L | 450 | | 550 | 133/ 184mm | 1 | |
| FF500 | TTM500L | 500 | | | | | |
| FF560 | TTM560L | 560 | | | | | |
| FF630 | TTM630L | 630 | | | | | |
| FG450 | | 450 | | 550 | 133/ 184mm | 1 | |
| FG500 | | 500 | | | | | |
| FG560 | | 560 | | | | | |
| FG630 | | 630 | | | | | |
| GF710 | TLM710L | 710 | | 550 | 133/ 184mm | 1 | |
| GF800 | TLM800L | 800 | | | | | |
| GG710 | | 710 | | 550 | 167/ 231mm | 1 | |
| GG800 | | 800 | | | | | |
| GG1000 | | 1000 | | | | | |
| GG1250 | | 1250 | | | | | |
| GH710 | | 710 | | 550 | 149mm | 1 | |
| GH800 | | 800 | | | | | |
| GH1000 | | 1000 | | | | | |
| GH1250 | | 1250 | | | | | |
| Special tag arrangements - 660Vac / 400Vdc. | | | | | | | |
| 125N20 | | 125 | | 660 | 92.5mm | 1 | |
| 160N20 | | 160 | | | | | |
| 200N20 | | 200 | | | | | |
| 250N20 | | 250 | | | | | |
| 315N20 | | 315 | | | | | |
| 355P20 | | 355 | | | | | |
| 400P20 | | 400 | | | | | |
| 450R20 | | 450 | | | | | |
| 500R20 | | 500 | | | | | |
| 560R20 | | 560 | | | | | |
| 630R20 | | 630 | | | | | |
| 710S20 | | 710 | | 550 | 92.5mm | 1 | |
| 800S20 | | 800 | | | | | |
| Offset bolted tags | | | | | | | |
| | NIT2 | 2 | | CM32FC RS20* | 550 | 44.5mm | 20 |
| | NIT4 | 4 | | | | | |
| | NIT6 | 6 | | | | | |
| | NIT10 | 10 | | | | | |
| | NIT16 | 16 | | | | | |
| | NIT20 | 20 | | | | | |
| | NET25 | 25 | | CM32FC RS32* | 440 | 44.5mm | 20 |
| | NET32 | 32 | | | | | |
| | NIT20M25 | 20M25 | | CM32FC RS32* | 415 | 44.5mm | 20 |
| | NIT20M32 | 25M32 | | | | | |
| | NIT32M40 | 32M40 | | | | | |
| | NIT32M50 | 32M50 | | | | | |
| | NIT32M63 | 32M63 | | | | | |

Bussmann series BS88 industrial fuse links

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty |
|-----------------------------------|------------|---------|----------------|-------|--------|---------|
| Offset bolted tags - 660V. | | | | | | |
| 2H07-660 | TIA2 | 2 | CM63F RS63* | 660 | 73.5mm | 20 |
| 4H07-660 | TIA4 | 4 | | | | |
| 6H07-660 | TIA6 | 6 | | | | |
| 10H07-660 | TIA10 | 10 | | | | |
| 16H07-660 | TIA16 | 16 | | | | |
| 20H07-660 | TIA20 | 20 | | | | |
| 25H07-660 | TIA25 | 25 | | | | |
| 32H07-660 | TIA32 | 32 | | | | |
| | TIA32M35 | 32M35 | | | | |
| | TIA32M40 | 32M40 | | | | |
| | TIA32M50 | 32M50 | | | | |
| | TIA32M63 | 32M63 | | | | |
| | TIS35 | 35 | CM63F RS63* | 660 | 73.5mm | 20 |
| 40K07-660 | TIS40 | 40 | | | | |
| 50K07-660 | TIS50 | 50 | | | | |
| 63K07-660 | TIS63 | 63 | | | | |
| | TIS63M80 | 63M80 | | | | |
| | TIS63M100 | 63M100 | | | | |
| 80L14-660 | TCP80 | 80 | RS100* | 660 | 94mm | 20 |
| 100L14-660 | TCP100 | 100 | | | | |
| | TCP100M125 | 100M125 | | | | |
| | TCP100M160 | 100M160 | | | | |
| | TCP100M200 | 100M200 | | | | |
| 125M14-660 | TFP125 | 125 | | 550 | 94mm | 10 |
| 160M14-660 | TFP160 | 160 | | | | |
| 200M14-660 | TFP200 | 200 | | | | |
| Centre bolted tags - 660V. | | | | | | |
| 2K08-660 | TB2 | 2 | | 660 | 97.5mm | 1 |
| 4K08-660 | TB4 | 4 | | | | |
| 6K08-660 | TB6 | 6 | | | | |
| 10K08-660 | TB10 | 10 | | | | |
| 16K08-660 | TB16 | 16 | | | | |
| 20K08-660 | TB20 | 20 | | | | |
| 25K08-660 | TB25 | 25 | | | | |
| 32K08-660 | TB32 | 32 | | | | |
| 40K08-660 | TB40 | 40 | | | | |
| 50K08-660 | TB50 | 50 | | | | |
| 63K08-660 | TB63 | 63 | | | | |



H07-660



K07-660



L14-660



K08-660

Bussmann series BS88 industrial fuse links

| Item no. | Item no. | Amps | Fuse holder | Volts | Dim | Box qty | | | | |
|-----------------------------------|-------------------|---------|-------------|-------|-------------|---------|--------|-----|-------|----|
| Centre bolted tags - 660V. | | | | | | | | | | |
| 2K09-660 | TBC2 | 2 | | | | | | | | |
| 4K09-660 | TBC4 | 4 | | | | | | | | |
| 6K09-660 | TBC6 | 6 | | | | | | | | |
| 10K09-660 | TBC10 | 10 | | | | | | | | |
| 16K09-660 | TBC16 | 16 | | | | | | | | |
| 20K09-660 | TBC20 | 20 | RS200* | 660 | 111mm | 1 | | | | |
| 25K09-660 | TBC25 | 25 | | | | | | | | |
| 32K09-660 | TBC32 | 32 | | | | | | | | |
| 40K09-660 | TBC40 | 40 | | | | | | | | |
| 50K09-660 | TBC50 | 50 | | | | | | | | |
| 63K09-660 | TBC63 | 63 | | | | | | | | |
| | TBC63M100 | 63M100 | | | | | | | | |
| 80L09-660 | TC80 | 80 | | | | | RS200* | 660 | 111mm | 20 |
| 100L09-660 | TC100 | 100 | | | | | | | | |
| 125M09-660 | TF125 | 125 | | | | | | | | |
| 160M09-660 | TF160 | 160 | | | | | | | | |
| 200M09-660 | TF200 | 200 | | 660 | 111mm | 20 | | | | |
| | TF200M250 | 200M250 | | | | | | | | |
| | TF200M315 | 200M315 | | | | | | | | |
| 250N09-660 | TKF250 | 250 | | | | | | | | |
| 315N09-660 | TKF315 | 315 | | 660 | 111mm | 1 | | | | |
| | TKF315M355 | 315M355 | | | | | | | | |
| 355P09-660 | TMF355 | 355 | | 660 | 111mm | 1 | | | | |
| 400P09-660 | TMF400 | 400 | | | | | | | | |
| 125N11-660 | | 125 | | | | | | | | |
| 160N11-660 | | 160 | | | | | | | | |
| 200N11-660 | | 200 | | 660 | 133mm | 1 | | | | |
| 250N11-660 | TKM250 | 250 | | | | | | | | |
| 315N11-660 | TKM315 | 315 | | | | | | | | |
| 355P11-660 | TM355 | 355 | | 660 | 184 / 133mm | 1 | | | | |
| 400P11-660 | TM400 | 400 | | | | | | | | |
| 450R11-660 | TTM450 | 450 | | | | | | | | |
| 500R11-660 | TTM500 | 500 | | 550 | 184 / 133mm | 1 | | | | |
| 560R11-660 | TTM560 | 560 | | | | | | | | |
| 630R11-660 | TTM630 | 630 | | | | | | | | |
| 450R12-660 | TT450 | 450 | | | | | | | | |
| 500R12-660 | TT500 | 500 | | 550 | 231 / 167mm | 1 | | | | |
| 560R12-660 | TT560 | 560 | | | | | | | | |
| 630R12-660 | TT630 | 630 | | | | | | | | |
| | TLM670 | 670 | | | | | | | | |
| | TLM710 | 710 | | | | | | | | |
| | TLM750 | 750 | | 660 | 184 / 133mm | 1 | | | | |
| | TLM800 | 800 | | | | | | | | |



L09-660



M09-660

Bussmann series BS88 industrial fuse links

| Item no. | Description | Fuse holder | Amps | Volts | Box qty |
|---|--------------------------------|----------------|------|-------|---------|
| SAFEloc fuse holders | | | | | |
| 32NNSF | Front wired | NS / NSD | 32 | 690 | 10 |
| 32NNSR | Back wired | | | | |
| 32NNSBS | Back stud | | | | |
| 32NNSFBS | Front wired / back stud | | | | |
| 32NNSFWHITE | Front wired, white | | | | |
| 32NNSFBSWHITE | F. Wired / b. Stud, white | | | | |
| 32NNSBSWHITE | Back stud, white | | | | |
| 63ENSF | Front wired | ES / ESD | 63 | 690 | 10 |
| 63ENSR | Back wired | | | | |
| 63ENSBS | Back stud | | | | |
| 63ENSFBS | Front wired / back stud | | | | |
| 63ENSFWHITE | Front wired, white | | | | |
| 63ENSFBSWHITE | Front wired / back stud, white | | | | |
| 63ENSBSWHITE | Back stud, white | | | | |
| 32NNL | Neutral link | 32NNS* | | 690 | 10 |
| 63ENL | Neutral link | 63ENS* | | | |
| CAMaster fuse holders | | | | | |
| CM32FC | Front wired | NITD | 32 | 690 | 10 |
| CM32F | Front wired | AAO | 32 | | |
| CM63F | Front wired | BAO | 63 | | |
| CM100F | Front wired | OSD | 100 | | 5 |
| CM32FCW | Front wired, white | NITD | 32 | 690 | 10 |
| CM32FW | Front wired, white | AAO | 32 | | |
| CM63FW | Front wired, white | BAO | 63 | | |
| CM100FW | Front wired, white | OSD | 100 | | 5 |
| Part no Description Fuse holder to suit. Volts Box qty | | | | | |
| CAMaster accessories. | | | | | |
| 32CMLC | Bolted neutral link | CM32FC | | 690 | 10 |
| 32CML | Bolted neutral link | CM32F | | | 1 |
| 63-100CML | Bolted neutral link | CM63F & CM100F | | | 1 |
| 32BS | Back stud conversion kits | CM32FC & CM32F | | 690 | 10 |
| 63/100BS | Back stud conversion kits | CM63F & CM100F | | | 5 |
| 32LSCC | Lockable safety carrier | CM32FC | | 690 | 3 |
| 32LSC | Lockable safety carrier | CM32F | | | 3 |
| 63-100LSC | Lockable safety carrier | CM63F & CM100F | | | 3 |



SAFEloc



CAMaster



CAMaster accessories - Studs

Bussmann series BS88 industrial fuse links



Safeclip fuseholder - black



Safeclip fuseholder - white



Red spot fuseholder - black



Red spot fuseholder - white

| Item no. | Description | Fuse | Amps | Volts | Box qty |
|------------------------------|---------------------------------|------------------------|------|-------|---------|
| Safeclip fuse holders | | | | | |
| SC20H | Front wired | | | | |
| SC20P | Back stud | NS / NSD | 20 | 415 | 10 |
| SC20BH | Busbar connect / front connect | | | | |
| SC20HWH | Front wired, white | | | | |
| SC32H-D | Front wired | | | | |
| SC32PH-D | Front wired / back stud | NS / NSD | 32 | 415 | 10 |
| SC32BH | Busbar connect / front connect | | | | |
| SC32P | Back stud | | | | |
| SC32H-DWH | Front wired, white | | | | |
| SC32PWH | Back stud, white | | | | |
| SC32PH-DWH | Front wired / back stud - white | | | | |
| SC63H-D | Front wired | ES / ESD | 63 | 415 | 10 |
| SC63BH | Busbar connect / front connect | | | | |
| SC63P | Back stud | | | | |
| SC63H-DWH | Back stud, white | | | | |
| Red spot fuse holders | | | | | |
| RS20H | Front wired | NIT / NITD | 20 | 690 | 10 |
| RS20BW | Back wired | | | | |
| RS20P-G | Back stud | | | | |
| RS20PH-G | Front wired / back stud | | | | |
| RS20H-WH | Front wired, white | | | | |
| RS20PG-WH | Back stud, white | | | | |
| RS32H | Front wired | TIA / AAO | 32 | 690 | 10 |
| RS32BW | Back wired | | | | |
| RS32P | Back stud | | | | |
| RS32PH | Front wired / back stud | | | | |
| RS32HWH | Front wired, white | | | | |
| RS32PWH | Back stud, white | | | | |
| RS63H | Front wired | TIA / TIS AAO / BAO | 63 | 690 | 5 |
| RS63BW | Back wired | | | | |
| RS63P | Back stud | | | | |
| RS63PH | Front wired / back stud | | | | |
| RS63HWH | Front wired, white | | | | |
| RS63PWH | Back stud, white | | | | |
| RS100H | Front wired | TCP / CEO | 100 | 690 | 5 |
| RS100BW | Back wired | | | | |
| RS100P | Back stud | | | | |
| RS100PH | Front wired / back stud | | | | |
| RS100HWH | Front wired, white | | | | |
| RS100PWH | Back stud, white | | | | |
| RS200H | Front wired | TC / TF CD / DD | 200 | 690 | 1 |
| RS200P | Back stud | | | | |
| RS200PH | Front wired / back stud | | | | |
| RS200HWH | Front wired, white | | | | |
| RS200PWH | Back stud, white | | | | |
| RS400H | Front wired | | | | |
| RS400P | Back stud | | | | |
| RS400PH | Front wired / back stud | | | | |

Bussmann series BS88 industrial fuse links

| Item no. | Description | Amps | Volts | Box qty |
|-----------------------------|------------------------|------|-------|---------|
| Redspot accessories. | | | | |
| RS20LOCK | Pad lockable inserts | 20 | 690 | 3 |
| RS32LOCK | Pad lockable inserts | 32 | | |
| RS63LOCK | Pad lockable inserts | 63 | | |
| RS100LOCK | Pad lockable inserts | 100 | | |
| RS20RED | Red isolation carriers | 20 | 690 | 5 |
| RS32RED | Red isolation carriers | 32 | | |
| RS63RED | Red isolation carriers | 63 | | |
| RS100RED | Red isolation carriers | 100 | | |
| P110151-10 | RS20CLINK | 20 | 690 | 5 |
| P110152-10 | RS32CLINK | 32 | | |
| P110153-10 | RS63CLINK | 63 | | |
| P110154-10 | RS100CLINK | 100 | | |
| AA | Fuse link adapters | | 690 | 1 |
| BA | Fuse link adapters | | | |
| CA | Fuse link adapters | | | |
| GSA-1 | Fuse link adapters | | | |
| GSA-2 | Fuse link adapters | | | |
| GSD-2 | Fuse link adapters | | | |



RS63LOCK



P110154-10

| Part no | Amps | Fuse Holder | Volts | Dim | Box qty |
|-----------------------------|------|-------------|-------|---------------------|---------|
| "J" type fuse links. | | | | | |
| 20MJ25-6 | 20 | | 415 | 46 x 39 mm | 5 |
| 32MJ25-6 | 32 | | | | |
| 40MJ25-6 | 40 | | | | |
| 63MJ25-6 | 63 | | | | |
| 80MJ25-6 | 80 | | | | |
| 100MJ25-6 | 100 | | | | |
| 125MJ25-6 | 125 | | | | |
| 160MJ25-6 | 160 | | | | |
| 200MJ25-6 | 200 | | | | |
| 250MJ25-6 | 250 | | | | |
| 63MJ26-6 | 63 | | 415 | 76mm | 5 |
| 80MJ26-6 | 80 | | | | |
| 100MJ26-6 | 100 | | | | |
| 125MJ26-6 | 125 | | | | |
| 160MJ26-6 | 160 | | | | |
| 200MJ26-6 | 200 | | | | |
| 250MJ26-6 | 250 | | | | |
| 20MJ30-8 | 20 | | 415 | 82mm | 5 |
| 32MJ30-8 | 32 | | | | |
| 40MJ30-8 | 40 | | | | |
| 50MJ30-8 | 50 | | | | |
| 63MJ30-8 | 63 | | | | |
| 80MJ30-7 | 80 | | | | |



MJ30-8

Bussmann series BS88 industrial fuse links

| Item no. | Amps | Fuse holder | Volts | Dim | Box qty |
|-----------------------------|------|-------------|-------|------|---------|
| "J" type fuse links. | | | | | |
| 100MJ30-7 | 100 | | 415 | 82mm | 5 |
| 125MJ30-7 | 125 | | | | |
| 160MJ30-7 | 160 | | | | |
| 200MJ30-7 | 200 | | | | |
| 250MJ30-7 | 250 | | | | |
| 315MJ30-7 | 315 | | | | |
| 355PJ30-7 | 355 | | | | |
| 400PJ30-7 | 400 | | | | |
| 20MJ31-8 | 20 | | 415 | 92mm | 5 |
| 25MJ31-8 | 25 | | | | |
| 32MJ31-8 | 32 | | | | |
| 40MJ31-8 | 40 | | | | |
| 50MJ31-8 | 50 | | | | |
| 63MJ31-8 | 63 | | | | |
| 80MJ31-7 | 80 | | | | |
| 100MJ31-7 | 100 | | | | |
| 125MJ31-7 | 125 | | | | |
| 160MJ31-7 | 160 | | | | |
| 200MJ31-7 | 200 | | | | |
| 250MJ31-7 | 250 | | | | |
| 315MJ31-7 | 315 | | | | |
| 355PJ31-7 | 355 | | | | |
| 400PJ31-7 | 400 | | | | |
| 450RJ31-7 | 450 | | | | |
| 500RJ31-7 | 500 | | | | |
| 560SJ31-6 | 560 | | | | |
| 630SJ31-6 | 630 | | | | |
| 800SJ28 | 800 | | | | |



MJ31-7



SJ28

| Part no | Amps | Fuse holder | Volts | Dim | Box qty | | | |
|----------------------------------|------|-------------|-------|------------|---------|-----|------------|----|
| House service fuse links. | | | | | | | | |
| 5KR85 | 5 | | 415 | 22 X 57 mm | 20 | | | |
| 10KR85 | 10 | | | | | | | |
| 15KR85 | 15 | | | | | | | |
| 20KR85 | 20 | | | | | | | |
| 25KR85 | 25 | | | | | | | |
| 30KR85 | 30 | HSB22* | | | | | | |
| 40KR85 | 40 | | | | | | | |
| 45KR85 | 45 | | | | | | | |
| 50KR85 | 50 | | | | | | | |
| 60KR85 | 60 | | | | | | | |
| 80KR85 | 80 | | | | | | | |
| 100KR85 | 100 | | | | | | | |
| 30LR85 | 30 | | | | | 415 | 30 X 57 mm | 20 |
| 40LR85 | 40 | | | | | | | |
| 50LR85 | 50 | HSB30* | | | | | | |
| 60LR85 | 60 | | | | | | | |
| 80LR85 | 80 | | | | | | | |
| 100LR85 | 100 | | | | | | | |



100KR85



80LR85

Bussmann series BS88 industrial fuse links

| Item no. | Description | Amps | Fuse | Volts | Box qty | |
|---|-------------------|------|------|-------|-----------------------|---------|
| House service fuse holders. | | | | | | |
| HSB30BWI | Front wire | 100 | LR85 | 415 | 10 | |
| HSB30FWI | Back wire | | | | | |
| HSB30BWCLI | Front wire, clear | | | | | |
| HSB30FWCLI | Back wire, clear | | | | | |
| HSB22BW | Front wire | 100 | KR85 | 415 | 10 | |
| HSB22FW | Back wire | | | | | |
| HSB22BWCL | Front wire, clear | | | | | |
| HSB22FWCL | Back wire, clear | | | | | |
| HSB22BWCL-Q* | Front wire, clear | 125 | | 415 | 10 | |
| HSB22FWCL-Q* | Back wire, clear | | | | | |
| Complete with link and fixing screws - Queensland only | | | | | | |
| HSB22BW-V | Back wired | 100 | KR85 | 415 | 10 | |
| Complete with two-hole fixing - Victoria only | | | | | | |
| Part no | | Amps | | Volts | Dim | Box qty |
| Consumer fuse links. | | | | | | |
| C180-1A | | 1 | | 250 | 6.3 X 25 mm | 10 |
| C180-2A | | 2 | | | | |
| C180-3A | | 3 | | | | |
| C180-5A | | 5 | | | | |
| C180-7A | | 7 | | | | |
| C180-10A | | 10 | | | | |
| C180-13A | | 13 | | | | |
| SMD2 | | 2 | | 415 | 12.7 x 29 mm | 10 |
| SMD4 | | 4 | | | | |
| SMD6 | | 6 | | | | |
| SMD8 | | 8 | | | | |
| SMD10 | | 10 | | | | |
| SMD16 | | 16 | | | | |
| SMD20 | | 20 | | | | |
| SMD25 | | 25 | | | | |
| SMD32 | | 32 | | | | |
| C55 | | 5 | | | | |
| C1515 | | 15 | | 415 | 10.3 x 26mm | |
| C1520 | | 20 | | 415 | 12.7 x 29mm | |
| C3030 | | 30 | | 415 | 16.7 x 35mm | |
| C4545 | | 45 | | 415 | | |



House service fuse holder - clear



House service fuse holder - black



C180-5A



C1520

Bussmann series BS88 industrial fuse links

| Item no. | Description | Amps | Volts | Dim | Box qty |
|--|-------------------|------|-------|------------------|---------|
| Joint service / nato fuse links | | | | | |
| 059-0107 | Ferrule | 0.25 | 440 | 6.3 x 32mm | 25 |
| 059-0108 | Ferrule | 0.5 | | | |
| 059-0109 | Ferrule | 1 | | | |
| 059-0110 | Ferrule | 2 | | | |
| 059-0111 | Ferrule | 3 | | | |
| 059-0112 | Ferrule | 5 | | | |
| 059-0113 | Ferrule | 7 | | | |
| 011-9925 | Ferrule | 10 | | | |
| 011-9926 | Ferrule | 15 | | | |
| 059-0140 | Ferrule | 0.5 | | | |
| 059-0141 | Ferrule | 1 | | | |
| 059-0142 | Ferrule | 2 | | | |
| 059-0143 | Ferrule | 3 | | | |
| 059-0144 | Ferrule | 5 | | | |
| 059-0145 | Ferrule | 7 | | | |
| 059-0146 | Ferrule | 10 | | | |
| 059-0147 | Ferrule | 15 | | | |
| 011-9483 | Ferrule | 20 | | | |
| 059-0114 | Offset bolted tag | 0.5 | 440 | Tag 45mm Fix Ctr | 25 |
| 059-0115 | Offset bolted tag | 1 | | | |
| 059-0116 | Offset bolted tag | 2 | | | |
| 059-0117 | Offset bolted tag | 3 | | | |
| 059-0118 | Offset bolted tag | 5 | | | |
| 059-0119 | Offset bolted tag | 7 | | | |
| 059-0120 | Offset bolted tag | 10 | | | |
| 059-0121 | Offset bolted tag | 15 | | | |
| 011-9679 | Offset bolted tag | 20 | | | |
| 012-0140 | Offset bolted tag | 30 | | | |
| 059-0148 | Ferrule | 10 | 440 | 16.7 X 38 mm | 25 |
| 059-0149 | Ferrule | 15 | | | |
| 059-0150 | Ferrule | 20 | | | |
| 059-0151 | Ferrule | 30 | | | |
| 059-0122 | Offset bolted tag | 10 | 440 | Tag 56mm Fix Ctr | 25 |
| 059-0123 | Offset bolted tag | 15 | | | |
| 059-0124 | Offset bolted tag | 20 | | | |
| 059-0125 | Offset bolted tag | 30 | | | |
| 012-0067 | Offset bolted tag | 40 | | | |
| 011-9127 | Offset bolted tag | 50 | | | |
| 012-0141 | Offset bolted tag | 60 | | | |



059-0144



059-0114



059-0148



059-0123

Bussmann series mining & traction fuses & fuse holders - 1200V

| Item no. | Item no. | Amps | Volts | Fix ctrs | Box qty |
|--|------------------|------|-------------|----------|---------|
| Mining / traction fuse links - 1200V. | | | | | |
| 1HD36 | | 1 | | | |
| 2HD36 | TAC2 | 2 | | | |
| 4HD36 | TAC4 | 4 | | | |
| 6HD36 | TAC6 | 6 | 1200 Vac | 122 mm | 10 |
| 10HD36 | TAC10 | 10 | 750 Vdc | | |
| 15HD36 | TAC16 | 15 | | | |
| 20HD36 | TAC20 | 20 | | | |
| 25HD36 | TAC25 | 25 | | | |
| 30HD36 | TAC32 | 30 | | | |
| 35KC36 | TSC35 | 35 | 1200 Vac | 122 mm | 10 |
| 40KC36 | | 40 | 750 Vdc | | |
| 50KC36 | TSC50 | 50 | | | |
| 60KC36 | TSC63 | 60 | | | |
| NBC-80 | TFC80 | 80 | | | |
| NBC-100 | TFC100 | 100 | 1200 Vac | 168 mm | 1 |
| NBC-125 | TFC125 | 125 | 1000 Vdc | | |
| NBC-150 | TFC150 | 150 | | | |
| NBC-200 | TFC200 | 200 | | | |
| RSL63H | Front wired | | 1200 Vac | | |
| RSL63P | F-wired / b-stud | 63 | 750 Vdc | 50mm | 1 |
| RSL63PH | Back stud | | | | |



HD36



RSL63H

Bussmann series DIN industrial fuses & fuse holders



C08G



C10G



C14G



C22M



CHM1DU



CCP - compact circuit protector

| Item no. | Amps | Type | Fuse holder | Volts | Dim | Box qty |
|---|---|---------------------|-------------|---------|------------|---------|
| Cylindrical fuses. | | | | | | |
| C08G (A) | 2, 4, 6, 10, 16, 20, 25, 32 | gG | | 400 | 8.5 X 31mm | 10 |
| C08M(A) | 2, 4, 6, 10, 16, 20, 25, 33 | aM | | | | |
| C10G (A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 32 | gG | CHM-1DU | 500 | 10 X 38mm | 10 |
| C10M(A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 33 | aM | | | | |
| C14G (A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 32, 40, 50 | gG | CH141B | 690 | 14 X 51mm | 10 |
| C14GM(A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 32, 40, 51 | aM | | | | |
| C22G (A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100 | gG | CH221B | 690 | 22 X 51mm | 10 |
| C22M(A) | 0.5, 1, 2, 4, 6, 8, 10, 16, 20, 25, 32, 40, 50, 63, 80, 100 | aM | | | | |
| Cylindrical fuse holders. | | | | | | |
| CHM1DU | 32 | 10 x 38mm | | 690 | | 12 |
| CH141B | 50 | 14 x 51mm | | 690 | | 8 |
| CH221B | 125 | 22 x 58mm | | 690 | | 6 |
| CHCC1DU | 32 | 10 x 38mm Rejection | | 690 | | 12 |
| AL-D | Multi pole fuseholder connectors - 10 x 38 | | | | Pack | 12 |
| CH14-HP | Multi pole fuseholder connectors - 14 x 51 | | | | Pack | 12 |
| CCP - compact circuit protector. | | | | | | |
| CCP-1-30CC | LP-CC, KTK-R, | | | | 1 | 12 |
| CCP-3-30CC | FNQ-R | | | | 3 | |
| CCP-1-30M | KTK, FNQ | | 30 | 600 Vac | 1 | 8 |
| CCP-3-30M | C10G, C10M | | | | 3 | |
| CCP-1-DCM | PVM | | | 80Vdc | 1 | |
| CCP-PLC-IND | | | | | | |
| CCP-AUX | | | | | | |

Bussmann series DIN industrial fuses & fuse holders

| Item no. | Type | | Amps | Volts | Size | Box qty |
|---|---------------------|------------------|------|-------|------|---------|
| DIN industrial fuse links - 500V - gG. | | | | | | |
| 10NHG00B | | | 10 | | | |
| 16NHG00B | | | 16 | | | |
| 20NHG00B | | | 20 | | | |
| 25NHG00B | | | 25 | | | |
| 32NHG00B | gG/gL (Standard) | SD00-D TD00-D | 32 | 500 | 000 | 3 |
| 40NHG00B | | | 40 | | | |
| 50NHG00B | | | 50 | | | |
| 63NHG00B | | | 63 | | | |
| 80NHG00B | | | 80 | | | |
| 100NHG00B | | | 100 | | | |
| 125NHG00B | gG/gL (Standard) | SD00-D TD00-D | 125 | 500 | 00 | 3 |
| 160NHG00B | | | 160 | | | |
| 10NHG01B | | | 10 | | | |
| 16NHG01B | | | 16 | | | |
| 20NHG01B | | | 20 | | | |
| 25NHG01B | | | 25 | | | |
| 32NHG01B | | | 32 | | | |
| 40NHG01B | | | 40 | | | |
| 50NHG01B | | | 50 | | | |
| 63NHG01B | gG/gL (Standard) | SD1-D TD1-D | 63 | 500 | 1 | 3 |
| 80NHG01B | | | 80 | | | |
| 100NHG01B | | | 100 | | | |
| 125NHG01B | | | 125 | | | |
| 160NHG01B | | | 160 | | | |
| 200NHG01B | | | 200 | | | |
| 224NHG01B | | | 224 | | | |
| 250NHG01B | | | 250 | | | |
| 50NHG02B | | | 50 | | | |
| 63NHG02B | | | 63 | | | |
| 80NHG02B | | | 80 | | | |
| 100NHG02B | | | 100 | | | |
| 125NHG02B | | | 125 | | | |
| 160NHG02B | gG/gL (Standard) | SD2-D TD2-D | 160 | 500 | 2 | 3 |
| 200NHG02B | | | 200 | | | |
| 224NHG02B | | | 224 | | | |
| 250NHG02B | | | 250 | | | |
| 315NHG02B | | | 315 | | | |
| 355NHG02B | | | 355 | | | |
| 400NHG02B | | | 400 | | | |
| 250NHG03B | | | 250 | | | |
| 315NHG03B | | | 315 | | | |
| 355NHG03B | gG/gL (Standard) | SD3-D TD3-D | 355 | 500 | 3 | 3 |
| 400NHG03B | | | 400 | | | |
| 500NHG03B | | | 500 | | | |
| 630NHG03B | | | 630 | | | |



NHG00B



NHG01B



NHG02B



NHG03B

Bussmann series DIN industrial fuses & fuse holders



NHG000B-690



NHG1B-690



6NHM000B-690

| Item no. | Type | | Amps | Volts | Size | Box qty | | | | | |
|---|---------------------|------------------|------|-------|------|---------|--|-----|--|--|--|
| DIN industrial fuse links - 690V - gG. | | | | | | | | | | | |
| 10NHG000B-690 | | | 10 | | | | | | | | |
| 16NHG000B-690 | | | 16 | | | | | | | | |
| 20NHG000B-690 | | | 20 | | | | | | | | |
| 25NHG000B-690 | gG/gL (Standard) | SD00-D TD00-D | 25 | 690 | 000 | 3 | | | | | |
| 32NHG000B-690 | | | 32 | | | | | | | | |
| 40NHG000B-690 | | | 40 | | | | | | | | |
| 50NHG000B-690 | | | 50 | | | | | | | | |
| 63NHG000B-690 | | | 63 | | | | | | | | |
| 80NHG000B-690 | gG/gL (Standard) | SD00-D TD00-D | 80 | 690 | 00 | 3 | | | | | |
| 100NHG000B-690 | | | 100 | | | | | | | | |
| 50NHG1B-690 | | | 50 | | | | | | | | |
| 63NHG1B-690 | | | 63 | | | | | | | | |
| 80NHG1B-690 | gG/gL (Standard) | SD1-D TD1-D | 80 | 690 | 1 | 3 | | | | | |
| 100NHG1B-690 | | | 100 | | | | | | | | |
| 125NHG1B-690 | | | 125 | | | | | | | | |
| 160NHG1B-690 | | | 160 | | | | | | | | |
| 63NHG2B-690 | | | | | | | | 63 | | | |
| 80NHG2B-690 | | | 80 | | | | | | | | |
| 100NHG2B-690 | | | 100 | | | | | | | | |
| 125NHG2B-690 | | | 125 | | | | | | | | |
| 160NHG2B-690 | gG/gL (Standard) | SD2-D TD2-D | 160 | 690 | 2 | 3 | | | | | |
| 200NHG2B-690 | | | 200 | | | | | | | | |
| 224NHG2B-690 | | | 224 | | | | | | | | |
| 250NHG2B-690 | | | 250 | | | | | | | | |
| 315NHG2B-690 | | | 315 | | | | | | | | |
| 250NHG3B-690 | | | | | | | | 250 | | | |
| 315NHG3B-690 | | | | | | | | 315 | | | |
| 355NHG3B-690 | gG/gL (Standard) | SD3-D TD3-D | 355 | 690 | 3 | 3 | | | | | |
| 400NHG3B-690 | | | 400 | | | | | | | | |
| 500NHG3B-690 | | | 500 | | | | | | | | |
| DIN industrial fuse links - 690V - aM - motor start. | | | | | | | | | | | |
| 6NHM000B-690 | | | 6 | | | | | | | | |
| 10NHM000B-690 | | | 10 | | | | | | | | |
| 16NHM000B-690 | | | 16 | | | | | | | | |
| 20NHM000B-690 | aM (Motor start) | SD00-D TD00-D | 20 | 690 | 000 | 3 | | | | | |
| 25NHM000B-690 | | | 25 | | | | | | | | |
| 32NHM000B-690 | | | 32 | | | | | | | | |
| 40NHM000B-690 | | | 40 | | | | | | | | |
| 50NHM000B-690 | | | 50 | | | | | | | | |
| 63NHM000B-690 | | | 63 | | | | | | | | |
| 80NHM000B-690 | aM (Motor start) | SD00-D TD00-D | 80 | 690 | 00 | 3 | | | | | |
| 100NHM000B-690 | | | 100 | | | | | | | | |
| 50NHM1B-690 | | | 50 | | | | | | | | |
| 63NHM1B-690 | | | 63 | | | | | | | | |
| 80NHM1B-690 | aM (Motor start) | SD1-D TD1-D | 80 | 690 | 1 | 3 | | | | | |
| 100NHM1B-690 | | | 100 | | | | | | | | |
| 125NHM1B-690 | | | 125 | | | | | | | | |
| 160NHM1B-690 | | | 160 | | | | | | | | |
| 160NHM1B-690 | | | 160 | | | | | | | | |

Bussmann series DIN industrial fuses & fuse holders

| Item no. | Type | Amps | Volts | Size | Box qty |
|---|---------------------|------|-------|------|---------|
| DIN industrial fuse links - 690V - aM - motor start. | | | | | |
| 125NHM2B-690 | aM (Motor start) | 125 | 690 | 2 | 3 |
| 160NHM2B-690 | | 160 | | | |
| 200NHM2B-690 | | 200 | | | |
| 224NHM2B-690 | | 224 | | | |
| 250NHM2B-690 | | 250 | | | |
| 315NHM2B-690 | | 315 | | | |
| 355NHM2B-690 | | 355 | | | |
| 250NHM3B-690 | aM (Motor start) | 250 | 690 | 3 | 3 |
| 315NHM3B-690 | | 315 | | | |
| 355NHM3B-690 | | 355 | | | |
| 400NHM3B-690 | | 400 | | | |
| 500NHM3B-690 | | 500 | | | |



NHM2B-690

| Part no | Description | Poles | Amps | Volts | Size | Box qty |
|---|------------------------------|-------|------|-------|-------|---------|
| Fuse holders to suit DIN industrial fuse links | | | | | | |
| SD00-D | Single pole base | | 160 | 690 | 00 | 1 |
| SD1-D | | | 250 | | 1 | |
| SD2-D | | | 400 | | 2 | |
| SD3-D | | | 630 | | 3 | |
| TD00-D | Triple pole base | | 160 | 690 | 00 | 1 |
| TD1-D | | | 250 | | 1 | |
| TD2-D | | | 400 | | 2 | |
| TD3-D | | | 630 | | 3 | |
| FC00 | Fuse cover to suit '00' | | | | 00 | 1 |
| FC01 | Fuse cover to suit '1' | | | | 1 | |
| FC1-2 | Fuse cover to suit '2' | | | | 2 | |
| FC3 | Fuse cover to suit '3' | | | | 3 | 1 |
| CS00 | Terminal cover '00' | | | | 00 | |
| CS1 | Terminal cover '1' | | | | 1 | |
| CS2 | Terminal cover '2' | | | | 2 | 1 |
| CS3 | Terminal cover '3' | | | | 3 | |
| BC00 | Connector "00" | | | | 00 | |
| BC1-2 | Connector "1 & 2" | | | | 1 & 2 | 1 |
| BC3 | Connector "3" | | | | 3 | 1 |
| TD00-IP20 | Triple pole protect kit "00" | | | | 00 | 1 |
| TD1-IP20 | Triple pole protect kit "1" | | | | 1 | 1 |
| TD2-IP20 | Triple pole protect kit "2" | | | | 2 | 1 |
| TD3-IP20 | Triple pole protect kit "3" | | | | 3 | 1 |
| SDL00 | Neutral link "00" | | | | 00 | 1 |
| SDL1 | Neutral link "1" | | | | 1 | 1 |
| SDL2 | Neutral link "2" | | | | 2 | 1 |
| SDL3 | Neutral link "3" | | | | 3 | 1 |
| BVL50 | Micro switch | | | | | 1 |
| FEH | Extraction handle | | | | | 1 |
| BFH00-3A-F | Horizontal disconnect | 3 | 160 | 690 | 00 | 1 |
| BFH1-3A-F | | 3 | 250 | | 1 | |
| BFH2-3A-F | | 3 | 400 | | 2 | |
| BFH3-3A-F | | 3 | 630 | | 3 | |



TD00-D



TD00-IP20



BFH00-3A-F

Bussmann series DIN industrial fuses & fuse holders



NZ01

| Item no. | Description | Body dim | Amps | Volts | Size | Box qty |
|---------------------------|-------------|----------------|------|-------|------|---------|
| Neozed fuse links. | | | | | | |
| 2NZ01 | | | 2 | | | |
| 4NZ01 | | | 4 | | | |
| 6NZ01 | | 36 X 11mm | 6 | 440 | D01 | 5 |
| 10NZ01 | | | 10 | | | |
| 16NZ01 | | | 16 | | | |
| 20NZ02 | | | 20 | | | |
| 25NZ02 | | | 25 | | | |
| 35NZ02 | | 36 X 15mm | 35 | 440 | D02 | 5 |
| 50NZ02 | | | 50 | | | |
| 63NZ02 | | | 63 | | | |
| 80NZ03 | | 43 X 22.5mm | 80 | 440 | D03 | 5 |
| 100NZ03 | | | 100 | | | |

Neozed fuse links - ultra rapid.

| | | | | | | |
|---------|--|--------------|----|-----|-----|---|
| 2NZ01R | | | 2 | | | |
| 4NZ01R | | | 4 | | | |
| 6NZ01R | | 36 X 11mm | 6 | 440 | D01 | 5 |
| 10NZ01R | | | 10 | | | |
| 16NZ01R | | | 16 | | | |
| 20NZ02R | | | 20 | | | |
| 25NZ02R | | | 25 | | | |
| 35NZ02R | | 36 X 15mm | 35 | 440 | D02 | 5 |
| 50NZ02R | | | 50 | | | |
| 63NZ02R | | | 63 | | | |



16D27

| Item no. | Description | Body dim | Amps | Volts | Size | Box qty |
|--------------------------------------|-------------|----------------|------|-------|------|---------|
| Diazed fuse links - standard. | | | | | | |
| 2D16 | | | 2 | | | |
| 4D16 | | | 4 | | | |
| 6D16 | | | 6 | | | |
| 10D16 | | 50 x 13mm | 10 | 500 | D1 | 5 |
| 16D16 | | | 16 | | | |
| 20D16 | | | 20 | | | |
| 25D16 | | | 25 | | | |
| 2D27 | | | 2 | | | |
| 4D27 | | | 4 | | | |
| 6D27 | | | 6 | | | |
| 10D27 | | 50 x 21.5mm | 10 | 500 | D11 | 5 |
| 16D27 | | | 16 | | | |
| 20D27 | | | 20 | | | |
| 25D27 | | | 25 | | | |
| 35D33 | | | 35 | | | |
| 50D33 | | 50 x 27mm | 50 | 500 | D111 | 5 |
| 63D33 | | | 63 | | | |
| 80D125 | | | 80 | | | |
| 100D125 | | 50 x 33mm | 100 | 500 | D1V | 1 |
| 125D200 | | | 125 | | | |
| 160D200 | | 50 x 46mm | 160 | 500 | DV | 1 |
| 200D200 | | | 200 | | | |

Bussmann series DIN industrial fuses & fuse holders

| Item no. | Description | Body dim | Amps | Volts | Size | Box qty |
|---|-------------|-------------|------|-------|------|---------|
| Diazed fuse links - quick. | | | | | | |
| 2D16Q | | 50 x 13mm | 2 | 500 | D1 | 5 |
| 4D16Q | | | 4 | | | |
| 6D16Q | | | 6 | | | |
| 10D16Q | | | 10 | | | |
| 16D16Q | | | 16 | | | |
| 20D16Q | | | 20 | | | |
| 25D16Q | | | 25 | | | |
| 2D27Q | | 50 x 21.5mm | 2 | 500 | D11 | 5 |
| 4D27Q | | | 4 | | | |
| 6D27Q | | | 6 | | | |
| 10D27Q | | | 10 | | | |
| 16D27Q | | | 16 | | | |
| 20D27Q | | | 20 | | | |
| 25D27Q | | | 25 | | | |
| 35D33Q | | 50 x 27mm | 35 | 500 | D111 | 5 |
| 50D33Q | | | 50 | | | |
| 63D33Q | | | 63 | | | |
| Diazed fuse links - ultra rapid. | | | | | | |
| 2D16R | | 50 x 13mm | 2 | 500 | D1 | 5 |
| 4D16R | | | 4 | | | |
| 6D16R | | | 6 | | | |
| 10D16R | | | 10 | | | |
| 16D16R | | | 16 | | | |
| 20D16R | | | 20 | | | |
| 25D16R | | | 25 | | | |
| 2D27R | | 50 x 21.5mm | 2 | 500 | D11 | 5 |
| 4D27R | | | 4 | | | |
| 6D27R | | | 6 | | | |
| 10D27R | | | 10 | | | |
| 16D27R | | | 16 | | | |
| 20D27R | | | 20 | | | |
| 25D27R | | | 25 | | | |
| 35D33R | | 50 x 27mm | 35 | 500 | D111 | 5 |
| 50D33R | | | 50 | | | |
| 63D33R | | | 63 | | | |



6D16Q



25D16R

Fuse bases & gauge rings are available, please contact customer service - 02 8787 2730.

Bussmann series high speed fuse links.



FWA-5A10F



FWA-45A21F



FWX-15A14F



FWH-.500A6F

| Item no. | Description | Body dim | Amps | Volts | I ² T | Box qty | | | |
|--|-------------|---------------|--------------|---------------------|------------------|-----------------|-----------------|-----|----|
| High speed fuse links - ferrule type. | | | | | | | | | |
| FWA-5A10F | | 10 x 38mm | 5 | 150 Vac / Vdc | 8 | 10 | | | |
| FWA-10A10F | | | 10 | | 16 | | | | |
| FWA-15A10F | | | 15 | | 55 | | | | |
| FWA-20A10F | | | 20 | | 130 | | | | |
| FWA-25A10F | | | 25 | | 220 | | | | |
| FWA-30A10F | | | 30 | | 400 | | | | |
| FWA-35A21F | | 21 x 51mm | 35 | 150 Vac / Vdc | 800 | 10 | | | |
| FWA-40A21F | | | 40 | | 1000 | | | | |
| FWA-45A21F | | | 45 | | 1300 | | | | |
| FWA-50A21F | | | 50 | | 1600 | | | | |
| FWA-60A21F | | | 60 | | 2400 | | | | |
| FWX-1A14F | | | 14 x 51mm | | 1 | | 250 Vac /Vdc | 0.4 | 10 |
| FWX-2A14F | | 2 | | 0.1 | | | | | |
| FWX-3A14F | | 3 | | 0.26 | | | | | |
| FWX-4A14F | | 4 | | 0.23 | | | | | |
| FWX-5A14F | | 5 | | 13 | | | | | |
| FWX-10A14F | | 10 | | 24 | | | | | |
| FWX-15A14F | | 15 | | 83 | | | | | |
| FWX-20A14F | | 20 | | 200 | | | | | |
| FWX-25A14F | | 25 | | 300 | | | | | |
| FWX-30A14F | | 30 | | 500 | | | | | |
| FWX-50A14F | | 50 | | 1800 | | | | | |
| FWH-.250A6F | | 6.3 x 32mm | | 0.25 | 500 Vac | 0.05 | | 10 | |
| FWH-.500A6F | | | | 0.5 | | 0.25 | | | |
| FWH-001A6F | | | | 1 | | 2 | | | |
| FWH-002A6F | | | 2 | 3.5 | | | | | |
| FWH-3.15A6F | | | 3.15 | 7.7 | | | | | |
| FWH-005A6F | | | 5 | 40 | | | | | |
| FWH-6.30A6F | | | 6.3 | 90 | | | | | |
| FWH-007A6F | | | 7 | 125 | | | | | |
| FWH-010A6F | | | 10 | 51 | | | | | |
| FWH-12.5A6F | | | 12.5 | 60 | | | | | |
| FWH-015A6F | | | 15 | 146 | | | | | |
| FWH-016A6F | | | 16 | 177 | | | | | |
| FWH-020A6F | | | 20 | 259 | | | | | |
| FWH-025A6F | | | 25 | 345 | | | | | |
| FWH-030A6F | | | 30 | 430 | | | | | |
| FWH-1A14F | | | 14 x 51mm | 1 | | 500 Vac/ Vdc | 0.04 | | 10 |
| FWH-2A14F | | | | 2 | | | 0.1 | | |
| FWH-3A14F | | | | 3 | | | 0.23 | | |
| FWH-4A14F | | | | 4 | | | 0.23 | | |
| FWH-5A14F | | | | 5 | | | 6.4 | | |
| FWH-6A14F | | 6 | | 6.4 | | | | | |
| FWH-10A14F | | 10 | | 13 | | | | | |
| FWH-12A14F | | 12 | | - | | | | | |
| FWH-15A14F | | 15 | | 40 | | | | | |
| FWH-20A14F | | 20 | | 105 | | | | | |
| FWH-25A14F | | 25 | | 191 | | | | | |
| FWH-30A14F | | 30 | | 232 | | | | | |

Bussmann series high speed fuse links.

| Item no. | Description | Body dim | Amps | Volts | I ² T | Box qty | | | |
|--|----------------|-----------|---------|--------------|------------------|--------------|--------------|-----|----|
| High speed fuse links - ferrule type. | | | | | | | | | |
| FWC-6A10F | | 10 x 38mm | 6 | 600 Vac /Vdc | 30 | 10 | | | |
| FWC-8A10F | | | 8 | | 50 | | | | |
| FWC-10A10F | | | 10 | | 70 | | | | |
| FWC-12A10F | | | 12 | | 120 | | | | |
| FWC-16A10F | | | 16 | | 150 | | | | |
| FWC-20A10F | | | 20 | | 260 | | | | |
| FWC-25A10F | | | 25 | | 390 | | | | |
| FWC-30A10F | | | 32 | | 600 | | | | |
| FWP-1A14F | | 14 x 51 | 1 | 700 Vac /Vdc | 0.41 | 10 | | | |
| FWP-2A14F | | | 2 | | 0.11 | | | | |
| FWP-2.5A14F | | | 2.5 | | - | | | | |
| FWP-3A14F | | | 3 | | 0.26 | | | | |
| FWP-4A14F | | | 4 | | 0.23 | | | | |
| FWP-5A14F | | | 5 | | 11 | | | | |
| FWP-10A14F | | | 10 | | 22 | | | | |
| FWP-15A14F | | | 15 | | 75 | | | | |
| FWP-20A14F | | | 20 | | 180 | | | | |
| FWP-25A14F | | | 25 | | 320 | | | | |
| FWP-30A14F | | | 30 | | 450 | | | | |
| FWP-32A14F | | | 32 | | 600 | | | | |
| FWP-40A14F | | | 40 | | 750 | | | | |
| FWP-50A14F | | | 50 | | 1800 | | | | |
| FWP-20A22F | | | 22 x 58 | | 20 | | 700 Vac /Vdc | 260 | 10 |
| FWP-25A22F | | | | | 25 | | | 410 | |
| FWP-32A22F | | 32 | | 605 | | | | | |
| FWP-40A22F | | 40 | | 750 | | | | | |
| FWP-50A22F | | 50 | | 1600 | | | | | |
| FWP-63A22F | | 63 | | 3080 | | | | | |
| FWP-80A22F | | 80 | | 6600 | | | | | |
| FWP-100A22F | | 100 | | 12500 | | | | | |
| FWP-10A14FI | | 14 x 51 | | 10 | 700 Vac /Vdc | 22 | | 10 | |
| FWP-15A14FI | | | | 15 | | 75 | | | |
| FWP-20A14FI | | | 20 | 180 | | | | | |
| FWP-25A14FI | With indicator | | 25 | 320 | | | | | |
| FWP-30A14FI | | | 30 | 450 | | | | | |
| FWP-32A14FI | | | 32 | 600 | | | | | |
| FWP-40A14FI | | | 40 | 750 | | | | | |
| FWP-50A14FI | | | 50 | 1800 | | | | | |
| FWP-20A22FI | | | 22 x 58 | 20 | | 700 Vac /Vdc | 260 | | 10 |
| FWP-25A22FI | | | | 25 | | | 410 | | |
| FWP-32A22FI | | 32 | | 605 | | | | | |
| FWP-40A22FI | | 40 | | 750 | | | | | |
| FWP-50A22FI | With indicator | 50 | | 1600 | | | | | |
| FWP-63A22FI | | 63 | | 3080 | | | | | |
| FWP-80A22FI | | 80 | | 6600 | | | | | |
| FWP-100A22FI | | 100 | | 12500 | | | | | |
| FWJ-20A14F | | 14 x 67 | | | 1000Vac / 800Vdc | | | 10 | |
| FWJ-25A14F | | | | | | | | | |
| FWJ-30A14F | | | | | | | | | |



FWC-6A10F



FWP-1A14F



FWP-25A22F



FWJ-25A14F

Bussmann series high speed fuse links.



FWS-6A20F



FWS-12A20FI

| Item no. | Description | Body dim | Amps | Volts | I ² T | Box qty |
|--|----------------|---------------|---------------|---------|------------------|---------|
| High speed fuse links - ferrule type. | | | | | | |
| FWS-2A20F | | 20 x 127mm | 2 | 2000Vac | 2.4 | 10 |
| FWS-6A20F | | | 6 | 1000Vdc | 81 | |
| FWS-8A20F | | | 8 | | 192 | |
| FWS-10A20F | | | 10 | 1500Vac | 277 | |
| FWS-12A20F | | | 12 | 1000Vdc | 380 | |
| FWS-15A20F | | | 15 | | 500 | |
| FWL-20A20F | | | 20 | | 1550 | |
| FWL-25A20F | | | 25 | 1250Vac | 2760 | |
| FWL-30A20F | | | 30 | 1000Vdc | 4300 | |
| FWS-2A20FI | | | 20 x 127mm | 2 | 2000Vac | |
| FWS-6A20FI | | 6 | | 1000Vdc | 81 | |
| FWS-8A20FI | | 8 | | | 192 | |
| FWS-10A20FI | | 10 | | 1500Vac | 277 | |
| FWS-12A20FI | With indicator | 12 | | 1000Vdc | 380 | |
| FWS-15A20FI | | 15 | | | 500 | |
| FWL-20A20FI | | 20 | | | 1550 | |
| FWL-25A20FI | | 25 | | 1250Vac | 2760 | |
| FWL-30A20FI | | 30 | | 1000Vdc | 4300 | |

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|--|-------------|----------|--------|------------------|------------------|---------|
| High speed fuse links - British standard. | | | | | | |
| 6LCT | GSA5 | 38mm | 6 | 240Vac 150Vdc | 9 | 10 |
| 10LCT | GSA10 | | 10 | | 22 | |
| 12LCT | | | 12 | | 32 | |
| 16LCT | GSA15 | | 16 | | 100 | |
| 20LCT | GSA20 | | 20 | | 160 | |
| 25LET | GSA25 | 42mm | 25 | 240Vac 150Vdc | 250 | 10 |
| 32LET | | | 32 | | 450 | |
| 35LET | GSA35 | | 35 | | 600 | |
| 50LET | GSA50 | | 50 | | 1400 | |
| 63LET | | | 63 | | 2200 | |
| 80LET | GSA75 | | 80 | | 3800 | |
| 100LET | GSA100 | | 100 | | 7500 | |
| 125LET | | | 125 | | 7500 | |
| 160LET | | | 160 | | 16000 | |
| 180LET | | | 180 | | 29000 | |
| 160LMT | GSA150 | 59mm | 160 | 240Vac 150Vdc | 16000 | 1 |
| 200LMT | GSA200 | | 200 | | 20000 | |
| 250LMT | GSA50 | | 250 | | 40000 | |
| 315LMT | GSA300 | | 315 | | 75000 | |
| 355LMT | GSA350 | | 355 | | 100000 | |
| 400LMT | GSA400 | | 400 | | 160000 | |
| 450LMT | | | 450 | | 220000 | |
| 400LMMT | | | 400 | | 80000 | |
| 500LMMT | GSA500 | 500 | 170000 | | | |
| 630LMMT | GSA630 | 59mm | 630 | 240Vac | 300000 | 1 |
| 710LMMT | | | 710 | 150Vdc | 460000 | |
| 800LMMT | | | 800 | | 600000 | |
| 900LMMT | | | 900 | | 800000 | |



10LCT



100LET



400LMMT

Bussmann series high speed fuse links.

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|--|-------------|----------|------|------------------|------------------|---------|
| High speed fuse links - British standard. | | | | | | |
| 6CT | GSB5 | | 6 | | 12 | |
| 10CT | GSB10 | | 10 | | 48 | |
| 12CT | | 64mm | 12 | 690Vac 500Vdc | 65 | 20 |
| 16CT | GSB15 | | 16 | | 110 | |
| 20CT | GSB20 | | 20 | | 220 | |
| 25ET | GSB25 | | 25 | | 250 | |
| 32ET | GSGB30 | | 32 | | 350 | |
| 35ET | GSGB35 | | 35 | | 500 | |
| 40ET | GSGB40 | 64mm | 40 | 690Vac 500Vdc | 900 | 10 |
| 45ET | GSB45 | | 45 | | 1100 | |
| 56ET | GSGB55 | | 56 | | 1500 | |
| 63ET | GSGB63 | | 63 | | 2000 | |
| 80ET | GSGB80 | | 80 | | 4000 | |
| 35FE | GSGB35 | | 35 | | 200 | |
| 40FE | GSGB40 | | 40 | | 300 | |
| 45FE | GSGB45 | | 45 | | 450 | |
| 50FE | GSGB50 | | 50 | | 600 | |
| 63FE | GSGB55 | 64mm | 63 | 690Vac 500Vdc | 750 | 10 |
| 71FE | | | 71 | | 950 | |
| 80FE | GSGB80 | | 80 | | 1500 | |
| 90FE | GSGB85 | | 90 | | 2100 | |
| 100FE | | | 100 | | 2800 | |
| 75EET | GSGB75 | | 75 | | | |
| 90EET | GSGB85 | | 90 | | 4500 | |
| 110EET | GSGB110 | 70mm | 110 | 690Vac 500Vdc | 6500 | 5 |
| 140EET | GSGB150 | | 140 | | 12000 | |
| 160EET | GSG160 | | 160 | | 17000 | |
| 100FEE | | | 100 | | 2400 | |
| 120FEE | GSGB125 | | 120 | | 3100 | |
| 140FEE | GSGB125 | 70mm | 140 | 690Vac 500Vdc | 3800 | 5 |
| 160FEE | GSGB160 | | 160 | | 5700 | |
| 180FEE | | | 180 | | 8400 | |
| 200FEE | | | 200 | | 11400 | |
| 180FM | GSGB170 | | 180 | | 13500 | |
| 200FM | GSGB200 | | 200 | | 18500 | |
| 225FM | GSGB225 | | 225 | | 26500 | |
| 250FM | GSGB250 | 85mm | 250 | 690Vac 500Vdc | 37500 | 1 |
| 280FM | | | 280 | | 55000 | |
| 315FM | GSGB315 | | 315 | | 77000 | |
| 350FM | GSGB325 | | 350 | | 105000 | |
| 400FMM | GSGB400 | | 400 | | 72500 | |
| 450FMM | | | 450 | | 105000 | |
| 500FMM | GSGB500 | 85mm | 500 | 690Vac 500Vdc | 150000 | 1 |
| 550FMM | | | 550 | | 215000 | |
| 630FMM | | | 630 | | 310000 | |
| 700FMM | | | 700 | | 420000 | |



20CT



35ET



90EET



180FM



400FMM

Bussmann series high speed fuse links.



200MT



315MMT

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|--|---|----------|--------|------------------|------------------|---------|
| High speed fuse links - British standard. | | | | | | |
| 335MT | GSGB150 | 85mm | 160 | 690Vac 350Vdc | 25000 | |
| 180MT | | | 180 | | 38000 | |
| 200MT | GSGB200 | | 200 | | 58000 | |
| 250MT | GSGB250 | | 250 | | 110000 | |
| 280MT | | | 280 | | 150000 | |
| 315MT | | | 315 | | 180000 | |
| 355MT | | | 355 | | 200000 | |
| 700MMT | | 85mm | 180 | 690Vac 350Vdc | 18000 | |
| 200MMT | | | 200 | | 23000 | |
| 250MMT | | | 250 | | 40000 | |
| 280MMT | | | 280 | | 70000 | |
| 315MMT | | | 315 | | 91000 | |
| 355MMT | | | 355 | | 140000 | |
| 400MMT | GSGB400 | | 400 | | 220000 | |
| 450MMT | GSGB450 | | 450 | | 320000 | |
| 500MMT | GSGB500 | | 500 | | 450000 | |
| 550MMT | | | 550 | | 640000 | |
| 630MMT | | | 630 | | 720000 | |
| 700MMT | | 700 | 850000 | | | |
| High speed fuse links - British standard accessories. | | | | | | |
| MAI | Microswitch and Adaptor | | | 250 | | |
| MC-250 | Trip Indicator Fuse Link and clips to suit LMT LMMT | | | | | 1 |
| MC-600 | Trip Indicator Fuse Link and clips to suit FM FMM | | | | | |
| MCLIP | Clips to suit FM FMM LMT LMMT | | | | | |
| TI250 | Trip Indicator Fuse | | | 250 | | |
| TI500 | Trip Indicator Fuse | | | 500 | | |
| TI600 | Trip Indicator Fuse | | | 600 | | |
| TI700 | Trip Indicator Fuse | | | 700 | | |
| TI1100 | Trip Indicator Fuse | | | 1100 | | 1 |
| TI2000 | Trip Indicator Fuse | | | 1200 | | |
| TI1500 | Trip Indicator Fuse | | | 1500 | | |
| TI2500 | Trip Indicator Fuse | | | 2500 | | |
| LSCR1-K | General Purpose Fuse Blocks | | 400 | 1000 | | 2 |
| LSCR2-K | | | 800 | | | |

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|---|---------------|----------|------|-----------------|------------------|---------|
| High speed fuse links - North American standard. | | | | | | |
| FWA -70B | A15QS L15S | 52mm | 70 | 150 Vac /Vdc | 4000 | 1 |
| FWA -80B | | | 80 | | 6000 | |
| FWA -100B | | | 100 | | 12000 | |
| FWA -125B | | | 125 | | 18000 | |
| FWA -150B | | | 150 | | 26000 | |
| FWA -200B | | | 200 | | 45000 | |
| FWA-225B | | | 225 | | - | |
| FWA -250B | | | 250 | | 70000 | |
| FWA -300B | | | 300 | | 100000 | |
| FWA -350B | | | 350 | | 140000 | |
| FWA -400B | | | 400 | | 180000 | |



FWA-400B

Bussmann series high speed fuse links.

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty | |
|---|----------------------------|----------|---------|---------------------|---------------------|---------|---|
| High speed fuse links - North American standard. | | | | | | | |
| FWA -450B | | | 450 | | - | | |
| FWA -500A | | | 500 | | 120000 | | |
| FWA -600A | A15QS L15S | 62mm | 600 | 150 Vac / Vdc | 140000 | 1 | |
| FWA -700A | | | 700 | | 220000 | | |
| FWA -800A | | | 800 | | 280000 | | |
| FWA -1000A | | | 1000 | | 510000 | | |
| FWA-1000AH | | | | | 1000 | | |
| FWA-1200AH | | 48 x 51 | 1200 | | 730000 | | |
| FWA-1500AH | | | 1500 | 150 Vac / Vdc | 1400000 | | |
| FWA-2000AH | | 2000 | 2400000 | | | | |
| FWA-2500AH | 48 X 75 | 2500 | 4100000 | | | | |
| FWA-3000AH | | 3000 | 5700000 | | | | |
| FWA-4000AH | 48 x 89 | 4000 | 9200000 | | | | |
| FWX-35A | | | 35 | | 230 | | |
| FWX-40A | | | 40 | | 310 | | |
| FWX-45A | | 61mm | 45 | | 390 | | |
| FWX-50A | | | 50 | 520 | | | |
| FWX-60A | | | 60 | 740 | | | |
| FWX-70A | | | 70 | 1400 | | | |
| FWX-80A | | | 80 | 1850 | | | |
| FWX-90A | | | 90 | | 2450 | | |
| FWX-100A | | 58mm | 100 | | 3150 | | |
| FWX-125A | | | 125 | 4850 | | | |
| FWX-150A | | | 150 | 6950 | | | |
| FWX-175A | A30QS A25P(A)-4 L25S | | | 175 | 250 Vac / Vdc | 9300 | 1 |
| FWX-200A | | | | 200 | | 12000 | |
| FWX-225A | | | 225 | 14700 | | | |
| FWX-250A | | | 250 | 18100 | | | |
| FWX-275A | | | 275 | 21600 | | | |
| FWX-300A | | | 300 | | 27300 | | |
| FWX-350A | | 66mm | 350 | | 48600 | | |
| FWX-400A | | | 400 | 66100 | | | |
| FWX-450A | | | 450 | 101000 | | | |
| FWX-500A | | | 500 | 128000 | | | |
| FWX-600A | | | 600 | 188000 | | | |
| FWX-700A | | 69mm | 700 | | 190000 | | |
| FWX-800A | | | 800 | 230000 | | | |
| FWX-1000AH | | | 1000 | 360000 | | | |
| FWX-1200AH | 66 x 89 | | 1200 | 750000 | | | |
| FWX-1500AH | | | 1500 | 880000 | 250 Vac / Vdc | | |
| FWX-1600AH | 66 x 75 | 1600 | 1200000 | | | | |
| FWX-2000AH | | 2000 | 2300000 | | | | |
| FWX-2500AH | | 2500 | 4700000 | | | | |



FWA-2000AH



FWX-600A



FWX-160AH

Bussmann series high speed fuse links.

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|---|-------------|---------------|------|-------|------------------|---------|
| High speed fuse links - North American standard. | | | | | | |
| FWH-35B | | 58mm | 35 | | 150 | |
| FWH-40B | | 58mm | 40 | | 320 | |
| FWH-45B | | 58mm | 45 | | 450 | |
| FWH-50B | | 58mm | 50 | | 670 | |
| FWH-60B | | 58mm | 60 | | 900 | |
| FWH-70B | A50QS | 73mm | 70 | 500 | 900 | |
| FWH-80B | A50P | 73mm | 80 | Vac / | 1400 | |
| FWH-90B | L50S | 73mm | 90 | Vdc | 1600 | |
| FWH-100B | | 73mm | 100 | | 2000 | |
| FWH-125B | | 73mm | 125 | | 3500 | |
| FWH-150B | | 73mm | 150 | | 4600 | |
| FWH-175B | | 73mm | 175 | | 6200 | |
| FWH-200B | | 73mm | 200 | | 8500 | |
| FWH-225A | | 77mm | 225 | | 23300 | |
| FWH-250A | | 77mm | 250 | | 32200 | |
| FWH-275A | | 77mm | 275 | | 40300 | |
| FWH-300A | | 77mm | 300 | | 49800 | |
| FWH-325A | | 77mm | 325 | | 63800 | |
| FWH-350A | | 77mm | 350 | | 72900 | |
| FWH-400A | | 77mm | 400 | | 96700 | |
| FWH-450A | A50QS | 81mm | 450 | 500 | 127000 | |
| FWH-500A | A50P | 81mm | 500 | Vac / | 149000 | |
| FWH-600A | L50S | 81mm | 600 | Vdc | 206000 | |
| FWH-700A | | 108mm | 700 | | 298000 | |
| FWH-800A | | 108mm | 800 | | 409000 | |
| FWH-1000A | | 126mm | 1000 | | 450000 | |
| FWH-1200A | | 126mm | 1200 | | 600000 | |
| FWH-1400A | | 158/ 228mm | 1400 | | 1000000 | |
| FWH-1600A | | 158/ 228mm | 1600 | | 1400000 | |
| FWP-5B | | 64mm | 5 | | 10 | |
| FWP-10B | | 64mm | 10 | | 20 | |
| FWP-15B | | 64mm | 15 | | 75 | |
| FWP-20B | | 64mm | 20 | | 180 | |
| FWP-25B | | 64mm | 25 | | 340 | |
| FWP-30B | | 64mm | 30 | | 450 | |
| FWP-35B | | 89mm | 35 | | 160 | |
| FWP-40B | A70QS | 89mm | 40 | 700 | 320 | |
| FWP-50B | A70P | 89mm | 50 | Vac / | 600 | |
| FWP-60B | L70S | 89mm | 60 | Vdc | 950 | |
| FWP-70B | | 98mm | 70 | | 2000 | |
| FWP-80B | | 98mm | 80 | | 2400 | |
| FWP-90B | | 98mm | 90 | | 2700 | |
| FWP-100B | | 98mm | 100 | | 3500 | |
| FWP-125A | | 98mm | 125 | | 7300 | |
| FWP-150A | | 98mm | 150 | | 11700 | |



FWH-150B



FWP-100B

Busmann series high speed fuse links.

| Item no. | Description | Fix ctrs | Amps | Volts | I ² T | Box qty |
|---|-------------|---------------|------|--------|------------------|---------|
| High speed fuse links - North American standard. | | | | | | |
| FWP-175A | | 98mm | 175 | | 16700 | |
| FWP-200A | | 98mm | 200 | | 22000 | |
| FWP-225A | | 98mm | 225 | | 31300 | |
| FWP-250A | | 98mm | 250 | | 42500 | |
| FWP-300A | | 98mm | 300 | | 71200 | |
| FWP-350A | | 98mm | 350 | | 95600 | |
| FWP-400A | | 98mm | 400 | | 125000 | |
| FWP-450A | A70QS | 127mm | 450 | 700 | 137000 | |
| FWP-500A | A70P | 127mm | 500 | Vac / | 170000 | |
| | L70S | | | Vdc | | |
| FWP-600A | | 127mm | 600 | | 250000 | |
| FWP-700A | | 133mm | 700 | | 300000 | |
| FWP-800A | | 133mm | 800 | | 450000 | |
| FWP-900A | | 140mm | 900 | | 530000 | |
| FWP-1000A | | 140mm | 1000 | | 600000 | |
| FWP-1200A | | 174/ 224mm | 1200 | | 1100000 | |
| FWJ-35A | | 109mm | 35 | | 2000 | |
| FWJ-40A | | 109mm | 40 | | 2500 | |
| FWJ-50A | | 109mm | 50 | | 3500 | |
| FWJ-60A | | 109mm | 60 | | 5000 | |
| FWJ-70A | | 109mm | 70 | | 6900 | |
| FWJ-80A | | 109mm | 80 | | 9700 | |
| FWJ-90A | | 109mm | 90 | | 12000 | |
| FWJ-100A | | 109mm | 100 | | 17500 | |
| FWJ-125A | | 112mm | 125 | | 35000 | |
| FWJ-150A | | 112mm | 150 | | 45000 | |
| FWJ-175A | | 112mm | 175 | | 65000 | |
| FWJ-200A | | 112mm | 200 | | 80000 | |
| FWJ-250A | A100P | 112mm | 250 | 1000 | 112000 | |
| FWJ-300A | | 112mm | 300 | Vac / | 164000 | |
| | | | | 800Vdc | | |
| FWJ-350A | | 112mm | 350 | | 231000 | |
| FWJ-400A | | 112mm | 400 | | 330000 | |
| FWJ-500A | | 130mm | 500 | | 329000 | |
| FWJ-600A | | 130mm | 600 | | 520000 | |
| FWJ-800A | | 130mm | 800 | | 500000 | |
| FWJ-1000A | | 135mm | 1000 | | 1100000 | |
| FWJ-1200A | | 135mm | 1200 | | 2100000 | |
| FWJ-1400A | | 135mm | 1400 | | 2700000 | |
| FWJ-1600A | | 135mm | 1600 | | 4000000 | |
| FWJ-1800A | | 135mm | 1800 | | 5300000 | |
| FWJ-2000A | | 135mm | 2000 | | 7600000 | |



FWP-400A



FWJ-300A

Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | I ² T | Box qty |
|---|-------------|------|------|-------|------------------|---------|
| High speed fuse links - DIN standard - blade - aR. | | | | | | |
| 170M1558D | | | 10 | | 25.5 | |
| 170M1559D | | | 16 | | 48 | |
| 170M1560D | | | 20 | | 78 | |
| 170M1561D | | | 25 | | 130 | |
| 170M1562D | | | 32 | | 270 | |
| 170M1563D | | | 40 | | 460 | |
| 170M1564D | aR | 000 | 50 | 690 | 770 | 10 |
| 170M1565D | | | 63 | | 1450 | |
| 170M1566D | | | 80 | | 2550 | |
| 170M1567D | | | 100 | | 4650 | |
| 170M1568D | | | 125 | | 8500 | |
| 170M1569D | | | 160 | | 16000 | |
| 170M1570D | | | 200 | | 28000 | |
| 170M1571D | | | 250 | | 51500 | |
| 170M1572D | aR | 00 | 315 | 690 | 80500 | 10 |
| 170M3808D | | | 40 | | 285 | |
| 170M3809D | | | 50 | | 550 | |
| 170M3810D | | | 63 | | 850 | |
| 170M3811D | | | 80 | | 1350 | |
| 170M3812D | | | 100 | | 2600 | |
| 170M3813D | | | 125 | | 3900 | |
| 170M3814D | | | 160 | | 8250 | |
| 170M3815D | aR | 1 | 200 | 690 | 16500 | |
| 170M3816D | | | 250 | | 31000 | |
| 170M3817D | | | 315 | | 52000 | |
| 170M3818D | | | 350 | | 73000 | |
| 170M3819D | | | 400 | | 115000 | |
| 170M4863D | | | 450 | | 155000 | |
| 170M4864D | | | 500 | | 190000 | |
| 170M4865D | | | 550 | | 240000 | |
| 170M4866D | | | 630 | | 345000 | |
| 170M4867D | | | 700 | | 495000 | |
| 170M5808D | | | 400 | | 79000 | |
| 170M5809D | | | 450 | | 115000 | |
| 170M5810D | | | 500 | | 155000 | |
| 170M5811D | | | 550 | | 215000 | |
| 170M5812D | aR | 2 | 630 | 690 | 295000 | |
| 170M5813D | | | 700 | | 430000 | |
| 170M5814D | | | 800 | | 610000 | |
| 170M5815D | | | 900 | | 895000 | |
| 170M5816D | | | 1000 | | 1300000 | |
| 170M5817D | | | 1100 | | 1750000 | |
| 170M6808D | | | 500 | | 99500 | |
| 170M6809D | | | 550 | | 140000 | |
| 170M6810D | | | 630 | | 220000 | |
| 170M6811D | | | 700 | | 320000 | |
| 170M6812D | | | 800 | | 490000 | |
| 170M6813D | aR | 3 | 900 | 690 | 720000 | |
| 170M6814D | | | 1000 | | 985000 | |
| 170M6892D | | | 1100 | | 1400000 | |
| 170M8554D | | | 1250 | | 2150000 | |
| 170M8555D | | | 1400 | | 2700000 | |
| 170M8556D | | | 1500 | | 3350000 | |
| 170M8557D | | | 1600 | | 4150000 | |



170M1558D



170M3808D



170M5808D



170M6808D

Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | I ² T | Box qty |
|---|-------------|------|------|-------|------------------|---------|
| High speed fuse links - DIN standard - blade - gR. | | | | | | |
| 170M2691 | | | 10 | | 20 | |
| 170M2692 | | | 16 | | 38 | |
| 170M2693 | | | 20 | | 70 | |
| 170M2694 | | | 25 | | 125 | |
| 170M2695 | | | 32 | | 275 | |
| 170M2696 | gR | 00 | 40 | 690 | 490 | |
| 170M2697 | | | 50 | | 1000 | |
| 170M2698 | | | 63 | | 1800 | |
| 170M2699 | | | 80 | | 3600 | |
| 170M2700 | | | 100 | | 6650 | |
| 170M2701 | | | 125 | | 12000 | |
| 170M2702 | | | 160 | | 22500 | |
| <hr/> | | | | | | |
| 170M4176 | gR | 1 | 50 | 690 | 705 | |
| 170M4177 | | | 63 | | 1300 | |
| 170M4178 | | | 80 | | 2600 | |
| 170M4179 | | | 100 | | 4850 | |
| 170M4180 | | | 125 | | 9500 | |
| 170M4181 | | | 160 | | 18000 | |
| 170M4182 | | | 200 | | 34500 | |
| 170M4183 | | | 250 | | 70500 | |
| 170M4184 | | | 315 | | 135000 | |
| 170M4185 | | | 350 | | 175000 | |
| 170M4186 | | | 400 | | 250000 | |
| <hr/> | | | | | | |
| 170M5881 | gR | 2 | 200 | 690 | 29000 | |
| 170M5882 | | | 250 | | 52500 | |
| 170M5883 | | | 315 | | 105000 | |
| 170M5884 | | | 350 | | 135000 | |
| 170M5885 | | | 400 | | 205000 | |
| 170M5886 | | | 450 | | 290000 | |
| 170M5887 | | | 500 | | 375000 | |
| 170M5888 | | | 550 | | 515000 | |
| 170M5889 | | | 630 | | 770000 | |
| <hr/> | | | | | | |
| 170M6080 | gR | 3 | 350 | 690 | 120000 | |
| 170M6081 | | | 400 | | 175000 | |
| 170M6082 | | | 450 | | 250000 | |
| 170M6083 | | | 500 | | 330000 | |
| 170M6084 | | | 550 | | 435000 | |
| 170M6085 | | | 630 | | 645000 | |
| 170M6086 | | | 700 | | 840000 | |
| 170M6087 | | | 800 | | 1300000 | |



170M2691



170M4176



170M5881



170M6080

Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | I ² T | Box qty |
|---|-------------|------|------|-------|------------------|---------|
| High speed fuses - DIN standard - 80mm fixing. | | | | | | |
| 170M1408 | | | 10 | | 25.5 | |
| 170M1409 | | | 16 | | 48 | |
| 170M1410 | | | 20 | | 78 | |
| 170M1411 | | | 25 | | 130 | |
| 170M1412 | | | 32 | | 270 | |
| 170M1413 | | | 40 | | 460 | |
| 170M1414 | | | 50 | | 770 | |
| 170M1415 | aR | 000 | 63 | 690 | 1450 | |
| 170M1416 | | | 80 | | 2550 | |
| 170M1417 | | | 100 | | 4650 | |
| 170M1418 | | | 125 | | 8500 | |
| 170M1419 | | | 160 | | 16000 | |
| 170M1420 | | | 200 | | 28000 | |
| 170M1421 | | | 250 | | 51500 | |
| 170M1422 | | | 315 | | 80500 | |
| 170M2670 | aR | 00 | 350 | 690 | 91500 | |
| 170M2671 | | | 400 | | 125000 | |
| 170M3108 | | | 40 | | 270 | |
| 170M3109 | | | 50 | | 515 | |
| 170M3110 | | | 63 | | 770 | |
| 170M3111 | | | 80 | | 1250 | |
| 170M3112 | | | 100 | | 2450 | |
| 170M3113 | | | 125 | | 3700 | |
| 170M3114 | | | 160 | | 7500 | |
| 170M3115 | aR | 1* | 200 | 690 | 15000 | |
| 170M3116 | | | 250 | | 28500 | |
| 170M3117 | | | 315 | | 46500 | |
| 170M3118 | | | 350 | | 68500 | |
| 170M3119 | | | 400 | | 105000 | |
| 170M3120 | | | 450 | | 140000 | |
| 170M3121 | | | 500 | | 180000 | |
| 170M3122 | | | 550 | | 230000 | |
| 170M3123 | | | 630 | | 325000 | |
| 170M4108 | | | 200 | | 11500 | |
| 170M4109 | | | 250 | | 21000 | |
| 170M4110 | | | 315 | | 42000 | |
| 170M4111 | | | 350 | | 59000 | |
| 170M4112 | | | 400 | | 91500 | |
| 170M4113 | aR | 1 | 450 | 690 | 120000 | |
| 170M4114 | | | 500 | | 170000 | |
| 170M4115 | | | 550 | | 230000 | |
| 170M4116 | | | 630 | | 350000 | |
| 170M4117 | | | 700 | | 465000 | |
| 170M4118 | | | 800 | | 725000 | |
| 170M4119 | aR | 1 | 900 | 550 | 850000 | |
| 170M5108 | | | 400 | | 74000 | |
| 170M5109 | | | 450 | | 105000 | |
| 170M5110 | | | 500 | | 145000 | |
| 170M5111 | | | 550 | | 190000 | |
| 170M5112 | | | 630 | | 275000 | |
| 170M5113 | aR | 2 | 700 | 690 | 405000 | |
| 170M5114 | | | 800 | | 575000 | |
| 170M5115 | | | 900 | | 840000 | |
| 170M5116 | | | 1000 | | 1250000 | |
| 170M5117 | | | 1100 | | 1600000 | |
| 170M5118 | | | 1250 | | 2400000 | |



170M1480



170M4116



170M5108

Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | I ² T | Box qty |
|--|-------------|------|------|-------|------------------|---------|
| High speed fuses - DIN standard - 80mm fixing. | | | | | | |
| 170M6108 | | | 500 | | 95000 | |
| 170M6109 | | | 550 | | 135000 | |
| 170M6110 | | | 630 | | 210000 | |
| 170M6111 | | | 700 | | 300000 | |
| 170M6112 | | | 800 | | 465000 | |
| 170M6113 | aR | 3 | 900 | 690 | 670000 | |
| 170M6114 | | | 1000 | | 945000 | |
| 170M6115 | | | 1100 | | 1300000 | |
| 170M6116 | | | 1250 | | 1950000 | |
| 170M6117 | | | 1400 | | 2450000 | |
| 170M6118 | | | 1500 | | 3100000 | |
| 170M6119 | | | 1600 | | 3900000 | |
| 170M6120 | aR | 3 | 1800 | 600 | 5250000 | |
| 170M6121 | aR | 3 | 2000 | 550 | 6350000 | |
| High speed fuses - DIN standard - 110mm fixing. | | | | | | |
| 170M3258 | | | 40 | | 270 | |
| 170M3259 | | | 50 | | 515 | |
| 170M3260 | | | 63 | | 770 | |
| 170M3261 | | | 80 | | 1250 | |
| 170M3262 | | | 100 | | 2450 | |
| 170M3263 | | | 125 | | 3700 | |
| 170M3264 | | | 160 | | 7500 | |
| 170M3265 | aR | 1* | 200 | 690 | 15000 | |
| 170M3267 | | | 250 | | 28500 | |
| 170M3268 | | | 315 | | 46500 | |
| 170M3269 | | | 350 | | 68500 | |
| 170M3270 | | | 400 | | 105000 | |
| 170M3271 | | | 450 | | 140000 | |
| 170M3272 | | | 500 | | 180000 | |
| 170M3273 | | | 550 | | 230000 | |
| 170M3274 | | | 630 | | 325000 | |
| 170M4258 | | | 200 | | 11500 | |
| 170M4259 | | | 250 | | 21000 | |
| 170M4260 | | | 315 | | 42000 | |
| 170M4261 | | | 350 | | 59000 | |
| 170M4262 | | | 400 | | 91500 | |
| 170M4263 | aR | 1 | 450 | 690 | 120000 | |
| 170M4264 | | | 500 | | 170000 | |
| 170M4265 | | | 550 | | 230000 | |
| 170M4266 | | | 630 | | 350000 | |
| 170M4267 | | | 700 | | 465000 | |
| 170M4268 | | | 800 | | 725000 | |
| 170M4269 | aR | 1 | 900 | 550 | 850000 | |



170M6109



170M3258



170M4258

Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | PT | Box qty |
|--|-------------|------|------|-------|----|---------|
| High speed fuse links - DIN standard - 110mm fixing. | | | | | | |
| 170M5258 | | | 400 | | | 74000 |
| 170M5259 | | | 450 | | | 105000 |
| 170M5260 | | | 500 | | | 145000 |
| 170M5261 | | | 550 | | | 190000 |
| 170M5262 | | | 630 | | | 275000 |
| 170M5263 | aR | 2 | 700 | 690 | | 405000 |
| 170M5264 | | | 800 | | | 575000 |
| 170M5265 | | | 900 | | | 840000 |
| 170M5266 | | | 1000 | | | 1250000 |
| 170M5267 | | | 1100 | | | 1600000 |
| 170M5268 | | | 1250 | | | 2400000 |
| 170M6258 | | | 500 | | | 95000 |
| 170M6259 | | | 550 | | | 135000 |
| 170M6260 | | | 630 | | | 210000 |
| 170M6261 | | | 700 | | | 300000 |
| 170M6262 | | | 800 | | | 465000 |
| 170M6263 | aR | 3 | 900 | 690 | | 670000 |
| 170M6264 | | | 1000 | | | 945000 |
| 170M6265 | | | 1100 | | | 1300000 |
| 170M6266 | | | 1250 | | | 1950000 |
| 170M6267 | | | 1400 | | | 2450000 |
| 170M6268 | | | 1500 | | | 3100000 |
| 170M6269 | | | 1600 | | | 3900000 |
| 170M6270 | aR | 3 | 1800 | 600 | | 5250000 |
| 170M6271 | aR | 3 | 2000 | 550 | | 6350000 |
| High speed fuse links - DIN standard - flush end contact. | | | | | | |
| 170M2758 | | | 25 | | | 130 |
| 170M2759 | | | 32 | | | 270 |
| 170M2760 | | | 40 | | | 460 |
| 170M2761 | | | 50 | | | 770 |
| 170M2762 | | | 63 | | | 1450 |
| 170M2763 | | | 80 | | | 2550 |
| 170M2764 | aR | 00 | 100 | 690 | | 4650 |
| 170M2765 | | | 125 | | | 8500 |
| 170M2766 | | | 160 | | | 16000 |
| 170M2767 | | | 200 | | | 28000 |
| 170M2768 | | | 250 | | | 51500 |
| 170M2769 | | | 315 | | | 80500 |
| 170M2770 | | | 350 | | | 91500 |
| 170M2771 | | | 400 | | | 125000 |
| High speed fuse links - DIN standard - flush end contact. | | | | | | |
| 170M3458 | | | 40 | | | 270 |
| 170M3459 | | | 50 | | | 515 |
| 170M3460 | | | 63 | | | 770 |
| 170M3461 | | | 80 | | | 1250 |
| 170M3462 | | | 100 | | | 2450 |
| 170M3463 | aR | 1* | 125 | 690 | | 3700 |
| 170M3464 | | | 160 | | | 7500 |
| 170M3465 | | | 200 | | | 15000 |
| 170M3466 | | | 250 | | | 28500 |
| 170M3467 | | | 315 | | | 46500 |
| 170M3468 | | | 350 | | | 68500 |
| 170M3469 | | | 400 | | | 105000 |

170M5258



170M6258



170M2758



170M3462



Bussmann series high speed fuse links.

| Item no. | Description | Size | Amps | Volts | I ² T | Box qty |
|--|-------------|------|------|-------|------------------|---------|
| High speed fuse links - DIN standard - flush end contact. | | | | | | |
| 170M3470 | | | 450 | | 140000 | |
| 170M3471 | | | 500 | | 180000 | |
| 170M3472 | | | 550 | | 230000 | |
| 170M3473 | | | 630 | | 325000 | |
| 170M4458 | | | 200 | | 11500 | |
| 170M4459 | | | 250 | | 21000 | |
| 170M4460 | | | 315 | | 42000 | |
| 170M4461 | aR | 1 | 350 | 690 | 59000 | |
| 170M4462 | | | 400 | | 91500 | |
| 170M4463 | | | 450 | | 120000 | |
| 170M4464 | | | 500 | | 170000 | |
| 170M4465 | | | 550 | | 230000 | |
| 170M4466 | | | 630 | | 350000 | |
| 170M4467 | | | 700 | | 465000 | |
| 170M4468 | | | 800 | | 725000 | |
| 170M4469 | aR | 1 | 900 | 550 | 850000 | |
| 170M5458 | | | 400 | | 74000 | |
| 170M5459 | | | 450 | | 105000 | |
| 170M5460 | | | 500 | | 145000 | |
| 170M5461 | | | 550 | | 190000 | |
| 170M5462 | | | 630 | | 275000 | |
| 170M5463 | aR | 2 | 700 | 690 | 405000 | |
| 170M5464 | | | 800 | | 575000 | |
| 170M5465 | | | 900 | | 840000 | |
| 170M5466 | | | 1000 | | 1250000 | |
| 170M5467 | | | 1100 | | 1600000 | |
| 170M5468 | | | 1250 | | 2400000 | |
| 170M6458 | | | 500 | | 95000 | |
| 170M6459 | | | 550 | | 135000 | |
| 170M6460 | | | 630 | | 210000 | |
| 170M6461 | | | 700 | | 300000 | |
| 170M6462 | | | 800 | | 465000 | |
| 170M6463 | | | 900 | | 670000 | |
| 170M6464 | aR | 3 | 1000 | 690 | 945000 | |
| 170M6465 | | | 1100 | | 1300000 | |
| 170M6466 | | | 1250 | | 1950000 | |
| 170M6467 | | | 1400 | | 2450000 | |
| 170M6468 | | | 1500 | | 3100000 | |
| 170M6469 | | | 1600 | | 3900000 | |
| 170M6470 | aR | 3 | 1800 | 600 | 5250000 | |
| 170M6471 | aR | 3 | 2000 | 550 | 6350000 | |



170M4458



170M5458



170M6462

| Item no. | Description | Amps | Volts | Box qty |
|---|---------------|----------------------------|-------|---------|
| Fuse holders to suit High speed fuse links | | | | |
| 170H3003 | To suit 80mm | 630 | 1000 | |
| 170H3004 | | 1250 | 1000 | |
| 170H3005 | To suit 110mm | 630 | 1400 | |
| 170H3006 | | 1250 | 1400 | 1 |
| 170H0235 | | To suit Type 'T' Indicator | | |
| 170H0236 | Micro switch | To suit Type 'K' Indicator | | |
| 170H0069 | | To suit Type 'K' Indicator | | |



170H3004

Bussmann series solar products.



PV-1A10F

| Item no. | Description | Body dim | Amps | Volts | I ² T | Box qty |
|--|----------------------|--------------|------|-------------|------------------|---------|
| Photovoltaic fuse links | | | | | | |
| PV-1A10F | | | 1 | | | |
| PV-2A10F | | | 2 | | | |
| PV-3A10F | | | 3 | | | |
| PV-4A10F | | | 4 | | | |
| PV-5A10F | | | 5 | | | |
| PV-6A10F | Solar fuse - ferrule | 10 X 38mm | 6 | | | |
| PV-8A10F | | | 8 | | | |
| PV-10A10F | | | 10 | 1000 Vdc | | 10 |
| PV-12A10F | | | 12 | | | |
| PV-15A10F | | | 15 | | | |
| PV-20A10F | | | 20 | | | |
| PV-15A14F | | | 15 | | | |
| PV-20A14F | Solar fuse - ferrule | 14 X 51mm | 20 | | | |
| PV-25A14F | | | 25 | | | |
| PV-32A14F | | | 32 | | | |
| PV-15A14LF | | | 15 | | | |
| PV-20A14LF | Solar fuse - ferrule | 14 X 65mm | 20 | 1300 Vdc | | 10 |
| PV-25A14LF | | | 25 | | | |
| PV-32A14LF | | | 32 | | | |
| Photovoltaic fuse links - ferrule fuse holders. | | | | | | |
| CHPV1U | | 10 X 38mm | 30 | 1000 Vdc | | 12 |
| CHPV2U | | | | | | 6 |
| CHPV1IU | With indicator | 10 X 38mm | 30 | 1000 | | 12 |
| CHPV2IU | | | | | | 6 |
| CH141D-PV | | 10 X 38mm | 30 | 1000 Vdc | | 6 |
| Photovoltaic fuse links. | | | | | | |
| PV-32ANH1 | | | 32 | | | |
| PV-40ANH1 | | | 40 | | | |
| PV-50ANH1 | | | 50 | | | |
| PV-63ANH1 | Solar fuse - blade | | 63 | 1000 Vdc | 1 | 1 |
| PV-80ANH1 | | | 80 | | | |
| PV-100ANH1 | | | 100 | | | |
| PV-125ANH1 | | | 125 | | | |
| PV-160ANH1 | | | 160 | | | |
| PV-63A-01XL | | | 50 | | | |
| PV-80A-01XL | Solar fuse - blade | | 63 | 1000 Vdc | 01 | 1 |
| PV-100A-01XL | | | 80 | | | |
| PV-125A-01XL | | | 100 | | | |
| PV-160A-01XL | | | 125 | | | |
| PV-200A-1XL | Solar fuse - blade | | 200 | 1000 Vdc | 1 | 1 |
| PV-160A-2XL | | | 160 | | | |
| PV-200A-2XL | | | 200 | | | |
| PV-250A-2XL | Solar fuse - blade | | 250 | 1000 Vdc | 2 | 1 |
| PV-315A-2XL | | | 315 | | | |
| PV-355A-2XL | | | 355 | | | |
| PV-350A-3L | | | 350 | | | |
| PV-400A-3L | Solar fuse - blade | | 400 | 1000 Vdc | 3 | 1 |
| PV-500A-3L | | | 500 | | | |
| PV-600A-3L | | | 600 | | | |



PV-160ANH1

Bussmann series solar products.

| Item no. | Description | Amps | Volts | Body size | Box qty |
|---------------------------------|---------------------|------|----------|-----------|---------|
| Photovoltaic fuse links. | | | | | |
| PV-63A-01XL-D | | 63 | | | |
| PV-80A-01XL-D | | 80 | | | |
| PV-100A-01XL-D | Solar fuse - bolted | 100 | 1000 Vdc | 01 | |
| PV-125A-01XL-D | | 125 | | | |
| PV-160A-01XL-D | | 160 | | | |
| PV-200A-1XL-D | Solar fuse - bolted | 100 | 1000 Vdc | 1 | |
| PV-160A-2XL-D | | 160 | | | |
| PV-200A-2XL-D | | 200 | | | |
| PV-250A-2XL-D | Solar fuse - bolted | 250 | 1000 Vdc | 2 | |
| PV-315A-2XL-D | | 350 | | | |
| PV-355A-2XL-D | | 400 | | | |
| PV-350A-3L-D | | 350 | | | |
| PV-400A-3L-D | Solar fuse - bolted | 400 | 1000 Vdc | | |
| PV-500A-3L-D | | 500 | | | |
| PV-600A-3L-D | | 600 | | | |



PV-250A2XL-D

| Item no. | Description | Amps | Volts | Poles | Box qty |
|--|--------------|------|----------|-------|---------|
| Photovoltaic fuse links - blade fuse holders. | | | | | |
| SD1-D-PV | For PV-NH1 | 250 | | | 1 |
| SD2-D-PV | For PV-NH2 | 400 | | | 1 |
| SD3-D-PV | For PV-NH3 | 630 | | | 1 |
| SD1XL-S | For 01 & 1XL | 250 | 1500 Vdc | 1 | 1 |
| SD2XL-S | For 2XL | 400 | | | 1 |
| SD3L-S | For 3L | 630 | | | 1 |

| Item no. | Description | Applic | Volts | Poles | Box qty |
|--------------------------|----------------------------|-----------------|---------|-------|---------|
| Surge protection. | | | | | |
| BSPM1275TN | Without remote signalling | | 275Vac | 1 | 1 |
| BSPM1275TNR | With remote signalling | | | | |
| BSPM1375TN | Without remote signalling | Indust Class II | 275Vac | 3 | 1 |
| BSPM1375TNR | With remote signalling | | | | |
| BPM275IEC | Replacement module | | 275Vac | 1 | 1 |
| BSPS3255TNC | Without remote signalling | | | | |
| BSPS3255TNCR | With remote signalling | Indust Class 1 | 275Vac | 3 | 1 |
| BPS255IEC | Replacement module | | | | |
| BSPH31000YPV | Without remote signalling | | | | |
| BSPH31000YPVR | With remote signalling | | | | |
| BSPS31000YPV | Without remote signalling | Solar | 1000Vdc | 1 | 1 |
| BPH500YPV | Replacement module (outer) | | | | |
| BPM500YPV | Replacement module (inner) | | | | |



BSPM1275TN

Bussmann series North American fuse links & fuse holders.



BAF

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|---|--|-----------|--------------|---------|---------|
| Supplementary power fuse links (ferrule) | | | | | |
| BBS (A) | 1/10 to 5 | 10 x 35mm | 600 | Fast | 10 |
| | 6, 7, 8, 10 | | 250 | | |
| | 12, 15, 20, 25, 30 | | 48 | | |
| KTQ (A) | 1, 1.6, 2, 3, 4, 5, 6 | | 250 | T/Delay | |
| BAF (A) | 2/10 to 15 | | 250 | Fast | |
| | 20, 25, 30 | | 125 | | |
| BAN (A) | 1, 2, 4, 6, 8, 10, 12, 15, 20, 25, 30 | | 250 | Fast | |
| KTK (A) | 1/10 to 50 | | 600 | Fast | |
| DCM (A) | 1/10 to 30 | | 600V ac / dc | Fast | |
| KLM (A) | 1/10 to 30 | | 690 | Fast | |
| FNM (A) | 0.1, 0.125, 0.15, 0.2, 0.25, 0.3, 0.4, 0.5, 0.6, 0.75, 1, 1.125, 1.25, 1.5, 2, 2.25, 2.5, 2.8, 3, 3.25, 3.5, 4, 4.5, 5, 5.8, 6, 6.25, 7, 8, 9, 10, | 10 x 38mm | 250 | T/Delay | 10 |
| | 12, 15 | | 125 | | |
| | 20, 25, 30 | | 32 | | |
| FNQ (A) | 1/10 to 30 | | 500 | T/Delay | |
| FNA (A) | 1/10 to 8/10 | | 250 | T/Delay | |
| | 1 to 15 | | 125 | | |
| | 20 to 30 | | 32 | | |
| DMM-D-(A) | 44/100 & 11 | | 1000 | Fast | |



FNM



FNA

| Item no. | Amp | Volts | Poles | Box qty |
|--|-----|-------|-------|---------|
| Fuseholders to suit supplementary power fuse links. | | | | |
| BM6031SQ | 30 | 600 | 1 | 1 |
| BM6033SQ | | | 3 | |

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|---|------------|-----------|-------|---------|---------|
| Supplementary power fuse links - rejection - Class CC. | | | | | |
| KTK-R (A) | 1/10 to 30 | 10 X 38mm | 600 | Fast | 10 |
| LP-CC (A) | 1/4 to 30 | | | T/Delay | |
| FNQ-R (A) | 1/4 to 30 | | | | |



KTK-R

| Item no. | Amp | Volts | Poles | Box qty |
|---|-----|-------|-------|---------|
| Fuseholders to suit supplementary power fuse links - Class CC. | | | | |
| BC6031SQ | 30 | 600 | 1 | 1 |
| BC6033SQ | | | 3 | |



SC

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|--|------------|---------|-------|---------|---------|
| Supplementary power fuse links - Class G. | | | | | |
| SC | 1/2 to 20 | 10 X 33 | 480 | T/Delay | |
| | 25, 30 | 10 X 42 | | | |
| | 35 to 60 | 10 X 57 | | | |

Bussmann series North American fuse links & fuse holders.

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|------------------------------------|--------------------------------|---------|-------|-----------|---------|
| Power fuse links - Class T. | | | | | |
| JJN (A) | 1, 2, 3, 6, 10, 15, 20, 25, 30 | 22 X 10 | 300 | Very Fast | 10 |
| | 35, 40, 45, 50, 60 | 23 X 14 | | | |
| | 70, 80, 90, 100 | 40.0 | | | |
| | 110, 125, 150, 175, 200 | 43.0 | | | |
| | 225, 250, 300, 350, 400 | 47.0 | | | 1 |
| | 450, 500, 600 | 52.0 | | | |
| | 700, 800 | 56.0 | | | |
| | 1000, 1200 | 64.0 | | | |
| JJS (A) | 1, 2, 3, 6, 10, 15, 20, 25, 30 | 38 X 14 | 600 | Very Fast | 10 |
| | 35, 40, 45, 50, 60 | 40 X 21 | | | |
| | 70, 80, 90, 100 | 60.0 | | | |
| | 110, 125, 150, 175, 200 | 64.0 | | | |
| | 225, 250, 300, 350, 400 | 69.0 | | | 1 |
| | 450, 500, 600 | 75.0 | | | |
| | 800 | 81.0 | | | |

JJN



JJS



| Item no. | Amp | Volts | Poles | Box qty |
|---|-----|-------|-------|---------|
| Fuse holders to suit power fuse links - Class T. | | | | |
| T30030-2CR | 30 | 300 | 2 | 1 |
| T30030-3CR | | | 3 | |
| T30060-2CR | 60 | 300 | 2 | |
| T30060-3CR | | | 3 | |
| T30100-1CR | 100 | 300 | 1 | |
| T30100-3CR | | | 3 | |
| T60030-1CR | 30 | 600 | 1 | 1 |
| T60030-3CR | | | 3 | |
| T60060-1CR | 60 | 600 | 1 | |
| T60060-3CR | | | 3 | |
| T60100-1CR | 100 | 600 | 1 | |
| T60100-3CR | | | 3 | |

T60030-3CR



| Item no. | Amp rating | Size | Volts | Type | Box qty |
|---|---|----------|-------|-----------|---------|
| Power fuse links - general purpose | | | | | |
| NON (A) | 0.125, 0.5, .75, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 25, 30 | 10 x 51 | 250 | Non Delay | 10 |
| | 35, 40, 45, 50, 60 | 21 x 76 | | | |
| | 70, 80, 90, 100 | 149.0 | | | 1 |
| | 110, 125, 150, 175, 200 | 181.0 | | | |
| | 225, 250, 300, 350, 400 | 219.0 | | | |
| NOS (A) | 1, 2, 2.5, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 25, 30 | 21 x 127 | 600 | Non Delay | 10 |
| | 35, 40, 45, 50, 60 | 27 x 140 | | | |
| | 70, 80, 90, 100 | 200.0 | | | |
| | 110, 125, 150, 175, 200 | 244.0 | | | |
| | 225, 250, 300, 350, 400 | 295.0 | | | |
| | 450, 500, 600 | 340.0 | | | |

Bussmann series North American fuse links & fuse holders.



H30100-1SR



LPN-RK



LPS-RK



KTN-R



KTS-R



FRN-R



FRS-R

| Item no. | Amp | Volts | Poles | Box qty |
|---|-----|-------|-------|---------|
| Fuse holders to suit power fuse links - general purpose. | | | | |
| H30030-2SR | 30 | 300 | 1 | 1 |
| H30030-3SR | | | 3 | |
| H30060-2SR | 60 | 300 | 2 | |
| H30060-3SR | | | 3 | |
| H30100-1SR | 100 | 300 | 1 | |
| H30100-3SR | | | 3 | |
| H60030-1SR | 30 | 600 | 1 | |
| H60030-3SR | | | 3 | |
| H60060-1SR | 60 | 600 | 1 | |
| H60060-3SR | | | 3 | |
| H60100-1SR | 100 | 600 | 1 | |
| H60100-3SR | | | 3 | |

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|--------------------------------------|-------------------------|----------|-------|--------------------------|---------|
| Power fuse links - Class RK1. | | | | | |
| LPN-RK (A) SP | 1/10 to 30 | 14 x 51 | 250 | Dual element, time delay | 10 |
| | 35, 40, 45, 50, 60 | 21 x 76 | | | |
| | 70, 80, 90, 100 | 149.0 | 250 | | |
| | 110, 125, 150, 175, 200 | 181.0 | | | |
| | 225, 250, 300, 350, 400 | 219.0 | | | |
| | 450, 500, 600 | 264.0 | | | |
| LPS-RK (A) SP | 1/10 to 30 | 21 X 127 | 600 | Dual element, time delay | 10 |
| | 35, 40, 45, 50, 60 | 27 X 140 | | | |
| | 70, 80, 90, 100 | 200.0 | 600 | | |
| | 110, 125, 150, 175, 200 | 245.0 | | | |
| | 225, 250, 300, 350, 400 | 295.0 | | | |
| | 450, 500, 600 | 340.0 | | | |
| KTN-R (A) | 1 to 30 | 14 x 51 | 250 | Fast acting | 10 |
| | 35, 40, 45, 50, 60 | 21 x 76 | | | |
| | 70, 80, 90, 100 | 149.0 | 250 | | |
| | 110, 125, 150, 175, 200 | 181.0 | | | |
| | 225, 250, 300, 350, 400 | 219.0 | | | |
| | 450, 500, 600 | 264.0 | | | |
| KTS-R (A) | 1 to 30 | 21 X 127 | 600 | Fast acting | 10 |
| | 35, 40, 45, 50, 60 | 27 X 140 | | | |
| | 70, 80, 90, 100 | 200.0 | 600 | | |
| | 110, 125, 150, 175, 200 | 245.0 | | | |
| | 225, 250, 300, 350, 400 | 295.0 | | | |
| | 450, 500, 600 | 340.0 | | | |
| FRN-R (A) | 100mA to 30A | 14 x 51 | 250 | Dual element, time delay | 10 |
| | 35, 40, 45, 50, 60 | 21 x 76 | | | |
| | 70, 80, 90, 100 | 149.0 | 250 | | |
| | 110, 125, 150, 175, 200 | 181.0 | | | |
| | 225, 250, 300, 350, 400 | 219.0 | | | |
| | 450, 500, 600 | 264.0 | | | |
| FRS-R (A) | 100mA to 30A | 21 X 127 | 600 | Dual element, time delay | 10 |
| | 35, 40, 45, 50, 60 | 27 X 140 | | | |
| | 70, 80, 90, 100 | 200.0 | 600 | | |
| | 110, 125, 150, 175, 200 | 245.0 | | | |
| | 225, 250, 300, 350, 400 | 295.0 | | | |
| | 450, 500, 600 | 340.0 | | | |

Bussmann series North American fuse links & fuse holders.

| Item no. | Amp | Volts | Poles | Box qty |
|---|-----|-------|-------|---------|
| Fuse holders to suit power fuse links - Class RK1 & RK5. | | | | |
| R30030-1SR | 30 | 300 | 1 | 1 |
| R30030-3SR | | | 3 | |
| R30060-2CR | 60 | 300 | 2 | |
| R30060-3CR | | | 3 | |
| R30100-1CR | 100 | 300 | 1 | |
| R30100-3CR | | | 3 | |
| R60030-1CR | 30 | 600 | 1 | |
| R60030-3CR | | | 3 | |
| R60060-1CR | 60 | 600 | 1 | |
| R60060-3CR | | | 3 | |
| R60100-1CR | 100 | 600 | 1 | |
| R60100-3CR | | | 3 | |



R300

| Item no. | Amp rating | Size | Volts | Type | Box qty |
|---|-------------------------|---------|-------|--------------------------|---------|
| Power fuse links - Class J low peak. | | | | | |
| LPJ- (A) SP | 1 to 30 | 21 X 58 | 600 | Dual element, time delay | 10 |
| | 35, 40, 45, 50, 60 | 27 X 60 | | | |
| | 70, 80, 90, 100 | 92.0 | | | |
| | 110, 125, 150, 175, 200 | 111.0 | | | |
| | 225, 250, 300, 350, 400 | 133.0 | | | |
| | 450, 500, 600 | | | | |
| JKS- (A) | 1 to 30 | 21 X 58 | 600 | Quick acting | 10 |
| | 35, 40, 45, 50, 60 | 27 X 60 | | | |
| | 70, 80, 90, 100 | 92.0 | | | |
| | 110, 125, 150, 175, 200 | 111.0 | | | |
| | 225, 250, 300, 350, 400 | 133.0 | | | |
| | 450, 500, 600 | 152.0 | | | |



LPJ



JKS

| Item no. | Amp | Volts | Poles | Box qty |
|---|-----|-------|-------|---------|
| Fuse holders to suit power fuse links - Class RK1 & RK5. | | | | |
| J60030-1CR | 30 | 600 | 1 | 1 |
| J60030-3CR | | | 3 | |
| J60060-1CR | 60 | 600 | 1 | |
| J60060-3CR | | | 3 | |
| J60100-1CR | 100 | 600 | 1 | |
| J60100-3CR | | | 3 | |



J600

| | | | | | |
|---|--|------------------------------------|-----|------------------|---|
| Power fuse links - Class L low peak. | | | | | |
| KTU (A) | 601 to 1200 | Contact cooper electrical for size | 600 | Fast acting type | 1 |
| | 1500, 2000 | | | | |
| | 2500, 3000 | | | | |
| | 3500, 4000 | | | | |
| | 4500, 5000 | | | | |
| 6000 | | | | | |
| KLU (A) | 601 to 1200 | Contact cooper electrical for size | 600 | Time delay type | 1 |
| | 1500, 1600 | | | | |
| | 1800, 2000 | | | | |
| | 2500, 3000 | | | | |
| | 4000 | | | | |
| KRP-C (A) SP | 601 to 1200 | Contact cooper electrical for size | 600 | Time delay type | 1 |
| | 1350, 1400, 1500, 1600, 1800, 1900, 2000 | | | | |
| | 2001, 2400, 2500, 3000 | | | | |
| | 3500, 3800, 4000 | | | | |
| | 4500, 5000 | | | | |
| 6000 | | | | | |



KTU



KRP-C

Busmann series medium voltage fuse links.



24ADIHA25

| Item no. | Amp | Volts | Lth | Dia | MOQ |
|--|----------|-------|------|-----|------|
| Medium voltage fuse links for use in air. | | | | | |
| 12BDGHA6.3 | 6.3 | | | | |
| 12BDGHA10 | 10 | | | | |
| 12BDGHA16 | 16 | | | | |
| 12BDGHA20 | 20 | 12kV | 359 | 51 | 3 |
| 12BDGHA25 | 25 | | | | |
| 12BDGHA31.5 | 31.5 | | | | |
| 12BDGHA40 | 40 | | | | |
| 12BDGHA50 | 50 | | | | |
| 12BFGHA63 | 63 | | | | |
| 12BFGHA71 | 71 | | | | |
| 12BFGHA80 | 80 | 12kV | 359 | 76 | 3 |
| 12BFGHA90 | 90 | | | | |
| 12BFGHA100 | 100 | | | | |
| 12AKGHA125 | 125 | | | | |
| 24ADIHA3.15 | 3.15 | | | | |
| 24ADIHA6.3 | 6.3 | | | | |
| 24ADIHA10 | 10 | | | | |
| 24ADIHA16 | 16 | 24kV | 565 | 51 | 3 |
| 24ADIHA20 | 20 | | | | |
| 24ADIHA25 | 25 | | | | |
| 24ADIHA31.5 | 31.5 | | | | |
| 24AFIHA40 | 40 | | | | |
| 24AFIHA50 | 50 | | | | |
| 24AFIHA63 | 63 | 24kV | 565 | 76 | 3 |
| 24AFIHA80 | 80 | | | | |
| 24AFIHA90 | 90 | | | | |
| 24AFIHA90 | 90 | | | | |
| Medium voltage fuse links for use in oil. | | | | | |
| 12OEFMA6.3 | KEBXO5 | 6.3 | | | |
| 12OEFMA10 | KEBXO10 | 10 | | | |
| 12OEFMA16 | KEBXO16 | 16 | | | |
| 12OEFMA20 | KEBXO20 | 20 | | | |
| 12OEFMA25 | KEBXO25 | 25 | | | |
| 12OEFMA31.5 | | 31.5 | | | |
| 12OEFMA40 | KEBXO40 | 40 | 12kV | 254 | 63.5 |
| 12OEFMA50 | KEBXO50 | 50 | | | |
| 12OEFMA63 | KEBXO63 | 63 | | | |
| 12OHFMA71 | | 71 | | | |
| 12OHFMA80 | KEBXO80 | 80 | | | |
| 12OHFMA90 | | 90 | | | |
| 12OHFMA100 | | 100 | | | |
| 12OHGMA6.3 | KEMXO5 | 6.3 | | | |
| 12OHGMA10 | KEMXO10 | 10 | | | |
| 12OHGMA16 | KEMXO16 | 16 | | | |
| 12OHGMA20 | KEMXO20 | 20 | | | |
| 12OHGMA25 | KEMXO25 | 25 | | | |
| 12OHGMA31.5 | | 31.5 | | | |
| 12OHGMA40 | KEMXO40 | 40 | 12kV | 359 | 63.5 |
| 12OHGMA50 | KEMXO50 | 50 | | | |
| 12OHGMA63 | KEMXO63 | 63 | | | |
| 12OHGMA71 | | 71 | | | |
| 12OHGMA80 | KEMXO80 | 80 | | | |
| 12OHGMA90 | KEMXO90 | 90 | | | |
| 12OHGMA100 | KEMXO100 | 100 | | | |
| 12OLGMA125 | KEMXO120 | 125 | | | |



12OEFMA820

Bussmann series medium voltage fuse links.

| Item no. | Amp | Volts | Lth | Dia | MOQ |
|--|-----------|-------|------|-----|-----|
| Medium voltage fuse links - DIN standard. | | | | | |
| 12TDLEJ6.3 | 6.3 | | | | |
| 12TDLEJ10 | 10 | | | | |
| 12TDLEJ16 | 16 | | | | |
| 12TDLEJ20 | 20 | | | | |
| 12TDLEJ25 | 25 | 12kV | 292 | 51 | 3 |
| 12TDLEJ31.5 | 31.5 | | | | |
| 12TDLEJ40 | 40 | | | | |
| 12TDLEJ50 | 50 | | | | |
| 12TDLEJ63 | 63 | | | | |
| 12THLEJ80 | 80 | 12kV | 292 | 67 | 3 |
| 12THLEJ100 | 100 | | | | |
| 12TKLEJ125 | 125 | 12kV | 292 | 76 | 3 |
| 12TXLEJ160 | 160 | 12kV | 292 | 88 | 3 |
| 12TXLEJ200 | 200 | | | | |
| Medium voltage fuse links - BS motor start. | | | | | |
| 3.6WDFHO50 | 50 | | | | |
| 3.6WDFHO63 | 63 | | | | |
| 3.6WDFHO80 | 80 | 3.6kV | 254a | 51 | 3 |
| 3.6WDFHO100 | K81PEX100 | | | | |
| 3.6WDFHO125 | K81PEX125 | | | | |
| 3.6WFFHO160 | K81PEX160 | | | | |
| 3.6WFFHO200 | K81PEX200 | | | | |
| 3.6WKFHO250 | K81PEX250 | | | | |
| 3.6WKFHO315 | K81PEX315 | 3.6kV | 254a | 76 | 3 |
| 3.6WKFHO355 | K81PEX350 | | | | |
| 3.6WKFHO400 | | | | | |
| | K81PRX450 | | | | |
| | 450 | | | | |



12TDLEJ25



24TDMEJ20



3.6WKFHO250

Busmann series medium voltage fuse links.



7.2WFNHO125

| Item no. | Amp | Volts | Lth | Dia | MOQ |
|--|-----------|-------|-----|-----|-----|
| Medium voltage fuse links - BS motor start. | | | | | |
| 7.2WFNHO25 | 25 | | | | |
| 7.2WFNHO31.5 | 31.5 | | | | |
| 7.2WFNHO40 | 40 | | | | |
| 7.2WFNHO50 | K81SDX50 | | | | |
| 7.2WFNHO63 | K81SDX63 | | | | |
| 7.2WFNHO80 | K81SDX80 | | | | |
| 7.2WFNHO100 | K81SDX100 | 7.2kV | 403 | 76 | 3 |
| 7.2WFNHO125 | K81SDX125 | | | | |
| 7.2WFNHO160 | K81SDX160 | | | | |
| 7.2WKNHO200 | K81SDX200 | | | | |
| 7.2WKNHO224 | K81SDX225 | | | | |
| 7.2WKNHO250 | K81SDX250 | | | | |
| 7.2WKNHO315 | K81SDX315 | | | | |

| | | | | | |
|--|-----------|-----|-------|-----|----|
| Medium voltage fuse links - BS motor start. | | | | | |
| 3.6WJON65 | K3PGX5 | 5 | | | |
| 3.6WJON610 | K3PGX10 | 10 | | | |
| 3.6WJON616 | K3PGX16 | 16 | | | |
| 3.6WJON620 | K3PGX20 | 20 | 3.6kV | 192 | 35 |
| 3.6WJON625 | K3PGX25 | 25 | | | |
| 3.6WJON632 | K3PGX32 | 32 | | | |
| 3.6WJON640 | K3PGX40 | 40 | | | |
| 3.6WDOH650 | K3PGX50 | 50 | | | |
| 3.6WDOH663 | K3PGX63 | 63 | | | |
| 3.6WDOH680 | K3PGX80 | 80 | 3.6kV | 192 | 51 |
| 3.6WDOH6100 | K3PGX100 | 100 | | | |
| 3.6WDOH6125 | K3PGX125 | 125 | | | |
| 3.6WFOH6160 | K4PHX 160 | 160 | 3.6kV | 192 | 76 |
| 3.6WFOH6200 | K4PHX 200 | 200 | | | |



3.6WDLSJ50

| | | | | | |
|---|--|------|-------|-----|----|
| Medium voltage fuse links - DIN motor start. | | | | | |
| 3.6WDLSJ50 | | 50 | | | |
| 3.6WDLSJ63 | | 63 | | | |
| 3.6WDLSJ80 | | 80 | | | |
| 3.6WDLSJ100 | | 100 | 3.6kV | 292 | 51 |
| 3.6WDLSJ125 | | 125 | | | |
| 3.6WFLSJ160 | | 160 | | | |
| 3.6WFLSJ200 | | 200 | | | |
| 3.6WKLSJ250 | | 250 | | | |
| 3.6WKLSJ315 | | 315 | 3.6kV | 292 | 76 |
| 3.6WKLSJ400 | | 400 | | | |
| 7.2WFMSJ25 | | 25 | | | |
| 7.2WFMSJ31.5 | | 31.5 | | | |
| 7.2WFMSJ40 | | 40 | | | |
| 7.2WFMSJ50 | | 50 | | | |
| 7.2WFMSJ63 | | 63 | | | |
| 7.2WFMSJ80 | | 80 | | | |
| 7.2WFMSJ100 | | 100 | 7.2kV | 442 | 76 |
| 7.2WFMSJ125 | | 125 | | | |
| 7.2WFMSJ160 | | 160 | | | |
| 7.2WKMSJ200 | | 200 | | | |
| 7.2WKMSJ224 | | 224 | | | |
| 7.2WKMSJ250 | | 250 | | | |
| 7.2WKMSJ315 | | 315 | | | |
| 7.2WKMSJ355 | | 355 | | | |

Bussmann series medium voltage fuse links.

| Item no. | | Amp | Volts | Lth | Dia | MOQ |
|---|-----------|------|-------|-----|------|-----|
| Medium voltage fuse links - VT for use in air. | | | | | | |
| 3.6ABWNA3.15 | AIR3.3/3 | 3.15 | 3.6kV | 142 | 25.4 | 1 |
| 3.6ABWNA6.3 | | 6.3 | | | | |
| 3.6ABCNA3.15 | | 3.15 | 3.6kV | 195 | 25.4 | 1 |
| 3.6ABCNA6.3 | | 6.3 | | | | |
| 3.6ABCNA10 | | 10 | | | | |
| 7.2VTDNN1 | | 1 | | | | 1 |
| 7.2ABWNA3.15 | VTF6.6/3 | 3.15 | 7.2kV | 142 | 25.4 | 1 |
| 7.2ABWNA6.3 | | 6.3 | | | 25.4 | 1 |
| 7.2VTDNN0.62 | | 0.62 | | | 25.4 | 1 |
| 7.2ABCNA3.15 | | 3.15 | | | 25.4 | 1 |
| 7.2ABCNA6.3 | | 6.3 | | | | |
| 12VTDNN0.5 | VTF11/0.5 | 0.5 | | | | |
| 12VTDNN1 | VTF11/1 | 1 | 12kV | 195 | 25.4 | 1 |
| 12ABCNA3.15 | VTF11/3 | 3.15 | | | | |
| 24ABGNA3.15 | | 3.15 | 24kV | 359 | 25.4 | 1 |



3.6ABWNA6.3

| | | | | | | |
|---|-------------|------|-------|-----|------|---|
| Medium voltage fuse links - VT for use in oil. | | | | | | |
| | OIR6.6/0.62 | 0.62 | 7.2kV | 142 | 22 | 1 |
| 7.2OBWNA3.15 | | 3.15 | 7.2kV | 142 | 25.4 | 1 |
| 7.2OBWNA6.3 | | 6.3 | | | | |
| 7.2OBCNA3.15 | OIR6.6/3 | 3.15 | 7.2kV | 195 | 25.4 | 1 |
| 7.2OBCNA6.3 | | 6.3 | | | | |
| | OIR11/0.62 | 0.62 | 7.2kV | | 25.4 | 1 |
| 12OBCNA3.15 | | 3.15 | 12kV | 195 | 25.4 | 1 |
| 24OBGNA3.15 | | 3.15 | 24kV | 359 | 25.4 | 1 |
| 36OBGNA3.15 | | 3.15 | 36kV | | | |



7.2OBCNA3.15

| Item no. | Description | MOQ |
|--|------------------|-----|
| Medium voltage fuse links - mounting clips. | | |
| 1A1873 | To Suit 20mm | 2 |
| A3354705 | To Suit 25.4mm | |
| A3354710 | To Suit 51.0mm | |
| A3354720 | To Suit 63.5mm | |
| A3354730 | To Suit 76.0mm | |
| A3354745 | To Suit 45mm DIN | |
| 270303 | To Suit 45mm DIN | |



Mounting clips

Bussmann series miniature & automotive fuse links.



AGC-(A)



AGA-(A)



HKP



ATC-(A)

| Item no. | Amp rating | Volts | Type | MOQ |
|--|--|-----------------------|--|------------|
| M205 fuse links - 5 X 20mm. | | | | |
| S500-(A)-R S506-(A)-R | 32 to 10A | 250 | Glass $\frac{\text{Fast}}{\text{T/Delay}}$ | 10 |
| S501-(A)-R S505-(A)-R | 32 to 10A | 250 | Ceramic $\frac{\text{Fast}}{\text{T/Delay}}$ | 10 |
| 3AG fuse links - 6.3 X 32mm. | | | | |
| AGC-(A) | $\frac{1/4 \text{ to } 10A}{15 \text{ to } 50A}$ | $\frac{250}{32}$ | Glass $\frac{\text{Fast}}{\text{T/Delay}}$ | 5 |
| MDL-(A) | $\frac{1/4 \text{ to } 8A}{15, 20, 25, 30, 35, 40, 50}$ | $\frac{250}{32}$ | | |
| ABC-(A) MDA-(A) | $\frac{1/4 \text{ to } 30A}{1/4 \text{ to } 30A}$ | 250 | Ceramic $\frac{\text{Fast}}{\text{T/Delay}}$ | 5 |
| 1AG fuse links - 6.3 X 16mm. | | | | |
| AGA-(A) | $\frac{630mA \text{ to } 5A}{6 \text{ to } 30A}$ | $\frac{250}{32}$ | Glass $\frac{\text{Fast}}$ | 5 |
| 7AG fuse links - 6.3 X 22mm. | | | | |
| AGW-(A) | 1 to 30A | 250 | Glass $\frac{\text{Fast}}$ | 5 |
| 8AG fuse links - 6.3 X 25mm. | | | | |
| AGX-(A) | $\frac{1/1 \text{ to } 2A}{2.5 \text{ to } 7A}{8 \text{ to } 30A}$ | $\frac{250}{125}{32}$ | Glass $\frac{\text{Fast}}$ | 5 |
| 5AG fuse links - 10.3 X 38mm. | | | | |
| AGU-(A) | $\frac{1 \text{ to } 3A}{4 \text{ to } 30A}$ | $\frac{250}{32}$ | Glass $\frac{\text{Fast}}$ | 5 |
| Fuse holders. | | | | |
| HTC-55M | | 6.3 250 | Panel mount $\frac{\text{M205}}$ | 1 |
| HKP | | 30 250 | Panel mount $\frac{\text{3AG}}$ | |
| Item no. | Description | | | |
| Fuse kits. | | | | |
| NO-140 | 3AG fuses, glass, fast & time delay, 140pcs | | | |
| NO-220 | M205 fuses, glass, fast & time delay, 220pcs | | | |
| NO-270 | 3AG & M205 fuses, glass, fast & time delay, 270pcs | | | |
| GSK-260 | 3AG & M205 fuses, glass & ceramic, fast & time delay, 260pcs | | | |
| Item no. | Amp rating | Volts | Type | MOQ |
| Automotive. | | | | |
| ATM-(A) | 2, 3, 4, 5, 7.5, 10, 15, 20, 25, 30 | 32 | Fast Mini | 5 |
| ATM-(A)LP | 5, 7.5, 10, 15, 20, 25, 30 | 32 | Fast Lo Profile | 5 |
| ATC-(A) | 1, 2, 3, 4, 5, 7.5, 10, 15, 20, 25, 30, 40 | 32 | Fast Std | 5 |
| MAX-(A) | 20, 30, 40, 50, 60, 70, 80 | 32 | Fast Large | 1 |
| AMI-(A) | 100-300A | | | |
| AMG-(A) | 50-100A | | | |
| HMID | Fuseholder to suit AMI | 32 | | 1 |
| HMEG | Fuseholder to suit AMG | | | 1 |
| ANL (A) | $\frac{35, 40, 50, 60, 100, 130, 150}{175, 200, 225, 250, 275}{300, 325, 350, 400, 500}$ | 32 | Non Delay | 1 |
| ANN (A) | $\frac{10, 35, 40, 50, 60, 100, 130, 150, 175, 200, 225, 250, 275, 300}{325, 350, 400, 500, 600, 675, 700, 800}$ | 32 | Very Fast | 1 |
| 4164 | Fuse Base to Suit ANL & ANN | | | 1 |

Quicklag. Safe and reliable.



The Quicklag range of miniature circuit breakers was originally released in Australia by Email-Westinghouse in 1957 before the company changed its name to Cutler-Hammer and then to Eaton.

Through the years, Quicklag has been widely recognised as setting the electrical industry bench mark for Miniature Circuit Breakers. Some of the reasons include toggle centre trip position indication, ratings up to 100A in the one frame size, the ability to be mounted side by side without de-rating and fully integrated surge protection solutions with the use of Quickmov surge diverters.

Quicklag is the largest and most complete family of industrial thermal magnetic miniature circuit breakers. They provide the feature of steel frame calibration and arc chutes in every pole. Quicklag circuit breakers are provided in ranges from 8 to 100 amperes continuous in one, two, three and four pole configurations.

With close to 60 years of service to the Australian electrical industry, Quicklag circuit breakers have a proven track record of reliability and safety making Quicklag the ideal choice for industrial and commercial applications.

EATON

Powering Business Worldwide

Circuit protection

Quicklag MCB



Quicklag MCB

| Rating (A) | Item no. 1 pole | Item no. 2 pole | Item no. 3 pole | Item no. 4 pole |
|------------|-----------------|-----------------|-----------------|-----------------|
| 8 | Q108 | Q208 | Q308 | Q408 |
| 10 | Q110 | Q210 | Q310 | Q410 |
| 16 | Q116 | Q216 | Q316 | Q416 |
| 20 | Q120 | Q220 | Q320 | Q420 |
| 25 | Q125 | Q225 | Q325 | Q425 |
| 32 | Q132 | Q232 | Q332 | Q432 |
| 40 | Q140 | Q240 | Q340 | Q440 |
| 50 | Q150 | Q250 | Q350 | Q450 |
| 63 | Q163 | Q263 | Q363 | Q463 |
| 80 | Q180 | Q280 | Q380 | Q480 |
| 100 | Q1100 | Q2100 | Q3100 | Q4100 |
| 80* | Q180N | Q280N | Q380N | Q480N |
| 100* | Q1100N | Q2100N | Q3100N | Q4100N |

* Non-Auto Breaker.

Quicklag Miniature circuit breakers

Quicklag Miniature circuit breakers are used in a variety of circuit protection applications that range from protection for submain circuits & light & power circuits through to various motor starting applications.

Key Features

- Breaking capacity 6kA at 415VAC/2,3,4 pole & 6kA at 240VAC/1 pole
- Extensive range of accessories
- Non-Auto breakers available
- Centre trip indication
- Complies with AS3111 & AS2184, Lloyd's approved

Quicklag MCB fitted with 240V AC shunt trip (intermittent rated) - factory fitted only

| Rating (A) | Item no. 1 pole | Item no. 2 pole | Item no. 3 pole | Item no. 4 pole |
|------------|-----------------|-----------------|-----------------|-----------------|
| 8 | Q108-ST2 | Q208-ST2 | Q308-ST2 | Q408-ST2 |
| 10 | Q110-ST2 | Q210-ST2 | Q310-ST2 | Q410-ST2 |
| 16 | Q116-ST2 | Q216-ST2 | Q316-ST2 | Q416-ST2 |
| 20 | Q120-ST2 | Q220-ST2 | Q320-ST2 | Q420-ST2 |
| 25 | Q125-ST2 | Q225-ST2 | Q325-ST2 | Q425-ST2 |
| 32 | Q132-ST2 | Q232-ST2 | Q332-ST2 | Q432-ST2 |
| 40 | Q140-ST2 | Q240-ST2 | Q340-ST2 | Q440-ST2 |
| 50 | Q150-ST2 | Q250-ST2 | Q350-ST2 | Q450-ST2 |
| 63 | Q163-ST2 | Q263-ST2 | Q363-ST2 | Q463-ST2 |
| 80 | Q180-ST2 | Q280-ST2 | Q380-ST2 | Q480-ST2 |
| 100 | Q1100-ST2 | Q2100-ST2 | Q3100-ST2 | Q4100-ST2 |
| 80* | Q180N-ST2 | Q280N-ST2 | Q380N-ST2 | Q480N-ST2 |
| 100* | Q1100N-ST2 | Q2100N-ST2 | Q3100N-ST2 | Q4100N-ST2 |

* Non-Auto Breaker.
ST2 operates on 90-440 Vac, 60-250 Vdc
Some other voltage shunt trips available consult Eaton

ELQ Earth Leakage breaker

The ELQ Earth Leakage breaker combines overload, short circuit & residual current (earth leakage) protection in one compact unit.



Features & Benefits

- Overload, short circuit & residual current protection in one compact unit
- 6kA at 240V AC/Sym (AS2184)
- Sensitivity available in 10, 30 & 100mA models
- Approval No. NSW20187
- Trip indication window
- Test button with preventative accidental push design



LKDELTQW



ELQ-E-KIT

ELQ Earth leakage breaker

| Sensitivity (mA) | Rating (A) | Item no. 1 pole |
|------------------|------------|-----------------|
| 30mA | 10 | ELQ110C3TW |
| | 16 | ELQ116C3TW |
| | 20 | ELQ120C3TW |
| | 25 | ELQ125C3TW |
| 10mA | 32 | ELQ132C3TW |
| | 10 | ELQ110C1TW |
| | 16 | ELQ116C1TW |
| | 20 | ELQ120C1TW |
| 100mA | 25 | ELQ125C1TW |
| | 32 | ELQ132C1TW |
| | 10 | ELQ110C10TW |
| | 16 | ELQ116C10TW |
| | 20 | ELQ120C10TW |
| | 25 | ELQ125C10TW |
| | 32 | ELQ132C10TW |

ELQ Accessories

| Description | Item no. |
|--------------------------------------|-------------|
| ELQ to E-Frame Adaptor Kit | ELQ-E-KIT ① |
| Lockdog Kit ELQ (No Padlock, 1-Pole) | LKDELTQW① |

① suitable for panel mount applications only

Quicklag accessories

Quicklag's extensive range of accessories extends its features & benefits to many applications. Moulded covers & polycentres allow for retrofit installations where space is limited.

A wide range of locking devices can easily provide extra security & safety in situations where it is required.

Quicklag accessories

| Description | Item no. |
|--|----------------------|
| 1-Pole Moulded Cover | S1Q ① |
| 3-Pole Moulded Cover | S3Q ① |
| Quicklag Polycentre 6-Pole | QPC ① |
| Sealing Screws for Quicklag Covers (Kit of 10) | QSEALKIT ① |
| Quicklag Pole Filler | QPF |
| Sliding Clip Tray 3-Pole | SC3Q ① |
| Sliding Clip Tray 6-Pole | SC6Q ① |
| Sliding Clip Tray 12-Pole | SC12Q ① |
| Sliding Clip Tray 24-Pole | SC24Q ① |
| Standard Clip Tray 36-Pole | C36Q |
| 50A Terminal 25mm ² | T50Q |
| 100A Terminal 50mm ² | T100Q |
| Tunnel Kit 35mm ² - 3 pieces | QLUGKIT ① |
| Handle Lock 1-Pole + Padlock | PLKQ1 ① |
| Handle Lock 2 or 4-Pole + Padlock | PLKQ24 ① |
| Handle Lock 3-Pole + Padlock | PLKQ3 ① |
| Lock Off device (opposing breaker) | 1517-1277/1 ① |
| Quicklag DIN Adaptor (Pack of 6) | QLDINADAPT |
| Lockdog Quicklag (Pack of 10) | LKDQ |
| MCB Lock Off Bracket Kit (Pack of 10) | 1517-1299/1 ① |
| ELQ Lock Off Bracket Kit (Pack of 10) | 1517-2129/1 |
| Tee-off Insulation Cap | 1521-1287/1 |
| Busbar Comb 24-Pole | 1521-0070/15 |
| 250 A main switch kit for xBoard Plus Quicklag (xDBPQ) | XDBPQ-M/S |

① Not suitable for ELQ.



S1Q



S3Q



QPC



QSEALKIT



QPF



SC3Q, SC6Q,
SC12Q, SC24Q



C36Q



T50Q



T100Q



QLUGKIT



PLKQ1



PLKQ24



PLKQ3



1517-1277/1



QLDINADAPT



LKDQ



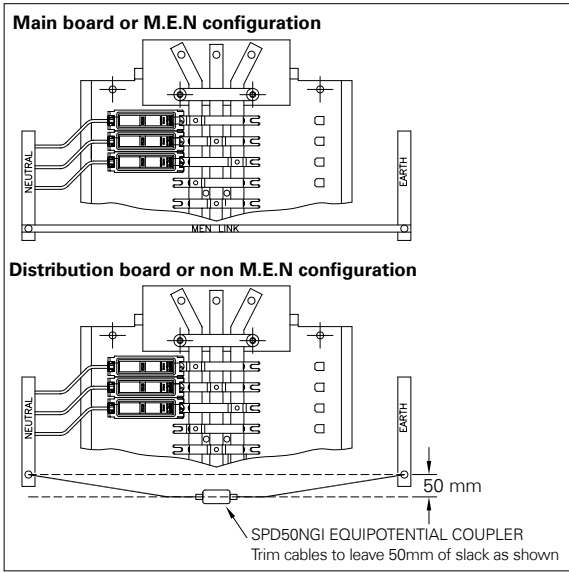
1517-1299/1



1521-0070/15

Circuit protection

Quicklag MCB



Quickmov™ surge protection device

Quickmov™ is an integrated Surge Protection Device (SPD), designed to protect single & multiphase electrical distribution systems against the damaging effects of voltage spikes & surges.

Key Features

- Surge rating 30kA Inom & 60kA Imax
- Integrated surge protection solution
- In-built HRC fusing
- Safe thermal disconnect
- Dual barrier flame retardant housing
- Fail safe status indicator
- Protection for M.E.N. & non-M.E.N. applications
- Designed in Australia Quickmov Surge Protection Device
- Mounts directly in any Quicklag™ panelboard
- Compatible with most Quicklag™ accessories (SPD50NGI is required for installations remote from the M.E.N. link).

Dimensions

| Height (mm) | Width (mm) | Depth (mm) | Weight (kg) |
|-------------|------------|------------|-------------|
| 71 | 25 | 93 | 0.3 |

Quickmov™ surge protection device

| Description | Surge rating | Item no. |
|---|--------------|-----------------|
| 1 Pole 60kA Quickmov™ Surge Diverter | 60kA | SPDQM1 |
| 50kA Neutral to Earth Surge Protector / Equipotential Coupler | 50kA | SPD50NGI |

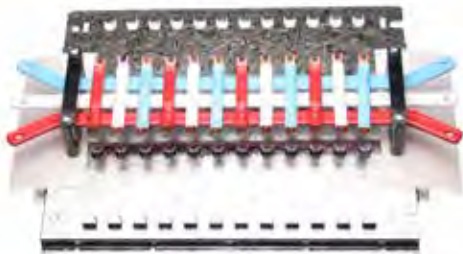
One Quickmov™ per phase is required for multi-phase installations.

Quicklag Chassis

Designed & tested to the requirements of AS1136.1, Quicklag chassis assemblies are available in a number of configurations, They are used by Eaton in Quicklag panelboards & by Original Equipment Manufacturer's in their own panelboard & switchboard assemblies throughout the electrical industry.

Short circuit withstand ratings

| | Rating | Withstand |
|--------------|--------|------------------|
| Standard | 250A | 20kA for 0.1 sec |
| Non-standard | 400A | 20kA for 1.0 sec |



Chassis with 100A main switch

| Pole capacity | Height (mm) | Width (mm) | Item no. |
|---------------|-------------|------------|----------------|
| 12 | 305 | 332 | Q12PVQT |
| 24 | 457 | 332 | Q24PVQT |
| 36 | 610 | 332 | Q36PVQT |

Non standard variations are available on request. Prices on application.

Chassis vertical & horizontal type - 250A rated

| Pole capacity | Item no. Vertical | Height * (mm) | Item no. Horizontal | Height * (mm) |
|---------------|---------------------|---------------|---------------------|---------------|
| 12 | Q12PV ⓪ | 229 | Q12PH | 229 |
| 18 | Q18PV ⓪ | 305 | Q18PH | 305 |
| 24 | Q24PV ⓪ | 381 | Q24PH | 381 |
| 30 | Q30PV ⓪ | 457 | Q30PH | 457 |
| 36 | Q36PV ⓪ | 534 | Q36PH | 534 |
| 42 | Q42PV ⓪ | 610 | Q42PH | 610 |
| 48 | Q48PV ⓪ | 686 | Q48PH | 686 |
| 60 | Q60PV ⓪ | 838 | Q60PH | 838 |
| 72 | Q72PV ⓪ | 991 | Q72PH | 991 |
| 78 | Q78PV ⓪ | 1067 | | |
| 84 | Q84PV ⓪ | 1143 | | |
| 96 | Q96PV ⓪ | 1291 | | |
| 108 | Q108PV-400 ⓪ | 1444 | | |

* Busbars extend 42mm over top & bottom of mounting pan on Vertical type & left & right on horizontal.

⓪ For 400A option add -400 to end of item no. (example Q36PV-400)

⓪ 108 pole only available in 400A rating

Chassis half-width type

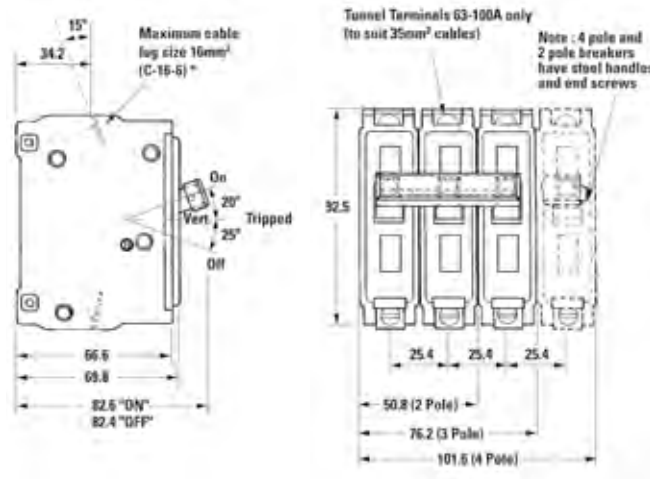
| Pole capacity | Item no. Vertical | Height x Width* (mm) | Item no. Horizontal | Height x Width* (mm) |
|---------------|--------------------|----------------------|---------------------|----------------------|
| 12 | 1521-1560/1 | 381* x 230 | 1521-1561/1 | 230 x 381* |
| 18 | 1521-1560/2 | 534* x 230 | 1521-1561/2 | 230 x 534* |
| 24 | 1521-1560/3 | 686* x 230 | 1521-1561/3 | 230 x 686* |
| 30 | 1521-1560/4 | 838* x 230 | 1521-1561/4 | 230 x 838* |

* Busbars extend 42mm over both sides of mounting pan.

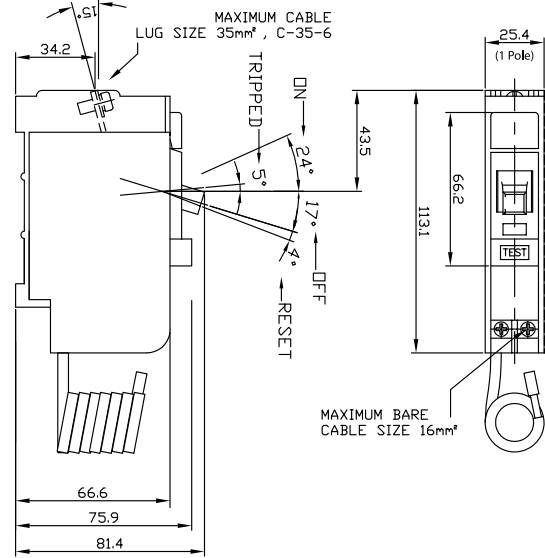
* Half-Width Chassis are made to order.

Dimensional data

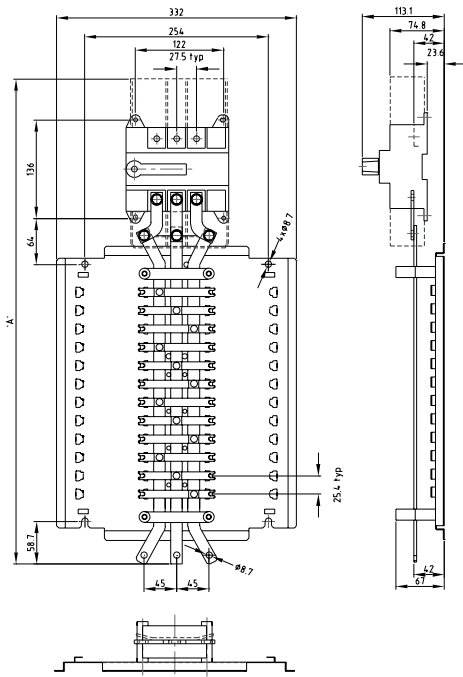
Quicklag dimensions



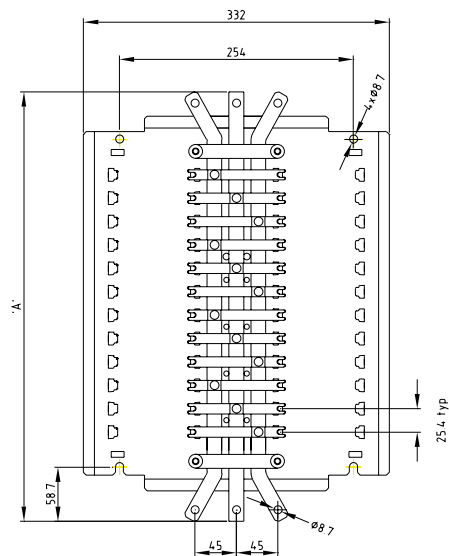
ELQ dimensions



Chassis with main switch dimensions

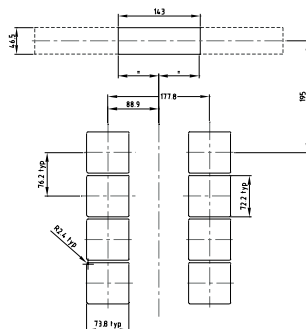


Chassis dimensions



Quicklag Chassis

| Poles | Dimension A (mm) |
|-------|------------------|
| 24 | 671 |
| 36 | 823 |
| 48 | 976 |
| 60 | 1128 |
| 72 | 1281 |
| 84 | 1433 |
| 96 | 1585 |
| 108 | 1738 |



Quicklag Chassis

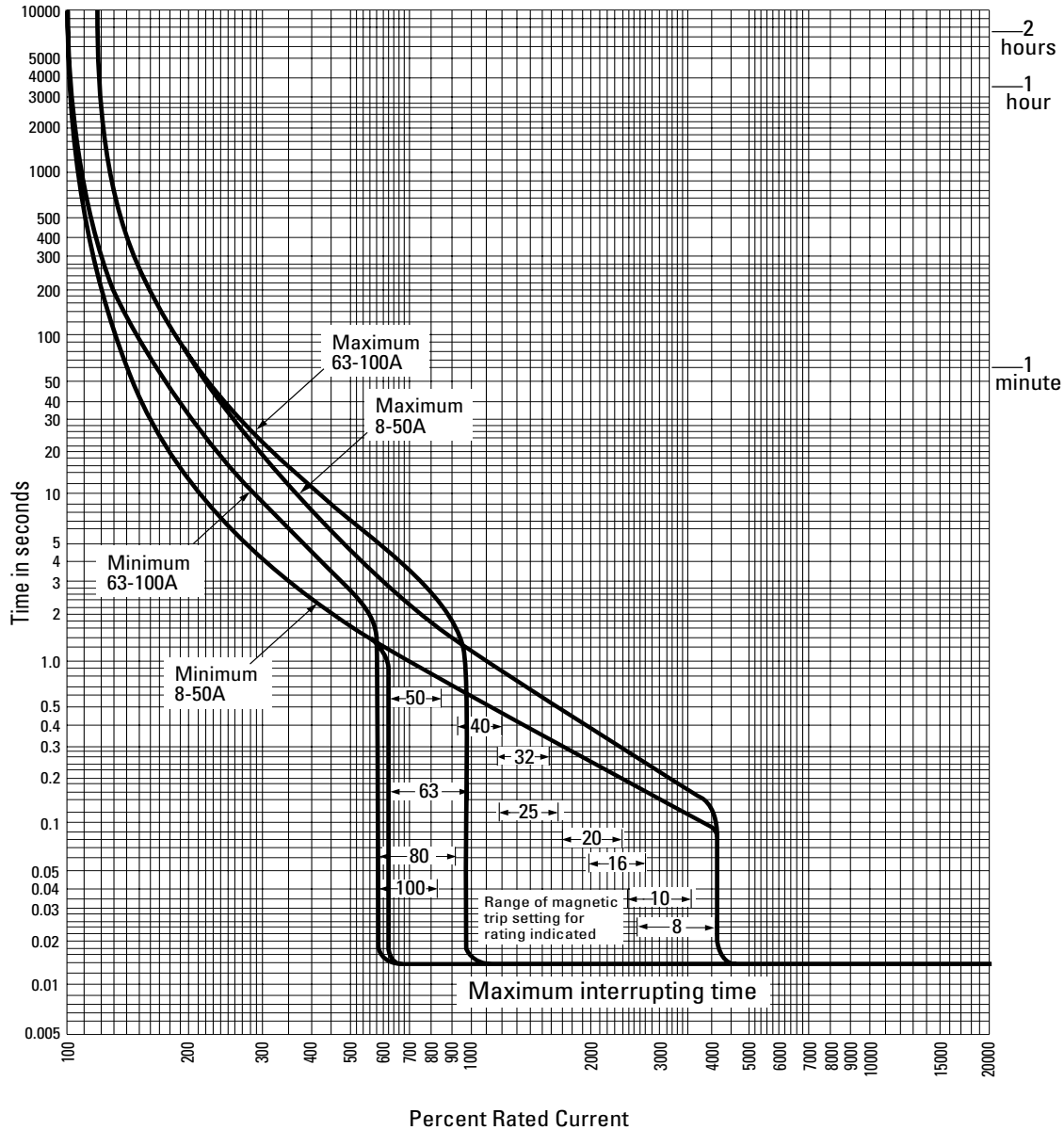
| Poles | Chassis vertical height Dim A (mm) | Chassis horizontal width Dim A (mm) |
|-------|------------------------------------|-------------------------------------|
| 12 | 313 | 313 |
| 18 | 389 | 389 |
| 24 | 465 | 465 |
| 30 | 541 | 541 |
| 36 | 618 | 618 |
| 42 | 694 | 694 |
| 48 | 770 | 770 |
| 60 | 922 | 922 |
| 72 | 1075 | 1075 |
| 78 | 1151 | - |
| 84 | 1127 | - |
| 96 | 1375 | - |
| 108 | 1528 | - |

Circuit protection

Quicklag MCB

Technical data

Quicklag MCB time current curve



Time current curves show response times in seconds for applied overcurrent expressed in percentages of rated current. The values are for breakers operating in open air in ambient of 40°C, or inside an enclosure in an ambient of 25°C with no current through the breaker before application of over current.

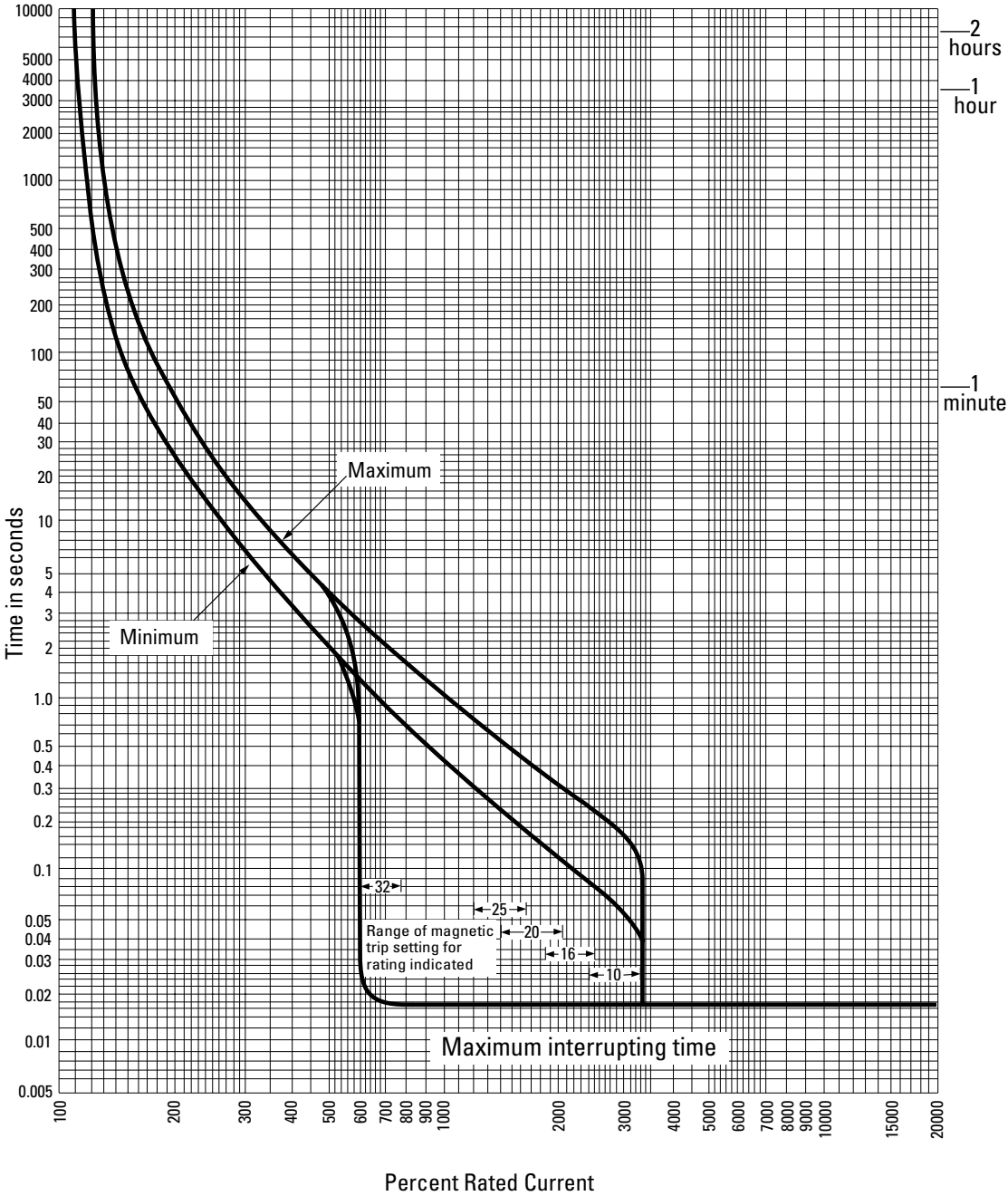
The characteristics are presented not as a single curve but as a band defined by maximum and minimum curves. The characteristics curve for any particular breaker will lie within this band. However, this does not imply that its tolerance band is as wide as the plotted band, which allows for manufacturing and calibrating variations for the range overall.

Specifications - The specifications in this publication were correct at the time the publication went to press. Eaton reserves the right to change the specifications of its products without notice.

Installation and use - The products described in this publication should only be installed and used in accordance with any accompanying instruction sheets. The full extent permitted by law, Eaton expressly excludes all and any liability arising from installation or use of products which is not in accordance with the relevant instruction manual.

Technical data

Quicklag ELQ time current curve



Circuit protection

Quicklag MCB

Technical data

Fuse backup

Fuse brands recommended are based on exhaustive type testing conducted at the Australia Electrical Test Centre, University of South Australia, in accordance with the relevant subclauses under clause 8.2.3 of Australian Standard AS3439.1-1993. Peak let-through current and energy, as stated by the respective fuse suppliers, have been detailed in the technical data grid below to assist in choosing a replacement fuse. The recommended back-up fuse ratings are valid for prospective system fault levels up to 50kA rms, 415VAC, 3-phase. The minimum fuse size which can be used for such applications is based on grading under overload, one breaker with one fuse. Minimum BS88/DIN fuse sizes recommended for use with Eaton circuit breakers is as follows: Quicklag 8-16A: 63A; Quicklag 20-40A: 80A; Quicklag 50-63A: 100A; Quicklag 80-100A: 160A.

Fault current limiting fuses for series connected protection of Eaton Quicklag circuit breakers

| Ratings (Amps) | BS88 fuse (Quicklag) | DIN fuse (Quicklag) |
|----------------|----------------------|---------------------|
| 8 | 160 | 160 |
| 10 | 160 | 160 |
| 16 | 160 | 200 |
| 20 | 200 | 200 |
| 25 | 200 | 200 |
| 32 | 200 | 250 |
| 40 | 200 | 250 |
| 50 | 200 | 250 |
| 63 | 200 | 250 |
| 80 | 200 | 250 |
| 100 | 200 | 250 |

AS3000-1991 - Attention is drawn to clause 2.19.4.4 of AS3000-1991 requiring that fault current limiters protecting fire and life equipment shall not be affected by a fault on the general installation
AS/NZS3000-2000 - Attention is drawn to clause 7.10.4.4 of AS/NZS3000-2000 requiring that fault current limiters protecting fire and life shall not be affected by a fault on the general installation.

D.O.L starting

Recommend circuit breaker type and continuous current rating for motors with start times

| FLC (Amps) | Approximate motor (kW) | Approximate motor (HP) | Quicklag (5 sec start) | Quicklag (10 sec start) |
|------------|------------------------|------------------------|------------------------|-------------------------|
| 1.8 | 0.75 | 1 | 8 * | 8 * |
| 3 | 1.1 | 1.5 | 10 | 16 * |
| 4 | 1.5 | 2 | 16 * | 16 * |
| 5 | 2.2 | 3 | 16 * | 20 * |
| 6-7 | 3 | 4 | 20 * | 25 * |
| 8 | 4 | 5.5 | 20 | 25 * |
| 9 | 4.5 | 6 | 25 | 32 * |
| 11 | 5.5 | 7.5 | 40 * | 50 * |
| 12-16 | 7.5 | 10 | 50 * | 63 * |
| 17-20 | 9 | 12.5 | 63 * | 63 * |
| 21-24 | 11 | 15 | 63 | 63 |
| 25-30 | 15 | 20 | 63 | 80 * |
| 31-40 | 18.5 | 25 | 80 | 100 |
| 41-44 | 22 | 30 | 100 | - |
| 45-52 | 25 | 35 | 100 | - |
| 53-56 | 30 | 40 | 100 | - |

This table is based on average 3-phase, 415VAC motors only, holding 125% FLC continuously and 600% motor FLC for at least 5 and at least 10 seconds as shown. The breakers listed in this table, have either solid state or thermal/magnetic trip releases. The breaker having adjustable thermal and/or magnetic settings must be set at their minimum values.
AS/NZS3000:2007

*These breakers do not provide protection against short time overload currents in accordance with AS/NZS3000:2007, section 2.5.3.

*A separate overload protection device should be used in conjunction with this breaker (refer AS/NZS3000:2007, section 2.5). Attention is drawn to AS/NZS3000:2007, section 2.5.3 which requires coordination between the conductors and the protective device. Note that this may involve provision of additional overload protection or appropriate cable size selection.

Star Delta, auto-transformer, resistor or reactance motor starting

Recommend circuit breaker type and continuous current rating for motors with start times

| FLC (Amps) | Approximate Motor (kW) | Approximate Motor (HP) | Quicklag (20 sec start) |
|------------|------------------------|------------------------|-------------------------|
| 3 | 1.1 | 1.5 | 8 * |
| 4 | 1.5 | 2 | 8 |
| 5 | 2.2 | 3 | 10 |
| 6-7 | 3 | 4 | 16 * |
| 8 | 4 | 5.5 | 16 |
| 9 | 4.5 | 6 | 20 * |
| 11 | 5.5 | 7.5 | 25 * |
| 12-16 | 7.5 | 10 | 32 * |
| 17-20 | 9 | 12.5 | 40 |
| 21-24 | 11 | 15 | 50 * |
| 25-30 | 15 | 20 | 50 |
| 31-40 | 18.5 | 25 | 63 * |
| 41-44 | 22 | 30 | 63 |
| 45-52 | 25 | 35 | 80 |
| 53-56 | 30 | 40 | 80 |
| 57-60 | 34 | 45 | 100 |
| 61-70 | 37 | 50 | 100 |

This table is based on average 3-phase, 415VAC motors only, holding 115% FLC continuously and 350% motor FLC for at least 20 seconds as shown. The breakers listed in this table, have either solid state or thermal/magnetic trip releases. The breaker having adjustable thermal and/or magnetic settings must be set at their minimum values.

AS/NZS3000:2007

*These breakers do not provide protection against short time overload currents in accordance with AS/NZS3000:2007, section 2.5.3.

*A separate overload protection device should be used in conjunction with this breaker (refer AS/NZS3000:2007, section

2.5). Attention is drawn to AS/NZS3000:2007, section 2.5.3 which requires coordination between the conductors and the protective device. Note that this may involve provision of additional overload protection or appropriate cable size selection.

Fire pump motor starting

Recommend circuit breaker type and continuous current rating for motors with start times

| FLC (Amps) | Approximate motor (kW) | Approximate motor (HP) | Quicklag (20 sec start) |
|------------|------------------------|------------------------|-------------------------|
| 1.5 | 0.55 | 0.75 | 10 * |
| 1.8 | 0.75 | 1 | 10 * |
| 3 | 1.1 | 1.5 | 10 * |
| 4 | 1.5 | 2 | 16 * |
| 5 | 2.2 | 3 | 20 * |
| 6-7 | 3 | 4 | 25 * |
| 8 | 4 | 5.5 | 32 * |
| 9 | 4.5 | 6 | 32 * |
| 11 | 5.5 | 7.5 | 40 * |
| 12-16 | 7.5 | 10 | 63 * |
| 17-20 | 9 | 12.5 | 63 * |
| 21-24 | 11 | 15 | 63 * |
| 25-30 | 15 | 20 | 80 * |

This table is based on average 3-phase, 415VAC motors only, holding 125% FLC continuously and 600% motor FLC for at least 20 seconds as shown. The breakers listed in this table, have either solid state or thermal/magnetic trip releases. The breaker having adjustable thermal and/or magnetic settings must be set at their minimum values.

AS/NZS3000:2007 The recommended breaker ratings are based on AS/NZS3000:2007, section 7.2.9 and that only one fire-pump motor is protected by each recommended circuit-breaker rating.

* These breakers do not provide protection against short time overload currents in accordance with AS/NZS3000:2007, section 2.5.3.

* A separate overload protection device should be used in conjunction with this breaker (refer AS/NZS3000:2007, section 2.5). Attention is drawn to AS/NZS3000:2007, section 2.5.3 which requires coordination between the conductors and the protective device. Note that this may involve provision of additional overload protection or appropriate cable size selection.

Technical data

Earth fault loop impedance

Maximum values of Earth Fault-Loop impedance (Zs at 230V). Quicklag equivalent to table 8.1 from AS/NZS3000:2007.

| Quicklag rating, In (A) | Mean automatic operation current, Ia (A) | Maximum circuit impedance, Zs (Ohms) |
|-------------------------|--|--------------------------------------|
| 8 | 135 | 1.70 |
| 10 | 170 | 1.35 |
| 16 | 270 | 0.85 |
| 20 | 335 | 0.69 |
| 25 | 355 | 0.65 |
| 32 | 440 | 0.52 |
| 40 | 425 | 0.54 |
| 50 | 390 | 0.59 |
| 63 | 520 | 0.44 |
| 80 | 590 | 0.39 |
| 100 | 700 | 0.33 |

This table was calculated using the formula defined in clause B4.5

$$Z_s = \frac{U_o}{I_a}$$

Where:

Uo = 230V

Ia = Known Value (derived from published Quicklag trip curves)

Maximum circuit lengths, in metres, for different size of conductors & protective devices using approximate mean tripping currents (Ia)*. Quicklag Equivalent to Table B1 from AS/NZS3000:2007

| Conductor size | Conductor size | Quicklag rating | Mean automatic operation current | Maximum circuit length (Copper) | Maximum circuit length (Aluminum) |
|-------------------------------|------------------------------|-----------------|----------------------------------|---------------------------------|-----------------------------------|
| Active Sph (mm ²) | Earth Spe (mm ²) | In (A) | Ia (A) | Lmax (m) | Lmax (m) |
| 1 | 1 | 8 | 135 | 30 | 18 |
| 1 | 1 | 10 | 170 | 24 | 15 |
| 1.5 | 1.5 | 10 | 170 | 36 | 22 |
| 1.5 | 1.5 | 16 | 270 | 22 | 14 |
| 2.5 | 2.5 | 16 | 270 | 37 | 23 |
| 2.5 | 2.5 | 20 | 335 | 30 | 19 |
| 4 | 2.5 | 25 | 355 | 35 | 22 |
| 4 | 2.5 | 32 | 440 | 28 | 17 |
| 6 | 2.5 | 40 | 425 | 33 | 21 |
| 10 | 4 | 50 | 390 | 59 | 37 |
| 16 | 6 | 63 | 520 | 68 | 42 |
| 16 | 6 | 80 | 590 | 60 | 37 |
| 25 | 6 | 80 | 590 | 67 | 41 |
| 25 | 6 | 100 | 700 | 56 | 35 |
| 35 | 10 | 100 | 700 | 90 | 56 |

This table was calculated using the formula defined in clause B5.2.2

$$L_{max} = \frac{0.8U_o S_{ph} S_{pe}}{I_a \rho (S_{ph} + S_{pe})}$$

Where:

Uo = 230V

Ia = Known Value (derived from published Quicklag trip curves)

ρ = Resistivity values shown in the standard
Sph & Spe = Cross sectional Areas of Conductors

Cascading & discrimination tables

Cascading & Discrimination of series connected Eaton Quicklag MCB & moulded case circuit breakers

| Breaker Upstream | FWF 40kA | FW 40kA | HFWF 70kA | HFW 70kA |
|--------------------|----------|----------------------|----------------|----------------|
| Breaker Downstream | - | - | - | - |
| Quicklag MCB | X/Y | 1.2/18 1.6/18 1.8/18 | 160A 200A 225A | 160A 200A 225A |

X= Discrimination up to 4kA

Y = Cascading up to 40kA

This table is based on circuit breakers installed on a system with a voltage of 415Vac, 50Hz,

3-Phase Upstream circuit breakers must have their thermal & magnetic characteristics set at their maximum values to obtain the stated discrimination level.

4/40 means that up to 4kA, only the downstream circuit breaker will trip. Above this level, either or both circuit breaker will trip.

This combination has been tested in series for cascading at 40kA

Fuse backup let-through energies

Technical data on HRC fuses type tested for back-up protection of Eaton Quicklag circuit breakers

| Fuse Manufacturer | Fuse Type | Fuse Item No. | Fuse Rating (A) | i ² -t Value Pre-Arcing (AMP ² -sec) | i ² -t Value Total @ 415VAC (AMP ² -sec) | i ² -t Value Total @ 550VAC (AMP ² -sec) | i ² -t Value Total @ 600VAC (AMP ² -sec) | Peak Cut-Off Current @ 50kA (kA) | Watts Loss (W) |
|-------------------|-----------|---------------|-----------------|--|--|--|--|----------------------------------|----------------|
| Bovara-Crady | DIN | AC-1 | 160 | 0.52 x 105 | N/A | 1.00 x 105 | N/A | 15.00 | 13.12 |
| | DIN | AC-1 | 200 | 1.00 x 105 | N/A | 2.00 x 105 | N/A | 17.00 | 17.00 |
| | DIN | AC-1/2 | 250 | 1.50 x 105 | N/A | 3.50 x 105 | N/A | 20.00 | 20.00 |
| Siemens Ltd | BS88 | 3NWTF | 160 | 0.52 x 105 | 1.42 x 105 | 1.96 x 105 | N/A | 17.50 | 13.00 |
| | BS88 | - | 200 | 1.16 x 105 | 3.30 x 105 | 4.56 x 105 | N/A | 21.00 | 15.20 |

LCQ Metal loadcentres

The LCQ loadcentre range is designed for Quicklag breakers and is most suitable for small & compact industrial installations & is available in capacities ranging from 6 pole to 18 pole in a single row. The LCQ range is constructed from robust steel & is dimensioned so that ample space for wiring is available. The standard LCQ is supplied with 100A active link & earth bar & a neutral link that can accommodate 35mm² incoming cable. For 3 phase requirements, 12 pole & 18 pole 100A busbars are available for line side termination.

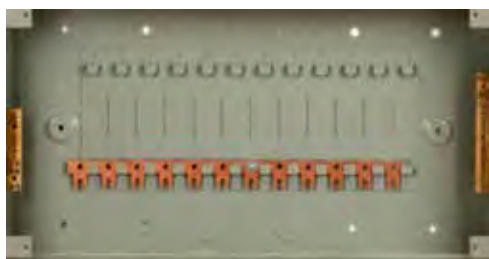


Key Features

- Available in 6 to 18 poles
- Complete with active busbar, earth bar & neutral link
- Metal construction & Ripple Grey finish as standard
- Designed to meet IP40 requirements as standard
- Flushed mounting kit and door kit available as additional items

Dimensions

| Height (mm) | Width (mm) | Depth (mm) |
|-------------|------------|------------|
| 234 | below | 70 |



Surface Mount LCQ Loadcentres

Quicklag LCQ metal loadcentres

| Pole capacity | Width x depth x height (mm) | Item no. surface mount | Item no. flush mount kit | Item no. door kit |
|---------------|-----------------------------|------------------------|--------------------------|-------------------|
| 6 | 284 x 70 x 234 | LCQ6S | LCQ6FKIT | LCQDRKIT6 |
| 9 | 360 x 70 x 234 | LCQ9S | LCQ9FKIT | LCQDRKIT9 |
| 12 | 436 x 70 x 234 | LCQ12S | LCQ12FKIT | LCQDRKIT12 |
| 18 | 589 x 70 x 234 | LCQ18S | LCQ18FKIT | LCQDRKIT18 |

Flush cover = + 50mm extra for height & depth..

Typical Ordering Examples (12 pole):

Surface mount: LCQ12S

Flush mount: LCQ12S + LCQ12FKIT

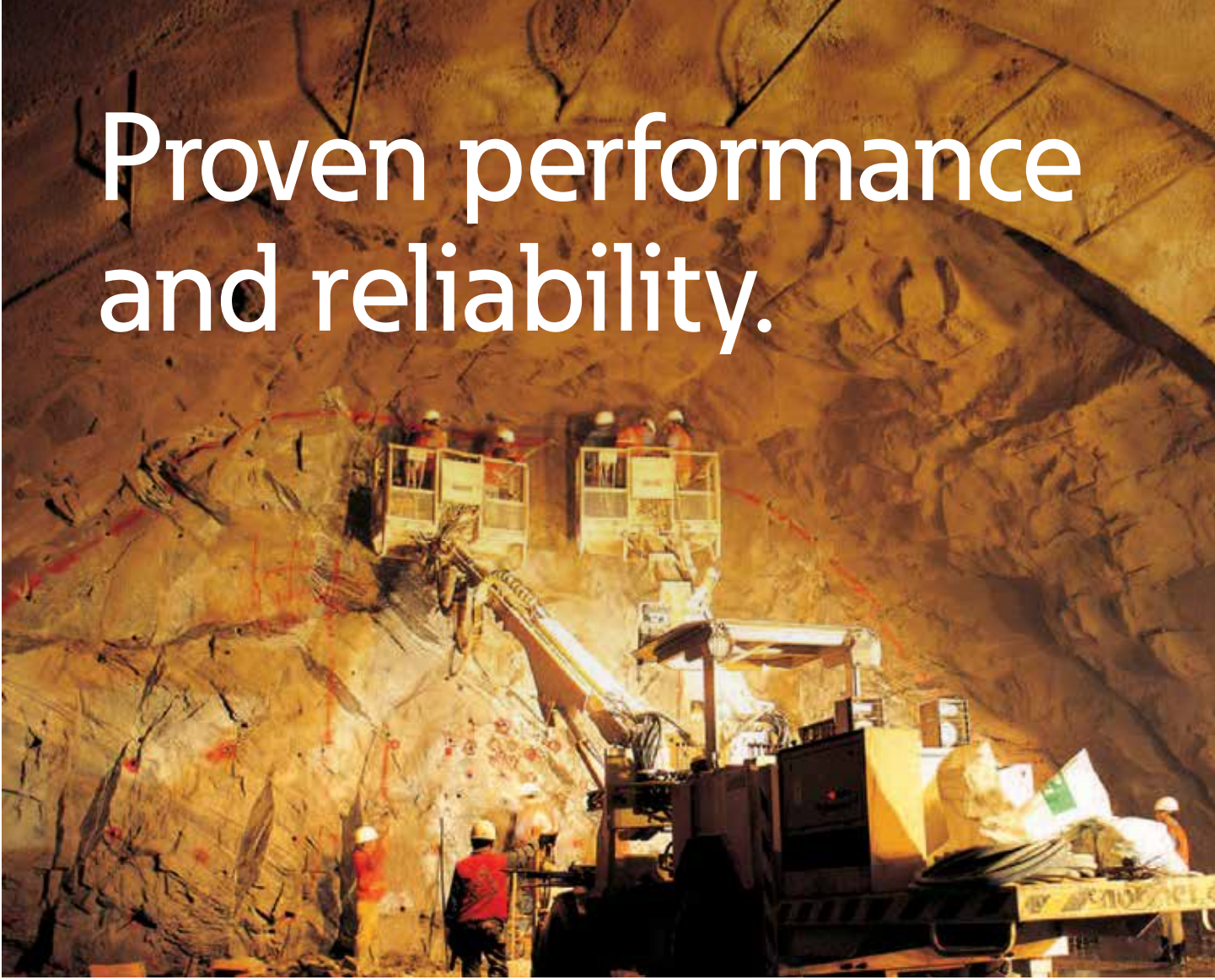
Surface mount with door: LCQ12S + LCQDRKIT12

Flush mount with door: LCQ12S + LCQ12FKIT + LCQDRKIT12

Accessories

| Description | Item no. |
|---------------------------------------|---------------------|
| Spare pole fillers | QPF |
| Designation labels, neutral, earth | 1521-0031/14 |
| Designation labels, 1-20, main switch | 1521-0175/1 |
| 12 pole, 3 phase busbar kit | LCQ12PBB |
| 18 pole, 3 phase busbar kit | LCQ18PBB |
| Coin lock for door version only | LCQCLK |
| LCQ E-Lock field fittable kit | LCQELOCK |

Proven performance and reliability.



With Eaton's mining service circuit breakers, we're continuing a 40 year tradition of being the undisputed leader in electric power distribution to the mining industry.

Widely recognised in the mining industry for their features – and their distinctive orange cover, E2 Rock mining circuit breakers are still renowned for their proven performance and reliability.

Some features of the Rock breakers that make them ideal for mining applications include:

- Widest range of protection available with thermal ratings from 16A up to 2000A
- Wide range of low magnetic trip units to protect applications with long trailing cables and low fault levels
- A voltage present LED for phase failure sensitive applications
- Optional LED indication for undervoltage release to confirm breaker can be safely reset
- Common accessories with the Series C range of 415VAC Moulded Case Circuit Breakers including shunt trips, undervoltage releases, auxiliary contacts, alarm switches, rotary handles and terminal shields

EATON

Powering Business Worldwide

Circuit protection

Aftermarket and mining MCCB



Series C, moulded case circuit breakers - FW/HFW

225A F frame World Series C -

supplied with chassis mounting screws for the line side & terminals fitted on the load side. Trip units are non-interchangeable.

| | | |
|------------------------------|--|---|
| Thermal setting | fixed (FWF), adjustable (FW: 80-100%) fixed (HFWF), adjustable (HFW: 80-100%) | |
| Magnetic setting | fixed ($8 \times I_n$) | |
| Interrupting capacity | FW | 40kA at 415Vac 10kA at 250Vdc/2,3,4 pole |
| | HFWF, HFW | 70kA at 415Vac 20kA at 250Vdc/2,3,4 pole |
| Approvals | IEC947-2 | |
| Dimensions | H x W x D (mm) | Weight (kg) |
| | 1 pole | 153 x 35 x 86 0.9 |
| | 2 pole | 153 x 70 x 86 1.6 |
| | 3 pole | 153 x 105 x 86 2.3 |
| | 4 pole | 153 x 140 x 86 3.0 |

40kA (225AF thermal magnetic circuit breakers)

| Ampere rating | 1 pole* item no. | 2 pole item no. | 3 pole item no. | 4 pole ① item no. |
|---------------|------------------|-----------------|-----------------|-------------------|
| 16 | FWF1016 | FWF2016 | FWF3016 | FWF4016 |
| 20 | FWF1020 | FWF2020 | FWF3020 | FWF4020 |
| 25 | FWF1025 | FWF2025 | FWF3025 | FWF4025 |
| 32 | FWF1032 | FWF2032 | FWF3032 | FWF4032 |
| 40 | FWF1040 | FWF2040 | FWF3040 | FWF4040 |
| 50 | FWF1050 | FWF2050 | FW3050 | FWF4050 |
| 63 | FWF1063 | FWF2063 | FW3063 | FWF4063 |
| 80 | FWF1080 | FWF2080 | FW3080 | FWF4080 |
| 100 | FWF1100 | FWF2100 | FW3100 | FWF4100 |
| 125 | FWF1125 | FWF2125 | FW3125 | FWF4125 |
| 160 | FWF1160 | FWF2160 | FW3160 | FWF4160 |
| 200 | - | FWF2200 | FW3200 | FWF4200 |
| 225 | - | FWF2225 | FWF3225 | FWF4225 |

① 4 pole with unprotected neutral. 100% & 60% protected neutral available on application.

70kA (225AF thermal magnetic circuit breakers)

| Ampere rating | 1 pole* item no. | 2 pole item no. | 3 pole item no. |
|---------------|------------------|-----------------|-----------------|
| 16 | HFWF1016 | HFWF2016 | HFWF3016 |
| 20 | HFWF1020 | HFWF2020 | HFWF3020 |
| 25 | HFWF1025 | HFWF2025 | HFWF3025 |
| 32 | HFWF1032 | HFWF2032 | HFWF3032 |
| 40 | HFWF1040 | HFWF2040 | HFWF3040 |
| 50 | HFWF1050 | HFWF2050 | HFW3050 |
| 63 | HFWF1063 | HFWF2063 | HFW3063 |
| 80 | HFWF1080 | HFWF2080 | HFW3080 |
| 100 | HFWF1100 | HFWF2100 | HFW3100 |
| 125 | HFWF1125 | HFWF2125 | HFW3125 |
| 160 | HFWF1160 | HFWF2160 | HFW3160 |
| 200 | - | - | HFW3200 |
| 225 | - | - | HFWF3225 |

*No internal accessories can be used with the 1 pole F frame.

"The Rock" 1100V mining circuit breakers - F frame



1100V mining circuit breakers - F frame

| Current rating | PSCC at 1000V | PSCC at 1100V | Item no. |
|----------------|---------------|---------------|----------|
| 16 | 10kA | 7.5kA | E2FM3016 |
| 20 | 10kA | 7.5kA | E2FM3020 |
| 25 | 10kA | 7.5kA | E2FM3025 |
| 32 | 10kA | 7.5kA | E2FM3032 |
| 40 | 10kA | 7.5kA | E2FM3040 |
| 50 | 10kA | 7.5kA | E2FM3050 |
| 63 | 10kA | 7.5kA | E2FM3063 |
| 80 | 10kA | 7.5kA | E2FM3080 |
| 100 | 10kA | 7.5kA | E2FM3100 |
| 125 | 10kA | 7.5kA | E2FM3125 |
| 160 | 10kA | 7.5kA | E2FM3160 |

Magnetic only adjustable - F frame

| Description | Item no. |
|------------------------------------|-----------|
| Magnetic only trip 150 to 500A | E2FM100KM |
| Magnetic only trip 300 to 1000A | E2FM100RM |
| Magnetic only trip 450 to 1500A | E2FM150TM |
| Magnetic only trip 750 to 2500A | E2FM150UM |

Series C, moulded case circuit breakers - FW/HFW and E2FM Rock

Accessory - F frame

| Description | Item no. |
|---|----------------------|
| Alarm switch with pigtail lead connection | A1L1LPK ① |
| Auxiliary switch with pigtail lead connection | A1X1PK ① |
| Auxiliary switch, 2 pole, Left Hand mount with pigtail lead connection | A2X1LPK ① |
| Auxiliary switch, 2 pole, Right Hand mount with pigtail lead connection | A2X1RPK ① |
| Combination auxiliary/alarm switch, Left hand mount with pigtail lead connection | AAL1LPK ① |
| Shunt trip, 9-24Vac, 12-24Vdc, Right hand mount with pigtail lead connection | SNT1RP03K ① |
| Shunt trip, 48-127Vac, 48-60Vdc, Right hand mount with pigtail lead connection | SNT1RP08K ① |
| Shunt trip, 208-380Vac, 110-127Vdc, Right hand mount with pigtail lead connection | SNT1RP12K ① |
| Shunt trip, 415-600Vac, 220-250Vdc, Right hand mount with pigtail lead connection | SNT1RP18K ① |
| Under-voltage release fixed breaker 24Vac with pigtail lead connection | UVH1RP03K ① |
| Under-voltage release fixed breaker 48-60Vac/dc with pigtail lead connection | UVH1RP05K ① |
| Under-voltage release fixed breaker 110-127Vac with pigtail lead connection | UVH1RP08K ① |
| Under-voltage release fixed breaker 208-240Vac with pigtail lead connection | UVH1RP11K ① |
| Under-voltage release fixed breaker 380-480Vac with pigtail lead connection | UVH1RP15K ① |
| Under-voltage release fixed breaker 24Vdc with pigtail lead connection | UVH1RP21K ① |
| Under-voltage release fixed breaker 48Vdc with pigtail lead connection | UVH1RP22K ① |
| Under-voltage release fixed breaker 110-127Vdc with pigtail lead connection | UVH1RP26K ① |
| Under-voltage release adjustable breaker 208-240Vac with pigtail lead connection | WUVH1RP11K ① |
| Under-voltage release adjustable breaker 380-480Vac with pigtail lead connection | WUVH1RP15K ① |
| Under-voltage release adjustable breaker 24Vdc with pigtail lead connection | WUVH1RP21K ① |
| Under-voltage release adjustable breaker 60Vac/dc with pigtail lead connection | WUVH1RP24K ① |
| Under-voltage release adjustable breaker 110-127Vdc with pigtail lead connection | WUVH1RP26K ① |
| Solenoid operator, 240Vac, | EOP1T11 ② |
| Padlockable handle lock, 1 pole (PHL1) | 373/1128 |
| Padlockable handle lock hasp (2,3,4 pole only) (Padlock not included) (PLK1) | 373/1121 |
| Non-padlockable handle block (LKD1 Lockdog) | 373/1126 |
| F LH Lock OFF only hasp | PLK1LOFF |
| E-to-F frame conversion kit, 1 pole, F frame on E Frame Chassis | E-FB1P ③ |
| E-to-F frame conversion kit, 3 pole | E-FB3P ③ |
| Terminal kit, 6mm ² (kit of 3) | T32FB |
| Terminal Kit (3T150FB), 25-95mm ² 160A (kit of 3) | T160FB |
| Terminal kit, 225A, 25-95mm ² (kit of 3) | 3TA225FD |
| General purpose connector - Rear stud (kit of 2), 1 x long, 1 x short | 1517-2013/1 ③ |
| Terminal extension kit - (set of 1 straight busbars + fasteners) | 1517-2082/1 ④ |
| Terminal extension spreader kit - offset tag - 3 tags | FOST3 ④ |
| Keeper nut kit FW/HFW/HFB | 1517-2021/1 |
| Interphase barriers (2) | IPB1 |
| Terminal shields, plastic (2), 3-pole | TSF |
| Rotary handle kit - metal handle with mechanism & 30cm shaft - IP66 | WHM1R12X |
| F Frame VariDepth mechanism | 373/1120 |
| Handle only, VariDepth | 1517-0488/1 |
| Weatherproof handle, VariDepth | 1517-0488/2 |
| Shaft, 165mm for VariDepth | 368/187 |
| Shaft, 260mm for VariDepth | 368/186 |
| Pole Filler - F frame | FPF |
| Mounting Hardware - 1 Pole F Frame | 4218B80G15 |



A1X1PK



SNT1RP08K



E-FB3P



WHM1R12X

FAQ's

Alarm switches will signal only closed + tripped positions

Auxiliary switches will signal only open + closed positions

Under-voltage release must be energised before closing breaker

- ① Factory fitted only. No internal accessories can be used with the 1-pole F-frame.
- ② Can only be fitted to 3+4-pole Moulded Case Circuit Breakers.
- ③ Cannot be used on Rock breakers.
- ④ Not recommended on Rock breakers due to impacting insulation clearance distances.

Circuit protection

Aftermarket and mining MCCB



Series C, moulded case circuit breakers - JW

250A J frame World Series C -

Thermal magnetic breaker is made up of two units: frame & interchangeable trip unit.

3 pole versions standard, 4 pole versions available on request.

| | | | |
|------------------------------|--|--------------------|--|
| Thermal setting | adjustable | | |
| Magnetic setting | adjustable (5 to 10 x I _n) | | |
| Interrupting capacity | see below | | |
| Approvals | IEC947-2 | | |
| Dimensions | H x W x D (mm) | Weight (kg) | |
| 3 pole | 254 x 105 x 103 | 5.0 | |
| 4 pole | 254 x 140 x 103 | 6.8 | |

J frame + Trip unit = Breaker

J frame (only)

| Interrupting capacity | Item no. |
|-------------------------|-------------------|
| 40kA at 415Vac | JW3250F |
| 70kA at 415Vac | HJW3250F |
| 70kA at 415Vac (4 pole) | HJW4250F |
| 100kA at 415Vac | JWC3250F |
| 30kA at 500Vdc | HJDDC3250F |

Trip unit - (thermal magnetic)

| Ampere rating | Item no. |
|-----------------|-----------------|
| 100-125 | JT3125TA |
| 125-160 | JT3160TA |
| 160-200 | JT3200TA |
| 200-250 | JT3250TA |
| 4 pole 160-200A | JT4200TA |
| 4 pole 200-250A | JT4250TA |



"The Rock" 1100V mining circuit breakers - J frame

1100V mining circuit breaker - J frame

| Description | PSCC at 1000V | PSCC at 1100V | Item no. |
|------------------|---------------|---------------|------------------|
| 100-250A J Frame | 10kA | 8kA | E2JM3250F |

Trip unit - (thermal magnetic)

| Ampere rating | Item no. |
|---------------|-----------------|
| 100-125 | JT3125TA |
| 125-160 | JT3160TA |
| 160-200 | JT3200TA |
| 200-250 | JT3250TA |

J Frame magnetic only trip unit

| Motor FLC | Max. current | HMCP magnetic trip settings - selected position & current ratings | | | | | | | | | | Item no. |
|---------------|--------------|---|------|------|------|------|------|------|------|------|------------------|----------|
| | | A | B | C | D | E | F | G | H | I | | |
| 27.0 - 57.2A | 250 | 350 | 400 | 440 | 480 | 525 | 570 | 610 | 660 | 700 | HMCP250A | |
| 34.7 - 73.5A | 250 | 450 | 505 | 565 | 620 | 680 | 735 | 790 | 845 | 900 | HMCP250C | |
| 38.5 - 81.6A | 250 | 500 | 565 | 625 | 690 | 750 | 810 | 875 | 935 | 1000 | HMCP250D | |
| 48.1 - 102.0A | 250 | 625 | 700 | 780 | 860 | 940 | 1020 | 1090 | 1170 | 1250 | HMCP250F | |
| 57.7 - 122.4A | 250 | 750 | 840 | 935 | 1030 | 1125 | 1220 | 1315 | 1410 | 1500 | HMCP250G | |
| 67.4 - 142.8A | 250 | 875 | 980 | 1090 | 1200 | 1310 | 1420 | 1530 | 1640 | 1750 | HMCP250J | |
| 77.0 - 163.3A | 250 | 1000 | 1125 | 1250 | 1375 | 1500 | 1625 | 1750 | 1875 | 2000 | HMCP250K5 | |
| 86.6 - 183.6A | 250 | 1125 | 1265 | 1410 | 1545 | 1690 | 1830 | 1970 | 2110 | 2250 | HMCP250L5 | |
| 96.2 - 204.0A | 250 | 1250 | 1405 | 1560 | 1720 | 1875 | 2030 | 2185 | 2340 | 2500 | HMCP250W5 | |

Series C, moulded case circuit breakers - JW and E2JM Rock

Accessory - J frame

| Description | Item no. |
|--|----------------------|
| Alarm switch with pigtail lead connection | A1L2RPK ① |
| Auxiliary switch with pigtail lead connection | A1X2PK ① |
| Auxiliary switch, 2 pole with pigtail lead connection | A2X2PK ① |
| Combination auxiliary/alarm switch with pigtail lead connection | AAL2RPK ① |
| Shunt trip, 12-24Vac, 12-24Vdc with pigtail lead connection | SNT2P04K ① |
| Shunt trip, 110-240Vac, 110-125Vdc with pigtail lead connection | SNT2P11K ① |
| Shunt trip, 380-440Vac, 220-250Vdc with pigtail lead connection | SNT2P14K ① |
| Under-voltage release, 24Vac with pigtail lead connection | UVH2LP03K ① |
| Under-voltage release, 110-127Vac with pigtail lead connection | UVH2LP08K ① |
| Under-voltage release, 208-240Vac with pigtail lead connection | UVH2LP11K ① |
| Under-voltage release, 380-480Vac with pigtail lead connection | UVH2LP15K ① |
| Under-voltage release, 24Vdc with pigtail lead connection | UVH2LP21K ① |
| Under-voltage release, 220-250Vdc with pigtail lead connection | UVH2LP28K ① |
| Solenoid operator, 240Vac | EOP2T11 ① |
| Handle extension | HEX3 |
| Padlockable handle lock hasp | PLK3 |
| Non-padlockable handle block | LKD3 |
| Plug Nut kit (6) | PLN2M |
| Terminal extension kit (3) Straight | 1517-2024/1 |
| General purpose rear connector (kit of 2) - 1 x long, 1 x short (bolt) | 1517-2009/1 ③ |
| Rear connecting studs (kit of 2) - 1 x long, 1 x short (M12 nut) | 1517-2004/1 ② |
| Metric End Cap Kit (3P) | KPEKM2 |
| J Frame Terminal Hardware Kit (3 pole) | JTH |
| Terminal lug (1) 25-185mm ² conductor | T250KB |
| Terminal shields, plastic (2) | TSJ |
| Interphase barriers (2) | IPB3 |
| Rotary handle kit - metal handle with mechanism & 30cm shaft - IP66 | WHM2R12X |
| J Frame VariDepth mechanism | 392/1024 |
| Handle only, VariDepth | 1517-0488/1 |
| Weatherproof handle, VariDepth | 1517-0488/2 |
| Shaft, 165mm - VariDepth | 368/187 |
| Shaft, 260mm - VariDepth | 368/186 |

- ① Field mountable. If factory fitting required, add \$100 for each accessory.
- ② Cannot be used on Rock breakers.
- ③ Not recommended on Rock breakers due to impacting insulation clearance distances.



AAL2RPK



UVH2LP03K



PLK3



T250KB

FAQ's

Alarm switches will signal only closed + tripped positions
 Auxiliary switches will signal only open + closed positions
 Under-voltage release must be energised before closing breaker

Circuit protection

Aftermarket and mining MCCB



Thermal magnetic trip units

| Ampere rating | Item no. |
|----------------|----------|
| 160-200 | KT3200TA |
| 200-250 | KT3250TA |
| 250-315 | KT3315TA |
| 315-400 | KT3400TA |
| 160-200 4 pole | KT4200TA |
| 200-250 4 pole | KT4250TA |
| 250-315 4 pole | KT4315TA |
| 315-400 4 pole | KT4400TA |



Series C, moulded case circuit breakers - KW

400A K frame World Series C -

Thermal magnetic or electronic breaker with interchangeable trip units. Thermal magnetic type has adjustable thermal (80-100%) & adjustable magnetic settings (5-10 x In). Electronic type has interchangeable rating plugs.

| Approvals | IEC947-2 | |
|------------|-----------------|-------------|
| Dimensions | H x W x D (mm) | Weight (kg) |
| | 257 x 140 x 103 | 6.0 |

K Frame + Thermal Magnetic Trip Unit = Thermal Magnetic Breaker
K Frame + Digitrip Unit = Electronic Breaker

K Frame (400AF thermal magnetic & electronic circuit breakers)

| Interrupting capacity | Thermal magnetic | Electronic | Item no. |
|-------------------------|------------------|------------|----------|
| 45kA at 415Vac | ✓ | ✓ | KW3400F |
| 70kA at 415Vac | ✓ | ✓ | HKW3400F |
| 70kA at 415Vac - 4 pole | ✓ | ✓ | HKW4400F |
| 100kA at 415Vac | ✓ | ✓ | KWC3400F |

Electronic trip units

| Ampere rating | Digitrip 310+ item no. | Ampere rating |
|-----------------------|------------------------|--|
| Electronic trip units | | |
| 125 | KES3125LSI | 55, 60, 70, 80, 90, 100, 110, 125 |
| 250 | KES3250LSI | 100, 125, 150, 160, 175, 200, 225, 250 |
| 400 | KES3400LSI | 160, 200, 225, 250, 300, 315, 350, 400 |

"The Rock" 1100V mining circuit breakers - K frame

1100V mining circuit breaker - K frame

| Description | PSCC at 1000V | PSCC at 1100V | Item no. |
|---------------------|---------------|---------------|-----------|
| 125-400A K Frame | 14kA | 12kA | E2KM3400F |

1100V mining circuit breaker thermal magnetic trip units - K frame

| Ampere rating | Item no. |
|---------------|----------|
| 250 | E2K3250T |
| 300 | E2K3300T |
| 350 | E2K3350T |
| 400 | E2K3400T |

1100V mining circuit breaker electronic trip units - K frame

| Ampere rating | Digitrip 310+ item no. |
|---------------|------------------------|
| 125 | KEM3125T |
| 200 | KEM3200T |
| 400 | KEM3400T2 |

Magnetic only trip, K Frame HMCP - Trip Unit only, all ratings (for use with K frame 3 pole circuit breakers)

| Motor FLC | Max. current | HMCP magnetic trip settings - selected position & current ratings | | | | | | | | | | Item no. |
|--------------|--------------|---|------|------|------|------|------|------|------|------|------------|----------|
| | | A | B | C | D | E | F | G | H | I | | |
| 48.1-102.0A | 400 | 625 | 700 | 780 | 860 | 940 | 1020 | 1090 | 1170 | 1250 | HMCP400F5 | |
| 67.4-142.8A | 400 | 875 | 980 | 1090 | 1200 | 1310 | 1420 | 1530 | 1640 | 1750 | HMCP400J5 | |
| 77.0-163.3A | 400 | 1000 | 1125 | 1250 | 1375 | 1500 | 1625 | 1750 | 1875 | 2000 | HMCP400K5 | |
| 86.6-183.6A | 400 | 1125 | 1265 | 1410 | 1545 | 1690 | 1830 | 1970 | 2110 | 2250 | HMCP400L5 | |
| 96.2-204.0A | 400 | 1250 | 1405 | 1560 | 1720 | 1875 | 2030 | 2185 | 2340 | 2500 | E2K3400TMW | |
| 153.9-326.9A | 400 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | HMCP400X5 | |

* ARMS enabled 1100V mining circuit breakers are now available. contact Eaton for more details.

Series C, moulded case circuit breakers - KW and E2KM Rock

Accessory - K frame

| Accessory | Item no. |
|--|----------------------|
| Alarm Switch with pigtail lead connection | A1L3RPK ① |
| Auxiliary Switch - 1 pole with pigtail lead connection | A1X3PK ① |
| Auxiliary Switch - 2 pole with pigtail lead connection | A2X3PK ① |
| Alarm + Auxiliary Combination Switch with pigtail lead connection | AAL3RPK ① |
| Shunt Trip Device 12-24V ac/ac with pigtail lead connection | SNT3P04K ① |
| Shunt Trip Device 110-240Vac with pigtail lead connection | SNT3P11K ① |
| Shunt Trip Device 380-440Vac with pigtail lead connection | SNT3P14K ① |
| Shunt trip device 48Vdc with pigtail lead connection | SNT3P06K ① |
| Under-voltage Trip Device 24Vac with pigtail lead connection | UVH3LP03K ① |
| Under-voltage Trip Device 48-60Vac with pigtail lead connection | UVH3LP05K ① |
| Under-voltage Trip Device 110-127Vac with pigtail lead connection | UVH3LP08K ① |
| Under-voltage Trip Device 208-240Vac with pigtail lead connection | UVH3LP11K ① |
| Under-voltage Trip Device 380-480Vac with pigtail lead connection | UVH3LP15K ① |
| Under-voltage Trip Device 24Vdc with pigtail lead connection | UVH3LP21K ① |
| Under-voltage Trip Device 48-60V DC (left) c/w Pigtail Leads with pigtail lead connection | UVH3LP23K ① |
| Under-voltage Trip Device 48-60V DC (right) c/w Pigtail Leads with pigtail lead connection | UVH3RP23K ① |
| Under-voltage Trip Device 110-125V DC with pigtail lead connection | UVH3LP26K ① |
| Under-voltage Trip Device 220-250V DC with pigtail lead connection | UVH3LP28K ① |
| Electrical Motor Operator - 240Vac | EOP3T11 |
| Toggle Extension Handle | HEX3 |
| Lockdog JW/KW | LKD3 |
| Handle Padlock Hasp | PLK3 |
| Handle, Lock OFF only | PLK3ROFF |
| Metric End Cap Kit (3 pole) | KPEKM3 |
| Keeper Nut Kit - Line side | KPR3AM |
| Keeper Nut Kit - Load side | KPR3BM |
| Terminal Hardware Kit (3 Pole) | KTH |
| T300K Terminal (1) 35-185mm ² conductor | T300K |
| T350K Terminal (1) 120-240mm ² conductor | T350K |
| Terminal L Adapter Kit | TAD3 |
| Rear Connection Stud Kit (2) - 1 x long, 1 x short | 1517-2006/1 ② |
| HKW General Purpose Connection Kit (1 x Long + Short) | 1517-2010/1 ③ |
| Terminal Extension Link Kit (3) | 1517-2032/1 ③ |
| Inter Phase Barrier | IPB3 |
| Terminal Shield (Pair) | TSK |
| Rotary Metal Handle IP66 Black 30cm Shaft with mechanism | WHM3R12X |
| K Frame VariDepth mechanism | 393/1128 |
| Handle only, VariDepth | 1517-0488/1 |
| Weatherproof handle, VariDepth | 1517-0488/2 |
| Shaft, 165mm, VariDepth | 368/187 |
| Shaft, 260mm, VariDepth | 368/186 |

① Field mountable. If factory fitting required, add \$100 for each accessory.
 ② Cannot be used on Rock breakers.
 ③ Not recommended on Rock breakers due to impacting insulation clearance distances.



A1L3RPK



SNT3P11K



KPEKM3



TAD3

FAQ's

Alarm switches will signal only closed + tripped positions
 Auxiliary switches will signal only open + closed positions
 Under-voltage release must be energised before closing breaker

Circuit protection

Aftermarket and mining MCCB



Series C, moulded case circuit breakers - LW

630A & 800A L frame World Series C -

Available in thermal magnetic or electronic types.

| | | | |
|-------------------------|-------------------------------------|-----------------------|--------------------|
| Trip units | 630A interchangeable, 800A fixed | | |
| Thermal setting | adjustable 80-100% x I _n | | |
| Magnetic setting | adjustable (5-10 x I _n) | | |
| Approvals | IEC947-2 | | |
| Dimensions | | H x W x D (mm) | Weight (kg) |
| | 3 pole 630A | 273 x 210 x 103 | 9.0 |
| | 3 pole 800A | 406 x 210 x 103 | 10.0 |
| | 4 pole 630A | 273 x 280 x 103 | 11.0 |

L Frame + Thermal Magnetic Trip Unit = Thermal Magnetic Breaker.
L Frame + Digitrip Unit + Rating Plug = Electronic Breaker

L frame (only) (630AF & 800A thermal magnetic & electronic breakers)

| Interrupting Capacity | Thermal Magnetic | Electronic | Item no. |
|-----------------------|------------------|------------|---|
| 45kA at 15Vac | ✓ | ✓ | LW3630F |
| 45kA at 15Vac | ✓ | - | LW4630F |
| 70kA at 15Vac | ✓ | ✓ | HLW3630F |
| 70kA at 15Vac | ✓ | - | HLW4630F |
| 100kA at 415Vac | ✓ | ✓ | LWC3630F |
| 22kA at 500Vdc | ✓ | - | HLDDC3600F |
| 50kA at 415Vac | ✓ | - | LW3800W (800A) trip unit installed |
| 50kA at 415Vac | - | ✓ | LW3800T33W (400 - 800A trip unit + rating plug installed) |

Thermal magnetic trip units

| Adjustable Ampere Rating | Item no. |
|--------------------------|----------|
| 250 - 315 | LT3315TA |
| 315 - 400 | LT3400TA |
| 400 - 500 | LT3500TA |
| 500 - 630 | LT3630TA |
| 400 - 500 4 pole | LT4500TA |
| 500 - 630 4 pole | LT4630TA |

Electronic trip units

| Digitrip Item no. | Ampere Rating | Rating plug item no. |
|-------------------|--------------------|----------------------|
| LES3630LSI | 315, 400, 500, 630 | A6LES630T2 |



"The Rock" 1100V mining circuit breakers - L frame

1100V mining circuit breaker - L frame

| Current rating | PSCC at 1000V | PSCC at 1100V | Item no. |
|------------------|---------------|---------------|-----------|
| 300-600A L Frame | 18kA | 12kA | E2LM3600F |

1100V mining circuit breaker thermal magnetic trip units - L frame

| Ampere rating | Item no. |
|---------------|----------|
| 300 | E2L3300T |
| 400 | E2L3400T |
| 500 | E2L3500T |
| 600 | E2L3600T |

1100V mining circuit breaker electronic trip units - L frame

| Ampere rating | Digitrip 310+ item no. |
|---------------|------------------------|
| 300 | LEM3300T |
| 400 | LEM3400T |
| 600 | LEM3600T |

Magnetic Only Trip, L Frame HMCP - Trip Unit only, all ratings (for use with L frame 3 pole circuit breakers)

| Motor FLC | Max. current | HMCP magnetic trip settings - selected position & current ratings | | | | | | | | | | Item no. |
|--------------|--------------|---|------|------|------|------|------|------|------|------|------------|----------|
| | | A | B | C | D | E | F | G | H | I | | |
| 86.6-183.6A | 600 | 1125 | 1266 | 1406 | 1547 | 1688 | 1828 | 1969 | 2109 | 2250 | E2L3600TML | |
| 115.4-244.9A | 600 | 1500 | 1688 | 1875 | 2063 | 2250 | 2438 | 2625 | 2813 | 3000 | E2L3600TMN | |
| 134.7-285.7A | 600 | 1750 | 1969 | 2188 | 2406 | 2625 | 2844 | 3063 | 3281 | 3500 | E2L3600TMR | |
| 153.9-326.9A | 600 | 2000 | 2250 | 2500 | 2750 | 3000 | 3250 | 3500 | 3750 | 4000 | E2L3600TMX | |
| 192.3-408.2A | 600 | 2500 | 2813 | 3125 | 3438 | 3750 | 4063 | 4375 | 4688 | 5000 | E2L3600TMP | |
| 230.8-489.8A | 600 | 3000 | 3375 | 3750 | 4125 | 4500 | 4875 | 5250 | 5625 | 6000 | E2L3600TM | |

The recommended full load current range is based on the breaker having continuous current rating of not less than 115% of the motor full load current.

* ARMS enabled 1100V mining circuit breakers are now available. contact Eaton for more details.

Series C, moulded case circuit breakers - LW and E2LM Rock

Accessory - L frame

| Description | Item no. |
|---|----------------------|
| Alarm switch with pigtail lead connection | A1L4RPK ① |
| Auxiliary switch with pigtail lead connection | A1X4PK ① |
| Auxiliary switch, 2 pole with pigtail lead connection | A2X4PK ① |
| Auxiliary switch, 3 pole with pigtail lead connection | A3X4PK ① |
| Combination auxiliary/alarm switch with pigtail lead connection | AA214RPK ① |
| Shunt trip, 9-24Vac/dc with pigtail lead connection | SNT4LP03K ① |
| Shunt trip, 110-240Vac, 110-125Vdc with pigtail lead connection | SNT4LP11K ① |
| Shunt trip, 380-440Vac, 220-250Vdc with pigtail lead connection | SNT4LP14K ① |
| Under-voltage release, 24Vdc with pigtail lead connection | UVH4LP21K ① |
| Under-voltage release, 110-127Vac with pigtail lead connection | UVH4LP08K ① |
| Under-voltage release, 208-240Vac with pigtail lead connection | UVH4LP11K ① |
| Under-voltage release, 380-480Vac with pigtail lead connection | UVH4LP15K ① |
| Under-voltage release, 110-125Vdc with pigtail lead connection | UVH4LP26K ① |
| Motor operator 240Vac | EOP4MT11A ① |
| Handle (Toggle) Extension | HEX4 |
| Padlockable handle lock hasp | HLK4 |
| Busbar mounting kit (3) | 1514-1011/1 ② |
| Terminal extension kit (3) | 1517-0692/1 ③ |
| Rear connecting stud - threaded stud SA800 | 1518-0310/2 ② |
| Metric End Cap Kit (3 pole) | KPEKM4 |
| Interphase barriers (2) | IPB4 |
| Terminal shields, plastic (2) | TSL |
| Rotary Metal Handle IP66 Black 30cm Shaft with mechanism | WHM4R12X |
| L Frame VariDepth mechanism | 394/1246 |
| Handle only, VariDepth mechanism | 1517-0488/1 |
| Weatherproof handle, VariDepth | 1517-0488/2 |
| Shaft, 165mm, VariDepth | 368/187 |
| Shaft, 260mm, VariDepth | 368/186 |

① Field mountable. If factory fitting required, add \$100 for each accessory.

② Cannot be used on Rock breakers.

③ Not recommended on Rock breakers due to impacting insulation clearance distances.



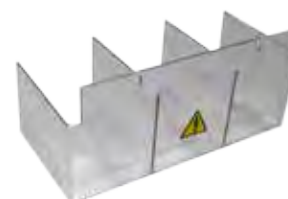
A3X4PK



1517-0692/1



IPB4



TSL

FAQ's

Alarm switches will signal only closed + tripped positions

Auxiliary switches will signal only open + closed positions

Under-voltage release must be energised before closing breaker

Circuit protection

Aftermarket and mining MCCB



LSI trip unit, interrupting capacity (Icu/Ics) = 50/50kA @ 415Vac. rating plug included

| Ampere rating | 3 pole item no. | 4 pole item no. |
|-------------------|-----------------|-----------------|
| 400 ~ 800A | NGS308032M | NGS408032M |
| 630 ~ 1250A | NGS312532M | NGS412532M |
| 800 ~ 1600A Front | NGSF316032M | NGSF416032M |
| 800 ~ 1600A Rear | NGS316032M | NGS416032M |

LSI trip unit, interrupting capacity (Icu/Ics) = 70/50kA @ 415Vac. rating plug included

| Ampere rating | 3 pole item no. | 4 pole item no. |
|-------------------|-----------------|-----------------|
| 400 ~ 800A | NGH308032M | NGH408032M |
| 630 ~ 1250A | NGH312532M | NGH412532M |
| 800 ~ 1600A Front | NGHF316032M | NGHF416032M |
| 800 ~ 1600A Rear | NGH316032M | NGH416032M |

Note: 4 pole breakers are not offered with neutral protection or ground fault protection. i.e. these are 0% protection on neutral.



Series G, moulded case circuit breaker -

N frame 1600 Ampere

Digitrip 310+ Electronic trip unit is standard. Non-auto switch versions available.

| Dimensions | H x W x D (mm) | Weight (kg) |
|------------|-----------------|-------------|
| 3 pole | 406 x 210 x 140 | 21.3 |
| 4 pole | 406 x 280 x 140 | 28.3 |

LSIG trip unit, Interrupting capacity (Icu/Ics) = 50/50kA @ 415Vac. rating plug included

| Ampere rating | 3 pole item no. | 4 pole item no. |
|-------------------|-----------------|-----------------|
| 400 ~ 800A | NGS308036M | NGS408036M |
| 630 ~ 1250A | NGS312536M | NGS412536M |
| 800 ~ 1600A Front | NGSF316036M | NGSF416036M |
| 800 ~ 1600A Rear | NGS316036M | NGS416036M |

LSIG trip unit, interrupting capacity (Icu/Ics) = 70/50kA @ 415Vac. rating plug included

| Ampere rating | 3 pole item no. | 4 pole item no. |
|-------------------|-----------------|-----------------|
| 400 ~ 800A | NGH308036M | NGH408036M |
| 630 ~ 1250A | NGH312536M | NGH412536M |
| 800 ~ 1600A Front | NGHF316036M | NGHF416036M |
| 800 ~ 1600A Rear | NGH316036M | NGH416036M |

Moulded case switches (non-auto)

| Ampere rating | 3 pole item no. | 4 pole item no. |
|---------------|-----------------|-----------------|
| 800 | NGK3080KSM | NGK4080KSM |
| 1250 | NGK3125KSM | NGK4125KSM |

"The Rock" 1100V mining circuit breakers - N frame 1200 Ampere

1100V mining circuit breaker - N frame with 310+ mining electronic trip unit fitted

| Current rating | PSCC at 1000V | PSCC at 1100V | Item no. |
|----------------|---------------|---------------|-----------|
| 600A N Frame | 25kA | 20kA | E2NM3600W |
| 700A N Frame | 25kA | 20kA | E2NM3700W |
| 800A N Frame | 25kA | 20kA | E2NM3800W |
| 900A N Frame | 25kA | 20kA | E2NM3900W |
| 1000A N Frame | 25kA | 20kA | E2NM310W |
| 1200A N Frame | 25kA | 20kA | E2NM312W |

* ARMS enabled 1100V mining circuit breakers are now available. contact Eaton for more details.

Series G, moulded case circuit breaker - N frame 1600 Ampere and E2NM Rock

Accessory - N frame

| Description | Item no. |
|--|----------------------|
| Alarm Lockout (L) 1M1B with pigtail lead connection | A1L5LPK ① |
| Alarm Lockout (R) 1M1B with pigtail lead connection | A1L5RPK ① |
| Alarm Lockout (L) 2M2B with pigtail lead connection | A2L5LPK ① |
| Alarm Lockout (R) 2M2B with pigtail lead connection | A2L5RPK ① |
| Auxiliary switch (Right Side Mount) with pigtail lead connection | A1X5PK ① |
| Aux. SW 2A2B with pigtail lead connection | A2X5PK ① |
| Aux. SW (L) 3A3B with pigtail lead connection | A3X5LPK ① |
| Aux. SW (R) 3A3B with pigtail lead connection | A3X5RPK ① |
| Aux. SW + AL (L) 1A1B with pigtail lead connection | AA115LPK ① |
| Aux. SW + AL (R) 1A1B with pigtail lead connection | AA115RPK ① |
| Auxiliary alarm switch (2pole aux. + 1pole alarm) with pigtail lead connection | AA215RPK ① |
| Shunt trip, 24Vac/dc with pigtail lead connection | SNT5LP03K ① |
| Shunt trip, 48-60Vac with pigtail lead connection | SNT5LP05K ① |
| Shunt trip, 110-240Vac with pigtail lead connection | SNT5LP11K ① |
| Shunt trip, 380-440Vac , 220-250Vdc with pigtail lead connection | SNT5LP14K ① |
| Shunt Trip (L) 480-600VAC with pigtail lead connection | SNT5LP18K ① |
| Shunt trip, 48-60Vdc with pigtail lead connection | SNT5LP23K ① |
| Shunt trip, 110-125Vdc with pigtail lead connection | SNT5LP26K ① |
| Shunt Trip (L) Low Energy with pigtail lead connection | LST5LPK ① |
| Under-voltage release, 110-127Vac with pigtail lead connection | UVH5LP08K ① |
| Undervoltage Trip (L) 24VAC/DC with pigtail lead connection | UVH5LP21K ① |
| Under-voltage release, 208-240Vac with pigtail lead connection | UVH5LP11K ① |
| Under-voltage release, 380-440Vac with pigtail lead connection | UVH5LP29K ① |
| Electrical operator, 240V AC | EOP5T11 ① |
| Handle Extension (Spare)GN or NW Frame | HEX5 |
| Handle Block-Non padlockable GN or NW Frame | LKD4 |
| Key Interlock provision N Frame Series G | KYK4 |
| Padlockable lockdog | PLK5 |
| Mech interlock sliding Bar 3-4P N frame series G | SBK5 |
| NG 1250A 3P metric conductor extension kit | 5104A24G04 |
| NG 1600A 3P term extn kit (1 side) | N16TE3 |
| NG 1600A 4P term extn kit (1 side) | N16TE4 |
| Busbar mounting kit | 1517-2055/1 ② |
| Interphase barriers (2) | IPB5 |
| Test Kit-230Vac-DT310 trip unit | STK2 |
| Handle Assy Direct Mount Black N Frame Series G | HMVD5B |
| Rotary Metal Handle IP65 Black 12" Shaft with mechanism | WHM5R12 |

① Field mountable. If factory fitting required, add \$100 for each accessory.
② Cannot be used on Rock breakers.



A1X5PK



AA215RPK



HEX5



EOP5T11

FAQ's

Alarm switches will signal only closed + tripped positions
Auxiliary switches will signal only open + closed positions
Under-voltage release must be energised before closing breaker

Circuit protection

Aftermarket and mining MCCB



**LSI 310+ trip unit, interrupting capacity (Icu/Ics)
= 70/50kA @ 415Vac**

| Ampere rating | 3 pole item no. | 4 pole item no. |
|---------------|-------------------|-------------------|
| 800 ~ 1600A | RGH316032M | RGH416032M |
| 1000 ~ 2000A | RGH320032M | RGH420032M |
| 1250 ~ 2500A | RGH325032M | RGH425032M |

Electronic trip unit characteristics

Parameter

- L Adjustable Long Delay Pickup (A)
- S Short Time Range (A)
- I Short Time Delay (sec)
- G Ground Fault Pickup (A)
- Ground Fault Time (sec)



Series G, moulded case circuit breaker -

R frame 2500 Ampere

| Dimensions | H x W x D (mm) | Weight (kg) |
|------------|-----------------|-------------|
| 3 pole | 406 x 394 x 229 | 47 |
| 4 pole | 406 x 508 x 229 | 54 |

**LSIG 310+ trip unit, interrupting capacity (Icu/Ics)
= 70/50kA @ 415Vac**

| Ampere rating | 3 pole item no. | 4 pole item no. |
|---------------|-------------------|-------------------|
| 800 ~ 1600A | RGH316036M | RGH416036M |
| 1000 ~ 2000A | RGH320036M | RGH420036M |
| 1250 ~ 2500A | RGH325036M | RGH425036M |

Moulded case switches (non-auto)

| Ampere rating | 3 pole item no. | 4 pole item no. |
|---------------|-------------------|-------------------|
| 1600 | RGK3160KSM | RGK4160KSM |
| 2000 | RGK3200KSM | RGK4200KSM |

Note: 4 pole breakers are not offered with neutral protection or ground fault protection. i.e. these are 0% protection on neutral.

"The Rock" 1100V mining circuit breakers - R frame 2000 Ampere

1100V mining circuit breaker - R frame with 310+ mining electronic trip unit fitted

| Current rating | PSCC at 1000V | PSCC at 1100V | Item no. |
|----------------|---------------|---------------|-----------------|
| 1600A R Frame | 25kA | 20kA | E2RM316W |
| 2000A R Frame | 25kA | 20kA | E2RM320W |

* ARMS enabled 1100V mining circuit breakers are now available. contact Eaton for more details.

Series G, moulded case circuit breaker - GR and E2RM Rock

Accessory - R frame

| Description | Item no. |
|--|--------------------|
| Alarm switch with pigtail lead connection | A1L6RPK ① |
| Alarm switch, 2 pole with pigtail lead connection | A2L6RPK ① |
| Auxiliary switch, 2 pole with pigtail lead connection | A2X6RPK ① |
| Auxiliary switch, 4 pole with pigtail lead connection | A4X6RPK ① |
| Shunt trip, 24Vdc with pigtail lead connection | SNT6P03K ① |
| Shunt trip, 120 to 240Vac with pigtail lead connection | SNT6P11K ① |
| Shunt Trip (R) 480-600VAC with pigtail lead connection | SNT6P18K ① |
| Shunt trip, 440Vac with pigtail lead connection | SNT6P14K ① |
| Shunt trip, 48 to 60Vdc with pigtail lead connection | SNT6P23K ① |
| Shunt Trip (R) Low Energy with pigtail lead connection | LST6RPK ① |
| Under-voltage Trip (R) 208-240VAC with pigtail lead connection | UVH6RP11K ① |
| Under-voltage Trip (R) 24VDC with pigtail lead connection | UVH6RP21K ① |
| Under-voltage Trip (R) 300-500VAC with pigtail lead connection | UVH6RP29K ① |
| Electrical Operator 240Vac GR or RW Frame | EOP6T11K ① |
| Handle extension | HEX6 |
| Key interlock provision | KYK6 |
| Padlockable handle lock hasp | HLK6 |
| Test KIT-230Vac-DT310 trip unit | STK2 |
| Terminal Cable (1) 4 x 50-300mm ² R Frame Series G | T1600RDM ② |
| Terminal Cable (1) 4 x 300-500mm ² R Frame Series G | TA1600RDM ② |
| Terminal Cable (1) 6 x 35-300mm ² R Frame Series G | TA2000RDM ② |
| Vari-Depth Handle Mech R Frame Series G | HMVD6B |
| Terminal Rear (1) 2000A R Frame Series G | B2016RDLM ② |

① Field mountable. If factory fitting required, add \$100 for each accessory.
② Cannot be used on Rock breakers.



STK2

FAQ's

Alarm switches will signal only closed + tripped positions
Auxiliary switches will signal only open + closed positions
Under-voltage release must be energised before closing breaker

Circuit protection

Aftermarket and mining MCCB

Replacement moulded case circuit breakers for previous Westinghouse & Cutler-Hammer moulded case circuit breakers

In all cases fitted accessories must also be changed with exception to NEMA Series C & IEC Series C where all accessories are common within same frame sizes.

| Model | Notes | Replacement | Notes |
|-------------------|---------------------|--------------------|-----------------------------|
| G-frame | | | |
| GC/GHC/ GCH | US BREAKER | GW | Direct physical replacement |
| GD | NEMA VERSION GW | GW | Direct physical replacement |
| GB/GHB/ GC/GHC | NEMA VERSION GW | GW | Direct physical replacement |
| F-frame | | | |
| MCP | US BREAKER | HMCP (Series C) | Direct physical replacement |
| ED | NEMA SERIES C | FW | Direct physical replacement |
| EDH | NEMA SERIES C | HFW | Direct physical replacement |
| EDC | NEMA SERIES C | FWC | Direct physical replacement |
| EHD | NEMA SERIES C | FW | Direct physical replacement |
| FDB | NEMA SERIES C | FW | Direct physical replacement |
| EB | US BREAKER | FW | Direct physical replacement |
| EHB | US BREAKER | FW | Direct physical replacement |
| FB | EX.NZ.MADE | FW | Direct physical replacement |
| HFB | EX.NZ.MADE | FW | Direct physical replacement |
| FD | NEMA VERSION FW | FW | Direct physical replacement |
| HFD | NEMA VERSION HFW | HFW | Direct physical replacement |
| FDC | NEMA VERSION FWC | FWC | Direct physical replacement |
| J-frame | | | |
| JDB | NEMA SERIES C | JW | Direct physical replacement |
| JB/KB | US BREAKER | JW | Direct physical replacement |
| HKB | US BREAKER | JW | Direct physical replacement |
| JD | NEMA VERSION JW | JW | Direct physical replacement |
| HJD | NEMA VERSION HJW | HJW | Direct physical replacement |
| JDC | NEMA VERSION JWC | JWC | Direct physical replacement |
| K-frame | | | |
| KDB | NEMA SERIES C | KW | Terminals slightly higher |
| JA/KA | US BREAKER | KW | Terminals slightly higher |
| HKA | US BREAKER | KW | Terminals slightly higher |
| LB/LLB | US BREAKER | KW | Terminals slightly higher |
| HLB | EX.AUST.MADE | KW | Terminals slightly higher |
| DA | US BREAKER | KW | Terminals slightly higher |
| DK | NEMA SERIES C | KW | Terminals slightly higher |
| KD | NEMA VERSION KW | KW | Direct physical replacement |
| HKD | NEMA VERSION HKW | HKW | Direct physical replacement |
| KDC | NEMA VERSION KWC | KWC | Direct physical replacement |

| Model | Notes | Replacement | Notes |
|-------------------|---------------------|----------------|--|
| L-frame | | | |
| LDB | NEMA SERIES C | LW | Thread changes from imperial to metric |
| LA/LAB/HLA 400 | US BREAKER | LW | Thread changes from imperial to metric |
| LA/HLA 600 | US BREAKER | LW | Thread changes from imperial to metric |
| LC/LCC/HLC | US BREAKER | LW+DIGI310 | Thread changes from imperial to metric |
| LD | NEMA VERSION LW | LW | Thread changes from imperial to metric |
| HLD | NEMA VERSION HLW | HLW | Thread changes from imperial to metric |
| LDC | NEMA VERSION LWC | LWC | Thread changes from imperial to metric |
| M-frame | | | |
| MA/HMA | US BREAKER | LW3800T33W | Replacement physically smaller |
| MC/HMC | US BREAKER | LW3800T33W | Replacement physically smaller |
| N-frame | | | |
| NB/NC | US BREAKER | NGS312532M | Thread changes from imperial to metric |
| HNB/HNC | US BREAKER | NGS312532M | Thread changes from imperial to metric |
| ND | NEMA VERSION NW | NGS312532M | Thread changes from imperial to metric |
| HND | NEMA VERSION HNW | NGH312532M | Thread changes from imperial to metric |
| HDC | NEMA VERSION NWC | GNC3125T32WP09 | Thread changes from imperial to metric |
| R-frame | | | |
| | | 1600A | |
| RD | NEMA VERSION RW | RGH316032M | Thread changes from imperial to metric |
| RDC | NEMA VERSION RWC | GRC316T32WP09 | Thread changes from imperial to metric |
| | | 2000A | |
| RD | NEMA VERSION RW | RGH320032M | Thread changes from imperial to metric |
| RDC | NEMA VERSION RWC | GRC320T32WP17 | Thread changes from imperial to metric |
| | | 2500A | |
| RD | NEMA VERSION RW | RGH325032M | Thread changes from imperial to metric |
| RDC | NO IEC VERSION | GRC325T32WP40 | N/A |

“The Rock” 1100V mining circuit breaker application data

Adapter plates

| Description | Item no. |
|---------------------|-------------------|
| Adaptor NZM to E2FM | ROCKLBSTRF |
| Adaptor NZM to E2JM | ROCKLBSTRJ |
| Adaptor NZM to E2LM | ROCKLBSTRL |
| Adaptor NZM to E2NM | ROCKLBSTRN |

Retrofit is only possible if Enclosure Dimensions comply with Rock Installation Instructions (see below).

Installation instructions for the complete line of E2 mining service circuit breakers

The state of the art E² Mining Breakers have been designed to meet stringent standards developed by Eaton to suit mining industry needs. In order to maintain system integrity, the following additional installation requirements must be met.

Warning: failure to comply with the following installation requirements & instructions will reduce the ability of the circuit breaker to conform to its ratings & void any warranty claims.

Requirements

The circuit breaker must be installed with insulation sheets & inter-phase barriers. The installation must conform to & maintain the clearance & creepage distances detailed.

Additional insulation part numbers

1. Circuit breakers must be mounted with a phase barrier between each phase on the line end of the breaker, or with a terminal shield on the line end. Refer note 3.
2. All breakers must be mounted with an insulation sheet between them & the mounting plate. The size of the sheet & sheet material is shown overleaf. For mounting details refer to the figure overleaf.
3. If J & R frame breakers are installed behind a non-insulating escutcheon which is located within 50mm from the face of the breaker, a terminal shroud must be used.

| Breaker frame | Phase barrier* | Terminal shield* | Rear panel insulation sheet |
|---------------|----------------|------------------|-----------------------------|
| F | IPB1 | TSF | 1543-0245/1 |
| J | IPB3 | TSJ | 1543-0246/1 |
| K | IPB3 | TSK | 1543-0247/1 |
| L | IPB4 | TSL | 1543-0248/1 |
| N | IPB5 | | 1543-0249/1 |
| R | refer Eaton | | 1543-0252/1 |

*Select either phase barriers or terminal shields. Both come in sets of two. Insulation sheets supplied with each complete Moulded Case Circuit Breaker.

Insulation sheet material:

The additional insulation provided with the circuit breakers is a polyester fill with a thickness of 250 microns.

If the insulation is damaged or lost, a replacement insulation sheet may be obtained from Eaton, or must have the following characteristics:

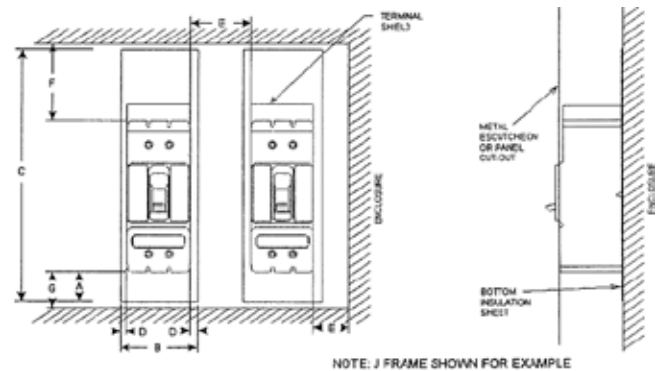
Thermal class: E (120°C) Dielectric strength: 80kV/mm
Service temperature: -70 to +130°C Breakdown voltage: 20kV
Resistivity @ 25°C: 1.8x10¹⁶ ohm-cm

Insulation sheet & minimum mounting dimensions

Replacement insulation sheets must have the following dimensions & be mounted so that the following minimum clearances are maintained.

| Breaker frame | Item no. | Sheet Dim A (mm) | Sheet Dim B (mm) | Sheet Dim C (mm) | Mounting Dim D (mm) | Mounting Dim E (mm) | Mounting Dim F (mm) | Mounting Dim G (mm) |
|---------------|--------------------|------------------|------------------|------------------|---------------------|---------------------|---------------------|---------------------|
| F | 1543-0245/1 | 50 | 115 | 322 | 5 | 30 | 120 | 50 |
| J | 1543-0246/1 | 50 | 115 | 424 | 5 | 30 | 120 | 50 |
| K | 1543-0247/1 | 50 | 149 | 427 | 5 | 30 | 120 | 50 |
| L | 1543-0248/1 | 50 | 220 | 443 | 5 | 30 | 120 | 50 |
| N** | 1543-0249/1 | 120 | 220 | 210 | 5 | 30 | 120 | 120 |
| R** | 1543-0252/1 | 200 | 404 | 300 | 5 | 30 | 200 | 200 |

**Two identical sheets listed to be used at line & load ends.



⊙ Must have 50mm clearance from breaker or terminal shield must be used.

Clearance & creepage distances

The circuit breakers should be mounted with the additional equipment listed above, as well as maintaining clearance & creepage distances in accordance with AS60947.1-2004 cl 7.2.3 & AS3000:2007 cl 2.9.3.3

xBoard panelboards safety,

xBoard Weatherproof (xDBW) panelboard

Heavy-duty design and robustly constructed to handle arduous requirements and harsh environments.

To handle more arduous requirements, the xBoard Weatherproof (xDBW) is the right choice. It offers greater flexibility and more configuration options with an even wider (650mm) and deeper enclosure (231mm) than the xBoard Plus (xDBP) to allow room for more components such as contactors and Motor controls to fit. The xDBW has a robust 1.6mm sheet steel fully welded enclosure, with door mount gaskets. The xDBW also offers the choice of no main switch, 250A isolator or can be adopted for MCCB or higher rated incomer options.

NEW
PRODUCT



Features and benefits

- IP66 rated
- 650 x 253mm (W x D) external dimension
- Hinged escutcheon deep dished
- Lift-off door with pintle hinges
- Earth and neutral link with double screws mounted on both sides
- Removable 3mm thick aluminum gland plates as standard
- 2 mm rear gear tray as standard pre-punched for all equipment options.
- Fully shrouded, 250A main isolator with safety interlock to the escutcheon
- Space for up to 9 x 18mm DIN rail control components on top of the panelboard either side of main switch
- 2 colour choices – grey RAL7035 or orange RAL2000

EATON

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effectively combining reliability and performance.



xBoard Plus (xDBP) panelboard

Superior and versatile design to suit all commercial and industrial electrical applications.

For applications requiring a modular electrical distribution system to meet more complex requirements, the xBoard Plus (xDBP) is the ideal solution. The xBoard Plus are available to suit either DIN or Quicklag MCBs and has a robust 1.6mm sheet steel enclosure construction with flushed conduit knockouts on either side to allow for modular arrangements with the xEquipment Box (xEB), which is suitable for more complex lighting and motor control installations.

Features and benefits

- IP42 rated
- 580 x 223mm (W x D external dimension)
- Field reversible hinged escutcheon and door
- Removable 3mm thick aluminum gland plates
- Fully shrouded, 250A main isolator with safety interlock to the escutcheon
- 2 colour choices - Grey RAL7035 or Orange RAL2000



xBoard (xDB) panelboard

Economical and compact design for easy installations in commercial and light industrial applications.

The xBoard (xDB) comes available in two box sizes with the choice from 24 to 60 poles. With two options - no main switch or with a 250A main isolator pre-fitted saving valuable time and money. The xDB is fitted with a type tested chassis – DIN, 25kA for 0.1sec to suit DIN MCBs and RCBOs.

Features and benefits

- IP40 rated
- 500 x 130.5mm (W x D) external dimension
- CL001 key lockable door with pintle hinges
- Lift-off escutcheon and door
- Fully rated neutral
- Slotted top rail for ease of cable management

Circuit protection

xBoard panelboards



xDB specifications

- IP40 rating
- 24, 36, 48, 60 poles
- 500 x 130.5mm (W x D - external dimensions)
- 1.2mm zincseal construction
- No main switch or 250A isolator options
- DIN chassis
- Grey (RAL7035)
- Removable lift-off escutcheon and door

xBoard panelboards (xDB)

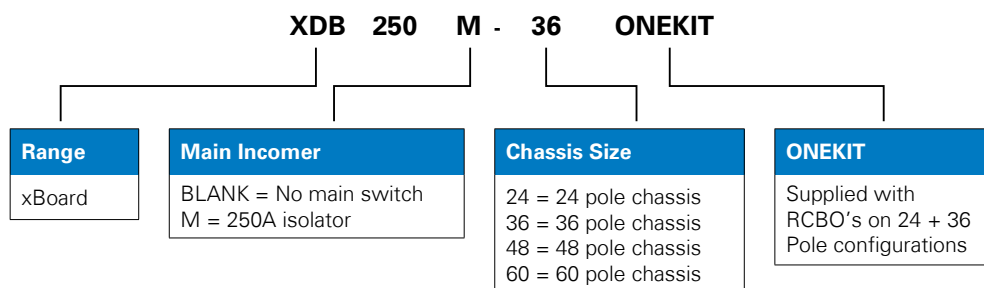
Compact and versatile, xDB panelboards deliver an efficient energy distribution system in commercial and light industrial applications.

Available in two box sizes with the choice from 24 to 60 poles, panelboards are available with; no main switch allowing user flexibility to elect different main incomer preference or a 250A main isolator pre-fitted saving valuable time and money.

Additional key features include a fully rated 250A neutral link, lift-off door with pintle hinges and a slotted chassis pan assembly for easier cabling with incoming and outgoing cables. Safety is a key focus, with panelboards offering the advantage of a fully shrouded main isolator and a handle that interlocks the escutcheon when it is in the 'ON' position which prevents removal of the escutcheon adding personnel safety.

Features and benefits

- Choice between no main switch or pre-fitted with 250A main switch
- Type tested chassis – DIN, 25kA for 0.1sec
- CL001 Key Lockable door with pintle hinges
- Lift-off escutcheon and door
- Designed and manufactured in Australia
- 7 pole DIN space either side of main switch to fit emergency light test kit, surge protection, control devices and more
- Fully rated 250A neutral link with double screws
- Slotted top rail for ease of cable management
- White escutcheon



Z-EMER-DIN



XDBP-SDK

| Description | Poles | Height | Item no. |
|---|-------|--------|-------------------------|
| No main switch Grey RAL7035 IP40 | 24 | 750 | XDB250-24 |
| | 36 | 1000 | XDB250-36 |
| | 48 | 1000 | XDB250-48 |
| | 60 | 1000 | XDB250-60 |
| 250A main switch isolator Grey RAL7035 IP40 | 24 | 750 | XDB250M-24 |
| | 36 | 1000 | XDB250M-36 |
| | 48 | 1000 | XDB250M-48 |
| One Kit with 250A main switch Grey RAL7035 | 24 | 750 | XDB250M-24ONEKIT |
| | 36 | 1000 | XDB250M-36ONEKIT |

*One Kit options include 25% capacity of Eaton's compact eRB6 RCBOs included in the delivery to aid a "ready to go bolt to wall and wire solution"

| Kits and accessories | Item no. |
|---|--------------------|
| Emergency light test kit | Z-EMER-DIN |
| Surge diverter kit (includes fuses) | XDBP-SDK |
| Pole fillers 6 pack | AP-45-W |
| Flush mounting kit 750mm high enclosures | XDB750-FMK |
| Flush mounting kit 1000mm high enclosures | XDB1000-FMK |

xBoard Plus panelboards (xDBP)

xBoard Plus (xDBP) provides an ideal solution for applications that demand a modular electrical distribution system to meet more complex requirements. xDBP offers greater flexibility and increase configuration options with a deeper enclosure (200mm) to allow room for components such as contactors and motor controls to fit.

xDBP is supplied complete with a type tested 3 phase, colour coded, encapsulated chassis, rated for 250A in DIN 25kA for 0.1 sec. The xDBP can also be supplied with the Quicklag chassis rated for 250A in 20kA for 0.1 sec. Panelboards are also fitted with a fully rated, 250A neutral link, a 165A earth link, a hinged escutcheon, and a pintle hinged door with a circuit schedule card and card holder.

Manufactured in Australia, xDBP provides a robust 1.6mm sheet steel enclosure construction complete with flushed conduit knockouts on either side to allow for modular arrangements with the xEquipment Box (xEB), which is suitable for more complex lighting and motor control installations.

xDBP also offers the choice of no main switch, 250A isolator or a 250A MCCB as the main incomer. The padlockable MCCB as a main switch, allows for selectivity and higher fault protection.

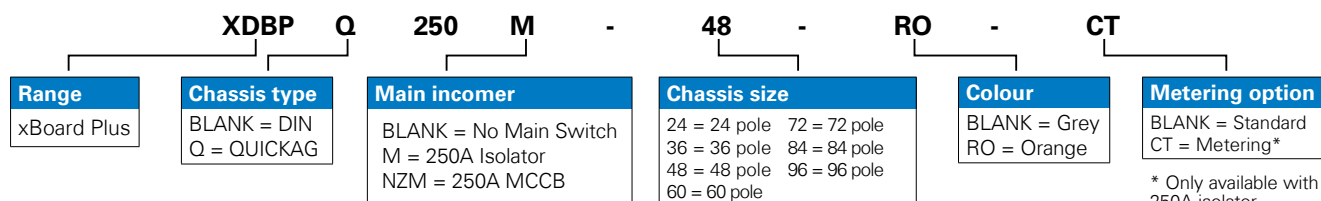
xDBP specifications

- IP42 rating
- 24 to 96 poles
- 580 x 223 mm (W x D - external dimensions)
- 1.6mm sheet steel construction
- DIN or Quicklag chassis
- No main switch, 250A isolator or MCCB incomer
- 2 colour choices - grey RAL7035 or orange RAL2000
- Field-reversible hinged escutcheon and door



Features and benefits

- Field reversible hinged escutcheon
- Field reversible lift-off door with pintle hinges
- Fully rated 250A neutral link with double screws
- Removable 3mm thick aluminum gland plates
- Space for up to 8 x18mm DIN rail control components on top of main switch
- Wider troughs on both sides of the chassis for cable looms or ducts
- Fully shrouded, 250A main isolator with safety interlock to the escutcheon
- Different main incomer options
- Gloss white escutcheon
- Designed and manufactured in Australia



| xBoard Plus DIN panelboards | | | No mainswitch | 250A isolator | Poles | Height | 250A MCCB |
|---|-------|--------|-------------------|--------------------|-------|--------|----------------------|
| Description | Poles | Height | Item no. | mainswitch | | | mainswitch |
| | | | Item no. | Item no. | | | Item no. |
| xBoard Plus DIN chassis Grey RAL7035 IP42 | 24 | 1000 | XDBP250-24 | XDBP250M-24 | 24 | 1000 | XDBP250N2M-24 |
| | 36 | 1000 | XDBP250-36 | XDBP250M-36 | 36 | 1000 | XDBP250N2M-36 |
| | 48 | 1000 | XDBP250-48 | XDBP250M-48 | 48 | 1000 | XDBP250N2M-48 |
| | 60 | 1000 | XDBP250-60 | XDBP250M-60 | 60 | 1500 | XDBP250N2M-60 |
| | 72 | 1500 | XDBP250-72 | XDBP250M-72 | 72 | 1500 | XDBP250N2M-72 |
| | 84 | 1500 | XDBP250-84 | XDBP250M-84 | 84 | 1500 | XDBP250N2M-84 |
| | 96 | 1500 | XDBP250-96 | XDBP250M-96 | 96 | 1500 | XDBP250N2M-96 |

For ripple orange RAL2000, add -RO to each item no above. For metering option add -CT at end of each XDBP250M-xx item no. Only available on xDBP with 250A isolator models.

| xBoard Plus - xEquipment extension boxes | | | Blank mounting plate & blank escutcheon | DIN rail(s) & blank escutcheon | Raised DIN Rail(s) & slotted escutcheon |
|--|--------|------------------|---|--------------------------------|---|
| Description | Height | No. of DIN rails | Item no. | Item no. | Item no. |
| xEquipment boxes | 250 | 1 | XEB250-B | XEB250-D1 | XEB250-D1S |
| Grey | 500 | 2 | XEB500-B | XEB500-D2 | XEB500-D2S |
| RAL7035 | 1000 | 4 | XEB1000-B | XEB1000-D4 | XEB1000-D4S |
| IP42 | 1500 | 8 | XEB1500-B | XEB1500-D8 | XEB1500-D8S |

For ripple orange RAL2000, add -RO to each item no above. DIN rails are not fitted on xEB with blank mounting plate & blank escutcheon i.e. XEBxxx-B item no. Note : xBoard Plus panelboard accessories details on page 129.



Circuit protection

xBoard panelboards

NEW PRODUCT



xBoard Weatherproof panelboards (xDBW)

xBoard Weatherproof provides an ideal solution for applications that require a modular electrical distribution system designed to meet arduous applications. xBoard Weatherproof offers greater flexibility and increased configuration options coupled with a deeper enclosure (231mm) to allow room for components such as contactors and motor controls.

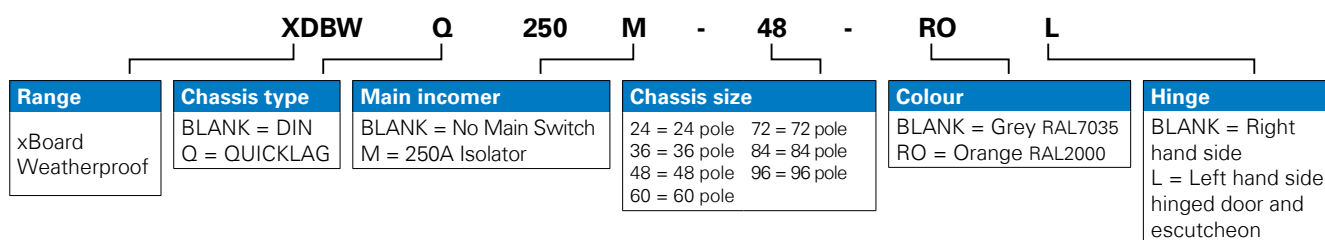
Panelboards are supplied complete with a type tested 3 phase, colour coded, encapsulated chassis, rated for 250A in DIN 25kA for 0.1 sec. xBoard Weatherproof can also be supplied with the Quicklag chassis rated for 250A in 20kA for 0.1 sec. Panelboards are also fitted with a fully rated 250A neutral link and a 165A earth link, a hinged escutcheon, and a pintle hinged door with a circuit schedule card and card holder. The xDBW boasts a robust 1.6mm sheet steel fully welded enclosure, with door mount gaskets. The xDBW also offers the choice of no main switch, 250A isolator or can be adapted for MCCB or higher rated incomer options.

Features and benefits

- Hinged escutcheon deep dished
- Lift-off door with pintle hinges
- Earth and neutral link with double screws
- Removable 3mm thick aluminum gland plates as standard
- 2 mm gear tray as standard pre-punched for all equipment options
- Fully shrouded, 250A main isolator with safety interlock to the escutcheon
- Space for up to 9 x 18mm DIN rail control components on top of the panelboard either side of main switch
- Gloss white escutcheon
- Designed and manufactured in Australia

xDBW specifications

- IP66 rating
- 24 to 96 poles
- 650 x 253 mm (W x D - external dimensions)
- 1.6mm sheet steel fully welded construction
- DIN or Quicklag chassis
- 2 colour choices - grey RAL7035 or orange RAL2000
- Hinged escutcheon and door
- Available assembled or self assembly



| xBoard Weatherproof DIN panelboard Description | Poles | Height | No mainswitch Item no. | 250A isolator mainswitch Item no. |
|--|-------|--------|------------------------|-----------------------------------|
| xBoard Weatherproof DIN chassis Grey RAL7035 IP66 | 24 | 1000 | XDBW250-24 | XDBW250M-24 |
| | 36 | 1000 | XDBW250-36 | XDBW250M-36 |
| | 48 | 1000 | XDBW250-48 | XDBW250M-48 |
| | 60 | 1000 | XDBW250-60 | XDBW250M-60 |
| | 72 | 1500 | XDBW250-72 | XDBW250M-72 |
| | 84 | 1500 | XDBW250-84 | XDBW250M-84 |
| | 96 | 1500 | XDBW250-96 | XDBW250M-96 |

For ripple orange RAL2000, add -RO to each item no. above. For Left hand side hinged door and escutcheon add 'L'

| xBoard Weatherproof Quicklag panelboard Description | Poles | Height | No mainswitch Item no. | 250A isolator mainswitch Item no. |
|---|-------|--------|------------------------|-----------------------------------|
| xBoard Weatherproof Quicklag chassis Grey RAL7035 IP66 | 24 | 1000 | XDBWQ250-24 | XDBWQ250M-24 |
| | 36 | 1000 | XDBWQ250-36 | XDBWQ250M-36 |
| | 48 | 1500 | XDBWQ250-48 | XDBWQ250M-48 |
| | 60 | 1500 | XDBWQ250-60 | XDBWQ250M-60 |
| | 72 | 1500 | XDBWQ250-72 | XDBWQ250M-72 |
| | 84 | 2000 | XDBWQ250-84 | XDBWQ250M-84 |
| | 96 | 2000 | XDBWQ250-96 | XDBWQ250M-96 |

For ripple orange RAL2000, add -RO to each item no. above. For Left hand side hinged door and escutcheon add 'L'

xBoard Weatherproof panelboards (xDBW)

Self assembly options

| Empty box no escutcheon with door | Item no. |
|--|------------------------|
| xDBW grey, 500mm with blank mounting tray | XDBWB500-NE |
| xDBW grey, 1000mm with blank mounting tray | XDBWB1000-NE |
| xDBW grey, 1500mm with blank mounting tray | XDBWB1500-NE |
| xDBW grey, 2000mm with blank mounting tray | XDBWB2000-NE |
| xDBW orange, 500mm with blank mounting tray | XDBWB500-NE-RO |
| xDBW orange, 1000mm with blank mounting tray | XDBWB1000-NE-RO |
| xDBW orange, 1500mm with blank mounting tray | XDBWB1500-NE-RO |
| xDBW orange, 2000mm with blank mounting tray | XDBWB2000-NE-RO |

For left hand side hinged door, add 'L' to each item no. above.

xDBW accessories

| Earth and neutral bars | Item no. |
|-------------------------------|--------------------------|
| E&N KIT 24 WAY 250A N 165A E | XDBPEN250KIT24 |
| E&N KIT 48 WAY 250A N 165A E | XDBPEN250KIT48 |
| E&N KIT 72 WAY 250A N 165A E | XDBPEN250KIT72 |
| E&N KIT 84 WAY 250A N 165A E | XDBPEN250KIT84 |
| E&N KIT 96 WAY 250A N 165A E | XDBPEN250KIT96 |
| E&N KIT 108 WAY 250A N 165A E | XDBPEN250KIT108 |
| E&N bar odd 165A 12 way | XDBWEN165KIT-12-O |
| E&N bar odd 165A 18 way | XDBWEN165KIT-18-O |
| E&N bar odd 165A 24 way | XDBWEN165KIT-24-O |
| E&N bar odd 165A 30 way | XDBWEN165KIT-30-O |
| E&N bar odd 165A 36 way | XDBWEN165KIT-36-O |
| E&N bar odd 165A 42 way | XDBWEN165KIT-42-O |
| E&N bar odd 165A 48 way | XDBWEN165KIT-48-O |
| E&N bar odd 165A 54 way | XDBWEN165KIT-54-O |
| E&N bar even 165A 12 way | XDBWEN165KIT-12-E |
| E&N bar even 165A 18 way | XDBWEN165KIT-18-E |
| E&N bar even 165A 24 way | XDBWEN165KIT-24-E |
| E&N bar even 165A 30 way | XDBWEN165KIT-30-E |
| E&N bar even 165A 36 way | XDBWEN165KIT-36-E |
| E&N bar even 165A 42 way | XDBWEN165KIT-42-E |
| E&N bar even 165A 48 way | XDBWEN165KIT-48-E |
| E&N bar even 165A 54 way | XDBWEN165KIT-54-E |

| Metering kits | Part number |
|---|---------------------|
| CT metering kit (3 off 250/5A CT's, Isolator and Brackets Links etc.) | XDBWCTKIT250 |

| Escutcheons loose | Item no. |
|--|---------------------|
| 500mm 2 din horizontal rails 27 poles | XDBWED500-2S |
| 1000mm Main switch slot and vertical DIN Cutout 60P + sticker and hinges | XDBWED1000 |
| 1500mm Main switch slot and vertical DIN Cutout 96P + sticker and hinges | XDBWED1500 |
| 1000mm Main switch slot and vertical Quicklag Cutout 36P + sticker and hinges | XDBWEQ1000 |
| 1500mm Main switch slot and vertical Quicklag Cutout 72P + sticker and hinges | XDBWEQ1500 |
| 2000mm Main switch slot and vertical Quicklag Cutout 108P + sticker and hinges | XDBWEQ2000 |
| 500mm blank escutcheon and hinges | XDBWEB500 |
| 1000mm blank escutcheon and hinges | XDBWEB1000 |
| 1500mm blank escutcheon and hinges | XDBWEB1500 |
| 2000mm blank escutcheon and hinges | XDBWEB2000 |

For left hand side hinged escutcheon, add 'L' to each item no. above.

| Other accessories | Item no. |
|---|--------------------------|
| DIN Label Kit (Circuit Card, Cover, Escutcheon label, Accessory label, E*N labels) | XBMISCKIT-DIN |
| Quicklag Label Kit (Circuit Card, Cover, Escutcheon label, Accessory label, E*N labels) | XBMISCKIT-QL |
| xDBW Chrome swing handle with CL001 | A/HS741/CL/3001 |
| xDBW Insert E-Lock NSW Public works department | A/IF742/C4KA8/6 |
| xDBW Insert 268 - 92268 QLD stateworks | A/IF741-2/01/3268 |
| xDBW Insert padlock | I/F743-CP |
| xDBW Rod with roller 1200mm | 1049-U9 |
| xDBW Rod guide | 1001-U12 |
| xDBW Rod adaptors | 1000_U49 |
| xDBW 3 pt cam | P/CAM/3A |
| Sealing washer for gland plate screws (set of 12) | XDBWGPSEALKIT |
| xDBW Wall mounting kit | XDBWDMTGKIT |
| xDBW Plith Full Channel - 1 Tier Painted BLACK | XDBWPLTH1 |
| xDBW Plith Full Channel - 2 Tier Painted BLACK | XDBWPLTH2 |
| xDBW Plith Full Channel - 3 Tier Painted BLACK | XDBWPLTH3 |
| xDBW Plith Full Channel - 4 Tier Painted BLACK | XDBWPLTH4 |
| xDBW Plith Full Channel - 1 Tier GALVANISED | XDBWPLTHG1 |
| xDBW Plith Full Channel - 2 Tier GALVANISED | XDBWPLTHG2 |
| xDBW Plith Full Channel - 3 Tier GALVANISED | XDBWPLTHG2 |
| xDBW Plith Full Channel - 4 Tier GALVANISED | XDBWPLTHG4 |
| xDBW DIN chassis mounting bracket | 1521-3044/1 |
| xDBW QUICKLAG chassis mounting bracket | 1521-3096/1 |
| xDBW accessory DIN Rail kit | XDBWDRTH |
| XDBP/XDBW main switch kit to suit XCAP DIN | XDBPW-M/S-XCAP |
| XDBP/XDBW main switch kit to suit Quicklag | XDBPQ-M/S |
| XDBP/XDBW mounting bracket kit for contactor DILM (Up to 250A) | XDBPWCONTA |

Circuit protection

xBoard panelboards



xBoard Plus Quicklag panelboards (xDBPQ)

The xBoard Plus Quicklag (xDBPQ) panelboard extends the xBoard Plus range to accommodate the renowned Quicklag miniature circuit breakers. The xDBPQ panelboards are available in 24 to 96 poles and are fitted with the Quicklag chassis, which has an active busbar rating of 250A and 20kA for 0.1 sec. Using the same enclosure design and construction, the xDBPQ shares the same characteristics as the xDBP DIN panelboards.

xDBPQ overview

- 24 to 96 poles
- 580 x 223mm (W x D external dimension)
- IP42 rating
- 1.6mm sheet steel construction
- No main switch, 250A isolator or MCCB incomer
- Quicklag chassis
- Grey or orange enclosure colour
- Field-reversible hinged escutcheon and door
- Removable gland plates

Features and benefits

- 250A Quicklag chassis
- Fault withstand rating: 20kA for 0.1s
- Neutral link: 250A double screws
- Field reversible door
- Flushed door handle with CL001 key lock
- Field reversible, hinged escutcheon
- 3mm aluminium gland plates
- Grey RAL 7035 or orange RAL2000
- Escutcheon colour: white (gloss finish)

| xBoard Plus Quicklag Panelboards | | | No mainswitch | 250A isolator mainswitch | | | 250A MCCB mainswitch |
|---|-------|--------|--------------------|--------------------------|-------|--------|-----------------------|
| Description | Poles | Height | item no. | item no. | Poles | Height | item no. |
| xBoard Plus Quicklag chassis Grey RAL7035 | 24 | 1000 | XDBPQ250-24 | XDBPQ250M-24 | 24 | 1000 | XDBPQ250NZM-24 |
| | 36 | 1000 | XDBPQ250-36 | XDBPQ250M-36 | 36 | 1500 | XDBPQ250NZM-36 |
| | 48 | 1500 | XDBPQ250-48 | XDBPQ250M-48 | 48 | 1500 | XDBPQ250NZM-48 |
| | 60 | 1500 | XDBPQ250-60 | XDBPQ250M-60 | 60 | 1500 | XDBPQ250NZM-60 |
| | 72 | 1500 | XDBPQ250-72 | XDBPQ250M-72 | 72 | 1500 | XDBPQ250NZM-72 |
| | 84 | 2000 | XDBPQ250-84 | XDBPQ250M-84 | 84 | 2000 | XDBPQ250NZM-84 |
| | 96 | 2000 | XDBPQ250-96 | XDBPQ250M-96 | 96 | 2000 | XDBPQ250NZM-96 |

For ripple orange RAL2000, add -RO to each item no. above. For metering option add -CT at end of each XDBP250M-xx item no. Only available on xDBP with 250A isolator models.



Z-EMER-DIN



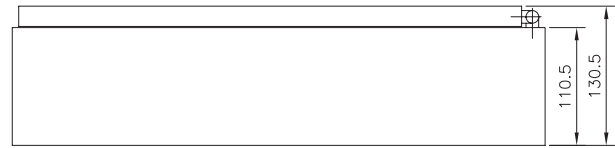
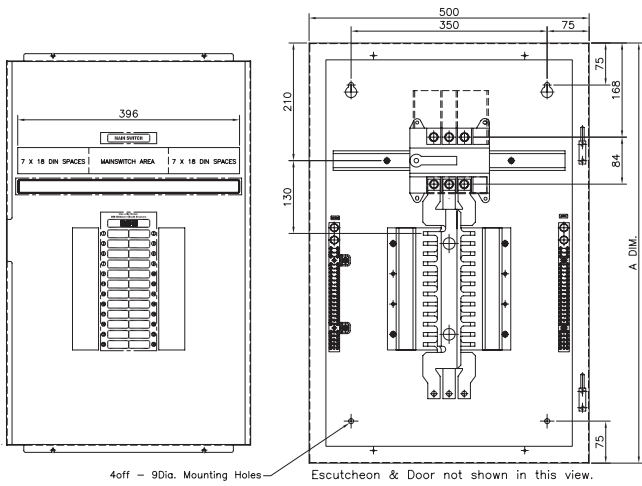
XDBP-SDK

| xBoard Plus Panelboard accessories | Item no. |
|--|----------------------------|
| 250A main switch kit for xBoard Plus DIN XCH | XDBP-M/S |
| 250A main switch kit for xBoard Plus Quicklag (xDBPQ) | XDBPQ-M/S |
| 250A main switch kit for xBoard Plus DIN XCAP | XDBPW-M/S-XCAP |
| Emergency light test kit | Z-EMER-DIN |
| Surge diverter kit (includes fuses) | XDBP-SDK |
| Pole fillers DIN (6/pack) | AP-45-W |
| Pole fillers Quicklag (each) | QPF |
| Flush surround kit for xBoard Plus | 1521-1981/** |
| E-Lock field fittable kit | ECELOCK |
| XEB DIN Rail mounting bracket | 1521-1935/1 |
| XEB Chassis mounting bracket DIN | 1521-1935/2 |
| XEB Chassis mounting bracket QUICKLAG | 1521-1935/3 |
| XDBP Quicklag chassis adaptor | 1521-2869/2 |
| XDBP NZM mounting bracket | 1521-1942/1 |
| XDBP NZM to DIN connecting link kit | XDBPLINKKIT-NZM-DIN |
| XDBP NZM to QUICKLAG connecting kit | XDBPLINKKIT-NZM-QL |
| XDBP/XDBW mounting bracket kit for contactor DILM (Up to 250A) | XDBPWCNTA |

** Various heights available in grey or orange. Ask your Eaton sales representative.

Technical data

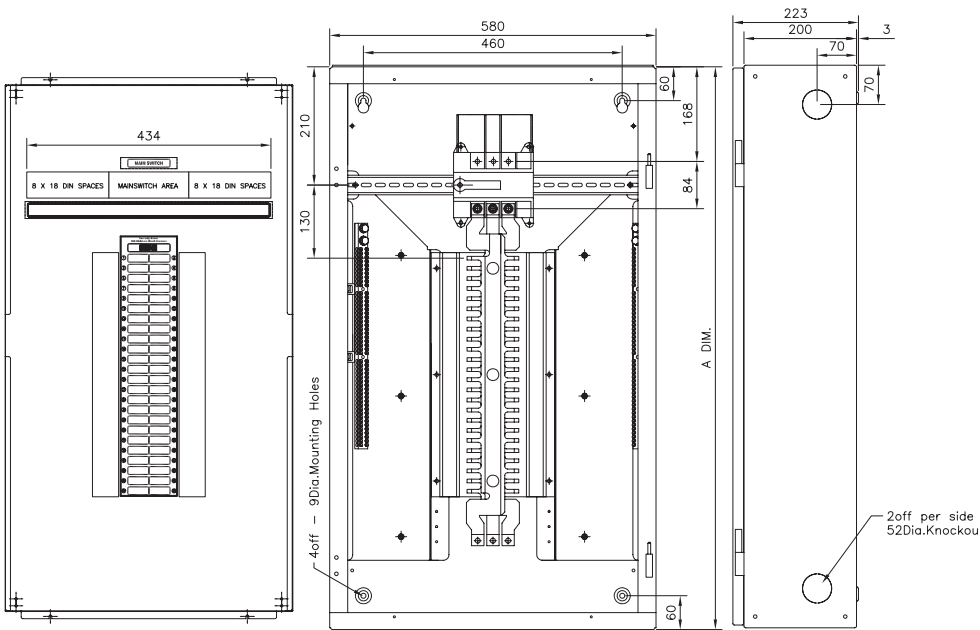
xBoard panelboard



| No mainswitch item no. | 250A MCCB mainswitch item no. | Pole size | A DIM. (mm) |
|------------------------|-------------------------------|-----------|-------------|
| XDB250-24 | XDB250M-24 | 24 | 750 |
| XDB250-36 | XDB250M-36 | 36 | 1000 |
| XDB250-48 | XDB250M-48 | 48 | 1000 |
| XDB250-60 | XDB250M-60 | 60 | 1000 |

Note: 750 high box shown with 24 pole chassis and 250A main switch.

xBoard Plus panelboard



Note: 1000 high box shown with 48 pole chassis and 250A switch

| No mainswitch item no. | 250A mainswitch item no. | A DIM. (mm) | 250A MCCB mainswitch item no. | A DIM. (mm) | Pole size |
|------------------------|--------------------------|-------------|-------------------------------|-------------|-----------|
| XDBP250-24 | XDBP250M-24 | 1000 | XDBP250NzM-24 | 1000 | 24 |
| XDBP250-36 | XDBP250M-36 | 1000 | XDBP250NzM-36 | 1000 | 36 |
| XDBP250-48 | XDBP250M-48 | 1000 | XDBP250NzM-48 | 1000 | 48 |
| XDBP250-60 | XDBP250M-60 | 1000 | XDBP250NzM-60 | 1500 | 60 |
| XDBP250-72 | XDBP250M-72 | 1500 | XDBP250NzM-72 | 1500 | 72 |
| XDBP250-84 | XDBP250M-84 | 1500 | XDBP250NzM-84 | 1500 | 84 |
| XDBP250-96 | XDBP250M-96 | 1500 | XDBP250NzM-96 | 1500 | 96 |

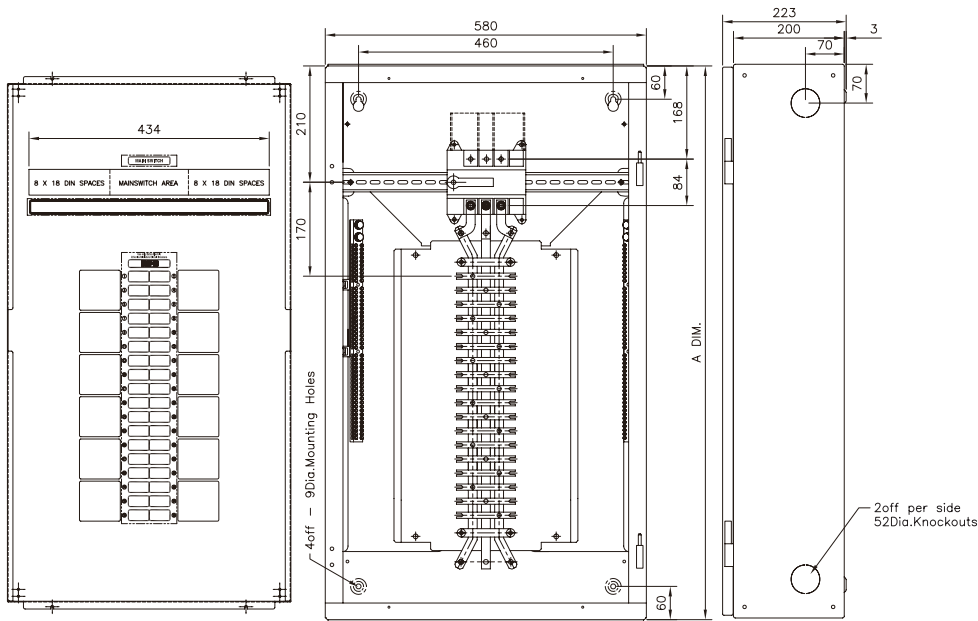
Orange board (-RO suffix) dimensions same as corresponding pole size above.

Circuit protection

xBoard panelboards

Technical data

xBoard Plus Quicklag panelboard

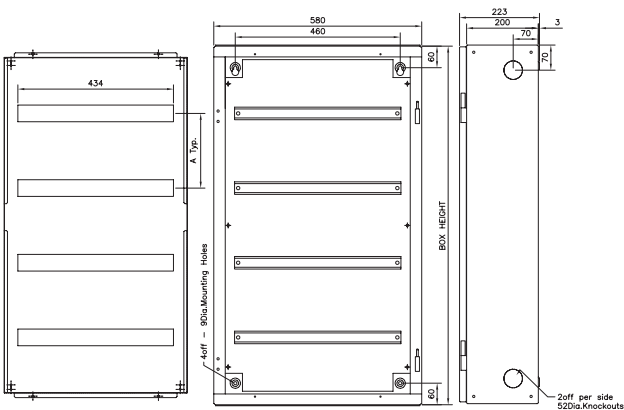


Note: 1000 high box shown with 36 pole chassis and 250A switch

| No mainswitch item No. | 250A mainswitch item No. | A DIM. (mm) | 250A MCCB mainswitch item No. | A DIM. (mm) | Pole size |
|------------------------|--------------------------|-------------|-------------------------------|-------------|-----------|
| XDBPQ250-24 | XDBPQ250M-24 | 1000 | XDBPQ250N2M-24 | 1000 | 24 |
| XDBPQ250-36 | XDBPQ250M-36 | 1000 | XDBPQ250N2M-36 | 1500 | 36 |
| XDBPQ250-48 | XDBPQ250M-48 | 1500 | XDBPQ250N2M-48 | 1500 | 48 |
| XDBPQ250-60 | XDBPQ250M-60 | 1500 | XDBPQ250N2M-60 | 1500 | 60 |
| XDBPQ250-72 | XDBPQ250M-72 | 1500 | XDBPQ250N2M-72 | 1500 | 72 |
| XDBPQ250-84 | XDBPQ250M-84 | 2000 | XDBPQ250N2M-84 | 2000 | 84 |
| XDBPQ250-96 | XDBPQ250M-96 | 2000 | XDBPQ250N2M-96 | 2000 | 96 |

Orange board (-RO suffix) dimensions same as corresponding pole size above.

xBoard Plus extension (xEquipment) boxes



Note: 1000 high box shown

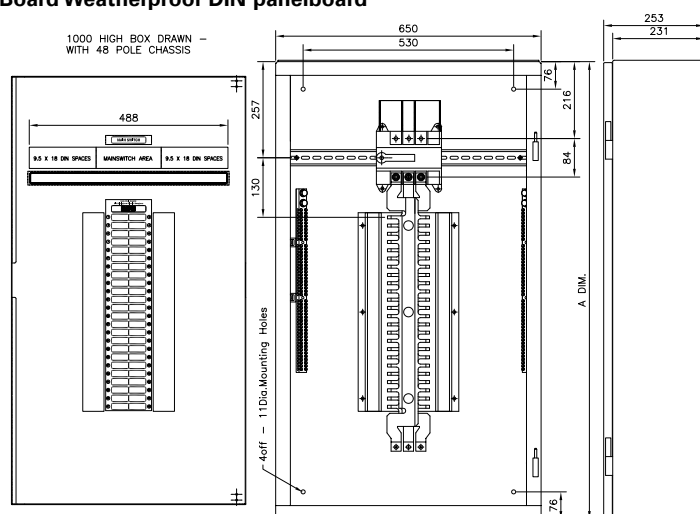
| Blank mount. Plate & escutcheon item no. | DIN rail(s) & blank escutcheon item no. | Raised DIN rail(s) & slotted escutcheon item no. | Box height (mm) | A DIM. (mm) | No. of DIN rails |
|--|---|--|-----------------|-------------|------------------|
| XEB250-B | XEB250-D1 | XEB250-D1S | 250 | - | 1 |
| XEB500-B | XEB500-D2 | XEB500-D2S | 500 | 155 | 2 |
| XEB1000-B | XEB1000-D4 | XEB1000-D4S | 1000 | 208 | 4 |
| XEB1500-B | XEB1500-D8 | XEB1500-D8S | 1500 | 161 | 8 |

1. A DIM. and No. of DIN Rails information only applies to extension boxes with DIN rail(s) fitted.

2. Orange boxes (-RO suffix) model dimensions same as corresponding box heights above.

Technical data

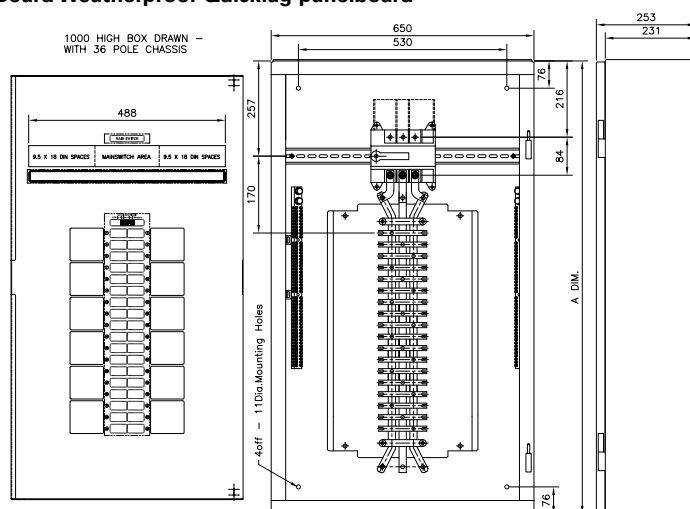
xBoard Weatherproof DIN panelboard



| No mainswitch Item no. | 250A isolator mainswitch Item no. | A DIM. (mm) | Pole size |
|---------------------------|--------------------------------------|----------------|-----------|
| XDBW250-24 | XDBW250M-24 | 1000 | 24 |
| XDBW250-36 | XDBW250M-36 | 1000 | 36 |
| XDBW250-48 | XDBW250M-48 | 1000 | 48 |
| XDBW250-60 | XDBW250M-60 | 1000 | 60 |
| XDBW250-72 | XDBW250M-72 | 1500 | 72 |
| XDBW250-84 | XDBW250M-84 | 1500 | 84 |
| XDBW250-96 | XDBW250M-96 | 1500 | 96 |

Orange board (-RO suffix) dimensions same as corresponding pole size above.

xBoard Weatherproof Quicklag panelboard

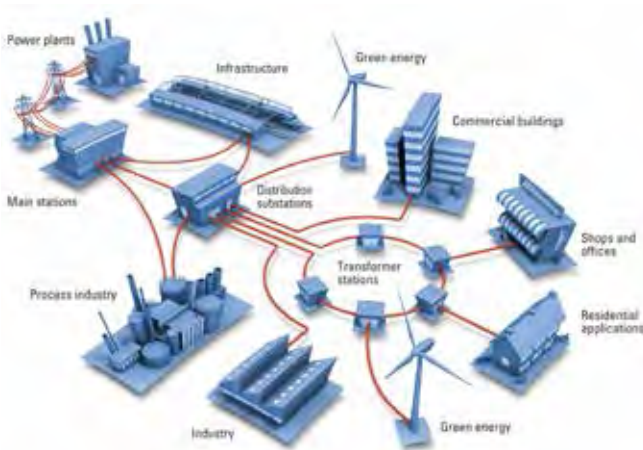


| No mainswitch Item no. | 250A isolator mainswitch Item no. | A DIM. (mm) | Pole size |
|---------------------------|--------------------------------------|----------------|-----------|
| XDBWQ250-24 | XDBWQ250M-24 | 1000 | 24 |
| XDBWQ250-36 | XDBWQ250M-36 | 1000 | 36 |
| XDBWQ250-48 | XDBWQ250M-48 | 1500 | 48 |
| XDBWQ250-60 | XDBWQ250M-60 | 1500 | 60 |
| XDBWQ250-72 | XDBWQ250M-72 | 1500 | 72 |
| XDBWQ250-84 | XDBWQ250M-84 | 2000 | 84 |
| XDBWQ250-96 | XDBWQ250M-96 | 2000 | 96 |

Orange board (-RO suffix) dimensions same as corresponding pole size above.

Circuit protection

Medium voltage products



The energy line

Reliable and safe electrical energy is one of the corner stones of today's industrialised society. Its continuous availability and everyday use have become a matter of course for all of us. Industrial and business activities, transport, communication and data processing are inconceivable without the 'energy supply line', the extensive electricity network between power stations and end-users. Products and services of Eaton's Electrical Group play an important role in medium and low voltage applications in the Energy Line. At all nodal points of the network electrical solutions of Eaton guarantee a safe and reliable power supply. All Eaton's solutions are based on the latest insulation and interruption technologies and manufactured in compliance with IEC safety and ISO quality standards.

Energy distribution

The activities of Eaton for applications in distribution networks (main feeder, sub-distribution and transformer stations), are directed towards switchgear installations and components. The switchgear systems are air or epoxy-resin insulated and are, in most cases, equipped with circuit breakers based on Eaton vacuum interrupters. Eaton offers an extensive range of switchgear systems and switchgear components, ensuring a safe and reliable distribution of electrical energy.

Magnefix MD4

12 kV ring main unit:

Magnefix switchgear is a fully epoxy resin insulated Ring Main Unit switchgear for application in 12-15 kV distribution networks. Due to its compact construction and the fully insulated design, it can be installed in very small areas in transformer stations, high rise buildings and wind turbine connections.

- Extremely compact (91 mm per switch panel)
- Safe and reliable, with full insulation
- Flexible design, high level of modularity
- User friendly
- Environmentally friendly (No SF6)
- Cost effective
- The system complies with the most recent IEC regulations:
IEC 62271-100 for the circuit-breakers
IEC 62271-102 for the earthing switches
IEC 62271-103 for the load break switches
IEC 62271-201 for insulation enclosed switchgear

Technical highlights

Switching

As standard, the various switches are manually operated with single phase switch caps. The operator can remove and replace these switch caps with a separable operating handle. A three phase design is also available.

Safe insulation

All parts are fully surrounded by insulating material in such a way that discharges are avoided and making it impossible to come into contact with live parts.

Recycling

Magnefix switchgear can be completely recycled after its service life. No harmful materials are used.

Protection

Fused T-offs are used for the protection of the power transformers in the network. Alternatively a circuit-breaker with a self-powered electronic protection relay type WIC1 is available.

Magnefix arrangements

It is possible to assemble switchboards with a wide variety of combinations for various applications.

Typical modules and functions are:

- Cable unit (A)
- Fuse protected tee-off (Switch Fuse unit) (BC)
- Busbar sectionaliser (BE)
- Busbar Connection Unit (D)
- Blind connection block (E)
- Circuit Breaker protected t-off (BV)

A complete range of accessories and cable termination kits is also available.

Dimensions Magnefix MD4

| Description | Width (mm) |
|-----------------------------------|----------------------|
| Cable unit | 91 |
| Busbar connection unit | 91 |
| Blind connection block | 91 |
| Busbar sectionaliser | 182 |
| Fuse protected tee-off | 230 |
| Circuit-breaker protected tee-off | 230 |
| Total width | = S unit widths + 72 |



Technical specifications

| Description | | |
|-----------------------------------|-----|-------|
| Rated Voltage | kV | 12 |
| Impulse withstand voltage | kVp | 95 |
| Power frequency withstand voltage | kV | 28 |
| Frequency | Hz | 50-60 |
| Busbar system | | |
| Normal current | A | 400 |
| Short-time withstand current 1 s. | kA | 14.4 |
| Peak withstand current | kA | 31 |
| Switch-disconnector | | |
| Earth fault breaking current | A | 240 |
| Cable charging breaking current | A | 25 |

| Description | | |
|--|----|------|
| Switch-disconnector | | |
| Normal current | A | 400 |
| Mainly active load breaking current | A | 400 |
| Circuit-breaker (for automatic tripping only) | | |
| Normal current | A | 400 |
| Short-circuit breaking current peak value | kA | 14.4 |
| DC component | % | 20 |
| Fuse-links | | |
| Normal current | A | 57.7 |
| Fuse-links according to DIN 43625 | kV | 12 |

Xiria

Xiria is the name of a new generation of ring main units from Eaton. They are characterised by their high level of operational safety and are suitable for applications up to 24 kV. As sustainability becomes more and more important, this criterion has been taken as a starting point for the design in terms of production and for the entire service life of the switchgear.

Xiria is an extremely well designed and modern system. For example, when developing the system we intentionally opted for protection in the form of a circuit breaker combined with an electronic relay. This is a modern, safe and flexible alternative to fuse protection.

- The system complies with the most recent IEC regulations:
 - IEC 62271-100 for the circuit-breakers
 - IEC 62271-102 for the change-over switches and earthing switches
 - IEC 62271-103 for the load break switches
 - IEC 62271-200 for metal enclosed switchgear



Technical highlights

High operational safety

Safe visible ON/OFF position, isolation and earthing

The ON/OFF position of the main vacuum interrupters and the position of the integrated earthing are clearly visible through inspection windows at the front. Earthing can be safely effected via the load break switch or circuit-breaker. Xiria is designed with a fully enclosed metal housing combined with single phase insulation of all primary live parts, reducing the risk of an internal fault to an absolute minimum, thereby providing a high degree of safety and availability.

Maintenance free

The vacuum interrupters, the main busbars and the change-over/earthing switches are mounted inside a fully sealed metal enclosure for protection against the ingress of moisture and dust. The switching mechanism has been designed with a minimum number of parts to maximise reliability. As it is maintenance-free, Xiria significantly reduces inspection and maintenance costs without adversely affecting the operational safety of your distribution network.

Environmentally friendly (No SF6)

Vacuum technology

Xiria is made exclusively of environmentally-friendly materials. The insulation medium is clean, dry air and the switching medium is vacuum. Thus Xiria responds to the demand for sustainability in energy distribution. The unit is easy to dismantle at the end of its service life as the materials used are clearly labelled and can be recycled.

Compact

Xiria is one of the smallest ring main units of its kind. This high degree of compactness is a direct result of the combination of technologies used by Eaton - electrical field control, solid insulation and the use of extremely compact vacuum interrupters.

Designed for substation automation (remote control)

Xiria is completely ready for use in fully-automated networks. There are various options available for the system, depending on the level of remote signalling and remote control required. These options are modular, so they can be quickly and easily added in the future.

Xiria arrangements

Xiria units can be supplied in two, three, four- or five-panel versions. Both the primary part of the unit and the mechanisms are housed in a fully enclosed housing which protects the system against environmental influences.

There is a choice of two basic panel versions in our product range:

- A vacuum load break switch for ring cable connections
- A vacuum circuit-breaker for protecting transformers and cable connections

Both versions can be supplied in a unit in any desired combination and order.

Technical specifications

| Description | | | |
|------------------------------------|------|---------|---------|
| General | | | |
| Rated voltage | kV | 12 | 24 |
| Impulse withstand voltage | kV | 75/95 | 125 |
| Power frequency withstand voltage | kV | 28 | 50 |
| Rated frequency | Hz | 50/60 | 50/60 |
| Internal arc resistance | kA/s | 20/1 | 16/1 |
| Busbar system | | | |
| Rated normal current | A | 630 | 630 |
| Rated short-time withstand current | kA/s | 20/3 | 16/3 |
| Rated peak withstand current | kA | 50 | 40 |
| Circuit-breaker | | | |
| Rated normal current | A | 200/500 | 200/500 |
| Rated breaking current | kA | 20 | 16 |
| Rated short-circuit making current | kA | 50 | 40 |
| Rated short-time withstand current | kA/s | 20/3 | 16/3 |

| Description | | | |
|---|------|------|------|
| Load break switch | | | |
| Rated normal current | A | 630 | 630 |
| Rated mainly active load breaking current at cos. phi 0.7 | A | 630 | 630 |
| Rated short-circuit making current | kA | 50 | 40 |
| Rated short-time withstand current | kA/s | 20/3 | 16/3 |

Dimensions

| | 2-way | 3-way | 4-way | 5-way |
|--------------------|-------|-------|-------|-------|
| Width (mm) | 760 | 1110 | 1460 | 1810 |
| Height (mm) | 1305 | 1305 | 1305 | 1305 |
| Depth (mm) | 600 | 600 | 600 | 600 |

Circuit protection

Medium voltage products



Xiria E

Xiria E switchgear is designed around Eaton's proven vacuum interrupter technology, which require no maintenance and are certified for 30,000 operation cycles. All live parts in the available panels are single pole insulated. The used materials are shaped specifically to provide optimum insulation combined with excellent thermal characteristics. In addition, the insulation is configured to provide effective control over electric fields around the used components, thereby minimizing any risk of internal arcing.

- The system complies with the most recent IEC regulations:
 - IEC 62271-1 Common specifications for high-voltage switchgear and control gear standards
 - IEC 62271-100 High-voltage alternating-current circuit-breakers
 - IEC 62271-102 Alternating current disconnectors and earthing switches
 - IEC 62271-103 High-voltage switches
 - IEC 62271-200 A.C. metal-enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52 kV
 - IEC 62271-304 Additional requirements for enclosed switchgear and control gear from 1 kV to 72.5 kV to be used in severe climatic conditions
 - IEC 60529 Degrees of protection provided by enclosures
 - IEC 60044-1 Instrument transformers - Part 1: Current transformers
 - IEC 60044-2 Instrument transformers - Part 2: Inductive voltage transformers
 - EN 50181 Plug-in type bushings above 1 kV up to 36 kV

Low initial cost

- Panels width only 500 mm
- Cable connection from the front
- Integrated arc channel with absorber
- 12 and 24 kV panels in the same housing

Low service cost during operation

- Robust "lean" design with minimum number of parts
- Product quality guaranteed by routine testing in the factory
- Primary parts and mechanism installed in a fully sealed for life enclosed housing
- Maintenance free vacuum circuit-breaker
- No SF6 pressure checks

Low end of life disposal cost

- Fully recycling or re-use of materials
- Vacuum switching technologies
- Solid insulation with air as isolating medium

Safe in Use

- Compartments protected against penetration by objects
- Capacitive voltage detection system for verification of safe isolation from supply
- Operation only possible with closed compartment
- Logical mechanical and electrical interlocks prevent incorrect operation
- Smooth contemporary design
- Visible isolation by means of inspection windows in the front

Reliable and safe in operation

- Complete design certified in accordance with IEC standards
- Arc fault tested according to IEC 62271-200
- Quality assurance in accordance with DIN EN 9001

Preventing an Internal Arc

- Use of electrical field control, with protected voltage transformers and single pole insulated parts
- Sealed for life fully enclosed housing

Sealed for life fully enclosed housing

- Protects primary parts against environmental influences and provides a maintenance free mechanism

Controlling an Internal Arc

- No phase-to-phase short circuit minimizes pressure with integrated compartments reduce pressure and integrated arc absorber reduces output impact

Arc absorber

- Ceramic block, breaks and filters the fire and gasses significantly

| Description | | |
|--|------------|-----------|
| Rated voltage | 12 kV | 24 kV |
| Power frequency withstand voltage | 28 kV | 50 kV |
| Impulse withstand voltage | 75 / 95 kV | 125 kV |
| Rated current busbars | 630 A | 630 A |
| Short-time current * optional 3 s | 20 kA-1s* | 20 kA-1s* |
| Rated normal current (max.) | | |
| circuit-breaker panel | 630 A | 630 A |
| transformer panel | 200 A | 200 A |
| load-break switch panel | 630 A | 630 A |
| busbar sectionaliser panel | 630 A | 630 A |
| direct busbar panel | 630 A | 630 A |
| metering panel | 630 A | 630 A |
| Degree of protection | IP 31D | IP 31D |
| Classification according to IEC 62271-200: | | |
| Loss of service continuity | LSC 2B | LSC 2B |
| Partition class | PM | PM |
| Internal arc | IAC AFL | IAC AFL |

Environmental friendly design

- Use of minimized number of components
- Materials with no/less impact on the environment
- No use of SF6 gas for insulation or switching

Efficient use of material

- Low production waste material
- Use of modern machines

No service checks on site

- Maintenance free switchgear
- Environmental friendly insulation and switching medium

Re-use or recycle of materials

- Use of environmental friendly materials
- Cooperation with specialized partners

User friendly

- Cable connection and user interfaces for operation on the same front side of the panel
- Ergonomic cable connection height
- Cable (secondary) entry points on both sides of the low voltage compartment top plate
- Secondary cable terminals positioned on a good reachable place in low voltage compartment clear and simple straight forward operation panels

Innovac SVS

Metal enclosed single busbar solid and air insulated switchgear

Modular switchgear to 24kV

The Innovac SVS system is ideally suited for use in distribution networks and as industrial and building switchgear. The system provides reliable switching, protection, metering and distribution of electrical energy. The SVS system is based on vacuum technology combined with solid insulation. This makes the SVS system especially suitable for application in infrastructural projects (i.e. tunnels and subways) and industrial or commercial environments (i.e. processing industry, food industry and hospitals) where a clean and safe environment is necessary.

The SVS system is used in:

- Utility: Distribution stations, compact secondary substations, wind turbines
- Infrastructure: Vacuum switching is especially suitable for tunnels, subways and other infrastructure applications
- Industries: Connection to ring cable or LVS system
- Commercial: Hospitals, stadiums, shopping centres, hotels, etc.

Technical highlights

Reliable and safe in operation

Epoxy resin is used in the SVS system as high-quality primary insulation material around live parts. The same level of insulation is maintained throughout the entire switchgear therefore preventing internal arcs.

Safe in use

The earthed metal enclosure of the SVS system provides personal safety during normal operation and the live primary parts and primary component connections are fully insulated, removing risk of contact with live parts during maintenance or testing.

Flexible

The SVS system is modular in construction. This means that any panel combination and sequence is possible. Several sections can easily be connected to the requirements of the switchboard. Existing SVS switchgear can also be easily extended by one or more panels. The panels in the SVS system are compact (min. 420 mm wide), resulting in considerable savings in installation space.

User friendly

The SVS system features uniform and straightforward operation. Each panel has an easy-to-understand and clearly set out mimic diagram, showing every switching action. The cable termination area is very easy to access. Cables are connected at the front of the panels with ample space for finishing off and securing the cables.

Environmentally friendly

Eaton selects its materials with care and consideration for the safety of people and the environment - not just during use, but at the end of their service life, too. For this reason the SVS system does not contain SF6 insulation gas and all materials used are environmentally friendly.

Technical specifications

| Description | | SVS/08 | | SVS/12 | |
|--------------------------------------|---------------------|--------|-------|----------|----------|
| Rated voltage | Ur kV | 12 | 24 | 12 | 24 |
| Impulse withstand voltage | Up kV | 75/95 | 125 | 75/95 | 125 |
| Power frequency withstand voltage | Ud kV | 28 | 50 | 28 | 50 |
| Rated frequency | fr Hz | 50/60 | 50/60 | 50/60 | 50/60 |
| Busbar system | | | | | |
| Rated current | Ir A | 800 | 800 | 1250 | 1250 |
| Rated short-time withstand current ① | I _k kA/s | 20/3 | 20/3 | 25/1.5 | 25/1.5 |
| Rated peak withstand current | I _p kA | 50 | 50 | 63 | 63 |
| Circuit-breaker | | | | | |
| Rated breaking current | Ir A | 630 | 630 | 630/1250 | 630/1250 |
| Rated short circuit breaking current | I _{sc} kA | 16-20 | 16-20 | 16-25 | 16-25 |



SVS arrangements

It is possible to assemble switchboards with a wide variety of combinations for various applications.

Typical modules and functions are:

- Load Break Switch
- Circuit Breaker
- Direct Busbar connection
- Busbar sectionaliser with load break switch or circuit breaker
- Metering

| Description | | SVS/08 | | SVS/12 | |
|--------------------------------------|------------------------------------|-----------|-----------|-------------|-------------|
| Circuit-breaker | | | | | |
| Rated short-circuit making current | I _{ma} kA | 40-50 | 40-50 | 40-63 | 40-63 |
| Rated short-time withstand current ① | I _k kA/s | 16/1-20/3 | 16/1-20/3 | 16/1-25/1.5 | 16/1-25/1.5 |
| Load-break switch | | | | | |
| Rated breaking current | I _r / I _{sc} A | 630 | 630 | 630 | 630 |
| Rated short-circuit making current | I _{ma} kA | 50 | 50 | 50 | 50 |
| Rated short-time withstand current ① | I _k kA/s | 16/1-20/3 | 16/1-20/3 | 16/1-20/3 | 16/1-20/3 |
| Fused load-break switch | | | | | |
| Rated current ② | Ir A | 57/61 | 36 | 57/61 | 36 |

① Depending on type of vacuum interrupter used.

② 57 A at 12 kV with 12 kV fuse holders and 10/12 kV fuses; 61 A at max. 17.5 kV with 24 kV fuse holders and 10/12 kV fuses; 36 A at 24 kV fuse holders and 20/24 kV fuses.

Circuit protection

Medium voltage products



W-VACi medium voltage vacuum circuit breakers

Features and benefits

- Industry leading vacuum and solid insulation technology
- Fixed and withdrawable versions available
- Environmentally friendly design - no SF6 - gas
- Conformance to the latest IEC standards - IEC 62271-100 and IEC 62271-1
- Numerous safety features for maximum protection
- User friendly operation with easy access and minimal inspection
- Compact and cost effective
- Flexible with a full line of accessories and OEM components

Applications

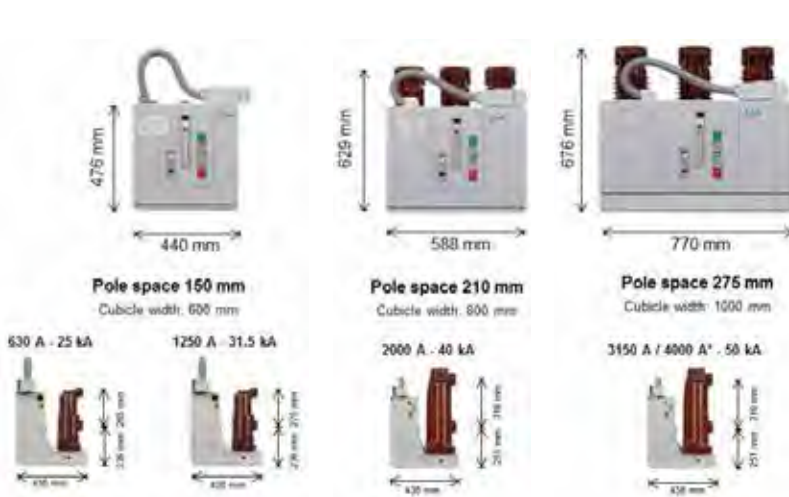
- Serving both 50 Hz and 60 Hz end-user segments of the electrical industry: industrial, commercial, utility, mining, marine and off-shore
- Protecting transformers, capacitor banks, motors, busbar sections and cables
- Suitable for special environment conditions: high altitude, shock, vibration and high ambient temperature

Description

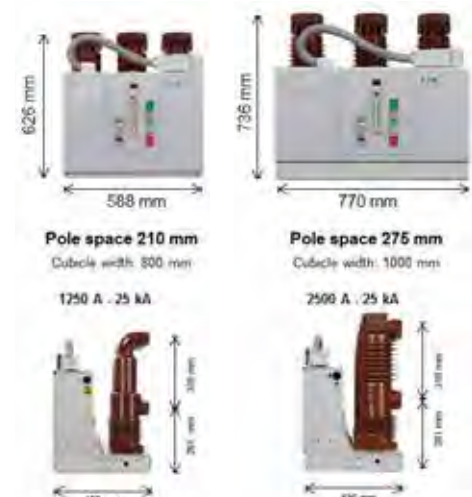
| | | | | | | | | | | | |
|------------------------------------|----|--------|--|-----|---------|---------------------------------|-----|-------|---------|-----|--|
| Circuit breaker designation | | 12 kV | | | 17.5 kV | | | 24 kV | | | |
| Rated voltage | Ur | kV | 12 | | | 17.5 | | | 24 | | |
| Rated frequency | fr | Hz | 50 / 60 | | | 50 / 60 | | | 50 / 60 | | |
| Rated normal current | Ir | A | 630 / 800 / 1250 / 1600 / 2000 / 2500 / 3150 / 4000 ① | | | 800 / 1250 / 1600 / 2000 / 2500 | | | | | |
| Rated short-time withstand current | Ik | kA rms | 25 / 26.3 / 31.5 / 40 / 50 | | | 25 / 31.5 / 40 / 50 | | | 20 / 25 | | |
| Rated duration of short circuit | tk | s | 3 | | | 3 | | | 3 | | |
| Rated supply voltage | | V | 24 - 48 - 60 - 110 - 125 - 220 - 250 VDC / 120 - 220 - 230 VAC | | | | | | | | |
| Pole-center distance | | mm | 150 | 210 | 275 | 150 | 210 | 275 | 210 | 275 | |
| Upper-to-lower terminal spacing | | mm | 205 / 275 | 310 | 310 | 205 / 275 | 275 | 310 | 310 | 310 | |

① 4000 A rating with forced cooling

W-VACi 12kV and 17.5kV family



W-VACi 24kV family



T-VAC(R) medium voltage vacuum circuit breakers

Available in a fixed version (T-VACR) as well as a withdrawable unit (T-VAC) with corresponding cassette, these breakers are ideal for applications such as mine power centres, portable power substations, fixed breaker switchgear, shipboard use and portable generators.

Standard features

- Metallic safety barrier - 3 mm steel barrier between mechanism and primary conductors.
- Silver-plated primary connections (fixed version)
- Spring loaded primary finger disconnect (drawout version)
- Silver plated primary cassette stabs (drawout version)
- Manual charging (includes shunt trip)
- Integral charging handle
- Auxiliary switch (5a and 5b), heavy duty, double break, wipe type
- Mechanical operations counter
- 24, 48, 125, 250 VDC, 120, 240 VAC Control options
- ON and OFF pushbuttons
- Two-step stored energy mechanism
- O – 0.3s – CO – 15s - CO Duty cycle
- Secondary umbilical cord (drawout version)
- Anti-pump
- Trip free
- Visible contact erosion indicator
- Visible contact wipe indicator



Options

- Electrical Motor Charging (Includes shunt trip and spring release, field installable)
- Shunt Trip (2nd)
- Spring Release
- Undervoltage Release
- ON and OFF Pushbutton Cover, Limits access to pushbuttons, metal or plastic
- Prevent Manual Close Cover (Prevents access to ON pushbutton - used in conjunction with pushbutton cover)
- Secondary Screw Type Terminal Block (Fixed version)
- Integral Trip Unit

Technical specifications

| Ur (kV) | Ud (kV) | Up (kVp) | Isc (kA) | Ip (kAp) | Ir (fixed version) | | | | | Ir (drawout version) | | |
|---------|---------|----------|----------|----------|--------------------|-------|-------|-------|-------|----------------------|-------|-------|
| | | | | | 630A | 1250A | 1600A | 2000A | 2500A | 630A | 1250A | 2000A |
| 7.2 | 20 | 60 | 16 | 40 | • | • | • | - | - | • | • | - |
| | | | 20 | 50 | • | • | • | - | - | • | • | - |
| | | | 25 | 63 | • | • | • | • | • | • | • | • |
| | | | 31.5 | 82 | • | • | - | • | • | • | • | • |
| | | | 40 | 104 | • | • | - | • | • | • | • | • |
| 12 | 28 | 75 | 16 | 40 | • | • | • | - | - | • | • | - |
| | | | 20 | 50 | • | • | • | - | - | • | • | - |
| | | | 25 | 63 | • | • | • | • | • | • | • | • |
| | | | 31.5 | 82 | • | • | - | • | • | • | • | • |
| | | | 40 | 104 | • | • | - | • | • | • | • | • |
| 17.5 | 38 | 95 | 16 | 40 | • | • | • | - | - | • | • | - |
| | | | 20 | 50 | • | • | • | - | - | • | • | - |
| | | | 25 | 63 | • | • | • | • | • | • | • | • |
| | | | 31.5 | 82 | • | • | - | • | • | • | • | • |
| | | | 40 | 104 | • | • | - | • | • | • | • | • |

Ur: Rated voltage
 Ud: Rated short-duration power-frequency withstand voltage
 Up: Rated lightning impulse withstand voltage

Isc: Rated short-circuit breaking current
 Ip: Rated peak withstand current
 Ir: Rated normal current

Circuit protection

Medium voltage products



SL medium voltage vacuum contactors

The “SL” family of medium voltage vacuum contactors is designed and engineered specifically for the OEM, combining the highest ratings available in a cost-saving, reduced-size package that’s lighter and easier to install.

“SL” Contactors are ideal for full and reduced voltage starting of squirrel-cage induction, wound-rotor, and synchronous motors. Other applications include power and capacitor switching. They’re especially recommended for heavy duty applications and harsh environments found in many industries including mining, pulp and paper, HVAC, petrochemical, and automotive.

Technical highlights

Long Contactor Life

No adjustment or replacement of vacuum interrupters is required to achieve 300,000 electrical operations.

Fewer moving parts enhance longevity and reliability while decreasing maintenance, resulting in a mechanical life of 2.5 million operations.

Field-Adjustable Settings

Field adjustable coil voltages & drop-out times enable the installer to adjust to specific requirements and make last minute changes to standard units.

Field-Installable Kits Provide Added Flexibility (160-400A versions)

Auxiliary Contact Kits provide for up to six extra auxiliary contacts. Mechanical Latch Kits available in many coil voltages with a wide range of AC and DC selections.

Mechanical Interlock Kit prevents unintentional energizing.

Easy Installation

Can be mounted horizontally or vertically when space is an issue. Built-in mounting tabs provide for pedestal or panel mounting.

3 different altitude versions

Low altitude rating of -3500 to -1001 meters.

Standard altitude rating of -1000 to +2000 meters.

High altitude rating of +2001 to +4000 meters.

High interrupting capability

160A, 200A, 360A : 4500A interrupting rating.

400A : 8500A interrupting rating.

800A : 13200A interrupting rating.

Global Acceptability

Meets NEMA/ANSI ICS 3 Part 2.

KEMA tested to IEC 60470 (160-400A).

UL 347 recognised, File #E63257.

CSA Certified T.I.L. D-21, File #LR28548.

Technical specifications

| Contactor size | Voltage, V | Interrupting rating, kA | Induction motor, kW | Synchronous motor (1.0 PF), kW | Transformer kVA | Capacitor switching * kVAR/A |
|----------------|--------------|-------------------------|---------------------|--------------------------------|-----------------|------------------------------|
| 160A | 2200 – 2500V | 4.5 | 450 | 600 | 600 | 480/120 |
| | 3000 – 3600V | | 675 | 750 | 800 | 640/120 |
| | 3800 – 4800V | | 900 | 1050 | 1000 | 960/120 |
| | 6000 – 6900V | | 1350 | 1650 | 1600 | 1320/120 |
| 200A | 2200 – 2500V | 4.5 | 600 | 750 | 750 | 600/150 |
| | 3000 – 3600V | | 825 | 950 | 1000 | 800/150 |
| | 3800 – 4800V | | 1100 | 1300 | 1250 | 1200/150 |
| | 6000 – 6900V | | 1675 | 2050 | 2000 | 1650/150 |
| 360A | 2200 – 2500V | 4.5 | 1100 | 1300 | 1200 | 1000/270 |
| | 3000 – 3600V | | 1500 | 1850 | 1600 | 1475/270 |
| | 3800 – 4800V | | 1850 | 2250 | 2500 | 2150/270 |
| | 6000 – 6900V | | 3000 | 3750 | 3200 | 2950/270 |
| 400A | 2200 – 2500V | 8.5 | 1300 | 1500 | 1500 | 1200/295 |
| | 3000 – 3600V | | 1675 | 1850 | 2000 | 1650/295 |
| | 3800 – 4800V | | 2250 | 2600 | 2500 | 2400/295 |
| | 6000 – 6900V | | 3350 | 4100 | 4000 | 3300/295 |
| 800A | 2200 – 2500V | 13.2 | 2250 | 2600 | 2500 | 2400/550 |
| | 3000 – 3600V | | 3000 | 3750 | 3500 | 3200/550 |
| | 3800 – 4800V | | 3750 | 4500 | 4500 | 4000/550 |
| | 6000 – 6900V | | 6000 | 7500 | 6000 | 4800/550 |

* Ratings not applicable for back-to-back switching. Consult factory.

Power Xpert UX

Power Xpert UX system is a metal-enclosed, internal arc-proof, air-insulated switchgear system with withdrawable vacuum circuit-breakers and/or contactors. It is a modular system, which has been developed for medium voltage single busbar applications up to 24 kV, for the primary and secondary distribution. Power Xpert UX has an environmentally-friendly design, with vacuum circuit breakers offering a Low VI Contact erosion design.

Ratings: 12/17.5kV, up to 4000A 50kA-3s
24kV, up to 2500A 25kA-3s

- Certified in accordance with IEC
 - IEC 62271-1 Common specifications
 - IEC 62271-100 Circuit breakers (E2, M2, C2)
 - IEC 62271-102 Disconnectors and earthing switches (E2, M0)
 - IEC 62271-200 Metal enclosed switchgear and controlgear
 - IEC 60044-1 Current transformers
 - IEC 60044-2 Voltage transformers
 - IEC 60529 Degrees of protection (IP Code)
 - IEC 61850 Communication networks and systems in substations
 - IEC 61243-5 Live working - voltage detectors - Part 5: voltage detecting systems



Technical highlights

- Metal-clad, air-insulated switchgear
- Certified in accordance with IEC
- Compact design
- Environmentally-friendly design with respect to the materials used
- Arc fault tested according to IEC 62271-200
- Modular structure, easily configurable for specific applications and installations
- Vacuum circuit breakers offering Low VI Contact erosion design. Higher Interruption Ratings. Universal Mechanism, Encapsulated Poles.

Applications in:

- Utilities and Power Plants: Power generation stations, Transformer stations, Switching stations, Main and auxiliary switchboards.
- Industry: Pulp and Paper, Cement, Textiles, Chemicals, Food, Automotive, Petrochemical, Quarrying, Oil and gas pipelines, Metallurgy, Rolling mills, Mines.
- Marine applications: Rigs, Drilling platforms, Off-shore oil rigs, Tender ships, Passenger ships, Container ships, Tankers, Cable ships, Ferries.
- Transport: Airports, Ports, Railways, Underground transport.
- Commercial Services: Supermarkets, Shopping malls, Hospitals, Large infrastructures and civil works.

Technical specifications

| Description | | |
|--------------------------|-------|-------------------------------|
| Rated voltage | kV | 12/17.5 |
| Rated current busbar | A | 1250, 2000, 3150/(4000FC) |
| Rated short-time current | kA-3s | 25, 26.3, 31.5, 40, 50 |
| IAC circuit breakers | | |
| Rated current (max) | A | 630, 1250, 2000, 3150, 4000FC |
| Short time current | kA-3s | 25, 31.5, 40, 50 |
| Panel width | mm | 600, 800, 1000 |
| Panel height | mm | 2200 / 2760* |

* Height over the arc chamber

| Panel width | 600 mm | 800mm | 1000mm |
|----------------------------------|----------------|--------------|----------------------|
| 12 kV and 17.5 kV | | | |
| Max. rating | 630 A / 1250 A | 2000A | 3150 A / 4000 A (FC) |
| Depth | 1320 | 1320 / 1500* | 1500 |
| Height (A) | 2200 | 2200 | 2200 |
| Height including Arc Chamber (B) | 2750 | 2750 | 2750 |

* 1500 mm for IAC classification ratings of 40 kA-1s and 50 kA-0.5s only

| Description | | |
|----------------------|-------|----------------------|
| Rated voltage | kV | 24 |
| Busbar rated current | A | 1250, 2500 |
| Short time current | kA-3s | 20, 25 |
| IAC | kA-1s | 25 |
| Circuit-Breakers | | |
| Rated current max | A | 800,1250, 2000, 2500 |
| Short time current | kA-3s | 25 |
| Panel width | mm | 800,1000 |
| Panel height | mm | 2200 / 2760 |

* Height over the arc chamber

| Panel width | 800mm | 1000mm |
|----------------------------------|----------------|-----------------|
| 24 kV | | |
| Max. rating | 800 A / 1250 A | 2000 A / 2500 A |
| Depth | 1570 | 1570 |
| Height (A) | 2320 | 2320 |
| Height including Arc Chamber (B) | 2870 | 2870 |

Circuit protection

Medium voltage products



Power Xpert FMX

IEC MV, single busbar, fixed switchgear for application in substations (24 kV, 630 - 2000 A)

The new system is a modern, high quality design based on Eaton's long experience and established technology with new innovations in application. It provides an environmentally-friendly alternative for energy distribution requirements in primary and distribution substations, in the industrial sector for specific customer connections or as a substation.

Technical highlights

General

- State-of-the-art design certified in accordance with IEC
- Compact design
- Environmentally-friendly design with respect to the materials used
- Maintenance-free design
- Ergonomic cable termination and operator interface

Safety

- All high-voltage parts including the cable terminations, busbars and voltage transformers are metal enclosed
- Capacitive voltage detection system for verification of safe isolation

Operating safety

- Arc fault tested according to IEC 62271-200: 25 kA - 1 s
- Operating mechanisms of switching devices accessible from the front
- Operation is only possible with closed enclosure
- Logical mechanical interlocks prevent maloperation
- Cable earthing via the vacuum circuit-breaker

Medium voltage generator circuit breakers

Eaton's Cutler-Hammer VCP-WG line of Vacuum Generator breakers were designed and tested to the specific ANSI / IEEE C.37.013 standard. These breakers are designed to handle the rigorous and unique characteristics needed when applied in close proximity to a Generator and Transformer configuration.

Ratings of our VCP-WG line include 5 and 15kV, 50, 63 and 75kA, and up to 4000A continuous current with natural convection cooling. Higher current ratings can be achieved with the use of fan cooling packages.

Eaton Corporation has dedicated years of research, design, enhancement and testing to create Cutler-Hammer VCP-WG Circuit Breakers that meet, and even exceed, these rigorous service duty requirements of generator circuit application defined by IEEE.

Technical specifications

| Description | | 50VCP-WG50 | 50VCP-WG63 | 50VCP-WG75 | 150VCP-WG50 | 150VCP-WG63 | 150VCP-WG75 |
|--------------------------------------|---------|------------------|------------------|------------------------|------------------|------------------|------------------------|
| Rated voltage | kV | 4.76 | 4.76 | 4.76 | 15 | 15 | 15 |
| Power frequency withstand voltage | kV-1min | 19 | 19 | 19 | 36 | 36 | 36 |
| Impulse withstand voltage | kVp | 60 | 60 | 60 | 95 | 95 | 95 |
| Rated current | A | 1200, 2000, 3000 | 1200, 2000, 3000 | 1200, 2000, 3000, 4000 | 1200, 2000, 3000 | 1200, 2000, 3000 | 1200, 2000, 3000, 4000 |
| Rated short circuit breaking current | kA | 50 | 63 | 75 | 50 | 63 | 75 |

Ratings referenced to 60Hz.

Technical specifications

| Description | | 5 | 15 | 27 | 38 |
|-------------------------------------|-----|------------------------|------------------------|----------------|--|
| Rated voltage | kV | 5 | 15 | 27 | 38 |
| Impulse withstand voltage | kVp | 60 | 95 | 125 | 170 |
| Main bus rating | A | 1200, 2000, 3000, 4000 | 1200, 2000, 3000, 4000 | 1200, 2000 | 1200, 2000, 3000 |
| Circuit breaker rating | A | 1200, 2000, 3000 | 1200, 2000, 3000 | 1200, 2000 | 1200, 1600, 2500 A Depending on kA Rating |
| Short circuit interrupting capacity | kA | 29, 41, 63 | 18, 28, 37, 63 | 16, 22, 25, 40 | 16, 21, 25, 40 |

Ratings referenced to 60Hz.

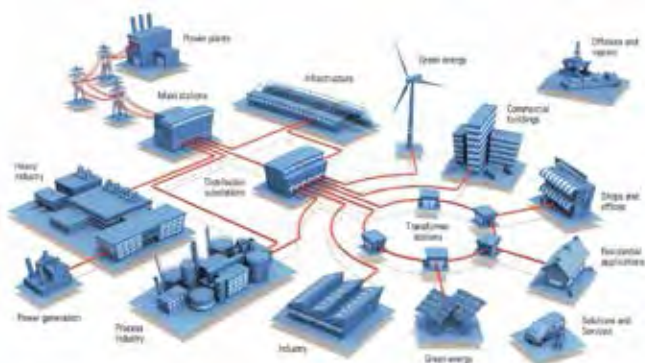


These breakers are integrated into the VCP-W Metal-Clad Switchgear cubicles to provide a total solution.

VCP-W metal-clad switchgear with type VCP-W vacuum breakers provides centralised control and protection of medium voltage power equipment and circuits in industrial, commercial and utility installations involving generators, motors, feeder circuits and transmission and distribution lines.

VCP-W switchgear is available in maximum voltage ratings from 4.76 kV through 38 kV and interrupting ratings up to 63kA depending on voltage. VCP-W offers a total design concept of cell, breaker and auxiliary equipment, which can be assembled in various combinations to satisfy user application requirements. Two-high breaker arrangements are standard up to 15 kV. One-high arrangements can be furnished when required.

A greener form of power.



Eaton's sustainable SF6-free switchgear solutions for medium voltage power distribution.

Eaton's medium voltage switchgear systems are based on its long standing experience in the core technologies of vacuum interrupters, vacuum switching and cast resin insulation and encapsulation, enabling an environmentally-friendly solution. Eaton is well-positioned across all of our businesses to deliver effective power management technologies that help our customers control cost and reduce their energy requirements.



Powering Business Worldwide