

Moulded Case Circuit Breakers

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| | Refer section 13 |

TemBreak 2 Moulded Case Circuit Breakers

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Rated current (I_{in}) from 12 A to 630 A

Breaking capacity (I_{cu}) from 25 kA to 200 kA at 415 V AC

Features include an innovative approach to internal accessory installation, reducing the need for tools, higher kA ratings in smaller size MCCBs, increased OCR functionality, through to a wide range of superior external accessories.

During development, particular emphasis was placed on safety. A double insulated design for safe internal accessory access, and the toggle is fully insulated. The main contact mechanism is a direct driven design which means that actual main contact status can be instantly recognised by viewing the toggle position.



Earth Leakage MCCB



160 A / 250 A



400 A / 630 A

TemBreak 1 - Moulded Case Circuit Breakers

Rated current (I_{in}) from 630 A to 3200 A. Breaking capacity (I_{cu}) from 50 kA to 125 kA at 400/415 V AC.



630 A / 800 A



1250 A / 1600 A

Moulded Case Circuit Breakers

About TemBreak 2

1. Higher kA Ratings in Small Frame Sizes

125 A Frame models to 65 kA, 250 A Frame models to 200 kA.



125 A



250 A

2. Modular and Common Sizes

Current ratings up to 630 A can be supplied in 2 sizes: the 250 A and 630 A sizes. 400 A and 630 A MCCB are now a common size. (400 AF) The compact 125 A size offers the same features and performance but with reduced dimensions.



250 A



400/630 A



125 A

3. Metering: T2SW CT/V block

The T2SW metering block from NHP attaches to TemBreak 2 MCCBs. The T2SW block features a compact design which is the same height and width as the MCCB it fits to. The current transformers used in T2SW blocks have a class 0.5S rating providing a very high degree of measurement accuracy. T2SW blocks are suitable for use with analogue or electronic meters.



Moulded Case Circuit Breakers

About Tembreak 2

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3. Field installable accessories

- Accessories can be fitted by the switchboard builder or the end-user. All internal accessories are common for TemBreak 2 MCCBs.
- Handles and motor operators can be rapidly fitted using locking pegs. It takes less than 10 seconds to secure a handle or motor to the MCCB – a great time saving.



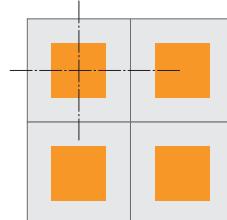
4. IP 65 or IP 55 variable depth handles

Superior handles now available - IP 55 or IP 65 on all TemBreak 2 MCCBs up to 630 A, and TemBreak 1, 125 A to 1600 A.

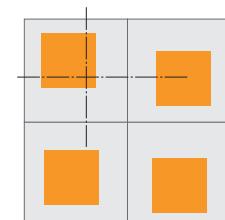


Symmetrical door cut-out patterns

Door cut-out patterns for handles are symmetrical, even when breakers are mounted in opposite directions.



Using TemBreak 2
Operating handles



Using other MCCB
Operating handles

5. Increased thermal-magnetic flexibility

Overload protection is adjustable between 63 % and 100 % of the rating. Short-circuit protection is adjustable on all thermal magnetic models. Short-circuit protection settings are suitable for motor starting on all models, including the compact 125 A and 250 A frames.



6. Electronic Protection in a 250 A Frame

The adjustability of an electronic MCCB is available in a 250 A Frame MCCB. OCR Ratings range from 50 A to 250 A.



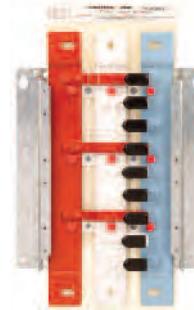
Moulded Case Circuit Breakers

About TemBreak 2

7. 250 A Frame MCCBs: 12 A - 250 A on a Common Chassis

250 AF MCCBs are available ranging from:

- 12 A - 250 A @ 25, 30 kA (E/S 160 - 250)
- 32 A - 250 A @ 36, 65 kA (S160 - 250)



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8. Compact Transfer Switches

Mechanical interlocks are installed on the front of the MCCB, and are compatible with motor operators and handles. An automatic changeover system can be assembled by a switchboard builder or end-user, from components. Alternatively, complete made-up transfer switches can be supplied.



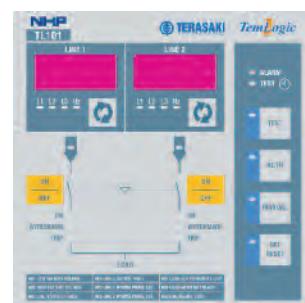
Changeover pair with link interlock
and motor operators



Viewed from side
(250 A frame)

9. Transfer Switch Controller options

- The TemLogic 2 controller type TL101 offers a wide range of standard features, ease of installation, all in a compact 144 x 144 x 94 mm housing. The controller is configured via soft touch buttons on the front fascia.
- Timer / Relay controller type TLP2 – offers a simple system of logic control from easy to obtain NHP components.
- PLC / Relay controller type TLC2 – offers the function of a PLC combined with that of a logic controller.
- Suitable for TemBreak 1 & 2 MCCBs.



10. Integral earth leakage ELCB / MCCB



The ZS earth leakage ELCB from Terasaki offers machine or personnel protection within a standard 125 A, 160/250 A MCCB frame size. The ZS earth leakage ELCB also maintains the full functionality of a standard thermal-magnetic overload / short circuit protection device.

Features

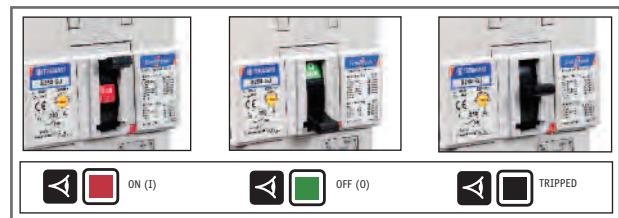
- Adjustable trip settings from 30 mA to 3A
- Time delay 0 - 700 mS
- 3 or 4 pole
- 65 kA short circuit fault interruption
- Switched or unswitched neutral versions

Moulded Case Circuit Breakers

About TemBreak 2

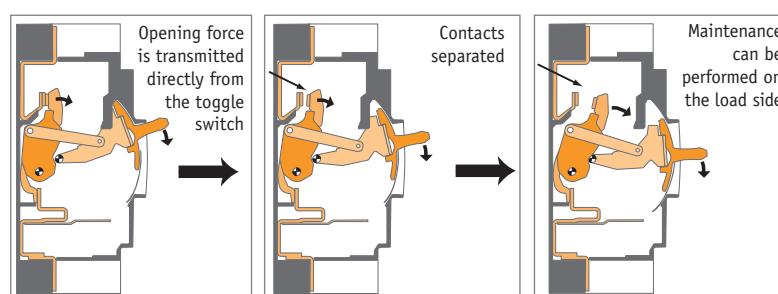
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10. Visual safety



Coloured indicators display the ON or OFF status. The indicators are fully covered if the breaker trips, so that black is the only visible colour.

11. Isolation safety - Direct driven toggle



TemBreak 2 MCCBs are marked with IEC symbol indicating Direct Opening Action. ⊗

The robust mechanism ensures that the force applied to the toggle is transmitted directly to the contacts. Under the heading "Measures to minimise risk in the event of failure", IEC 60204-1 Safety of Machinery - Electrical Equipment of Machines includes the following recommendation:

" - the use of switching devices having positive (or direct) opening operation."

TemBreak 2 MCCBs will assist any user to comply with the world's most stringent safety standards. This enables TemBreak 2 to be among the safest switching devices for machinery and general isolation applications.



12. Touch safety

The risk of touching live parts has been minimised by design. These features reduce the risk of touching live parts:

- There are no exposed metal screws on the front face
- No live parts are exposed when fitting accessories



Moulded Case Circuit Breakers

About TemBreak 2

13. International compliance

- The TemBreak 2 MCCB complies with the international standard IEC 60947-2 and AS/NZS 3947.2
- TemBreak 2 Switch Disconnectors comply with IEC 60947-3 and AS/NZS 3947.3
- Accessories comply with IEC 60947-5-1, IEC 61058-1 and AS/NZS 3947.5.1
- The entire range conforms to the IEC general rules for switchgear, IEC 60947-1, and AS/NZS 3947.1
- The TemBreak 2 range complies with the EC Low Voltage Directive and all models are CE marked

Independent tests

TemBreak 2 circuit breakers have been tested at independent laboratories (such as TCA Australia) as well as in Terasaki's own laboratory in Osaka, Japan.

Marine approvals

TemBreak 2 MCCBs are approved by the leading marine approval organisations.



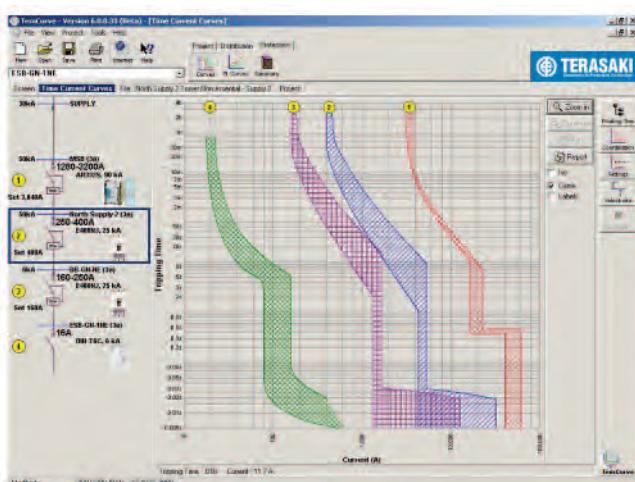
14. TemCurve 6.0

Circuit Breaker Selectivity Applications Software

NHP 'TemCurve 6' MCCB selectivity application software, includes many features that make TemCurve 6 a versatile applications tool. Device types included in TemCurve 6 are Terasaki MCBs, MCCBs, ACBs, NHP fuses, and generic IEC protection relay curves.

TemCurve 6 includes:

| | | |
|----------------------------|---------------------------|--------------------------|
| Circuit line diagrams | Cable fault calculations | Supply voltage options |
| Distribution schematic | Supply fault calculations | Motor start applications |
| Catalogue data prints | Time current curves | User defined curves |
| Device photos | I ² t curves | Circuit breaker settings |
| Internet update capability | Exports to AutoCad* | A calculator |
| Supply device type options | TemCurve file sharing | |

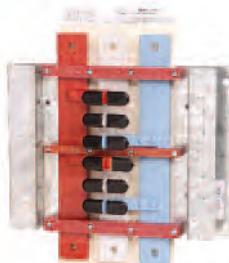


Moulded Case Circuit Breakers

Chassis systems

Moulded Case Circuit Breaker chassis system

MCCBs are often required to be mounted singly, in the case of a motor centre, or in groups, as part of a larger power distribution system. To help assist with grouped MCCB power distribution requirements, NHP manufacture standardised busbar systems, simply called chassis. NHP stock a range of basic chassis which can be purchased 'off the shelf', while more complex, higher current chassis are produced mostly on a custom basis to suit a customer specification.



General features TemWay XA, XB, XC chassis

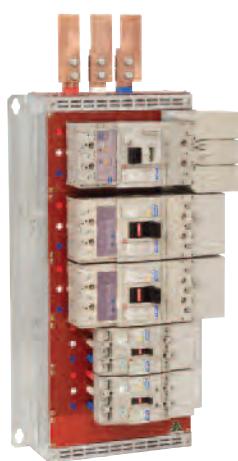
- 36 and 40 kA ratings on standard TemWay XA and XB chassis
- PXB chassis suitable for S250PE electronic and E/S/H/L thermal magnetic MCCBs.
- 50 and 65 kA ratings on TemWay XC chassis
- A range of TemWay 4 pole XA and XB chassis, suitable for ZS earth leakage MCCBs
- Single sided chassis for 250 AF MCCBs 20 – 250 A
- Suitable for 690 V AC applications

Heavy current "HC" chassis

- For MCCBs, 20 - 1250 A
- Compact single sided version
- A longer maximum box size - allows more MCCBs to be fitted
- 11 box sizes – more economical sizing to suit applications and save cost.
- Suitable for 690 V AC applications

Testing

Both TemWay and HC Chassis have been unconditionally type tested (no MCCBs fitted) in Australia, at the short time with stand ratings shown in the table below.



| Chassis type | Description | Main bar rating | Fault current level Icw rating | MCCB frame size | Cat. No. |
|--------------|--|------------------------|--|-------------------|--|
| XA | Double sided | 630 A, 800 A | 36 kA for 1 second 40 kA for 0.5 second | 125 AF | E/S/ZS125 12 A -125 A |
| XB | Double sided | 800 A | 36 kA for 1 second 40 kA for 0.5 second | 250 AF | E/S/ZS250 NJ/GJ 12 A - 250 A |
| XBSS | Single sided Left or right sided | 800 A | 36 kA for 1 second 40 kA for 0.5 second | 250 AF | E/S/ZS250 NJ/GJ 12 A - 250 A |
| PXB | Double sided | 800 A | 36 kA for 1 second 40 kA for 1 second | 250 AF | E/S/ZS250 NJ/GJ 12 A - 250 A S250PE Electronic MCCB |
| XC | Double sided | 1000 A ¹⁾ | 50 kA for 1 second 65 kA for 0.5 second | 250 AF, 400 A | E /S/ZS160 - 250 up to E/S400 |
| HC | Double sided or single sided left or right | 1250 A, 1600 A, 2200 A | 65 kA fpr 1 second | 250 AF to 1250 AF | E/S160 up to XS1250SE |

Notes: ¹⁾ Can be operated up to 800 A only, to comply wih AS/NZS 3000 - 2007.

TemBreak 2 MCCB

Quick reference guide - 12 A to 630 A

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| Amp range | 400/415 V Icu kA rating | | | | | | | | No. of Poles | Thermal Magnetic OCR | Electronic OCR | Cat. No. |
|-------------------|--|----|----|----|----|-----|-----|-----|--------------|----------------------|----------------|----------|
| | 25 | 30 | 36 | 45 | 50 | 65 | 70 | 85 | | | | |
| 12.5 - 125 | 25 | | | | | | | | 3 | Yes | - | E125NJ |
| 16 - 125 | 25 | | | | | | | | 1 | Yes | - | S125NF |
| 15 - 100 | 65 | | 65 | | | | | | 2 | Yes | - | S100GF |
| 12.5 - 125 | | 36 | | | | | | | 3, 4 | Yes | - | S125NJ |
| 12.5 - 125 | | | | 65 | | | | | 3, 4 | Yes | - | S125GJ |
| 12.5 - 125 | | | | 65 | | | | | 3, 4 | Yes | - | ZS125GJ |
| 12.5 - 125 | | | | | | | 125 | | 3, 4 | Yes | - | H125NJ |
| 12.5 - 125 | | | | | | | | 200 | 3, 4 | Yes | - | L125NJ |
| 12.5 - 160 | 25 | | | | | | | | 1 | Yes | - | S160NF |
| 12.5 - 160 | | 36 | | | | | | | 3, 4 | Yes | - | S160NJ |
| 32 - 160 | | | 65 | | | | | | 3, 4 | Yes | - | S160GJ |
| 100 - 160 | | | | | | 125 | | | 3, 4 | Yes | - | H160NJ |
| 100 - 160 | | | | | | | 200 | | 3, 4 | Yes | - | L160NJ |
| 12.5 - 250 | 25 | | | | | | | | 3 | Yes | - | E250NJ |
| 100 - 250 | | 36 | | | | | | | 3, 4 | Yes | - | S250NJ |
| 100 - 250 | | | | 65 | | | | | 3, 4 | Yes | - | S250GJ |
| 100 - 250 | | | | 65 | | | | | 3, 4 | Yes | - | ZS250GJ |
| 50 - 250 | | | | | 70 | | | | 3, 4 | - | Yes | S250PE |
| 100 - 250 | | | | | | 125 | | | 3, 4 | Yes | - | H250NJ |
| 50 - 250 | | | | | | 125 | | | 3, 4 | - | Yes | H250NE |
| 100 - 250 | | | | | | | 200 | | 3, 4 | Yes | - | L250NJ |
| 252 - 400 | 25 | | | | | | | | 3 | Yes | - | E400NJ |
| 160 - 400 | | 36 | | | | | | | 3 | Yes | - | S400CJ |
| 160 - 400 | | | 50 | | | | | | 3, 4 | Yes | - | S400NJ |
| 100 - 400 | | 50 | | | | | | | 3, 4 | - | Yes | S400NE |
| 160 - 400 | | | | 70 | | | | | 3, 4 | Yes | - | S400GJ |
| 100 - 400 | | | 70 | | | | | | 3, 4 | - | Yes | S400GE |
| 100 - 400 | | | | | 85 | | | | 3, 4 | - | Yes | S400PE |
| 100 - 400 | | | | | | 125 | | | 3, 4 | - | Yes | H400NE |
| 100 - 400 | | | | | | | 200 | | 3, 4 | - | Yes | L400NE |
| 252 - 630 | | 36 | | | | | | | 3 | - | Yes | E630NE |
| 252 - 630 | | | 50 | | | | | | 3, 4 | - | Yes | S630CE |
| 252 - 630 | | | | 70 | | | | | 3, 4 | - | Yes | S630GE |
| Isolator switches | Short time rating for 0.3 seconds Icw (kA) | | | | | | | | | | | |
| 125 | | | | | | 2 | | | | | | S125NN |
| 160 | | | | | | | 3 | | | | | S160NN |
| 250 | | | | | | | 3 | | | | | S250NN |
| 400 | | | | | | | | 5 | | | | S400NN |
| 630 | | | | | | | | 5 | | | | S630NN |

TemBreak 1 Quick reference guide - MCCBs to 3200 A

| Amp Range | 400/415 V Icu kA rating | | | | | | | | No. of Poles | Thermal Magnetic OCR | Electronic OCR | Cat. No. |
|-------------|-------------------------|----|----|----|----|----|-----|----|--------------|----------------------|----------------|----------|
| | 25 | 30 | 36 | 45 | 50 | 65 | 70 | 85 | | | | |
| 0.7 - 12A | | | | | | | | 85 | 3 | Hydraulic mag. | - | XM30PB |
| 400 - 630 | | | | | 65 | | | | 3, 4 | Yes | - | XG630N |
| 400 - 630 | | | | | | | | 85 | 3, 4 | Yes | - | XH630P |
| 315 - 630 | | | | 50 | | | | | 3, 4 | - | Yes | XS630SE |
| 315 - 630 | | | | | 65 | | | | 3, 4 | - | Yes | XH630SE |
| 315 - 630 | | | | | 65 | | | | 3, 4 | - | Yes | XH630PE |
| 500 - 800 | | | 50 | | | | | | 3, 4 | Yes | - | XS800N |
| 500 - 800 | | | | | | | | 85 | 3, 4 | Yes | - | XH800P |
| 400 - 800 | | | | 50 | | | | | 3, 4 | - | Yes | XS800E |
| 400 - 800 | | | | | 65 | | | | 3, 4 | - | Yes | XH800E |
| 400 - 800 | | | | | 65 | | | | 3, 4 | - | Yes | XH800PE |
| 500 - 1250 | | | | | | | 85 | | 3, 4 | - | Yes | XS1250SE |
| 800 - 1600 | | | | | | | 100 | | 3, 4 | - | Yes | XS1600SE |
| 1000 - 2000 | | | | | | | | 85 | 3, 4 | - | Yes | XS2000N |
| 1250 - 2500 | | | | | | | | 85 | 3, 4 | - | Yes | XS2500N |
| 1600 - 3200 | | | | | | | | 85 | 3 | - | Yes | XS3200N |
| 315 - 630 | | | | | | | 125 | | 3, 4 | - | Yes | TL630NE |
| 400 - 800 | | | | | | | 125 | | 3, 4 | - | Yes | TL800NE |
| 500 - 1250 | | | | | | | 125 | | 3, 4 | - | Yes | TL1250NE |

Colour Key:

MCCB labels are similarly colour coded via a coloured rectangle around the catalogue number on the breaker.

| | | |
|------------|-------------------------|----|
| Yellow | Motor Circuit Protector | XM |
| Green | Economy range | E |
| Blue | Standard range | S |
| Dark Brown | High kA range | H |
| Red | Limitor range | L |
| Grey | Isolators / Non-Auto | N |

Note: ¹⁾ 20-32 A Trip unit versions rated 30 kA.

A TemBreak 1 to TemBreak 2 cross reference can be found on page 4 - 26.

TemBreak 2 MCCB Ratings and specifications

4

| Catalogue No. | | E125 NJ | S125 NF | S125 NJ | S100 GF | ZS125 GJ | | |
|---|--------------------------|---|---|---|---|---|-------|---------------|
| Type | | | | | | | | |
| Ampere frame | | 125 | | | | | | |
| Number of Poles | | 3 | 1 | 3 | 2 | 2 | | |
| MCCB Electrical characteristics to: | | | | | | | | |
| AS/NZS 3947-2, IEC 60947-2, EN 60947-2, JIS C 8201-2-1 ANN.1, NEMA AB-1 | |  |  |  |  |  | | |
| Nominal current ratings | Unit | | | | | | | |
| In | 45°C | (A) | 20,32,50, 63,100, 125 | 16,20,25, 32,40,50, 63, 80, 100,125 | 20,32,50, 63,100, 125 | 15,20,30, 40,50,60, 75,100 | | |
| Electrical characteristics | | | | | | | | |
| Rated operational voltage | Ue | AC 50/60 Hz | (V) | 500 | 240 | 690 | 690 | 525 |
| | | DC | | 500 | - | 600 | 600 | - |
| Rated insulation voltage | Ui | | (V) | 800 | 800 | 800 | 800 | 800 |
| Rated impulse withstand voltage | Uimp | | (kV) | 8 | 8 | 8 | 8 | 8 |
| Ultimate breaking capacity (IEC, JIS, AS/NZS) | Icu | 690 V AC | (kA) | - | - | 6 | 5 | - |
| | | 525 V AC | | 8 | - | 22 | 25 | 25 |
| | | 440 V AC | | 15 | - | 25 | 50 | 50 |
| | | 400/415 V AC | | 25 | - | 36 | 65 | 65 |
| | | 220/240 V AC | | 35 | 25 | 50 | 85 | 85 |
| | | 250 V DC | | 25 | - | 25 | 40 | - |
| Service breaking capacity (IEC, JIS, AS/NZS) | Ics | 690 V AC | (kA) | - | - | 6 | 6 | - |
| | | 525 V AC | | 6 | - | 22 | 22 | 22 |
| | | 440 V AC | | 12 | - | 25 | 25 | 25 |
| | | 400/415 V AC | | 19 | - | 36/30 | 36/33 | 36/33 |
| | | 220/240 V AC | | 27 | 13 | 50 | 85 | 85 |
| | | 250 V DC | | 19 | - | 19 | 40 | - |
| Rated breaking capacity (NEMA) | 480 V AC | | (kA) | 8 | - | 22 | 25 | 25 |
| | 240 V AC | | | 35 | 25 | 50 | 85 | 85 |
| Protection | | | | | | | | |
| Adjustable thermal, adjustable magnetic | | | | ■ | | ■ | | ¹⁾ |
| Fixed thermal, fixed magnetic | | | | | ■ | | ■ | |
| Microprocessor | | | | | | | | |
| Utilisation category | | A | A | A | A | A | A | |
| Installation | | | | | | | | |
| Front connection (FC) | | | | ■ | ■ | ■ | ■ | ■ |
| Attached flat bar (FB) | | | | ● | ● | ● | ● | ● |
| Solderless terminal (cable clamp) (FW) | | | | ● | ● | ● | ● | ● |
| Rear connection (RC) | | | | ● | - | ● | ● | ● |
| Plug-in (PM) | | | | ● | - | ● | - | ● |
| Draw-out (DR) | | | | - | - | - | - | - |
| DIN rail mounting (DA) | | | | ● | ● | ● | ● | ● |
| Dimensions (mm) | h | | (mm) | 155 | 155 | 155 | 155 | 155 |
| | w | 3 pole, (1 pole) | | 90 | (30) | 90 | 60 | 90 |
| | | 4 pole | | 120 | - | - | - | 120 |
| | d | | | 68 | 68 | 68 | 68 | 68 |
| Weight (kg) | 3 pole, (1 pole) | | (kg) | 1.1 | (0.45) | 1.1 | 0.90 | 1.1 |
| | 4 pole | | | 1.4 | - | 1.4 | - | 1.4 |
| Operation | | | | | | | | |
| Direct Opening Action | | | | ■ | ■ | ■ | ■ | ■ |
| Toggle operation | | | | ■ | ■ | ■ | ■ | ■ |
| Variable depth (HP) / direct mount operating handle (HB) | | | | ● | - | ● | - | ● |
| Motor operator (MC) | | | | ● | - | ● | - | ● |
| Endurance (440V AC) | Electrical Mechanical | cycles | | | | | | |

Notes: ¹⁾ Figures in brackets () applies only to S160NJ MCCBs with 20 A and 32 A trip units.

²⁾ ZS125 has an adjustable thermal and fixed and magnetic trip.

| S125 GJ | H125 NJ | L125 NJ | S160 NF | S160 ¹⁾ NJ | S160 GJ | H160 NJ | L160 NJ |
|---|---|---|---|---|---|---|---|
| 160 | | | | | | | |
| 3,4 | 3, 4 | 3, 4 | 1 | 3, 4 | 3, 4 | 3, 4 | 3, 4 |
|  |  |  |  |  |  |  |  |
| 20,32,50, 63,100,125 | 20,32,50, 63,100,125 | 20,32,50, 63,100,125 | 16,20,25,32, 40,50,63,80, 100,125,160 | 20,32,50,63, 100,125,160 | 50,63,100, 125,160 | 160 | 160 |
| 690 | 690 | 690 | 415 | 690 | 690 | 690 | 690 |
| 600 | 600 | 600 | 125 | 600 | 600 | 600 | 600 |
| 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 6 | 20 | 25 | - | 7.5 (5) ¹⁾ | 7.5 | 20 | 25 |
| 25 | 45 | 65 | - | 25 (18) ¹⁾ | 25 | 45 | 65 |
| 50 | 120 | 180 | - | 25 (18) ¹⁾ | 50 | 120 | 180 |
| 65 | 125 | 200 | - | 36 (30) ¹⁾ | 65 | 125 | 200 |
| 85 | 150 | 200 | 25 | 65 (42) ¹⁾ | 85 | 150 | 200 |
| 40 | 40 | 40 | - | 40 (30) ¹⁾ | 40 | 40 | 40 |
| 6 | 15 | 20 | - | 7.5 (5) ¹⁾ | 7.5 | 15 | 20 |
| 22 | 45 | 65 | - | 25 (18) ¹⁾ | 25 | 45 | 65 |
| 25 | 80 | 135 | - | 25 (18) ¹⁾ | 25 | 80 | 135 |
| 36/33 | 85 | 150 | - | 36 (25) ¹⁾ | 36 | 85 | 150 |
| 85 | 150 | 150 | 19 | 65 (35) ¹⁾ | 85 | 150 | 150 |
| 40 | 40 | 40 | - | 40 (25) ¹⁾ | 40 | 40 | 40 |
| 25 | 45 | 65 | - | 22 (18) ¹⁾ | 25 | 45 | 65 |
| 85 | 150 | 200 | 25 | 65 (42) ¹⁾ | 85 | 150 | 200 |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| A | A | A | A | A | A | A | A |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ● | ● | ● | ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● | ● | ● | ● |
| ● | ● | ● | - | ● | ● | ● | ● |
| ● | ● | ● | - | ● | ● | ● | ● |
| - | - | - | - | - | - | - | - |
| ● | - | - | - | - | - | - | - |
| 155 | 165 | 165 | 165 | 165 | 165 | 165 | 165 |
| 90 | 105 | 105 | (35) | 105 | 105 | 105 | 105 |
| 120 | 140 | 140 | - | 140 | 140 | 140 | 140 |
| 68 | 103 | 103 | 68 | 68 | 68 | 103 | 103 |
| 1.1 | 2.4 | 2.4 | (0.5) | 1.5 | 1.5 | 2.5 | 2.5 |
| 1.4 | 3.2 | 3.2 | - | 1.9 | 1.9 | 3.3 | 3.3 |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ● | ● | ● | - | ● | ● | ● | ● |
| ● | ● | ● | - | ● | ● | ● | ● |



■ Standard ● Optional - Not Available

TemBreak 2 MCCB Ratings and specifications

4

| Catalogue No. | | E250 NJ | S250 NJ | S250 GJ | ZS250 GJ | S250 PE | H250 NJ | H250 NE |
|---|--------------------------|--------------|---|-----------------------------------|-------------|--------------|---------------|---------------|
| Type | | 250 | | | | | | |
| Ampere frame | | 250 | | | | | | |
| Number of Poles | | 3 | 3, 4 | 3, 4 | 3,4 | 3, 4 | 3, 4 | 3,4 |
| MCCB Electrical characteristics to: | | | | | | | | |
| AS/NZS 3947-2, IEC 60947-2, EN 60947-2, JIS C 8201-2-1 ANN.1, NEMA AB-1 | | | | | | | | |
| Nominal current ratings | Unit | | | | | | | |
| In | 45°C | (A) | 20,32,50, 63,100, 125,160, 200,250 | 160, 200, 250 ⁴⁾ | 160, 250 | 250, 125, | 160, 250 | 250, 125 |
| Electrical characteristics | | | | | | | | |
| Rated operational voltage | Ue | AC 50/60 Hz | (V) | 500 | 690 | 690 | 525 | 690 |
| | | DC | | 500 | 600 | 600 | - | 600 |
| Rated insulation voltage | Ui | | (V) | 800 | 800 | 800 | 800 | 800 |
| Rated impulse withstand voltage | Uimp | | (kV) | 8 | 8 | 8 | 8 | 8 |
| Ultimate breaking capacity (IEC, JIS, AS/NZS) | Icu | 690 V AC | (kA) | - | 7.5 | 7.5 | - | 20 |
| | | 525 V AC | | 10 | 25 | 25 | 25 | 45 |
| | | 440 V AC | | 15 | 25 | 50 | 50 | 120 |
| | | 400/415 V AC | | 25 | 36 | 65 | 65 | 125 |
| | | 220/240 V AC | | 35 | 65 | 85 | 85 | 150 |
| | | 250 V DC | | 25 | 40 | 40 | - | 40 |
| Service breaking capacity (IEC, JIS, AS/NZS) | Ics | 690 V AC | (kA) | - | 7.5 | 7.5 | - | 15 |
| | | 525 V AC | | 7.5 | 25 | 25 | 25 | 45 |
| | | 440 V AC | | 12 | 25 | 25 | 25 | 80 |
| | | 400/415 V AC | | 19 | 36 | 36 | 36 | 85 |
| | | 220/240 V AC | | 27 | 65 | 85 | 85 | 150 |
| | | 250 V DC | | 19 | 40 | 40 | - | 40 |
| Rated breaking capacity (NEMA) | 480 V AC | | (kA) | 10 | 22 | 25 | 25 | 45 |
| | 240 V AC | | | 35 | 65 | 85 | 85 | 150 |
| Rated short-time withstand current | Icw | 0.3 Seconds | (kA) | - | - | - | - | - |
| Protection | | | | | | | | |
| Adjustable thermal, adjustable magnetic | | | | ■ | ■ | ■ | ⁶⁾ | ■ |
| Fixed thermal, fixed magnetic | | | | | | | | |
| Microprocessor | | | | | | | ■ | ■ |
| Utilisation category | | | | A | A | A | A | A |
| Installation | | | | | | | | |
| Front connection (FC) | | | | | | | | |
| Attached flat bar (FB) | | | | ● | ● | ● | ● | ● |
| Solderless terminal (cable clamp) (FW) | | | | ● | ● | ● | ● | ● |
| Rear connection (RC) | | | | ● | ● | ● | ● | ● |
| Plug-in (PM) | | | | ● | ● | ● | ● | ²⁾ |
| Draw-out (DR) | | | | - | - | - | - | - |
| DIN rail mounting (DA) | | | | - | - | - | - | - |
| Dimensions (mm) | h | (mm) | 165 | 165 | 165 | 165 | 165 | 165 |
| | w 3 pole | | 105 | 105 | 105 | 105 | 105 | 105 |
| | 4 pole | | 140 | 140 | 140 | 140 | 140 | 140 |
| | d | | 68 | 68 | 68 | 68 | 103 | 103 |
| Weight (kg) | 3 pole | (kg) | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.4 |
| | 4 pole | | 1.9 | 1.9 | 1.9 | 1.9 | 3.3 | 3.2 |
| Operation | | | | | | | | |
| Direct Opening Action | | | | ■ | ■ | ■ | ■ | ■ |
| Toggle operation | | | | ■ | ■ | ■ | ■ | ■ |
| Variable depth (HP) / direct mount operating handle (HB) | | | | ● | ● | ● | ● | ● |
| Motor operator (MC) | | | | ● | ● | ● | ● | ● |
| Endurance (415V AC) | Electrical Mechanical | cycles | | | | | 10,000 | 30,000 |

■ Standard ● Optional - Not Available

TemBreak 2 MCCB Ratings and specifications

**MCCB Electrical characteristics to AS/NZS 3947-2, IEC 60947-2, EN 60947-2,
JIS C 8201-2-1 ANN.1, NEMA AB-1**

| L250 NJ | E400 NJ | S400 CJ | S400 NJ | S400 NE | S400 GJ | S400 GE | S400 PE | H400 NE | L400 NE | E630 NE | S630 CE | S630 GE | >630 |
|---------------|------------|-------------|---|-------------|-------------|-------------|---|-------------|-------------|---|-------------------|-------------------|------|
| 400 | | | | | | | | | | | | | |
| 3, 4 | 3 | 3 | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3, 4 | 3 | 3, 4 | 3, 4 | |
| | | |  | | | |  | | |  | | | |
| 160, 250 | 400 | 250, 400 | 250, 400 | 250, 400 | 250, 400 | 250, 400 | 250, 400 | 250, 400 | 250, 400 | 630 | 630 | 630 | |
| 690 | 500 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 | 690 ¹⁾ | 690 ¹⁾ | 690 ¹⁾ | |
| 600 | 500 | 600 | 600 | - | 600 | - | - | - | - | - | - | - | |
| 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| 25 | - | 15 | 20 | 20 | 20 | 20 | 20 | 35 | 50 | 10* | 20* | 20 | |
| 65 | 15 | 22 | 30 | 30 | 30 | 30 | 30 | 45 | 65 | 15 | 30 | 30 | |
| 180 | 22 | 30 | 45 | 45 | 65 | 65 | 80 | 120 | 180 | 25 | 45 | 65 | |
| 200 | 25 | 36 | 50 | 50 | 70 | 70 | 85 | 125 | 200 | 36 | 50 | 70 | |
| 200 | 35 | 50 | 85 | 85 | 100 | 100 | 100 | 150 | 200 | 50 | 85 | 100 | |
| 40 | 25 | 40 | 40 | - | 40 | - | - | - | - | - | - | - | |
| 20 | - | 15 | 15 | 15 | 15 | 15 | 15 | 35 | 50 | 10 ¹⁾ | 15 ¹⁾ | 15 ¹⁾ | |
| 65 | 15 | 22 | 30 | 30 | 30 | 30 | 30 | 45 | 65 | 15 | 30 | 30 | |
| 135 | 22 | 30 | 45 | 45 | 50 | 50 | 80 | 80 | 135 | 25 | 45 | 50 | |
| 150 | 25 | 36 | 50 | 50 | 50 | 50 | 85 | 85 | 150 | 36 | 50 | 50 | |
| 150 | 35 | 50 | 85 | 85 | 85 | 85 | 85 | 150 | 150 | 50 | 85 | 85 | |
| 40 | 19 | 40 | 40 | - | 40 | - | - | - | - | - | - | - | |
| 65 | 15 | 22 | 25 | 25 | 30 | 30 | 30 | 45 | 65 | 15 | 25 | 30 | |
| 200 | 35 | 50 | 85 | 85 | 100 | 100 | 100 | 150 | 200 | 50 | 85 | 100 | |
| - | - | - | - | 5 | - | 5 | - | 5 | 5 | - | - | - | |
| ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | |
| | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| A | A | A | A | B | A | B | B | B | B | A | A | A | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | - | - | - | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| ²⁾ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ³⁾ | ³⁾ | ³⁾ | |
| - | ● | ● | ● | ● | ● | ● | ● | ● | ● | - | - | - | |
| - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 165 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | 260 | |
| 105 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | |
| 140 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | |
| 103 | 103 | 103 | 103 | 103 | 103 | 103 | 103 | 140 | 140 | 103 | 103 | 103 | |
| 2.4 | 4.2 | 4.2 | 4.2 | 4.3 | 4.2 | 4.3 | 4.3 | 7.1 | 7.1 | 5.0 | 5.0 | 5.0 | |
| 3.2 | 5.6 | 5.6 | 5.6 | 5.7 | 5.6 | 5.7 | 5.7 | 9.4 | 9.4 | 6.5 | 6.5 | 6.5 | |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| → | | | | | | | | 4,500 | | | | | → |
| | | | | | | | | 15,000 | | | | | → |
| | | | | | | | | | | | | | |

Notes: ¹⁾ MCCB cannot be used in IT systems at this voltage.

²⁾ Refer to Temperature Ratings Section.

³⁾ Contact NHP for details.

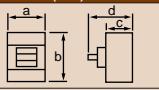
⁴⁾ ZS250 available with a 160 A or 250 A trip unit only.

⁵⁾ 160 A trip unit type for ZS250 only.

⁶⁾ ZS ELCB has an adjustable thermal trip and a fixed magnetic trip.

RATINGS AND SPECIFICATIONS OF MCCBs FROM 630 A TO 2500 A - Refer following pages

TemBreak 1 MCCB Ratings and specifications

| Type | XM30PB | XS630CJ | XS630NJ | XS800NJ |
|---|--|--|--|--|
| Ampere frame | 30 A | 630 A | 630 A | 800 A |
| Number of poles | 3P i | 3P i | 3P i | 3P i |
| Outside view |  |  |  |  |
| Notes: ① Adjustable ground fault available on indent, fitted externally. ◆ Supplied as standard. ○ Optional standard. ● Yes or available. - Not available i Indent only | | | | |
| Rated current (A). In NRC – Nominal rated current ASR – Adjustable setting range | NRC | NRC ASR min max | NRC ASR min max | NRC ASR min max |
| Rated current at 40°C | 0.7 8.0 1.4 10 2.0 12 2.6 4.0 5.0 | 400 250 400 630 400 630 630 400 630 | 400 250 400 630 400 630 | 800 500 800 |
| AC RATED INSULATION VOLTAGE (Ui) | 690 | 690 | 690 | 690 |
| AC RATED BREAKING CAPACITY sym RMS [kA] | | ICU/ICS | ICU/ICS | ICU/ICS |
| IEC 60947-2 [<i>Icu</i>] IEC 60947-2 [<i>Ics</i>] | 1100 V - 1000 V - | - | - | - |
| AS/NZS 3947-2 [<i>Icu</i>] AS/NZS 3947-2 [<i>Ics</i>] | 690 V - 660 V 25/25 500 V 25/25 440 V 85/85 415 V 85/85 400 V 85/85 380 V 85/85 240 V 125/125 | 16/8 16/8 25/13 30/15 35/18 42/23 45/23 50/25 | 20/10 20/10 35/18 50/25 50/25 65/33 85/43 | 20/10 20/10 35/18 50/25 50/25 65/33 85/43 |
| Note: Rated Impulse with stand voltage Uiimp (kV) is 8 kV on all XS, XE and XH MCCBs | | | | |
| AS 2184 | 440 V 85 415 V 85 | 36 | 50 | 50 |
| NEMA AB-1 | 600 V 85 480 V 85 | 25 | 30 | 30 |
| without Inst. | 240-690 V - | 35 | 50 | 50 |
| DC RATED BREAKING CAPACITY (kA) | 250 V - 125 V - | 40 | 40 | 40 |
| RATED SHORT TIME CURRENT RMS [kA] [<i>Icw</i>] | | | | |
| DIMENSIONS (mm) |  | 78 148 98 116 | 210 273 103 145 | 210 273 103 145 |
| Weight (kg) ◆ marked standard type | 1.3 | 9 | 11.5 | 9 |
| 9 | 11.5 | 9 | 11.5 | 9.4 |
| 11.5 | 9 | 11.5 | 9.4 | 12.2 |
| CONNECTION AND MOUNTING | | | | |
| front terminal screw | ◆ | - | - | - |
| connect (FC) attached flat bar | - | ◆ | ◆ | ◆ |
| solderless terminal (PWC) | ○ | ○ | ○ | ○ |
| rear bolt stud | ○ | - | - | - |
| connect (RC) flat bar stud | - | ○ | ○ | ○ |
| plug-in (PM) for switchboard | ○ | ○ | ○ | ○ |
| for distribution board | - | - | - | - |
| draw-out (DO) | - | ○ | ○ | ○ |
| STANDARD FEATURES | | | | |
| contact indicator | - | ● | ● | ● |
| trip button | - | ● | ● | ● |
| PROTECTIVE FUNCTIONS | | | | |
| Electronic type | | | | |
| Adjustable LTD, STD & INST | - | - | - | - |
| Adjustable GFT or Adjustable PTA (option ①) | - | - | - | - |
| Trip indicators (option) (contacts) | - | - | - | - |
| Thermal-magnetic type | fixed | | | |
| thermal and fixed magnetic trips | - | - | - | - |
| thermal and adjustable magnetic trips | - | - | - | - |
| adjustable thermal and fixed magnetic trips | - | - | - | - |
| adjustable thermal and magnetic trips | - | ● | ● | ● |
| ACCESSORIES (option) | CODE | | | |
| Internally mounted | auxiliary switch AUX alarm switch ALT shunt trip SHT undervoltage trip UVT | ● ● ● - | ● ● ● ● | ● ● ● ● |
| Externally mounted | motor operator MOT external panel mounted type operating breaker mounted type handle variable depth type IP 65 handle variable depth type extension handle mechanical interlock front type mechanical interlock rear type mechanical interlock cable type key interlock handle holder handle lock captive padlock attachment terminal cover front connect type terminal cover rear/plug-in type interpole barriers accessories lead terminals OCR sealing kit | ● - ● ● ● - ● - ● ● ● ● ● ● ● - ● ● ● ● ● ● ● ● | ● - ● | ● - ● |

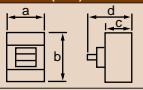
TemBreak 1 MCCB

Ratings and specifications

| Type | XH630PJ | XH800PJ | XH630PE | XH800PE | XS630SE | XH630SE |
|---|--|---|---|---|--|---|
| Ampere frame | 630 A | 800 A | 630 A | 800 A | 600 A | 600 A |
| Number of poles | 3P 4P | 3P 4P | 3P 4P | 3P 4P | 3P 4P | 3P 4P |
| Outside view |  |  |  |  |  |  |
| Notes: 1) Adjustable ground fault available on indent, fitted externally. 2) LED indicators only or LED contacts, please specify. ◆ Supplied as standard. ○ Optional standard. ● Yes or available. - Not available □ Indent only | | | | | | |
| Rated current (A). In NRC – Nominal rated current ASR – Adjustable setting range | NRC ASR min max | NRC ASR min max | NRC ASR min max | NRC ASR min max | NRC ASR min max | NRC ASR min max |
| Rated current at 40°C | 400 250 400 630 400 630 | 800 500 800 630 315 630 | 800 400 800 630 315 630 | 800 400 800 630 315 630 | 800 400 800 630 315 630 | 800 400 800 630 315 630 |
| AC RATED INSULATION VOLTAGE (Ui) | 690 | 690 | 690 | 690 | 690 | 690 |
| AC RATED BREAKING CAPACITY sym RMS [kA] | Icu/ICS | Icu/ICS | Icu/ICS | Icu/ICS | Icu/ICS | Icu/ICS |
| IEC 60947-2 [Icu] IEC 60947-2[Ics] | – | – | – | – | – | – |
| AS/NZS 3947-2 [Icu] AS/NZS 3947-2[Ics] | – | – | – | – | – | – |
| Note: Rated Impulse withstand voltage Uiimp (kV) is 8kV on all XS, XE and XH MCCBs | 690 V 45/23 500 V 65/33 440 V 85/43 415 V 85/50 400 V 100/50 240 V 125/163 240-690 V – | 690 V 45/23 65/33 85/43 85/50 100/50 125/63 – | 690 V 20/10 42/21 65/50 65/50 65/50 100/50 10 | 690 V 20/10 42/21 65/50 65/50 65/50 100/50 10 | 690 V 20/10 35/18 50/25 50/25 50/25 85/43 10 | 690 V 20/10 42/21 65/33 65/33 65/33 100/50 10 |
| without Inst. | | | | | | |
| | | | | | | |
| | | | | | | |
| DC RATED BREAKING CAPACITY (kA) | 250 V 40 125 V 40 | 250 V 40 125 V 40 | 250 V 40 125 V 40 | 250 V 40 125 V 40 | 250 V 40 125 V 40 | 250 V 40 125 V 40 |
| RATED SHORT TIME CURRENT RMS [kA] [Icw] | – | – | 10 (0.3 sec) | 10 (0.3 sec) | 10 (0.3 sec) | 10 (0.3 sec) |
| DIMENSIONS (mm) | a b c d | 210 280 273 103 145 | 210 280 273 103 145 | 210 280 273 103 145 | 210 280 273 103 145 | 210 280 273 103 145 |
| Weight (kg) ◆ marked standard type | 9 11.5 9 11.5 9.6 12 9.7 12.2 9.6 12 9.6 12 | | | | | |
| CONNECTION AND MOUNTING | | | | | | |
| front terminal screw | – | – | – | – | – | – |
| connect (FC) attached flat bar | ◆ | ◆ | ◆ | ◆ | ◆ | ◆ |
| solderless terminal (PWC) | ○ | ○ | ○ | ○ | ○ | ○ |
| rear bolt stud | – | – | – | – | – | – |
| connect (RC) flat bar stud | ○ | ○ | ○ | ○ | ○ | ○ |
| plug-in (PM) for switchboard | ○ | ○ | ○ | ○ | ○ | ○ |
| for distribution board | – | – | – | – | – | – |
| draw-out (DO) | ○ | ○ | ○ | ○ | ○ | ○ |
| STANDARD FEATURES | | | | | | |
| contact indicator | ● | ● | ● ¹⁾ | ● | ● | ● ¹⁾ |
| trip button | ● | ● | ● | ● | ● | ● |
| PROTECTIVE FUNCTIONS | | | | | | |
| Electronic type | | | | | | |
| Adjustable LTD, STD & INST | – | – | ● | ● | ● | ● |
| Adjustable GFT or Adjustable PTA (option) | – | – | ● | ● | ● | ● |
| Trip indicators (option) (contacts) | – | – | ● ¹⁾ | ● ²⁾ | ● ²⁾ | ● ²⁾ |
| Thermal-magnetic type | | | | | | |
| thermal and fixed magnetic trips | – | – | – | – | – | – |
| thermal and adjustable magnetic trips | – | – | – | – | – | – |
| adjustable thermal and fixed magnetic trips | – | – | – | – | – | – |
| adjustable thermal and magnetic trips | ● | ● | – | – | – | – |
| ACCESSORIES (option) | CODE | | | | | |
| Internally mounted auxiliary switch | AUX | ● | ● | ● | ● | ● |
| alarm switch | ALT | ● | ● | ● | ● | ● |
| shunt trip | SHT | ● | ● | ● | ● | ● |
| undervoltage trip | UVT | ● | ● | ● | ● | ● |
| Externally mounted motor operator | MOT | ● | ● | ● | ● | ● |
| operating breaker mounted type | ● | ● | ● | ● | ● | ● |
| handle variable depth type | ● | ● | ● | ● | ● | ● |
| IP 65 handle variable depth type | ● | ● | ● | ● | ● | ● |
| extension handle | ● | ● | ● | ● | ● | ● |
| mechanical interlock front type | ● | ● | ● | ● | ● | ● |
| mechanical interlock rear type | ● | ● | ● | ● | ● | ● |
| mechanical interlock cable type | ● | ● | ● | ● | ● | ● |
| key interlock | ● | ● | ● | ● | ● | ● |
| handle holder | ● | ● | ● | ● | ● | ● |
| handle lock | ● | ● | ● | ● | ● | ● |
| captive padlock attachment | ● | ● | ● | ● | ● | ● |
| terminal cover front connect type | ● | ● | ● | ● | ● | ● |
| terminal cover rear/plug-in type | ● | ● | ● | ● | ● | ● |
| interpole barriers | ● | ● | ● | ● | ● | ● |
| accessories lead terminals | ● | ● | ● | ● | ● | ● |
| OCR sealing kit | ● | ● | ● | ● | ● | ● |

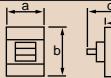
TemBreak 1 MCCB

Ratings and specifications

| Type | XS800SE | XH800SE | XS1250SE | XS1600SE |
|---|---|---|---|---|
| Ampere frame | 800 A | 800 A | 1250 A | 1600 A |
| Number of poles | 3P  4P | 3P  4P | 3P 4P | 3P 4P |
| Outside view |  |  |  |  |
| Notes: | | | | |
| ①) Adjustable ground fault available on indent, fitted externally. | | | | |
| ②) LED indicators only or LED contacts, please specify. | | | | |
| ◆ Supplied as standard. ○ Optional standard. | | | | |
| ● Yes or available. - Not available | | | | |
|  Indent only | | | | |
| Rated current (A).In NRC – Nominal rated current ASR – Adjustable setting range | NRC ASR min max | NRC ASR min max | NRC ASR min max | NRC ASR min max |
| Rated current at 40°C | 800 400 800 | 800 400 800 | 1000 500 1000 1250 630 1250 | 1600 800 1600 |
| AC RATED INSULATION VOLTAGE (Ui) | 690 | 690 | 690 | 690 |
| AC RATED BREAKING CAPACITY sym RMS [kA] | ICU/ICS | ICU/ICS | ICU/ICS | ICU/ICS |
| IEC 60947-2 [Icu] IEC 60947-2[Ics] | 1100 V - | 1000 V - | - | - |
| AS/NZS 3947-2 [Icu] AS/NZS 3947-2[Ics] | 690 V 20/10 | 690 V 20/10 | 25/19 | 45/34 |
| Note: Rated Impulse withstand voltage Uimp (kV) is 8kV on all XS, XE and XH MCCBs | 500 V 35/18 | 500 V 42/21 | 45/34 | 65/49 |
| 440 V 50/25 | 440 V 65/33 | 45/34 | 85/64 | 85/64 |
| 415 V 50/25 | 415 V 65/33 | 65/49 | 85/64 | 85/64 |
| 400 V 50/25 | 400 V 63/33 | 85/64 | 100/75 | 100/75 |
| 240 V 85/43 | 240 V 100/50 | 100/75 | 125/94 | 125/94 |
| without Inst. | 240-690 V 10 | 10 | 15 | 20 |
| DC RATED BREAKING CAPACITY (ka) | 250 V - | - | - | - |
| 125 V - | - | - | - | - |
| RATED SHORT TIME CURRENT RMS [kA] [Icw] | 10 (0.3 sec) | 10 (0.3 sec) | 15 (0.3 sec) | 20 (0.3 sec) |
| DIMENSIONS (mm) | | | | |
|  | a 210 b 273 c 103 d 145 | a 280 b 273 c 103 d 145 | a 280 b 370 c 120 d 171 | a 280 b 370 c 120 d 191 |
| Weight (kg) ◆ marked standard type | 9.7 | 12.5 | 9.7 | 12.5 |
| 22 | 28 | 22 | 28 | 27 |
| 35 | | | | |
| CONNECTION AND MOUNTINGS | | | | |
| front terminal screw | - | - | - | - |
| connect (FC) attached flat bar | ◆ | ◆ | ◆ | ◆ |
| solderless terminal (PWC) | ○ | ○ | ○ | - |
| rear bolt stud | - | - | - | - |
| connect (RC) flat bar stud | ○ | ○ | ○ | ○ |
| plug-in (PM) for switchboard | ○ | ○ | ○ | - |
| for distribution board | - | - | - | - |
| draw-out (DO) | ○ | ○ | ○ | ○ |
| STANDARD FEATURES | | | | |
| contact indicator | ● | ● | ● | ● |
| trip button | ● | ● | ● | ● |
| PROTECTIVE FUNCTIONS | | | | |
| Electronic type | | | | |
| Adjustable LTD, STD & INST | ● | ● | ● | ● |
| Adjustable GFT or Adjustable PTA (option) | ● ¹⁾ | ● ¹⁾ | ● ¹⁾ | ● ¹⁾ |
| Trip indicators (option) (contacts) | ● ²⁾ | ● ²⁾ | ● ²⁾ | ● ²⁾ |
| Thermal-magnetic type | | | | |
| thermal and fixed magnetic trips | - | - | - | - |
| thermal and adjustable magnetic trips | - | - | - | - |
| adjustable thermal and fixed magnetic trips | - | - | - | - |
| adjustable thermal and magnetic trips | - | - | - | - |
| ACCESSORIES (option) | CODE | | | |
| Internally mounted | auxiliary switch AUX | ● | ● | ● |
| | alarm switch ALT | ● | ● | ● |
| | shunt trip SHT | ● | ● | ● |
| | undervoltage trip UVT | ● | ● | ● |
| Externally mounted | motor operator MOT | ● | ● | ● |
| | operating breaker mounted type | ● | ● | - |
| | handle variable depth type | ● | ● | ● |
| | IP 65 handle variable depth type | ● | ● | ● |
| | extension handle | ● | ● | ● |
| | mechanical interlock front type | ● | ● | ● |
| | mechanical interlock rear type | ● | ● | ● |
| | mechanical interlock cable type | ● | ● | ● |
| | key interlock | ● | ● | ● |
| | handle holder | ● | ● | ● |
| | handle lock | ● | ● | ● |
| | captive padlock attachment | ● | ● | - |
| | terminal cover front connect type | ● | ● | - |
| | terminal cover rear/plug-in type | ● | ● | - |
| | interpole barriers | ● | ● | ● |
| | accessories lead terminals | ● | ● | ● |
| | OCR sealing kit | ● | ● | ● |

TemBreak 1 MCCB

Ratings and specifications

| Type | XS2000NE | | XS2500NE | | XS3200NE | |
|--|---|--|--|--|--|--|
| Ampere frame | 2000 A | | 2500 A | | 3200 A | |
| Number of poles | 3P | 4P | 3P | 4P <input checked="" type="checkbox"/> | 3P | - |
| Outside view | | | | | | |
| Notes: | | | | | | |
| ①) Adjustable ground fault available on indent, fitted externally. | | | | | | |
| ②) LED indicators only or LED contacts, please specify. | | | | | | |
| ◆ Supplied as standard. ○ Optional standard. | | | | | | |
| ● Yes or available. - Not available | | | | | | |
| <input checked="" type="checkbox"/> Indent only | | | | | | |
| Rated current (A). In NRC – Nominal rated current ASR – Adjustable setting range | NRC min max | ASR min max | NRC min max | ASR min max | NRC min max | ASR min max |
| Rated current at 40°C | 2000 1000 2000 | | 2500 1250 2500 | | 3200 1600 3200 | |
| AC RATED INSULATION VOLTAGE (Ui) | 690 | | 690 | | 690 | |
| AC RATED BREAKING CAPACITY sym RMS [kA] | ICU/ICS | | ICU/ICS | | ICU/ICS | |
| IEC 60947-2 [Icu] IEC 60947-2 [Ics] | 1100 V | - | - | - | - | - |
| AS/NZS 3947-2 [Icu] AS/NZS 3947-2 [Ics] | 1000 V | - | - | - | - | - |
| Note: Rated Impulse with stand voltage Uiimp (kV) is 8kV on all XS, XE and XH MCCBs | 690 V 660 V 500 V 440 V 415 V 400 V 380 V 240 V | 45/42 45/42 65/49 85/64 85/64 85/64 100/75 125/94 | 45/42 45/42 65/49 85/64 85/64 85/64 100/75 125/94 | 45/42 45/42 65/49 85/64 85/64 85/64 100/75 125/94 | 45/42 45/42 65/49 85/64 85/64 85/64 100/75 125/94 | 45/42 45/42 65/49 85/64 85/64 85/64 100/75 125/94 |
| AS 2184 | 440 V 415 V | 85 100 | 100 | 85 | 85 | 85 |
| NEMA AB-1 | 600 V 480 V | 65 85 | 65 | 85 | 65 | 85 |
| without Inst. | 240-690 V | 42 | 42 | 42 | 42 | 42 |
| DC RATED BREAKING CAPACITY (kA) | 250 V 125 V | - | - | - | - | - |
| RATED SHORT TIME CURRENT RMS [kA] [Icw] | 42 (0.3 secs) | | 42 (0.3 secs) | | 42 (0.3 secs) 38 (0.5 secs) | |
| DIMENSIONS (mm) | a  b c d | 320 450 185 245 | 429 450 185 245 | 320 450 185 245 | 429 450 185 245 | 320 429 |
| Weight (kg) ◆ marked standard type | 54 | 67 | 62.5 | 78.2 | 54 | 67 |
| CONNECTION AND MOUNTINGS | | | | | | |
| front | terminal screw | - | - | - | - | - |
| connect (FC) | attached flat bar | ○ | - | - | ○ | - |
| | solderless terminal (PWC) | - | - | - | - | - |
| rear | bolt stud | - | - | - | - | - |
| connect (RC) | flat bar stud | ◆ | ◆ | ◆ | ◆ | ◆ |
| plug-in (PM) | for switchboard | - | - | - | - | - |
| | for distribution board | - | - | - | - | - |
| draw-out (DO) | ○ | - | - | - | ○ | - |
| STANDARD FEATURES | | | | | | |
| | contact indicator | ● | ● | ● | ● | ● |
| | trip button | ● | ● | ● | ● | ● |
| PROTECTIVE FUNCTIONS | | | | | | |
| Electronic type | | | | | | |
| Adjustable LTD, STD & INST | ● | | ● | | ● | |
| Adjustable GFT or Adjustable PTA (option) ^{①)} | ● ^{①)} | | ● ^{①)} | | ● ^{①)} | |
| Trip indicators (option) (contacts) | ● ^{②)} | | ● ^{②)} | | ● ^{②)} | |
| Thermal-magnetic type | | | | | | |
| thermal and fixed magnetic trips | - | | - | | - | |
| thermal and adjustable magnetic trips | - | | - | | - | |
| adjustable thermal and fixed magnetic trips | - | | - | | - | |
| adjustable thermal and magnetic trips | - | | - | | - | |
| ACCESSORIES (option) | CODE | | | | | |
| Internally mounted | auxiliary switch | AUX ● | ● | ● | ● | ● |
| | alarm switch | ALT ● | ● | ● | ● | ● |
| | shunt trip | SHT ● | ● | ● | ● | ● |
| | undervoltage trip | UVT ● | ● | ● | ● | ● |
| Externally mounted | motor operator | MOT ● | ● | ● | ● | ● |
| | external panel mounted type | XFE ● | ● | ● | ● | ● |
| | operating breaker mounted type | - | - | - | - | - |
| | handle variable depth type | - | - | - | - | - |
| | IP 65 handle variable depth type | - | - | - | - | - |
| | extension toggle | ● (supplied as standard) |
| | mechanical interlock front type | ● | ● | ● | ● | ● |
| | mechanical interlock rear type | ● | ● | ● | ● | ● |
| | mechanical interlock cable type | ● | ● | ● | ● | ● |
| | key interlock | ● | ● | ● | ● | ● |
| | handle holder | ● | ● | ● | ● | ● |
| | handle lock | ● | ● | ● | ● | ● |
| | captive padlock attachment | - | - | - | - | - |
| | terminal cover front connect type | - | - | - | - | - |
| | terminal cover rear/plug-in type | - | - | - | - | - |
| | interpole barriers | - | - | - | - | - |
| | accessories lead terminals | ● | ● | ● | ● | ● |
| | OCR sealing kit | ● | ● | ● | ● | ● |

Limiter Breaker series Ics = 65 - 85 kA

Ratings and specifications

| Type | TL630NE | | TL8000NE | | TL1250NE | |
|--|-----------------------------------|---|--|---|------------------|----------------|
| Ampere frame | 630 A | | 800 A | | 1250 A | |
| Number of poles | 3P | 4P | 3P | 4P | 3P | 4P |
| Outside view | |  |  |  | | |
| Notes: | | | | | | |
| ①) Adjustable ground fault available on indent, fitted externally. | | | | | | |
| ②) LED indicators only or LED contacts, please specify. | | | | | | |
| ◆ Supplied as standard. ○ Optional standard. | | | | | | |
| ● Yes or available. - Not available | | | | | | |
| ③ Indent only | | | | | | |
| Rated current (A).In NRC – Nominal rated current ASR – Adjustable setting range | NRC | ASR min max | NRC | ASR min max | NRC | ASR min max |
| Rated current at 40°C | 630 | 315 630 | 800 | 400 800 | 1000 | 500 1000 |
| | | | | | 1250 | 630 1250 |
| AC RATED INSULATION VOLTAGE (Ui) | 690 | | 690 | | 690 | |
| AC RATED BREAKING CAPACITY sym RMS [kA] | ICU/ICS | | ICU/ICS | | ICU/ICS | |
| IEC 60947-2 [Icu] IEC 60947-2[Ics] | 1100V | - | - | - | - | |
| AS/NZS 3947-2 [Icu] AS/NZS 3947-2[Ics] | 1000V | - | - | - | - | |
| Note: Rated Impulse withstand voltage | 690V | 45/34 | 45/34 | 45/34 | 45/34 | |
| Uimp (kV) is 8kV on all XS, XE and XH MCCBs | 500V | 75/57 | 75/57 | 75/57 | 75/57 | |
| | 440V | 125/70 | 125/70 | 125/65 | 125/65 | |
| | 415V | 125/70 | 125/70 | 125/65 | 125/65 | |
| | 400V | 125/70 | 125/70 | 125/65 | 125/65 | |
| | 240V | 150/113 | 150/113 | 150/113 | 150/113 | |
| without Inst. | 240-690V | 15 | 15 | 15 | 15 | |
| DC RATED BREAKING CAPACITY (ka) | 250V | - | - | - | - | |
| | 125V | - | - | - | - | |
| RATED SHORT TIME CURRENT RMS [kA] [Icw] | 15 (0.3 sec) | | 15 (0.3 sec) | | 15 (0.3 sec) | |
| DIMENSIONS (mm) | a | 210 | 280 | 210 | 280 | 210 |
| | b | 370 | 370 | 370 | 370 | 370 |
| | c | 140 | 140 | 140 | 140 | 140 |
| | d | 191 | 191 | 191 | 191 | 191 |
| Weight (kg) ◆ marked standard type | 25.8 | 33.5 | 25.8 | 33.5 | 26 | 33.7 |
| CONNECTION AND MOUNTINGS | | | | | | |
| front | terminal screw | - | - | - | - | |
| connect (FC) | attached flat bar | ◆ | ◆ | ◆ | ◆ | |
| | solderless terminal (PWC) | ○ | ○ | ○ | ○ | |
| rear | bolt stud | - | - | - | - | |
| connect (RC) | flat bar stud | ○ | ○ | ○ | ○ | |
| plug-in (PM) | for switchboard | ○ | ○ | ○ | ○ | |
| | for distribution board | - | - | - | - | |
| draw-out (DO) | ○ | ○ | ○ | ○ | ○ | |
| STANDARD FEATURES | | | | | | |
| | contact indicator | ● ^④) | ● ^④) | ● ^④) | | |
| | trip button | ● | ● | ● | | |
| PROTECTIVE FUNCTIONS | | | | | | |
| Electronic type | | | | | | |
| Adjustable LTD, STD & INST | ● | | ● | | ● | |
| Adjustable GFT or Adjustable PTA (option) | ● | | ● | | ● | |
| Trip indicators (option) (contacts) | ● ^④) | | ● ^④) | | ● ^④) | |
| Thermal-magnetic type | | | | | | |
| thermal and fixed magnetic trips | - | | - | | - | |
| thermal and adjustable magnetic trips | - | | - | | - | |
| adjustable thermal and fixed magnetic trips | - | | - | | - | |
| adjustable thermal and magnetic trips | - | | - | | - | |
| ACCESSORIES (option) | CODE | | | | | |
| Internally mounted | auxiliary switch | AUX | ● | ● | ● | |
| | alarm switch | ALT | ● | ● | ● | |
| | shunt trip | SHT | ● | ● | ● | |
| | undervoltage trip | UVT | ● | ● | ● | |
| Externally mounted | motor operator | MOT | ● | ● | ● | |
| | operating breaker mounted type | ● | ● | ● | - | |
| | handle variable depth type | ● | ● | ● | ● | |
| | IP 65 handle variable depth type | ● | ● | ● | ● | |
| | extension handle | ● | ● | ● | ● | |
| | mechanical interlock front type | ● | ● | ● | ● | |
| | mechanical interlock rear type | ● | ● | ● | ● | |
| | mechanical interlock cable type | ● | ● | ● | ● | |
| | key interlock | ● | ● | ● | ● | |
| | handle holder | ● | ● | ● | ● | |
| | handle lock | ● | ● | ● | ● | |
| | captive padlock attachment | ● | ● | ● | - | |
| | terminal cover front connect type | ● | ● | ● | ● | |
| | terminal cover rear/plug-in type | - | - | - | - | |
| | interpole barriers | ● | ● | ● | ● | |
| | accessories lead terminals | ● | ● | ● | ● | |
| | OCR sealing kit | ● | ● | ● | ● | |

Mining series TL/XV 1000 V

Ratings and specifications

| TL100EM | | XV400NE | XV630/800PE | XV1250NE |
|------------|-----------------|---|--|---|
| 100 A | | 100 A | 630/800 | 1250 A |
| 3P | | 3P | 3P | 3P |
| | |  |  |  |
| Non-Adjust | NRC | ASR min max | NRC | ASR min max |
| 15 50 | 160 | 80 160 | 630 | 315 630 |
| 20 60 | 250 | 125 250 | 800 | 400 800 |
| 30 75 | 400 | 200 400 | | 1000 500 1000 |
| 40 100 | | | | 1250 630 1250 |
| | | | | |
| 1150 | 1150 | | 1150 | 1150 |
| 6.5 | 12.5 | | 12.5 | 20 |
| 10 (900 V) | 12.5 | | 18 | 20 |
| - | - | | - | - |
| - | - | | - | - |
| - | - | | - | - |
| - | - | | - | - |
| - | 12.5 | | 18 | 12.5 |
| - | - | | - | - |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 105 | 140 | | 210 | 210 |
| 165 | 260 | | 273 | 370 |
| 125 | 103 | | 103 | 120 |
| 143 | 131 | | 145 | 171 |
| 3.2 | 4.8 | | 9.7 | 22 |
| ◆ | ◆ | - | - | - |
| - | O (Bar) | ◆ | ◆ | - |
| ○ | ○ | O (630 only) | ○ | - |
| ◆ | - | - | - | - |
| - | ○ | ○ | ○ | - |
| ○ | ○ | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| | | | | |
| - | ● | ● | ● | ● |
| - | ● ¹⁾ | ● | ● | ● |
| - | ● ²⁾ | ● ²⁾ | ● ²⁾ | ● ²⁾ |
| ● | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| - | - | - | - | - |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| - | - | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| - | - | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| - | - | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| - | - | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| - | - | ● | ● | ● |

TemBreak 2 MCCB Isolators - Selection guide

Switch-disconnector ratings and specifications

4

| Catalogue No. | | S125 NN | S160 NN | S250 NN | S400 NN | S630 NN | | |
|--|------------|---|---|---|------------|------------|--------|--------|
| Type | | | | | | | | |
| Ampere frame | | 125 | 160 | 250 | 400 | 630 | | |
| Number of Poles | | 3,4 | 3,4 | 3,4 | 3,4 | 3,4 | | |
| Electrical characteristics to: | | | | | | | | |
| AS/NZS 3947-3, IEC 60947-3, EN 60947-3 | |  |  |  | | | | |
| Nominal current ratings | Unit | | | | | | | |
| Ie | (A) | 125 | 160 | 250 | 400 | 630 | | |
| Electrical characteristics | | | | | | | | |
| Rated operational voltage | Ue | AC 50/60 Hz | (V) | 690 | 690 | 690 | 690 | 690 |
| | | | DC | 600 | 600 | 600 | 600 | 600 |
| Rated insulation voltage | Ui | | (V) | 800 | 800 | 800 | 800 | 800 |
| Rated impulse withstand voltage | Uimp | | (kV) | 8 | 8 | 8 | 8 | 8 |
| Rated short -circuit making capacity | Icm | | (kA peak) | 3.6 | 6 | 6 | 9 | 9 |
| Rated short-time withstand current | Icw | 0.3 Sec | (kA RMS) | 2 | 3 | 3 | 5 | 5 |
| Utilisation category to IEC 60947-3 | | | | AC 23A | AC 23A | AC 23A | AC 23A | AC 23A |
| | | | | DC 22A | DC 22A | DC 22A | DC 22A | DC 22A |
| Installation | | | | | | | | |
| Front connection (FC) | | ■ | ■ | ■ | ■ | ■ | | |
| Attached flat bar (FB) | | ● | ● | ● | ● | ● | | |
| Solderless terminal | | ● | ● | ● | ● | ● | | |
| Rear connection (RC) | | ● | ● | ● | ● | ● | | |
| Plug-in (PM) | | ● | ● | ● | ● | ● | ^) | |
| Draw- out (DR) | | - | - | - | - | - | | |
| DIN rail mounting (DA) | | ● | - | - | - | - | | |
| Dimensions (mm) | h | | (mm) | 155 | 165 | 165 | 260 | 260 |
| | w | 3 pole | | 90 | 105 | 105 | 140 | 140 |
| | | 4 pole | | 120 | 140 | 140 | 185 | 185 |
| | d | | | 68 | 68 | 68 | 103 | 103 |
| Weight (kg) | 3 pole | | (kg) | 1.1 | 1.5 | 1.5 | 4.2 | 4.4 |
| | 4 pole | | | 1.4 | 1.9 | 1.9 | 5.6 | 5.8 |
| Short circuit backup MCCB (MCCB kA rating) | | | | S125GJ | S160GJ | S250GJ | S400GJ | S630GE |
| Operation | | | | | | | | |
| Direct opening action | | ■ | ■ | ■ | ■ | ■ | | |
| Toggle operation | | ■ | ■ | ■ | ■ | ■ | | |
| Variable depth (HP) / direct mount operating handle (HB) | | ● | ● | ● | ● | ● | | |
| Motor operator (MC) | | ● | ● | ● | ● | ● | | |
| Endurance (415V AC) | Electrical | | cycles | 30,000 | 20,000 | 10,000 | 4,500 | 4,500 |
| | Mechanical | | | 30,000 | 30,000 | 30,000 | 15,000 | 15,000 |

Note: ^) Contact NHP for details.

■ Standard

● Optional

- Not Available

TemBreak 1 MCCB Isolators - Selection guide

Non-automatic circuit breakers (Switch disconnectors)

4

| Type | XS630NN | XS800NN | XS1250NN | XS1600NN | XS2000NN | XS2500NN |
|---|--|----------------|----------------|---------------|---------------|---------------|
| Ampere frame | 630 A | 800 A | 1250 A | 1600 A | 2000 A | 2500 A |
| Number of poles | 3P | 4P | 3P | 4P | 3P | 4P |
| Outside view | | | | | | |
| Notes: | | | | | | |
| ◆ Supplied as standard. | ○ Optional standard. | | | | | |
| ● Yes or available. | - Not available | | | | | |
| ¹⁾ For AC UVT, a UVT controller is mounted externally. | | | | | | |
| ¹⁾ Indent only | | | | | | |
| RATINGS | AC | 690 | 690 | 690 | 690 | 690 |
| RATED OPERATIONAL VOLTAGE (V) | DC | 250 | 250 | 250 | 250 | 250 |
| AS/NZS 3947-2 IEC 60947-2 | | | | | | |
| RATED SHORT CIRCUIT MAKING CAPACITY | peak/kA | 15 | 15 | 32 | 45 | 90 |
| RATED SHORT TIME CURRENT RMS [kA] | | 9.6 (0.3 secs) | 9.6 (0.3 secs) | 15 (0.3 secs) | 20 (0.3 secs) | 35 (0.3 secs) |
| DIMENSIONS (mm) | | | | | | |
|  | a | 210 | 280 | 210 | 280 | 320 |
| | b | 273 | 273 | 370 | 370 | 450 |
| | c | 103 | 103 | 120 | 140 | 185 |
| | d | 145 | 145 | 171 | 191 | 245 |
| Weight (kg) ◆ marked standard type | 9.0 | 11.5 | 9.4 | 12.2 | 20.4 | 26.4 |
| 320 | 429 | 320 | 429 | 60 | 75.7 | |
| CONNECTION AND MOUNTINGS | | | | | | |
| front | terminal screw | - | - | - | - | - |
| connect (FC) | attached flat bar | ◆ | ◆ | ◆ | - | - |
| | solderless terminal (PWC) | ○ | ○ | ○ | - | - |
| rear | bolt stud | - | - | - | - | - |
| connect (RC) | flat bar stud | ○ | ○ | ○ | ◆ | ◆ |
| plug-in (PM) | for switchboard | ○ | ○ | ○ | - | - |
| | for distribution board | - | - | - | - | - |
| draw-out (DO) | | ○ | ○ | ○ | ○ | ○ |
| STANDARD FEATURES | | | | | | |
| | ON-OFF colour indicator | ● | ● | ● | ● | ● |
| | trip button | ● | ● | ● | ● | ● |
| ACCESSORIES (option) | CODE | | | | | |
| Internally mounted | auxiliary switch | AUX | ● | ● | ● | ● |
| | alarm switch | ALT | ● | ● | ● | ● |
| | shunt trip | SHT | ● | ● | ● | ● |
| | undervoltage trip ¹⁾ | UVT | ● | ● | ● | ● |
| Externally mounted | motor operator | MOT | ● | ● | ● | ● |
| | external panel mounted type | | ● | ● | ● | ● |
| | operating breaker mounted type | | ● | ● | ● | ● |
| | handle variable depth type | | ● | ● | ● | - |
| | IP 65 handle variable depth type | | ● | ● | ● | - |
| | extension handle | | ● | ● | ● | ● |
| | mechanical interlock front type | | ● | ● | ● | ● |
| | mechanical interlock rear type | | ● | ● | ● | ● |
| | handle holder | | ● | ● | ● | ● |
| | handle lock | | ● | ● | ● | ● |
| | terminal cover front connect type | | ● | ● | - | - |
| | terminal cover rear connect/plug-in type | | ● | ● | - | - |
| | interpole barriers | | ● | ● | ● | - |
| | accessories lead terminals | | ● | ● | ● | ● |
| | - | | - | - | - | - |
| | door flange | | ● | ● | ● | ● |
| | IP 20 protection plug in type | | ● | ● | ● | ● |
| Short circuit backup MCCB (MCCB kA rating) | XH630SE | XH800SE | XS1250SE | XS1600SE | XS200NE | XS2500NE |
| Maximum switching current | AC 3780 | 4800 | 7500 | 9600 | 12000 | 15000 |
| | DC 1575 | 2000 | 3125 | 4000 | 5000 | 6250 |
| Utilisation Category | AC 23A | AC 23A | AC 23A | AC 23A | AC 23A | AC 23A |
| Endurance | number of operations without current | 4000 | 2500 | 2500 | 500 | 500 |
| | number of operations with current | 1000 | 500 | 500 | 2000 | 2000 |

Note: For short circuit backup protection of MCCB Isolators, a similar size MCCB can be chosen based on the kA rating required.

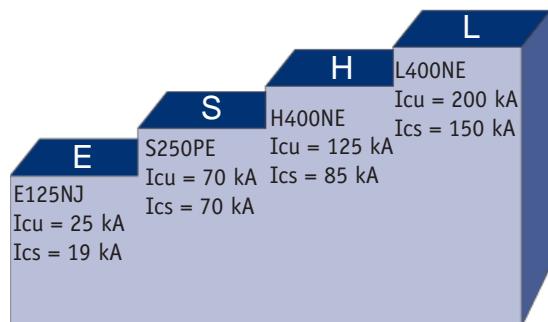
TemBreak 1 and 2 MCCBs

Interrupting capacities to suit your application

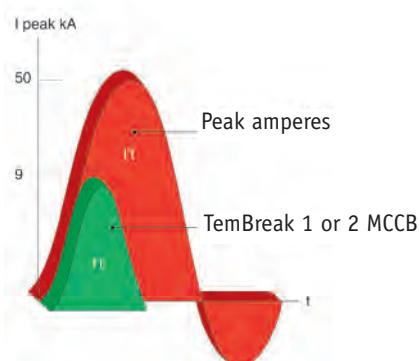
4

Interrupting capacity to suit your application

Examples:



Limitation of system damage



Electronic overcurrent trip units



SE Selectivity MCCBs



E - S - H - L types

The majority of distribution systems are designed to an ultimate short circuit rating (Icu). An Icu rated MCCB provides the optimum protection in terms of safe and economical selection.

Certain applications may require protection which is designed to the more onerous service short circuit rating (Ics).

Terasaki's TemBreak 2 range can provide a wide choice of MCCBs with superior Ics ratings up to 150 kA at 415 V AC.

Icu = o-co 2 full short circuits (Icu)

Ics = o-co-co 3 full short circuits (Ics)

E - S - L - H series

Ics is often stated as a percentage of Icu (e.g. 50%) or as a kW rating (e.g. Icu/Ics = 50/50kA).

During a fault condition, a circuit breaker with excellent current limiting ability such as TemBreak 2, can substantially reduce damage to the electrical system and thus minimise downtime.

This current limiting feature reduces the peak let through current (I_{peak}) and energy let through (I_{2t}) during fault conditions.

TemBreak 2

OCR setting made easy

The standard TemBreak 2 OCR can be configured allowing the user to adjust the rated current (I_{Rated}) of the MCCB and select a predetermined tripping curve. This allows the user to tailor the MCCBs tripping characteristics to suit the requirements of the electrical load.

TemBreak 1

The need for a continuous and reliable power supply places increased emphasis on selectivity requirements in today's electrical distribution systems.

The Selectivity Series utilises microprocessor based protection, plus a fully adjustable L.S.I. overcurrent relay to allow full grading of an installation.

TemBreak 2 MCCB

Types and setting ranges



4

MCCB types & Setting ranges.

MCCBs with a common colour have the same physical dimensions

| Ampere Range | 415 V kA | | Thermal Magnetic Trip Unit Adjustment | | Electronic OCR Adjustment | | Catalogue Number | Dimensions (mm) (3 Pole) | | |
|--------------------------|----------|-----|---------------------------------------|---------------|---------------------------|--|------------------|--------------------------|-----|-----|
| | ICU | ICS | Thermal JR | Magnetic JM | Range IR | STD x IR / INST x IR ¹⁾ ²⁾ | | H | W | D |
| 12.5 – 125 | 25 | 19 | 0.63 – 100% | 6 – 10 or 12M | – | – | E125NJ | 155 | 90 | 68 |
| 16 – 125 | 25 | 13 | Fixed | Fixed | -- | – | S125NF | 155 | 30 | 68 |
| 15 – 100 | 65 | 33 | Fixed | Fixed | – | – | S100GF | 155 | 60 | 68 |
| 12.5 – 125 | 36 | 36 | 0.63 – 100% | 6 – 10 or 12M | – | – | S125NJ | 155 | 90 | 68 |
| 12.5 – 125 | 65 | 36 | 0.63 – 100% | 6 – 10 or 12M | – | – | S125GJ | 155 | 90 | 68 |
| 12.5 – 125 | 65 | 36 | 0.63 – 100% | Fixed | – | – | ZS125GJ | 155 | 90 | 68 |
| 12.5 – 125 | 125 | 85 | 0.63 – 100% | 6 – 10 or 12M | – | – | H125NJ | 165 | 105 | 103 |
| 12.5 – 125 | 200 | 150 | 0.63 – 100% | 6 – 10 or 12M | – | – | L125NJ | 165 | 105 | 103 |
| 16 – 160 | 25 | 19 | Fixed | Fixed | – | – | S160NF | 165 | 35 | 68 |
| 12.5 – 160 ³⁾ | 36 | 36 | 0.63 – 100% | 6 – 12M | – | – | S160NJ | 165 | 105 | 68 |
| 32 – 160 | 65 | 36 | 0.63 – 100% | 6 – 12M | – | – | S160GJ | 165 | 105 | 68 |
| 100 – 160 | 125 | 85 | 0.63 – 100% | 6 – 12M | – | – | H160NJ | 165 | 105 | 103 |
| 100 – 160 | 200 | 150 | 0.63 – 100% | 6 – 12M | – | – | L160NJ | 165 | 105 | 103 |
| 12.5 – 250 | 25 | 19 | 0.63 – 100% | 6 – 10 or 12M | – | – | E250NJ | 165 | 105 | 68 |
| 160 – 250 | 36 | 36 | 0.63 – 100% | 6 – 10M | – | – | S250NJ | 165 | 105 | 68 |
| 160 – 250 | 65 | 36 | 0.63 – 100% | 6 – 10M | – | – | S250GJ | 165 | 105 | 68 |
| 100 – 250 | 65 | 36 | 0.63 – 100% | Fixed | – | – | ZS250GJ | 165 | 105 | 68 |
| 50 – 250 | 70 | 70 | – | – | 40 – 100% | 2.5, 5, 10 / 13 or 14 | S250PE | 165 | 105 | 103 |
| 160 – 250 | 125 | 85 | 0.63 – 100% | 6 – 10M | – | – | H250NJ | 165 | 105 | 103 |
| 50 – 250 | 125 | 85 | – | – | 40 – 100% | 2.5, 5, 10 / 13 or 14 | H250NE | 165 | 105 | 103 |
| 160 – 250 | 200 | 150 | 0.63 – 100% | 6 – 10M | – | – | L250NJ | 165 | 105 | 103 |
| 252 – 400 | 25 | 25 | 0.63 – 100% | 6 – 12M | – | – | E400NJ | 260 | 140 | 103 |
| 160 – 400 | 36 | 36 | 0.63 – 100% | 6 – 12M | – | – | S400CJ | 260 | 140 | 103 |
| 160 – 400 | 50 | 50 | 0.63 – 100% | 6 – 12M | – | – | S400NJ | 260 | 140 | 103 |
| 100 – 400 | 50 | 50 | – | 6 – 12M | 40 – 100% | 2.5, 5, 10 / 13 or 14 | S400NE | 260 | 140 | 103 |
| 160 – 400 | 70 | 50 | 0.63 – 100% | 6 – 12M | – | – | S400GJ | 260 | 140 | 103 |
| 100 – 400 | 70 | 50 | – | 6 – 12M | 40 – 100% | 2.5, 5, 10 / 13 or 14 | S400GE | 260 | 140 | 103 |
| 160 – 400 | 85 | 85 | – | – | 40 – 100% | 2.5, 5, 10 / 13 or 14 | S400PE | 260 | 140 | 103 |
| 100 – 400 | 125 | 85 | – | – | 40 – 100% | 2.5, 5, 10 / 13 or 14 | H400NE | 260 | 140 | 140 |
| 100 – 400 | 200 | 150 | – | – | 40 – 100% | 2.5, 5, 10 / 13 or 14 | L400NE | 260 | 140 | 140 |
| 252 – 630 | 36 | 36 | – | – | 40 – 100% | 2.5, 5, 8 / 10 or 14 | E630NE | 260 | 140 | 103 |
| 252 – 630 | 50 | 50 | – | – | 40 – 100% | 2.5, 5, 8 / 10 or 14 | S630CE | 260 | 140 | 103 |
| 252 – 630 | 70 | 50 | – | – | 40 – 100% | 2.5, 5, 8 / 10 or 14 | S630GE | 260 | 140 | 103 |

| Isolator switches | Short time rating for 0.3 seconds Icw (kA) | Rated short-circuit Making capacity Icm (kA) | | | |
|-------------------|--|--|--|--|--------|
| 125 | 2 | 3.6 | | | S125NN |
| 160 | 3 | 6 | | | S160NN |
| 250 | 3 | 6 | | | S250NN |
| 400 | 5 | 9 | | | S400NN |
| 630 | 5 | 9 | | | S630NN |

- Notes:**
- 1) The STD settings are not adjustable, however by selecting different curve types, the STD setting will vary between 2.5 – 10 x IR : for 250/400 A MCCBs and 2.5 – 8 x IR : for 630 A MCCBs.
 - 2) The Instantaneous settings are not adjustable, however by selecting different curve types, the INST instantaneous setting will vary from 13 or 14 x IR : for 250 A/400 A MCCBs and 10 or 14 x IR for 630 A MCCBs. Refer curve examples & setting data in Section 12.
 - 3) 20-32 A Trip unit versions rated at 30 kA.

ZS Integral Earth Leakage Moulded Case Circuit Breakers

4



ZS Earth Leakage Circuit Breakers 125 A and 250 A

The new ZS earth leakage MCCB from Terasaki offers machine or personnel protection within a standard 125 A, 160/ 250 A MCCB frame size. The ZS earth leakage MCCB also maintains the full functionality of a standard thermal-magnetic overload/ short circuit protection device.

Features:

- Thermal/ magnetic MCCB
- Standard 125 A or 250 A frame
- Thermal magnetic trip unit ratings: 12 A - 125 A (125 AF), 100 - 250 A (250 AF)
- Fixed magnetic setting
- 65 kA fault interruption rating @ 400 / 415 V as standard

Earth Leakage features

- Switching utilisation voltage up to 550 V AC
- Suitable for use at 40 / 50 / 60 Hz (except $t(A) = 3 A$ @ 40 Hz)
- 3 or 4 pole types
- Yellow earth leakage TRIP indication flag
- Grey TEST button
- Green 'Power ON' LED
- Adjustable thermal characteristic dial setting from 63 - 100 % of IR
- Adjustable earth leakage ranges: 30 mA, 100 mA, 300 mA, 500 mA, 1 A, 3 A
- Trip time selection: 0, 60, 200, 400, 700 mS or NT (No Trip)
- 30 mA trip time defaults to a less than 300 mS trip time as per AS/NZS standard requirements
- Built-in dielectric test disconnection test plug

Options and accessory fitting

- Accepts auxiliaries and alarm switches
- Not suitable for shunts and under voltage trips
- Accepts all external accessories, except mechanical interlocks
- ZS MCCBs can be installed on standard XA, XB, XC and HC chassis
- Seal label available for sealing the residual current dial setting area for use at 30 mA (Catalogue number of label sheet T12CAPLAB)
- Captive padlock attachment that includes a dial sealing feature
- ZS ELCBs with unswitched or switched neutral poles are available.

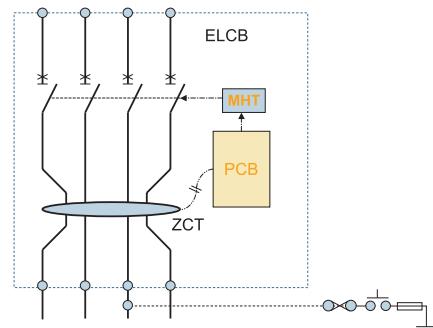
Notes: Fault interruption and other performance data for ZS125-250GJ ELCBs, is the same as the standard S125-250GJ MCCBs, except:
 - Rated to an operational voltage of 550 V AC maximum
 - Magnetic characteristic is fixed

ZS Integral Earth Leakage MCCB Operation

4

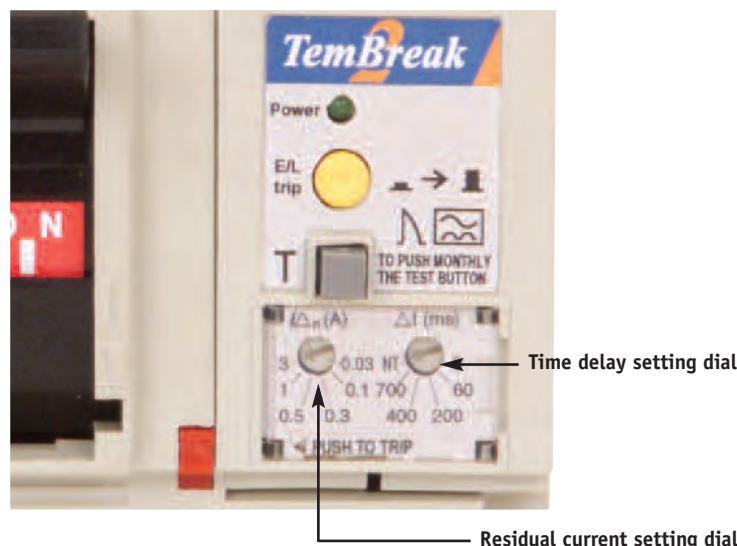
All poles of 3 and 4 pole ZS MCCBs pass through an internal ZCT.

Remote test of ZS MCCB earth leakage function and remote trip can be obtained by using a fuse protected external resistor and pushbutton to cause an earth leakage to trip the breaker. Reset is performed by operating the main MCCB ON/ OFF.



ZCT - Zero Phase Current Transformer

ZCT's are commonly used for various residual current and earth fault protection devices. The single cores of a 2, 3 or 4 wire system pass through the inner diameter of the ZCT. In a system with no earth leakage, the ZCT sees a balanced "sum" of currents. When a leakage occurs the sum is not balanced and so the ZCT generates a voltage signal, which trips the ELCB.



Application notes

ZS ELCBs can be used for both 3 and 4 wire systems. There are particular applications which suit either 3 or 4 pole ZS ELCBs. Whenever a system contains a neutral, it must pass through the ZS ELCB in order to be monitored to prevent a system imbalance.

1. 1 phase and neutral system

A 3 or 4 pole ZS ELCB can be used. The phase and neutral can pass through any pole, except the neutral pole.

2. 2 phase system (no neutral)

Where any system uses 2 phases only (no neutral) a 3 or 4 pole ZS ELCB can be used, but in the case of the 4 pole ELCB, no lines are to pass through the neutral as the test button will not function.

3. 3 phase system (no neutral)

3 phase systems used for motor start applications have no neutral. A 3 pole ZS ELCB can be used. A 4 pole ELCB will also work.

4. 3 phase and neutral system

General distribution systems usually have a neutral, and therefore a 4 pole ZS ELCB must be used. If a 3 pole ELCB is used, it will trip as the neutral is not being monitored.

5. UPS and surge filter applications

These applications often require a 4 pole breaker with a solid / unswitched neutral so as to avoid the high voltages which can be generated by a switched neutral device, resulting from a 'floating neutral'. The solution is a 4 pole ZS ELCB with a solid / unswitched neutral that monitors 3 phases + neutral, similar to a switched type.

6. Refer NHP for applications where high levels of harmonic distortion are present.

TemBreak 2 and TemBreak 1 MCCB Cross reference guide

4



TemBreak 2
250 A MCCB



TemBreak 1
125 A MCCB

TemBreak 2

| MCCB Ampere Range | TemBreak 2 | | | | TemBreak 2 |
|--------------------------|------------|----------|------------------------|-----------------------|------------|
| | I_{cu} | I_{cs} | Thermal-Mag Adjustable | Electronic Adjustment | Cat. No. |
| 12.5 – 125 | 25 | 19 | Yes | – | E125NJ |
| 12.5 – 125 | 25 | 13 | No | – | S125NF |
| 15 – 100 | 65 | 33 | No | – | S100GF |
| 12.5 – 125 | 36 | 36 | Yes | – | S125NJ |
| 12.5 – 125 | 65 | 36 | Yes | – | S125GJ |
| 12.5 – 125 | 125 | 85 | Yes | – | H125NJ |
| 12.5 – 125 | 200 | 150 | Yes | – | L125NJ |
| 12.5 – 160 | 25 | 19 | No | – | S160NF |
| 12.5 – 160 ¹⁾ | 36 | 36 | Yes | – | S160NJ |
| 32 – 160 | 65 | 36 | Yes | – | S160GJ |
| 100 – 160 | 125 | 85 | Yes | – | H160NJ |
| 100 – 160 | 200 | 150 | Yes | – | L160NJ |
| 12.5 – 250 | 25 | 19 | Yes | – | E250NJ |
| 100 – 250 | 36 | 36 | Yes | – | S250NJ |
| 100 – 250 | 65 | 36 | Yes | – | S250GJ |
| 50 – 250 | 70 | 70 | – | Yes | S250PE |
| 100 – 250 | 125 | 85 | Yes | – | H250NJ |
| 50 – 250 | 125 | 85 | – | Yes | H250NE |
| 100 – 250 | 200 | 150 | Yes | – | L250NJ |
| 252 – 250 | 25 | 25 | Yes | – | E400NJ |
| 160 – 400 | 36 | 36 | Yes | – | S400CJ |
| 160 – 400 | 50 | 50 | Yes | – | S400NJ |
| 100 – 400 | 50 | 50 | – | Yes | S400NE |
| 160 – 400 | 70 | 50 | Yes | – | S400GJ |
| 100 – 400 | 70 | 50 | – | Yes | S400GE |
| 100 – 400 | 85 | 85 | – | Yes | S400PE |
| 160 – 400 | 125 | 85 | Yes | – | H400NJ |
| 100 – 400 | 125 | 85 | – | Yes | H400NE |
| 160 – 400 | 200 | 150 | Yes | – | L400NJ |
| 100 – 400 | 200 | 150 | – | Yes | L400NE |
| 252 – 630 | 36 | 36 | – | Yes | E630NE |
| 252 – 630 | 50 | 50 | – | Yes | S630CE |
| 252 – 630 | 70 | 50 | – | Yes | S630GE |

TemBreak 1

| TemBreak 1 – approximate equivalent (Cat. No.) | | | | | |
|--|---------|---------------|--------------|----------|-------------------|
| | Primary | equivalent 1, | secondary 2, | third 3, | / 415 V kA rating |
| 1 | 2 | 3 | 4 | 5 | 6 |
| X5125CJ | 18 kA | X5125NJ | 30 kA | XE225NC | 18 kA |
| X5125CS | 18 kA | X5125NS | 30 kA | – | – |
| XH125NJ | 50 kA | – | – | – | – |
| X5125NJ | 30 kA | X5125CJ | 18 kA | XE225NC | 18 kA |
| XH125NJ | 50 kA | TL100NJ | 85 kA | XH125PJ | 50 kA |
| TL30F | 120 kA | TL100F | 120 kA | TL100NJ | 85 kA |
| TL225B | 180 kA | – | – | – | – |
| – | – | – | – | – | – |
| XS250NJ | 35 kA | XH160PJ | 50 kA | XE225NC | 18 kA |
| XH250NJ | 50 kA | XH250PJ | 85 kA | XH160PJ | 50 kA |
| TL250NJ | 85 kA | TL225F | 120 kA | TL100F | 120 kA |
| TL225B | 180 kA | TL100C | 180 kA | – | – |
| XS250NJ | 35 kA | XE225NC | 18 kA | – | – |
| XS250NJ | 35 kA | – | – | – | – |
| XH250NJ | 50 kA | TL250NJ | 85 kA | – | – |
| XH400SE | 65 kA | XS400SE | 50 kA | – | – |
| TL250NJ | 85 kA | XH250PJ | 65 kA | – | – |
| TL400NE | 85 kA | TL225F | 120 kA | – | – |
| TL225B | 180 kA | – | – | – | – |
| XS400CJ | 35 kA | – | – | – | – |
| XS400CJ | 35 kA | – | – | – | – |
| S400NJ | 50 kA | – | – | – | – |
| X5400NJ | 50 kA | XH400SE | 65 kA | XH400PE | 65 kA |
| X5400NJ | 50 kA | – | – | – | – |
| X5400NJ | 50 kA | XH400PJ | 65 kA | – | – |
| XH400PJ | 65 kA | XS400SE | 50 kA | – | – |
| XH400PJ | 65 kA | XH400PE | 65 kA | TL400NE | 85 kA |
| XH400SE | 65 kA | XH400PE | 65 kA | XH400PJ | 65 kA |
| TL400NE | 85 kA | TL630NE | 125 kA | – | – |
| TL400NE | 85 kA | TL630NE | 125 kA | – | – |
| – | – | – | – | – | – |
| XS630CJ | 45 kA | X5630NJ | 65 kA | – | – |
| X5630SE | 50 kA | X5630NJ | 65 kA | – | – |
| XH630SE | 65 kA | XH630PE | 65 kA | XS630PJ | 85 kA |

MCCB Isolators (Non-auto) - Short time rating for 0.3 seconds I_{CW} (kA)

| | | | | | | | | |
|-----|---|---|---|--------|---------|--------|---------|------|
| 125 | 2 | – | – | S125NN | XS125NN | 1.8 kA | – | – |
| 160 | 3 | – | – | S160NN | XS250NN | 4 kA | XE225NC | 3 kA |
| 250 | 3 | – | – | S250NN | XS250NN | 4 kA | – | – |
| 400 | 5 | – | – | S400NN | XS400NN | 5 kA | – | – |
| 630 | 5 | – | – | S630NN | XS630NN | 9.6 kA | – | – |

Notes: The above equivalents are approximate only. Physical sizes may vary slightly as well as kA ratings.
 MCCBs with the same colours have the same outline dimensions, though in the case of 400 AF and 630 AF, main terminal heights vary.

¹⁾ 20-32 A Trip unit versions are rated at 30 kA.

TemBreak MCCB accessories

TemBreak 1 and TemBreak 2 – 125 to 2500 AF

Internal accessories



| | Section |
|---|----------------|
| ■ Auxiliary switches | 4 |
| ■ Alarm switches | 4 |
| ■ Very low voltage and current switching auxiliaries and alarm switches | 4 |
| ■ Shunt trips | 4 |
| ■ Undervoltage trips | 4 |

External accessories



| | |
|------------------------------------|---|
| ■ Motor operators | 4 |
| ■ Operating handles | 4 |
| ■ Mechanical interlocks | 4 |
| ■ Terminal covers | 4 |
| ■ Interpole barriers | 4 |
| ■ Toggle locks and locking devices | 4 |
| ■ Wire lead terminal block | 4 |
| ■ Attached flat bar | 4 |
| ■ Tunnel clamp terminals | 4 |
| ■ Rear connection terminal studs | 4 |



| | |
|-----------------------------|---|
| ■ TemPlug | 4 |
| ■ Plug-in MCCB bases | 4 |
| ■ Withdrawable MCCBs | 4 |
| ■ OCR sealing cover | 4 |
| ■ Pole fillers | 4 |
| ■ DIN rail mounting adaptor | 4 |



| | |
|-------------------------------------|---|
| ■ Door Flange | 4 |
| ■ Door mounting flush plate kit | 4 |
| ■ Wire lead terminal block | 4 |
| ■ External 4th neutral CT | 4 |
| ■ OCR sealing kit (125/250 A MCCBs) | 4 |
| ■ Electronic MCCB OCR checker | 4 |
| ■ MCCB rating labels | 4 |



External accessories (Cont'd)



| | |
|--|---|
| ■ XA, XB, PXB, XC Double-sided chassis | 6 |
| ■ XA, XB, XC Single-sided chassis | 6 |
| ■ Chassis kA Ratings and cut-out details | 6 |
| ■ HC High current chassis | 6 |

TemBreak 2 MCCB accessories

Electrical control using internally mounted accessories

Valid maximum accessory combinations to suit the following frame sizes

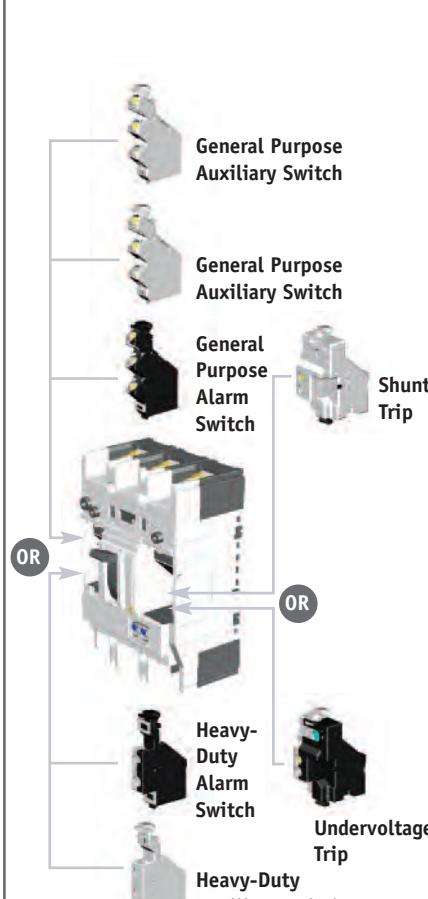
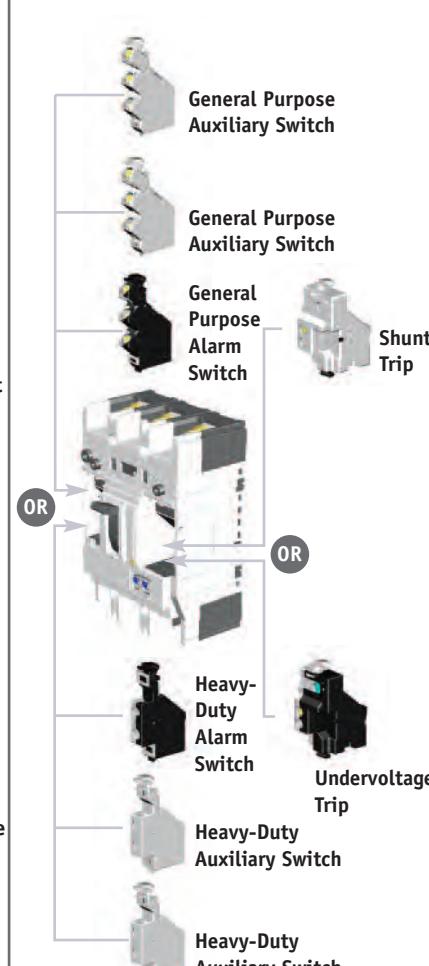
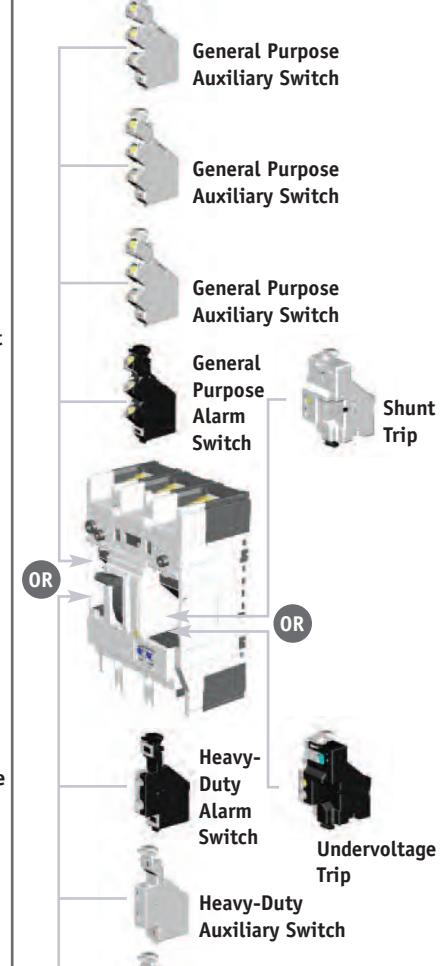
Frame size (A):

125 AF

160 and 250 AF

400 and 630 AF

4

| Frame size (A): | 125 AF | 160 and 250 AF | 400 and 630 AF |
|-----------------|---|--|--|
| |  <p>The diagram shows the internal mounting locations for accessories in a 125 AF MCCB. On the left side, there are two slots for General Purpose Auxiliary Switches. On the right side, there are two slots for Shunt Trip devices. There are also two additional slots available for mounting, indicated by 'OR' symbols.</p> |  <p>The diagram shows the internal mounting locations for accessories in a 160 or 250 AF MCCB. On the left side, there are three slots for General Purpose Auxiliary Switches. On the right side, there are two slots for Shunt Trip devices. There are also two additional slots available for mounting, indicated by 'OR' symbols.</p> |  <p>The diagram shows the internal mounting locations for accessories in a 400 or 630 AF MCCB. On the left side, there are four slots for General Purpose Auxiliary Switches. On the right side, there are two slots for Shunt Trip devices. There are also two additional slots available for mounting, indicated by 'OR' symbols.</p> |

- Alarm indication switches mount in the left side of the MCCB.
General purpose and heavy-duty alarm indication switches cannot be mixed in the same MCCB.
- Shunt trips and undervoltage trips mount in the right side of the MCCB.
- Refer NHP for the fitting of additional auxiliaries to 125 A / 250 A MCCBs.
- One alarm switch will operate in the right side pocket on 125 A and 250 A MCCBs. Not applicable for 400 / 630 A MCCBs.
- It is not possible to install a shunt trip and an undervoltage trip in an MCCB as they occupy the same location. Undervoltage trips can provide remote tripping if necessary by wiring a normally closed contact or pushbutton in series with the protected supply.
- Undervoltage trips with time delay require an external time delay controller which clips to the side of the MCCB.

Special “EA” TemBreak 2 MCCBs 125 A - 250 A

Permissible combinations EA (extra auxiliary) version and locations

- Auxiliary contact blocks: Depending on the auxiliary type and MCCB size, up to 4 auxiliary switches can be fitted in the LEFT and RIGHT pockets.
- Alarm contact blocks: a maximum of 2 can be installed in an MCCB. One LEFT, one RIGHT.
- One Shunt Trip or one Under-Voltage Trip can be installed in the RIGHT side. Both cannot be mounted in an MCCB together as they occupy the same position. When auxiliaries or alarms are fitted in the RIGHT side, shunts and UVT's cannot be fitted.

For more specific information on internal accessory combinations and maximum allowable, refer to the table below.



| MCCB type | MCCB left side | | | | MCCB right side | | | |
|------------|----------------------|-------|-----------------|-------|---------------------------------|-------|-----------------|-------|
| | General purpose type | | Heavy duty type | | General purpose type | | Heavy duty type | |
| 3 - 4 pole | Auxiliary | Alarm | Auxiliary | Alarm | Auxiliary | Alarm | Auxiliary | Alarm |
| 125 A | 2 | 1 | or | 1 | 1 | 2 | 1 | or |
| 160/250 A | 2 | | | 2 | | 2 | 1 | |
| 125/250 A | | | | | 1 Shunt or 1 Under Voltage Trip | | | |

ZS Integral Earth leakage MCCB - internal accessory fitting

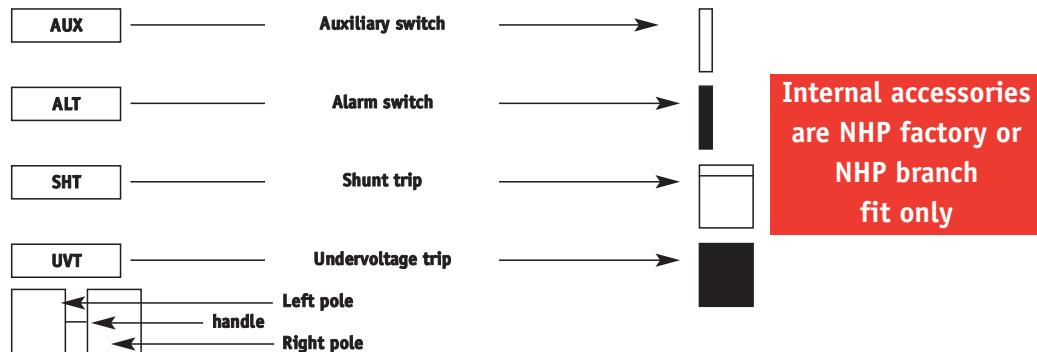
| MCCB type | MCCB left side | | | | MCCB right side | |
|-------------|----------------------|-------|-----------------|-------|--|--|
| | General purpose type | | Heavy duty type | | right side pocket area occupied by earth leakage circuitry | |
| 3 - 4 pole | Auxiliary | Alarm | Auxiliary | Alarm | | |
| 125 A | 2 | 1 | or | 1 | | |
| 160 / 250 A | 2 | | | 2 | | |

Notes: Certain MCCB models will be stocked with the extra auxiliary option. They are S125GJ, S160NJ (20 / 32 A) S160GJ, S250GJ. Other MCCB “EA” types indent.
 The ZS integral Earth leakage MCCBs will not accept auxiliaries, alarms, shunts, UVT's in the right side internal pocket.
 See table above for auxiliary and alarm options.

TemBreak 1 MCCB accessories

Standard combinations of internally mounted accessories

4



UVT voltage ratings

A. Inst type

- AC 100 - 120 V
- AC 200 - 240 V
- AC 380 - 450 V
- DC 24 V
- DC 48 V

DC 60 V

- DC 100 - 115 V
- DC 200 - 230 V

B. Time delay type

- AC 100 - 120 V
- AC 200 - 240 V
- AC 380 - 450 V

XM30PB

TL100EM

XV400NE

XV630NE

XV800NE

XV1250NE

XS630CJ/NJ/PJ

XH/XS630SE

XS800NJ/PJ

XH/XS800SE

XS1250SE

XS1600SE

TL630NE

TL800NE

TL1250NE

XS630NN

XS800NN

XS1250NN

XS1600NN

XS2000NE

XS2500NE

XS2000NN

XS2500NN

XS3200NE

SHT voltage ratings

- AC 100 - 115 V
- AC 200 - 480 V
- AC 24 V
- AC 48 V

DC 12 V

DC 24 V

DC 30 V

DC 48 V

DC 60 V

DC 100 - 115 V

DC 125 V

DC 200 - 230 V

| | | | | |
|-----|--|--|--|--|
| AUX | | | | |
| ALT | | | | |
| SHT | | | | |
| UVT | | | | |
| AUX | | | | |
| ALM | | | | |
| AUX | | | | |
| SHT | | | | |
| AUX | | | | |
| UVT | | | | |
| ALT | | | | |
| SHT | | | | |
| ALT | | | | |
| UVT | | | | |
| AUX | | | | |
| ALT | | | | |
| SHT | | | | |
| AUX | | | | |
| ALT | | | | |
| UVT | | | | |

Note: Available on indent only.

TemBreak MCCBs

XM30PB motor protection series

- Fast break mechanism
- Push to trip button
- Positive contact indication
- Suitable for Type '2' co-ordination
- Tested in combination with Sprecher + Schuh contactors
- Standards IEC 60947-2/AS/NZS 3947-2
- Interrupting capacity @ 415 V 85 kA
- Fixed hydraulic and magnetic trip



Dimensions (mm)

| | |
|-------------------------------|-----|
| Poles | 3 |
| H | 148 |
| W | 78 |
| D (less toggle) ¹⁾ | 102 |
| Weight (kg) | 1.3 |

**IP 65
& 55 handles
available**

XM30PB 85 kA 3 pole motor protection circuit breakers

| Ampere rating | AC 3 kW | | Cat. No. |
|---------------|----------|----------|----------------------|
| | 240 V AC | 415 V AC | |
| 0.7 | – | 0.2 | XM30PB 0.7 3P |
| 1.4 | 0.2 | 0.5 | XM30PB 1.4 3P |
| 2.0 | – | 0.75 | XM30PB 2.0 3P |
| 2.6 | 0.4 | 1.1 | XM30PB 2.6 3P |
| 4 | 0.75 | 1.5 | XM30PB 4 3P |
| 5 | – | 2.2 | XM30PB 5 3P |
| 8 | – | 3.7 | XM30PB 8 3P |
| 10 | 2.2 | 4 | XM30PB 10 3P |
| 12 | – | 5.5 | XM30PB 12 3P |

Short circuit capacity

| Model | I/C | Voltage |
|--------|-------|-----------------|
| XM30PB | 85 kA | 415/440 V 50 Hz |

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| | Approvals |
|----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| BS EN 60947 Part 2 | Lloyd's / UK |
| VDE 0660 Part 1 | ABS / USA |
| JIS C 8201-2-1 Ann.1 | GL / Germany |
| | BV / France |
| | NK / Japan |

Note: ¹⁾ Add another 13 mm for the toggle length.

TemBreak MCCB accessories

Accessories to suit XM30PB

Internal accessories (factory fit)

| Description | Cat. No. |
|----------------------------------|-----------|
| Shunt trip | 2H1931BAA |
| 110 V AC SHT (100 - 115 V) | 2H1931BAA |
| 240 V AC SHT (200 - 480 V) | 2H1931BCA |
| 24 V DC SHT | 2H1931BCA |
| 48 V DC SHT | 2H1931BDA |
| 110 V DC SHT (100 - 115 V) | 2H1931BEA |
| 24 V AC SHT | 2H1932BAA |
| 48 V AC SHT | 2H193DBBA |
| 12 V DC SHT | 2H1932BDA |
| 125 V DC SHT | 2H1932BGA |
| 200 V DC SHT (200 - 230 V) | 2H1932BHA |
| Auxiliary switches | UXXB0001D |
| AUX SW right/left hand 1 C | UXXB0003C |
| AUX SW right/left hand 2 C | UXLB0006C |
| Alarm switches | UXLB0008C |
| Alarm SW right/left hand | UXLB0008C |
| Alarm & auxiliary switches | UXLB0008C |
| Alarm/AUX SW right/left hand 1 C | UXLB0008C |
| switches | UXLB0008C |



Shunt trip

4



Alarm/auxiliary switch



Tunnel clamp terminals

External accessories

| | | |
|---|--|--|
| Tunnel Clamp (solderless) terminals | 3 P solderless terminals (6) | TXBD0009A |
| Rear connect studs | 3 P rear connect studs (6) | UXRC0005A |
| Handle operators | IP 55 grey variable depth handle + 357 mm shaft T1HS escutcheon plate option: 100 mm ² 90 mm T pin shaft for T2HS - no flexi coupling IP 65 grey variable depth handle + 420 mm shaft Padlock attachment for T2HP/Hs mechanism IP 55 direct mount fixed depth handle T2HS handle shaft cam for trapped key interlocks | T1HS03R5GM T2HSESC100 T2HS250SHAFT T1HP03R6BNA4 T1HP30PALK TFJ21PB 1499 7702 |
| Handle locks | Handle lock Lock plate Key interlock (Fortress type) incl TFJ mechanism ¹⁾ | UXKH0009A UXKE0030A - |
| TemPlug | 3 P Templug | UPX330PB |
| Terminal cover | Line-side terminal screw cover | XM30TSC |



Vertical TemPlug
and MCCB

Notes: ¹⁾ For technical data, refer Section 8.

TemBreak 2 Thermal magnetic type MCCB

E125NJ



25 kA

Current rating: 12.5 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 25 | 19 |
| DC use | 250 | 25 | 19 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and
adjustable magnetic (See below)

Dimensions (mm)

| | |
|-----------------|------------------|
| Poles | 3 |
| H | 155 |
| W | 90 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 |
| | 105 (on chassis) |

| Ampere Rating NRC | Adj. Ir ¹⁾ Min – Max. | Adj. Im ¹⁾ Min – Max. | Cat. No. |
|-------------------|-------------------------------------|-------------------------------------|---------------|
| 20 | 12.5 – 20 | 120 – 240 | E125 NJ 3 20 |
| 32 | 20 – 32 | 192 – 384 | E125 NJ 3 32 |
| 50 | 32 – 50 | 300 – 600 | E125 NJ 3 50 |
| 63 | 40 – 63 | 378 – 756 | E125 NJ 3 63 |
| 100 | 63 – 100 | 600 – 1200 | E125 NJ 3 100 |
| 125 | 80 – 125 | 750 – 1250 | E125 NJ 3 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current
Magnetic only MCCBs available on request

Replaces: XS125CJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Thermal magnetic type MCCB S125NF

4



25 kA

Current rating: 16 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 230V | 25 | 13 |

Trip unit:

Fixed thermal magnetic

Dimensions (mm)

| Poles | 1 |
|-----------------|-----------|
| H | 155 |
| W | 30 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 or 105 |



Captive lock option



terminal cover option

| Ampere Rating | NRC | Ir | Im | Cat. No. |
|---------------|-----|------|----|----------------------|
| 16 | 16 | 208 | | S125 NF 1 16 |
| 20 | 20 | 260 | | S125 NF 1 20 |
| 25 | 25 | 325 | | S125 NF 1 25 |
| 32 | 32 | 420 | | S125 NF 1 32 |
| 40 | 40 | 420 | | S125 NF 1 40 |
| 50 | 50 | 650 | | S125 NF 1 50 |
| 63 | 63 | 820 | | S125 NF 1 63 |
| 80 | 80 | 1040 | | S125 NF 1 80 |
| 100 | 100 | 1300 | | S125 NF 1 100 |
| 125 | 125 | 1550 | | S125 NF 1 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: For Interpole barriers and Terminal covers refer to accessories pages.
 Will not accept shunt trips. Refer S160NF for a 1P MCCB that will accept a shunt trip.
 Ir: thermal rating
 Im: magnetic rating
 NRC: Nominal rated current
 S125NF will not accept rear terminals
 S160NF will accept RC terminal

Replaces: XS125NS

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S100GF



**2 Pole
Wide MCCB**

65 kA

Current rating: 15 – 100 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 230 V | 85 | 85 |
| | 415 V | 65 | 33 |
| DC use | 230 V | 40 | 40 |

Trip unit:

Fixed thermal magnetic

Dimensions (mm)

| | |
|-----------------|------------------|
| Poles | 2 |
| H | 155 |
| W | 60 |
| D (less toggle) | 68 |
| Toggle cut-out | 52 ²⁾ |
| | 105 (on chassis) |

Accessories: ³⁾

Has mounting provision for any one (1) of the following: UVT or Shunt or a combination of up to 2 Auxiliaries plus 1 Alarm. Will accept standard external accessories such as: interpole barriers, terminal connection options, toggle locks, and 2 pole terminal covers. Will not accept motors or handles due to the 60 mm width of the MCCB.

Ampere

Rating

| NRC | Ir | Im | Cat. No. ¹⁾ |
|-----|-----|------|------------------------|
| 15 | 15 | 180 | S100 GF 1 15 |
| 20 | 20 | 240 | S100 GF 1 20 |
| 30 | 30 | 360 | S100 GF 1 30 |
| 40 | 40 | 480 | S100 GF 1 40 |
| 50 | 50 | 600 | S100 GF 1 50 |
| 60 | 60 | 720 | S100 GF 1 60 |
| 75 | 75 | 900 | S100 GF 1 75 |
| 100 | 100 | 1200 | S100 GF 1 100 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| Selectivity & Cascade | 12 |
| Dimensions and mounting | 5 |

- Notes:**
- ¹⁾ MCCB black in colour.
 - ²⁾ S100GF 2 Pole MCCBs require a 52 mm cut-out as the toggle area is 50 mm high.
 - ³⁾ For Shunt trips, Interpole barriers and Terminal covers refer to accessories pages.

Ir: thermal rating

Im:magnetic rating

NRC: Nominal rated current

Base standards

IEC 60947-2

AS/NZS 60947-2

EN 60947-2

JIS C 8201-2-1 Ann. 1

Approvals

ASTA (UK,AUS)

Marine

Lloyd's / UK

ABS / USA

GL / Germany

BV / France

NK / Japan

Replaces: XS125CJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB S125NJ

4



36 kA

Current rating: 12.5 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/400 | 36 | 36 |
| DC use | 250V | 25 | 19 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (refer below)

Dimensions (mm)

| Poles | 3 |
|-----------------|------------------|
| H | 155 |
| W | 90 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 |
| | 105 (on chassis) |

S125NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|--------|-------------------------------------|-------------------------------------|---------------|
| 20 | 12.5 - 20 | 120 - 240 | S125 NJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | S125 NJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | S125 NJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | S125 NJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | S125 NJ 3 100 |
| 125 | 80 - 125 | 750 - 1250 | S125 NJ 3 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR/ Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current
Magnetic only MCCBs available on request.

Replaces: XS125NJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S125GJ



65 kA

Current rating: 12.5 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/400 | 65 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (refer below)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 155 | 155 |
| W | 90 | 120 |
| D (less toggle) | 68 | 68 |
| Toggle cut-out | 48 | |
| | | 105 (On chassis) |

S125GJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|---------------|
| 20 | 12.5 - 20 | 120 - 240 | S125 GJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | S125 GJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | S125 GJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | S125 GJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | S125 GJ 3 100 |
| 125 | 80 - 125 | 750 - 1250 | S125 GJ 3 125 |

S125GJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|---------------|
| 20 | 12.5 - 20 | 120 - 240 | S125 GJ 4 20 |
| 32 | 20 - 32 | 192 - 384 | S125 GJ 4 32 |
| 50 | 32 - 50 | 300 - 600 | S125 GJ 4 50 |
| 63 | 40 - 63 | 378 - 756 | S125 GJ 4 63 |
| 100 | 63 - 100 | 600 - 1200 | S125 GJ 4 100 |
| 125 | 80 - 125 | 750 - 1250 | S125 GJ 4 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 To obtain MCCBs that accept additional internal auxiliary circuits add "EA" to the end above the Cat. No.'s e.g.: S125GJ3125EA. Otherwise leave blank.
 Refer 4 - 29 for more detail.
 Refer NHP for availability.
 Magnetic only MCCBs available on request.

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Replaces: XH125NJ, TL100NJ

Note: Check exact ratings or dimensions to suit your application requirement

Earth Leakage Circuit Breaker

ZS125GJ



65 kA

Current rating: 20 – 125 A

Approvals and tests: AS/NZS 60947-2, IEC 60947-2, Annex B, EN/IEC 60755

Operating voltage: 200 - 580 V 50/60 Hz

Interrupting capacity:

| | Voltage | Icu | Ics | Cross reference table | Section |
|--------|---------|-----|-----|-----------------------------|---------|
| AC use | 380/415 | 65 | 36 | Accessories | 4 |
| DC use | 250 V | 40 | 40 | Application and wiring data | 5, 12 |

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and fixed magnetic

Dimensions:

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 155 | 155 |
| W | 90 | 120 |
| D (less toggle) | 68 | |
| Toggle cut-out | 104 | |

Earth leakage characteristic:

Type "A" - suitable for AC and residual pulsating DC currents.

Earth leakage adjustments:

- 30 mA, 100 mA, 300 mA, 500 mA, 1 A, 3 A.
- NT ¹⁾, 0, 60, 200, 400, 700 mS
- 30 mA time setting non adjustable for instant trip

Neutral pole option: ZS ELCBs are available with switched or unswitched (or 'solid neutral') neutral poles. Many general distribution applications can use switched neutral types, whereas for UPS and some other uses, an unswitched neutral pole is required. Refer notes below for correct selection.

| Ampere rating NRC | Adj. Ir ¹⁾ Min. - Max. | Fixed Im ¹⁾ (Amps) | 3 Pole Cat. No. | 4P Switched N Cat. No. | 4P Unswitched N Cat. No. |
|-------------------|-----------------------------------|-------------------------------|-----------------------|------------------------|--------------------------|
| 20 | 12 - 20 | 240 | ZS125 GJ 3 20 | ZS125 GJ 4 20 | ZS125 GJ 4 20 SN |
| 32 | 20 - 32 | 384 | ZS125 GJ 3 32 | ZS125 GJ 4 32 | ZS125 GJ 4 32 SN |
| 50 | 32 - 50 | 600 | ZS125 GJ 3 50 | ZS125 GJ 4 50 | ZS125 GJ 4 50 SN |
| 63 | 40 - 63 | 756 | ZS125 GJ 3 63 | ZS125 GJ 4 63 | ZS125 GJ 4 63 SN |
| 100 | 63 - 100 | 1200 | ZS125 GJ 3 100 | ZS125 GJ 4 100 | ZS125 GJ 4 100 SN |
| 125 | 80 - 125 | 1250 | ZS125 GJ 3 125 | ZS125 GJ 4 125 | ZS125 GJ 4 125 SN |

- Refer 4 - 24 and 4 - 25 for additional Technical data.
- ZS ELCBs use standard accessories, but will not accept the following:
 - Mechanical interlocks
 - Shunt and UVTs

Notes: ¹⁾ NRC: Nominal rated current.

Adj. Ir: Adjustable thermal setting

Fixed Im: Fixed magnetic setting

NT: No Trip

| Cross reference table | Section |
|-----------------------------|---------|
| Accessories | 4 |
| Application and wiring data | 5, 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

TemBreak 2 Thermal magnetic type MCCB

H125NJ



125 kA

Current rating: 12.5 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 125 | 85 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and adjustable magnetic (Refer below)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (On chassis) |

H125NJ 3 Pole

Ampere

| Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|---------------|-------------------------------------|-------------------------------------|----------------------|
| 20 | 12.5 - 20 | 120 - 240 | H125 NJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | H125 NJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | H125 NJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | H125 NJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | H125 NJ 3 100 |
| 125 | 80 - 125 | 750 - 1250 | H125 NJ 3 125 |

H125NJ 4 Pole

Ampere

| Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|---------------|-------------------------------------|-------------------------------------|----------------------|
| 20 | 12.5 - 20 | 120 - 240 | H125 NJ 4 20 |
| 32 | 20 - 32 | 192 - 384 | H125 NJ 4 32 |
| 50 | 32 - 50 | 300 - 600 | H125 NJ 4 50 |
| 63 | 40 - 63 | 378 - 756 | H125 NJ 4 63 |
| 100 | 63 - 100 | 600 - 1200 | H125 NJ 4 100 |
| 125 | 80 - 125 | 750 - 1250 | H125 NJ 4 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 5 |
| Application data | 13 |
| Characteristic curves | 6 |
| OCR / Trip unit set-up | 6 |
| Motor starting | 13 |
| Selectivity & Cascade | 13 |
| Chassis | 7 |
| Dimensions and mounting | 6 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: TL30F, TL100F, TL100NJ, XH125PJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Thermal magnetic type MCCB

L125NJ



200 kA

Current rating: 12.5 – 125 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 200 | 150 |
| DC use | 250V | 40 | 40 |

4

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (Refer below)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|------------------|-----|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | 105 (On chassis) | |

L125NJ 3 Pole

Ampere

| Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|---------------|-------------------------------------|-------------------------------------|---------------|
| 20 | 12.5 - 20 | 120 - 240 | L125 NJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | L125 NJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | L125 NJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | L125 NJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | L125 NJ 3 100 |
| 125 | 80 - 125 | 750 - 1250 | L125 NJ 3 125 |

L125NJ 4 Pole

Ampere

| Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|---------------|-------------------------------------|-------------------------------------|---------------|
| 20 | 12.5 - 20 | 120 - 240 | L125 NJ 4 20 |
| 32 | 20 - 32 | 192 - 384 | L125 NJ 4 32 |
| 50 | 32 - 50 | 300 - 600 | L125 NJ 4 50 |
| 63 | 40 - 63 | 378 - 756 | L125 NJ 4 63 |
| 100 | 63 - 100 | 600 - 1200 | L125 NJ 4 100 |
| 125 | 80 - 125 | 750 - 1250 | L125 NJ 4 125 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 5 |
| Application data | 13 |
| Characteristic curves | 6 |
| OCR / Trip unit set-up | 6 |
| Motor starting | 13 |
| Selectivity & Cascade | 13 |
| Chassis | 7 |
| Dimensions and mounting | 6 |

Notes: 1) Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.
 Available on indent only.

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Replaces: TL225B

Note: Check exact ratings or dimensions to suit your application requirement

Accessories to suit 125 A TemBreak 2

Internal accessories

Shunt trips Internal accessories are common for MCCBs 125 A to 630 A. All have screw terminals except those indicated below with wire leads.

SH

For 2, 3 and 4 pole MCCBs

Cat. No.

| | |
|----------------|---------------------------|
| 110 V AC | T2SH00A10TA ¹⁾ |
| 230 – 240 V AC | T2SH00A20TA ¹⁾ |
| 400 – 415 V AC | T2SH00A40TA ¹⁾ |
| 12 V DC | T2SH00D01TA ¹⁾ |
| 24 V DC | T2SH00D02TA ¹⁾ |
| 48 V DC | T2SH00D04TA ¹⁾ |
| 110 V DC | T2SH00D10TA ¹⁾ |
| 230 V DC | T2SH00D20TA ¹⁾ |

Undervoltage trips

UV

Instantaneous operation ²⁾

Cat. No.

| | |
|----------------|--------------|
| 110 V AC | T2UV00A10NTA |
| 200 – 240 V AC | T2UV00A20NTA |
| 380 – 450 V AC | T2UV00A40NTA |
| 24 V DC | T2UV00D02NTA |
| 110 V DC | T2UV00D10NTA |
| 230 V DC | T2UV00D20NTA |

Time delayed operation (500 ms) – refer NHP

Auxiliary &

Alarm
switches

AX
AL

General type (2 A @ 240 V Inductive)

Cat. No.

| | |
|---|-------------|
| 1 C/O Auxiliary | T2AX00M3STA |
| 1 C/O Auxiliary – with 0.7 m wire leads | T2AX00M3SWA |
| 1 C/O Alarm | T2AL00M3STA |
| 1 C/O Alarm – with 0.7 m wire leads | T2AL00M3SWA |

Heavy-duty type (4 A @ 240 V Inductive)

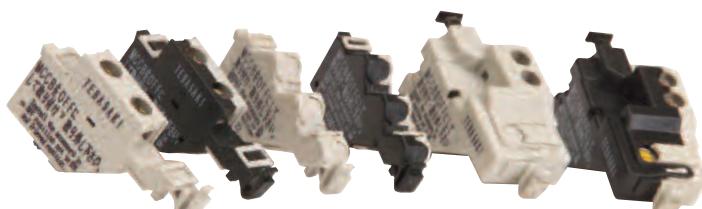
Cat. No.

| | |
|-----------------|-------------|
| 1 N/O Auxiliary | T2AX00B1STA |
| 1 N/C Auxiliary | T2AX00B2STA |
| 1 N/O Alarm | T2AL00B1STA |
| 1 N/C Alarm | T2AL00B2STA |

Micro switching type (very low voltages)

Cat. No.

| | |
|-----------------|-------------|
| 1 C/O Auxiliary | T2AX00M3RTA |
| 1 C/O Alarm | T2AL00M3RTA |



Notes: ¹⁾ Wire lead types available.

²⁾ Refer NHP for time delay types.

Accessories to suit 125 A TemBreak 2

4



T2 MC Motor operator
fitted to an MCCB

MC

External accessories

| | | |
|--|--|-------------|
| Motor operators | Suits MCCB types | |
| | E125, S125 | |
| | 110 V AC | T2MC12A10NB |
| | 230 – 240 V AC | T2MC12A24NB |
| | 24 V DC | T2MC12D02NB |
| | 48 V DC | T2MC12D04NB |
| | 110 V DC | T2MC12D10NB |
| Motor Accessories | H125, L125 | |
| | 110 V AC | |
| | 230 – 240 V AC | |
| | 24 V DC | |
| | 48 V DC | |
| | 110 V DC | |
| Motor connection cable loom for Electrical interlocking | | |
| | T2MC12 cable 500 mm 125/250 AF only | T2MM25L05A |
| | T2MC12 cable 1500 mm 125/250 AF only | T2MM25L15A |
| | 600 mm loom for 125/250 AF - 400/630 AF | T2MM40S06A |
| | 2100 mm loom for 125/250 AF - 400/630 AF | T2MM40S21A |
| Motor options: Contact NHP for key locking and auto-reset. | | T12CAPLAB |
| MCCB identification labels | | |

Accessories to suit 125 A TemBreak 2

External accessories

| | | |
|---|--|--|
| Door interlocking | Suits MCCB types E125, S125 | Cat. No. |
| Direct mounting, fixed depth, IP 54 ¹⁾ | Grey/black Red/yellow | T2HB12UR5BN T2HB12UR5RN |
| | H125, L125 | |
| | Grey/black Red/yellow | T2HB25UR5BN T2HB25UR5RN |
| | Optional MCCB identification labels | T12CAPLAB |
| | E125, S125 | |
| Door interlocking variable depth handle | Grey IP 55 handle + 357 mm shaft Red/ yellow IP 55 handle 357 mm shaft Escutcheon plate option: 100 mm ² 90 mm T pin shaft for T2HS - no flexi coupling Grey/ black IP65 handle + 420 mm shaft Red/ yellow IP65 handle + 420 mm shaft Grey IP 65 Metal handle + 357 mm shaft Padlock attachment for T2HP/HS mechanism T2HS handle shaft cam for trapped key interlocks Optional MCCB identification labels | T2HS12R5GM T2HS12R5RM T2HSESC100 T2HS250SHAFT T2HP12R6BN T2HP12R6RN T2HP12R6ME T2HP25PALK 1499 7702 T12CAPLAB |
| | H125, L125 | |
| | IP 55 handle + 357 mm shaft Red/ yellow IP 55 handle + 357 mm shaft Large escutcheon plate option: 100 mm ² 90 mm T pin shaft for T2HS - no flexi coupling Grey/ black IP 65 handle + 420 mm shaft Red/ yellow IP 65 handle + 420 mm shaft Padlock attachment for T2HP/ HS mechanism T2HS handle shaft cam for Fortress and Prosafe locks Optional MCCB identification labels | T2HS25R5GM T2HS25R5RM T2HSESC100 T2HS250SHAFT T2HP25R6BN T2HP25R6RN T2HP25PALK 1499 7702 T12CAPLAB |



Direct mount T2HB handle with door mounted escutcheon plate.

Variable depth T2HP handle

T2HS Variable depth handle

Notes: ¹⁾ For direct mount handle escutcheon label fitting refer section 5 installation data.

Accessories to suit 125 A TemBreak 2

4

ML

External accessories

| | | |
|---------------------------------------|--|-----------|
| Mechanical accept Interlocks | Link Interlock – suitable for manual or motorised operation. Will handles. Suitable for front or rear connect type MCCBs | |
| E125, S125 | | Cat. No. |
| Common 3 or 4 pole right side section | | T2ML12RA |
| 3 pole left side section | | T2ML12L3A |
| 4 pole left side section | | T2ML12L4A |
| MCCB identification labels | | T12CAPLAB |
| H125, L125 | | |
| Common 3 or 4 pole right side section | | T2ML25RA |
| 3 pole left side section | | T2ML25L3A |
| 4 pole left side section | | T2ML25L4A |
| MCCB identification labels | | T12CAPLAB |

Left section 3 or 4 pole
(T2ML12L4A shown)



Common right section
(T2ML12RA shown)

Link interlock on MCCBs, T2ML



Link interlock on MCCBs with motors and
electrical interlocking cable T2MM

Notes: Handles supplied with shaft.
Refer to section 5 if MCCB labels are required or refer to NHP.

Accessories to suit 125 A TemBreak 2

4

External accessories

| | | |
|--|--|------------------------|
| Slide type interlock | Manual operation, padlockable. Does not allow motors, handles or other front mounted accessories to be fitted. | |
| Suitable for front or rear connection E125, S125 MCCB types | | |
| MS | 3 pole | T2MS123SFA |
| | 4 pole | T2MS124SFA |
| H125, L125 | | |
| | 3 pole | T2MS253LFA |
| | 4 pole | T2MS254LFA |
| Cable interlock | Allows an MCCB to be mounted horizontally, vertically or diagonally. Accepts Motors and handles. | |
| Suitable for 3 or 4 pole MCCBs E125, S125 MCCB types | | |
| MW | Interlock, less wire | T2MW12CA ¹⁾ |
| | MCCB identification labels | T12CAPLAB |
| | H125, L125 | |
| | Interlock kit less wire | T2MW25CA |
| | MCCB identification labels | T12CAPLAB |
| | Wire for above interlocks | |
| | Wire 1.0 M | T2MW00SA ²⁾ |
| | Wire 1.5 M | T2MW00LA ²⁾ |



Slide interlock on
MCCBs, T2MS



Cable interlock on MCCBs, T2MW

Notes: ¹⁾ Order one interlock kit for each MCCB.
²⁾ One wire length will cover two MCCBs.

Accessories to suit 125 A TemBreak 2

4



T2CS Flush IP20 Cover



T2CF Short terminal



T2CF Standard terminal covers



Single pole terminal cover

External accessories

| | | |
|-----------------------------------|---|--------------|
| Terminal Covers Flush IP 20 | Front connected MCCBs E125, S125 MCCB types | Cat. No. |
| | 1 pole cover set of 2 | T2CS121SG |
| | 3 pole cover set of 2 | T2CS123SG |
| | 4 pole cover set of 2 | T2CS124SG |
| | H125, L125 | |
| | 3 pole cover set of 2 | T2CS253SG |
| | 4 pole cover set of 2 | T2CS254SG |
| Short terminal covers | E125, S125 | |
| | 3 pole cover set of 2, 22 mm long | T2CF123SSNBA |
| | 4 pole cover set of 2, 22 mm long | T2CF124SSNBA |
| Standard terminal covers | E125, S125 | |
| | 1 pole cover set of 2, 40 mm long | T2CF121SLNG |
| | 2 pole cover set of 2, 40 mm long | T2CF122SLNG |
| | 3 pole cover set of 2, 40 mm long | T2CF123SLNG |
| | 4 pole cover set of 2, 40 mm long | T2CF124SLNG |
| | H125, L125 | |
| | 3 pole cover set of 2, 40 mm long | T2CF253LLNG |
| | 4 pole cover set of 2, 40 mm long | T2CF254LLNG |

Accessories to suit 125 A TemBreak 2

4



T2RC Rear connect terminal cover



T2CF locking clip



Inter pole barriers



Non captive lock attachment



Captive lock attachment



ProSafe key interlock and cam

External accessories

| | | Cat. No. |
|--|--|-------------------------------------|
| Terminal covers rear connect | E125, S125 2 pole cover set of 2 3 pole cover set of 2 4 pole cover set of 2 | T2CR122SG T2CR123SG T2CR124SG |
| | H125, L125 3 pole cover set of 2 4 pole cover set of 2 | T2CR253SG T2CR254SG |
| Terminal cover locking clip | A clip that provides additional terminal cover position locking and also allows a sealing device to be fitted. All sizes 125, 250, 400, 630 AF | T2CF00L |
| Interpole Barriers ¹⁾ ²⁾ | Suits MCCB types E125, S125 Interpole barrier (Qty 2) H125, L125 Interpole barrier (Qty 2) | T2BA123SHA T2BA253LHA |
| Toggle locks | Non Captive: Fits up to 3 padlocks or a multiple lock device 2, 3 and 4 pole E/S125 lock 1 pole S125NF lock | T2HL25B UXKB0013A |
| | Captive: Allows a single padlock or multiple padlock device E125, S125 For 3/4 pole MCCBs 1 x 8 mm hole For 1 pole MCCBs, 1 x 8 mm hole | T2HL12CAP T2HLS125NFCAP |
| | H125, L125 Lock with one 8 mm hole | T2HL25CAP |
| ProSafe lock option ³⁾ | Allen-Bradley ProSafe locks can be used with T2HS variables depth handles. Refer NHP for direct mounting handle options E/S/H/L 125 Shot bolt lock HS handles AA code Standard Key AA Cam for T2HS handle shafts | TKNHPAA TKNHPKEYAA 14997702 |
| TKN | | |

Notes:

- ¹⁾ Line side interpole barriers or terminal covers must be installed with MCCBs.
- ²⁾ Interpole Barriers are supplied with MCCBs as standard; 2 barriers with 3 pole MCCBs, and 3 barriers with 4 pole MCCBs.
- ³⁾ Key codes AA to ZA are available. Specify by changing the key code above.

Accessories to suit 125 A TemBreak 2

4

External accessories



T2FB Attached busbar

FB



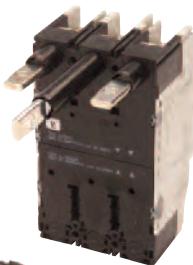
T2FW Tunnel clamp terminals

FW

| Extention Busbars | E125, S125 | Cat. No. |
|---|------------|-----------|
| 1 set of 2 of straight bars | | T2FB251BA |
| 3 pole set of 6 straight bars | | T2FB123BA |
| 3 pole, set of 6 straight bars | | TRED0001 |
| 4 pole set of 8 straight bars | | T2FB124BA |
| H125, L125 | | |
| 1 set of straight terminal bars | | T2FB251BA |
| 3 pole, set of 6, flanged bars | | T2FB253BA |
| 4 pole, set of 8, straight bars | | T2FB254BA |
| E125, S125 | | |
| 3 pole set of 6 terminals 50 mm ² | | T2FW12S3A |
| 4 pole set of 8 terminals 50 mm ² | | T2FW12S4A |
| H125, L125 | | |
| 3 pole set of 6 clamps 35 - 120 mm ² | | T2FW25L3A |
| 4 pole set of 8 clamps 35 - 120 mm ² | | T2FW25L4A |

Accessories to suit 125 A TemBreak 2

4



T2RP Rear connect studs



T2CR Rear connect terminal cover



T2UPX Templug



T2SF OCR Seal kit.
Suitable for a compression seal device.



T2PM Plugin MCCB



T2SW Metering Blocks

| External accessories | | |
|-----------------------------|---|----------------|
| Rear connect terminal studs | Suits MCCB types E125, S125 ¹⁾ | Cat. No. |
| | 3 pole kit, set of 6 studs | T2RP123SA |
| | 4 pole kit, set of 8 studs | T2RP124SA |
| RP | H125, L125 | |
| | 3 pole kit, set of 6 studs | T2RP253LA |
| | 4 pole kit, set of 8 studs | T2RP254LA |
| TemPlug | Suits MCCB types TemPlug MCCB line-side plug-in attachment E125, S125 | |
| | 3 pole TemPlug, vertical | T2UPX3125 |
| | TemPlug, horizontal LHS | HBC3250L125 |
| | TemPlug, horizontal RHS | HBC3250R125 |
| UP | H125, L125 | |
| | 3 pole TemPlug, vertical (65 kA limit) | T2UPXE3250 |
| | Templugs suit 6.3 mm busbar as standard, 10 mm types indent | |
| OCR sealing cover | 125/250 A thermal magnetic | T2SF25NTA |
| SF | | |
| PM | Refer ordering details 4 - 99 and section 8. | |
| DR | Draw-out MCCBs (refer NHP) | |
| Metering Blocks | E125, S125 | |
| SW | 125 A CT/V block 3P (5 A sec) ²⁾ | T2SW3P1251255K |
| | Optional load-side terminal cover | T2SW3P125TC |

Notes: ¹⁾ 125 A rear connect studs will not fit to S125NF single pole MCCBs.

S160NF single pole MCCBs will accept rear studs.

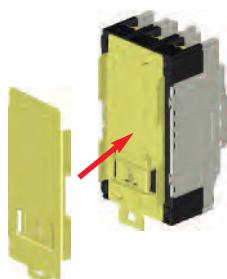
²⁾ Additional data section 11.

Accessories to suit 125 A TemBreak 2

4



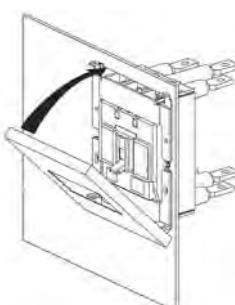
T2PF Pole fillers



T2DA DIN rail adapter



T2DF/DM Door flange



Door mounting flush plate



T2TF Wire lead terminal block

External accessories

| | | Cat. No. |
|---------------------------|---|-----------|
| Pole fillers | E/S/H/L125 | DTPF |
| PF | Pole filler 1 strip for a 46 mm high cut-out ¹⁾ | |
| DIN Rail Adaptor | Pole filler, 30 mm wide for a 104 mm cut-out | XAB2 |
| DA | Allows a 125 AF MCCB to be mounted on standard 35 mm DIN rail | T2DA12B |
| Door flange | E125, S125 | |
| | Metal DIN rail adaptor | |
| Door mounting flush plate | Provides an attractive panel cut-out surround for MCCBs or motors | T2DF40A |
| | Suits MCCB sizes | |
| | E/S/H/L125 | T2DM40A |
| | MCCB IP 30 gland and gasket | |
| | MOTOR IP 30 gland and gasket | |
| FP | A kit that allows an MCCB to be mounted directly onto a door | T2FP12S2B |
| | 2 pole kit E125, S125 | |
| | 3 pole kit E125, S125 | |
| | 4 pole kit E125, S125 | T2FP12S3B |
| | H125, L125 | T2FP12S4B |
| | 3 pole kit H125, L125 | |
| | 4 pole kit H125, L125 | T2FP25L3A |
| Wire lead terminal block | 125/250 AF left side | T2FP25L4A |
| TF | 125/250 AF right side | |
| | T2TF25LGA | |
| | T2TF25RGA | |

Notes: ¹⁾ 1 strip is 8 off, 9mm segments. Order 2 strips for each 125 A MCCB.

TemBreak 2 Thermal magnetic type MCCB S160NF



25 kA

Current rating: 16 – 160 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 230V | 25 | 19 |
| | 125V | 15 | 18 |
| DC use | 125V | 15 | - |

Trip unit:

Fixed thermal and magnetic



S160NF with optional captive padlock assembly

Dimensions (mm)

| Poles | 1 |
|-----------------|------------------|
| H | 165 |
| W | 35 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 |
| | 105 (on chassis) |

Ampere

Rating

NRC **Ir** **Im** **Cat. No.**

| | | | |
|------------|-----|------|----------------------|
| 16 | 16 | 160 | S160 NF 1 16 |
| 20 | 20 | 200 | S160 NF 1 20 |
| 25 | 25 | 250 | S160 NF 1 25 |
| 32 | 32 | 320 | S160 NF 1 32 |
| 40 | 40 | 400 | S160 NF 1 40 |
| 50 | 50 | 500 | S160 NF 1 50 |
| 63 | 63 | 630 | S160 NF 1 63 |
| 80 | 80 | 800 | S160 NF 1 80 |
| 100 | 100 | 1000 | S160 NF 1 100 |
| 125 | 125 | 1250 | S160 NF 1 125 |
| 160 | 160 | 1600 | S160 NF 1 160 |



Optional extended or flush terminal covers

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

IEC 60947-2

AS/NZS 60947-2

EN 60947-2

JIS C 8201-2-1 Ann. 1

CE Mark

Approvals

ASTA (UK,AUS)

Marine

Lloyd's / UK

ABS / USA

GL / Germany

BV / France

NK / Japan

DNV / Norway

Notes: For Shunt Trips, Interpole Barriers and Terminal Covers refer to accessories pages.
 Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Will accept rear connect terminals

TemBreak 2 Thermal magnetic type MCCB

S160NJ

30 / 36 kA

Current rating: 12.5 – 160 A



4

Interrupting capacity: 20 - 32 A:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 30 | 25 |
| DC use | 250V | 40 | 40 |

Interrupting capacity: 50 - 250 A:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 36 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 |
|-----------------|------------------|
| H | 165 |
| W | 105 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 |
| | 105 (on chassis) |

S160NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------|
| NRC | Min - Max. | Min - Max. | |

| | | | |
|------------|-----------|------------|----------------------|
| 20 | 12.5 - 20 | 120 - 240 | S160 NJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | S160 NJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | S160 NJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | S160 NJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | S160 NJ 3 100 |
| 125 | 80 - 125 | 750 - 1500 | S160 NJ 3 125 |
| 160 | 100 - 160 | 960 - 2080 | S160 NJ 3 160 |

Cross reference table

| | Section |
|-------------------------|----------------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current
Magnetic only MCCBs available on request.

Replaces: XS250NJ, XE225NC

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S160GJ

4



65 kA

Current rating: 32 – 160 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 65 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|------------------|-----|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 68 | 68 |
| Toggle cut-out | 48 | |
| | 105 (on chassis) | |

S160GJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|---------------|
| NRC | Min - Max. | Min - Max. | |
| 50 | 32 - 50 | 300 - 600 | S160 GJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | S160 GJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | S160 GJ 3 100 |
| 125 | 80 - 125 | 750 - 1500 | S160 GJ 3 125 |
| 160 | 100 - 160 | 960 - 2080 | S160 GJ 3 160 |

S160GJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|---------------|
| NRC | Min - Max. | Min - Max. | |
| 50 | 32 - 50 | 300 - 600 | S160 GJ 4 50 |
| 63 | 40 - 63 | 378 - 756 | S160 GJ 4 63 |
| 100 | 63 - 100 | 600 - 1200 | S160 GJ 4 100 |
| 125 | 80 - 125 | 750 - 1500 | S160 GJ 4 125 |
| 160 | 100 - 160 | 960 - 2080 | S160 GJ 4 160 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: XH250NJ, XH250PJ, XH160PJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

H160NJ



125 kA

Current rating: 100 – 160 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 125 | 85 |
| DC use | 250V | 40 | 40 |

4

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 13 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

H160NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------|
| NRC | Min - Max. | Min - Max. | |

160 100 - 160 960 - 2080 **H160 NJ 3 160**

H160NJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------|
| NRC | Min - Max. | Min - Max. | |

160 100 - 160 960 - 2080 **i H160 NJ 4 160**

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting

NRC: Nominal rated current
Magnetic only MCCBs available on request.

i Available on indent only.

Replaces: TL250NJ, TL225F, TL100F

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

L160NJ



4

200 kA

Current rating: 100 – 160 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 200 | 150 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 13 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

L160NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------------------|
| NRC | Min - Max. | Min - Max. | |
| 160 | 100 - 160 | 960 - 2080 | L160 NJ 3 160 |

L160NJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------------------|
| NRC | Min - Max. | Min - Max. | |
| 160 | 100 - 160 | 960 - 2080 | L160 NJ 4 160 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: TL225B, TL100C

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

E250NJ

4



25 kA

Current rating: 12.5 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 230V | 25 | 19 |
| DC use | 250V | 25 | - |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (refer below)

Dimensions (mm)

| | |
|-----------------|------------------|
| Poles | 3 |
| H | 165 |
| W | 105 |
| D (less toggle) | 68 |
| Toggle cut-out | 48 |
| | 105 (on chassis) |

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------|
|--------|-----------------------|-----------------------|----------|

| | | | |
|------------|-----------|-------------|----------------------|
| 20 | 12.5 - 20 | 120 - 240 | E250 NJ 3 20 |
| 32 | 20 - 32 | 192 - 384 | E250 NJ 3 32 |
| 50 | 32 - 50 | 300 - 600 | E250 NJ 3 50 |
| 63 | 40 - 63 | 378 - 756 | E250 NJ 3 63 |
| 100 | 63 - 100 | 600 - 1200 | E250 NJ 3 100 |
| 125 | 80 - 125 | 750 - 1500 | E250 NJ 3 125 |
| 160 | 100 - 160 | 960 - 2080 | E250 NJ 3 160 |
| 250 | 160 - 250 | 1500 - 2500 | E250 NJ 3 250 |

| Cross reference table | Section |
|------------------------------|----------------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|------------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: XS250NJ, XE225NC

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S250NJ



36 kA

Current rating: 100 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 36 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and adjustable magnetic (6 Im to 10 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 68 | 68 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

S250NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|-------------------|-----------------------|-----------------------|----------------------|
| NRC ²⁾ | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | S250 NJ 3 250 |

S250NJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|-------------------|-----------------------|-----------------------|----------------------|
| NRC ²⁾ | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | S250 NJ 4 250 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current

²⁾ For lower amp ratings in the same frame size, refer S160NJ.
Magnetic only MCCBs available on request.

Replaces: XS250NJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Thermal magnetic type MCCB S250GJ

4



65 kA

Current rating: 100 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 65 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and adjustable magnetic (6 Im to 10 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 68 | 68 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

S250GJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|-------------------|-----------------------|-----------------------|----------------------|
| NRC ²⁾ | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | S250 GJ 3 250 |

S250GJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|-------------------|-----------------------|-----------------------|----------------------|
| NRC ²⁾ | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | S250 GJ 4 250 |

Special fixed low magnetic types - 3 poles

Ampere

| Rating | Adj. Ir ¹⁾ | Fixed Magnetic | Cat. No. |
|--------|-----------------------|----------------|-------------------------|
| NRC | Min - Max. | | |
| 250 | 160 - 250 | 750 A | S250 GJ S023160 |
| | | 1000 A | S250 GJ 250M1000 |

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current

²⁾ For lower amp ratings in the same frame size,
refer S160GJ.

Magnetic only MCCBs available on request.

To obtain MCCBs that accept additional internal auxiliary circuits add 'EA' to the above Cat. No.'s. E.g. S250GJ3250EA.
Otherwise leave blank.

Replaces: XH250NJ, TL250NJ

Note: Check exact ratings or dimensions to suit your application requirement

INTEGRAL EARTH LEAKAGE MCCBs

The innovative ZS earth leakage MCCB from Terasaki offers machine or personnel protection within a standard 125 A or 250 A MCCB frame size.

POWER PROTECTION



The ZS earth leakage MCCB offers the following features and options:

- Thermal magnetic MCCB
- 125 A or 250 A frame
- 65 kA as standard
- 3 or 4 pole types
- Adjustable thermal-curve dial
- Trip unit ratings: 12 A – 250 A
- 30, 100, 300, 500 mA, 1 A, 3 A settings
- 30 mA setting is non-adjustable, for near instant trip
- 0 sec to 700 ms selectable (100 mA – 3 A)
- Will fit existing XA, XB, XC Chassis
- Pre-trip alarm option
- Yellow TEST button
- Green 'Power ON' LED
- 'No Trip' dial setting

TemBreak  **TERASAKI**
Innovators in Protection Technology

Earth Leakage Circuit Breaker

ZS250GJ



65 kA

Current rating: 100 – 250 A

Approvals and tests: AS/NZS 60947-2, IEC 60947-2, Annex B, EN/IEC 60755

Operating voltage: 200 - 580 V 50/60 Hz

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 65 | 36 |
| DC use | 250 V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and fixed magnetic

Earth leakage characteristic:

Type "A" - suitable for AC and residual pulsating DC currents.

Earth leakage adjustments:

- 30 mA, 100 mA, 300 mA, 500 mA, 1 A, 3 A
- NT ¹⁾, 0, 60, 200, 400, 700 mS
- 30 mA time setting non adjustable for instant trip

Neutral pole option:

ZS ELCBs are available with switched or unswitched (or 'solid neutral') neutral poles. Many general distribution applications can use switched neutral types, whereas for UPS and some other uses, an unswitched neutral pole is required. Refer notes below for correct selection.

| Ampere rating | Adj. Ir ¹⁾ NRC | Fixed Im ¹⁾ Min. - Max. (Amps) | 3 Pole Cat. No. | 4 Pole Switched N Cat. No. | 4 Pole Unswitched N Cat. No. |
|---------------|---------------------------|---|-----------------|----------------------------|------------------------------|
| 160 | 100-160 | 1760 | ZS250 GJ 3 160 | ZS250 GJ 4 160 | ZS250 GJ 4 160SN |
| 250 | 160-250 | 2500 | ZS250 GJ 3 250 | ZS250 GJ 4 250 | ZS250 GJ 4 250SN |

- Refer page 4 - 24 and 4 - 25 for additional technical data.
- ZS ELCBs use standard accessories, but will not accept the following:
 - Mechanical interlocks
 - Shunt and UVTs

| Cross reference table | Section |
|-----------------------------|---------|
| Accessories | 4 |
| Application and wiring data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 7 |
| Dimensions and mounting | 6 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ NRC: Nominal rated current.
Adj. Ir: Adjustable thermal setting
Fixed Im: Fixed magnetic setting
NT: No Trip

Electronic overcurrent relay MCCBs

With current and curve characteristic selection/adjustment dials

TemBreak 2 Molded Case Circuit Breakers are available with electronic overcurrent relay in 2 frame sizes: 250 A and 400/630 A. Current ratings range from 50 Amperes to 630 Amperes. The overcurrent relays are easy to adjust – simply select the current rating via a dial adjustment and, depending on the application, a dial selectable pre-set characteristic curve can also be selected.

STANDARD Overcurrent relay

4

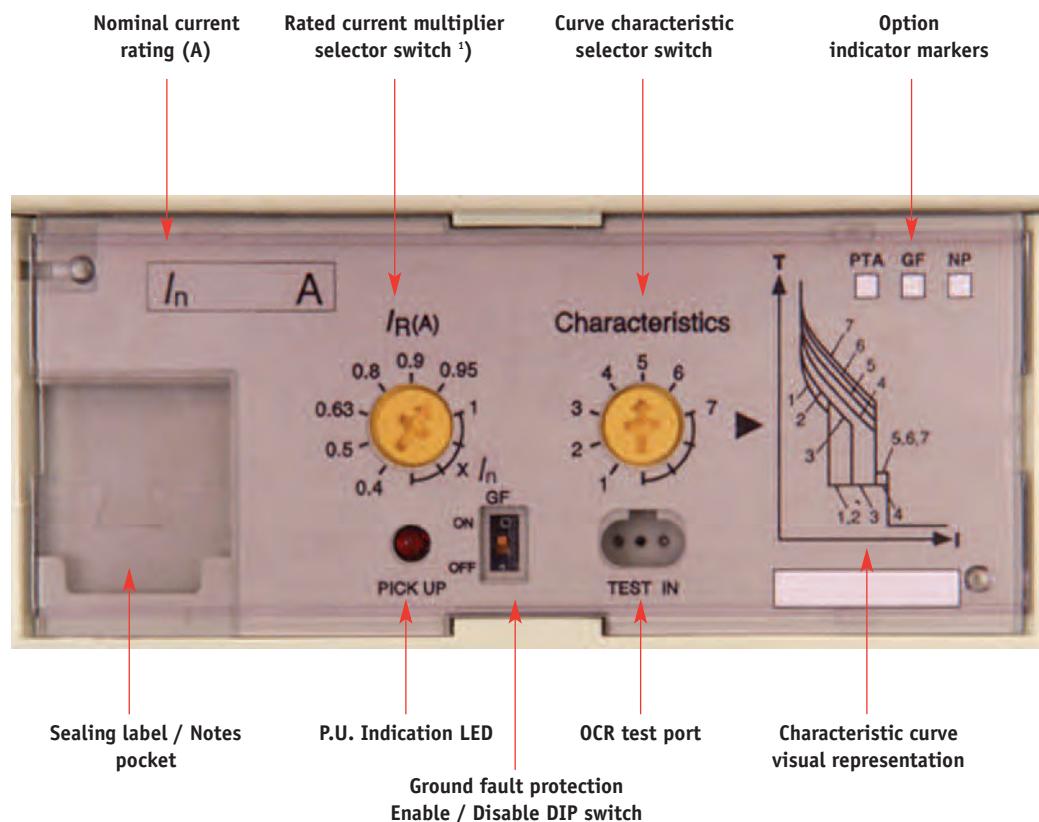
Features:

- Electronic overcurrent protection, for general and selectivity applications
- 250 A and 400 A: seven (7) characteristic curves, 630 A: six (6) characteristic curves
- Long time, Short time & Instantaneous trip times vary depending on the characteristic curve selected
- Base current I_r is adjustable from 40% – 100% of the nominal rated current I_n .

OCR Options:

- Ground fault trip on 400/630 A models
- Neutral pole protection for 4 pole MCCBs
- Pre-trip alarm
- Special curve characteristics

Right:
Typical OCR
adjustment and
setting detail shown
on electronic MCCBs.
A 400 A MCCB facia
is shown in this
example.



Notes: Additional ELECTRONIC MCCB setting information can be found in Section 6.

¹⁾ Selectable in increments of 0.4, 0.5, 0.63, 0.8, 0.9, 0.95, 1.0 only.

TemBreak 2 Electronic type MCCB

S250PE



4

70 kA

Current rating: 50 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 70 | 70 |

Overcurrent relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40% – 100% of the nominal rated current $I_{N.R.}$
- STD setting 2.5 – 10 ($\times I_R$) ²⁾
- INST setting 13 – 14 ($\times I_R$) ²⁾

OCR Options:

- Neutral pole protection for 4 pole MCCBs only (NP)
- Pre-trip alarm (PTA)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

| Ampere Rating NRC | Adj. Ir ²⁾ Min - Max. | Cat. No. ¹⁾ |
|------------------------------------|---|------------------------|
| 125 | 50 - 125 | S250 PE_125 |
| 250 | 100 - 250 | S250 PE_250 |
| 3 P OCR options: PTA ³⁾ | <input checked="" type="checkbox"/> S250 PE 3 AP # | |
| 4 P OCR options: PTA ³⁾ | <input checked="" type="checkbox"/> S250 PE 4 AP # | |
| NP ³⁾ | <input checked="" type="checkbox"/> S250 PE 4 AN # | |
| PTA + NP ³⁾ | <input checked="" type="checkbox"/> S250 PE 4 APN # | |

Notes: ¹⁾ Add poles to complete MCCB catalogue number. E.g. 3 pole 250 A: S250PE 3 250. "#" add OCR trip unit rating where shown.

²⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 5.
NRC = Nominal rated current, I_R = Current adjustment dial setting,
STD = Short Time Delay, INST = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. number. E.g. S250PE 4 APN 250 is an S250PE 4 Pole 250 A MCCB c/w Pre-trip Alarm & Neutral Protection.

Available on indent only.

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

TemBreak 2 Thermal magnetic type MCCB

H250NJ



125 kA

Current rating: 160 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 125 | 85 |
| DC use | 250V | 40 | 40 |

4

Trip unit:

Adjustable thermal (0.63 Ir to 100 % Ir) and adjustable magnetic (6 Im to 10 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

H250NJ 3 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------------------|
| NRC | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | H250 NJ 3 250 |

H250NJ 4 Pole

Ampere

| Rating | Adj. Ir ¹⁾ | Adj. Im ¹⁾ | Cat. No. |
|--------|-----------------------|-----------------------|----------------------|
| NRC | Min - Max. | Min - Max. | |
| 250 | 160 - 250 | 1500 - 2500 | H250 NJ 4 250 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: 1) Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: TL250NJ, XH250PJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Electronic type MCCB H250NE



125 kA

Current rating: 50 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 125 | 85 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40% – 100% of the nominal rated current I_{Nc} .
- STD setting $2.5 - 10 (x I_R)^2$
- INST setting $13 - 14 (x I_R)^2$

OCR Options:

- Neutral Pole protection for 4 pole MCCBs only (NP)
- Pre-Trip Alarm (PTA)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|------------------|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | | 105 (on chassis) |

| Ampere Rating | Adj. I_R^2) | | Cat. No. ¹⁾ |
|------------------------------------|------------------------|---|------------------------|
| 125 | 50 - 125 | | H250 NE_125 |
| 250 | 100 - 250 | | H250 NE_250 |
| 3 P OCR options: PTA ³⁾ | | i | H250 NE 3 AP # |
| 4 P OCR options: PTA ³⁾ | | i | H250 NE 4 AP # |
| | NP ³⁾ | i | H250 NE 4 AN # |
| | PTA + NP ³⁾ | i | H250 NE 4 APN # |

Notes: ¹⁾ Add poles to complete MCCB catalogue number. E.g. 3 pole 250 A: H250NE 3 250. "#" add OCR trip unit rating where shown.

²⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$,

curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 5.

NRC = Nominal rated current, I_R = Current adjustment dial setting,

STD = Short Time Delay, INST = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. number. E.g. H250NE 4 APN 250 is an H250NE 4 Pole 250 A MCCB c/w Pre-trip Alarm and Neutral Protection.

Available on indent only.

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

IEC 60947-2

AS/NZS 60947-2

EN 60947-2

JIS C 8201-2-1 Ann. 1

CE Mark

Approvals

ASTA (UK,AUS)

Marine

Lloyd's / UK

ABS / USA

GL / Germany

BV / France

NK / Japan

DNV / Norway

TemBreak 2 Thermal magnetic type MCCB L250NJ



200 kA

Current rating: 160 – 250 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 200 | 150 |
| DC use | 250V | 40 | 40 |

4

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 10 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|------------------|-----|
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 103 | 103 |
| Toggle cut-out | 48 | |
| | 105 (on chassis) | |

L250NJ 3 Pole

| Ampere | Rating | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|--------|--------|-------------------------------------|-------------------------------------|----------------------|
| | 250 | 160 - 250 | 1500 - 2500 | L250 NJ 3 250 |

L250NJ 4 Pole

| Ampere | Rating | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|--------|--------|-------------------------------------|-------------------------------------|----------------------|
| | 250 | 160 - 250 | 1500 - 2500 | L250 NJ 4 250 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

IEC 60947-2

AS/NZS 60947-2

EN 60947-2

JIS C 8201-2-1 Ann. 1

CE Mark

Approvals

ASTA (UK,AUS)

Marine

Lloyd's / UK

ABS / USA

GL / Germany

BV / France

NK / Japan

DNV / Norway

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current
Magnetic only MCCBs available on request.

Replaces: TL225B

Note: Check exact ratings or dimensions to suit your application requirement

CIRCUIT BREAKER ENERGY METERING AND COMMUNICATIONS

NHP

- High accuracy current transformer CT/V Blocks to 630 A
- Flexible metering options • Economical and easy to install

POWER DISTRIBUTION

NEMO 72

- Class 1 energy meter
- Volts, amps
- Energy and power analysis
- Communications
- Monitoring

NEMO 96 HD

- Class 0.5S energy meter
- Volts, amps
- Energy and power analysis
- Communications
- Monitoring and control

Improve your Greenstar rating

PD-TERASAKI-MCCB



green building council australia
MEMBER

 **TERASAKI**
Innovators in Protection Technology

Accessories to suit 160 – 250 AF TemBreak 2

Internal accessories



T2SH
Shunt trip

SH


T2UV
Undervoltage trip

UV


T2AX
T2AL
Auxiliary & Alarm switches

AX
AL

Shunt trips Internal accessories are common for MCCBs 125 A to 630 A. All have screw terminals except those indicated below with wire leads as standard

For 3 and 4 pole MCCBs

Cat. No.

| | |
|----------------|---------------------------|
| 110 V AC | T2SH00A10TA ¹⁾ |
| 230 – 240 V AC | T2SH00A20TA ¹⁾ |
| 400 – 415 V AC | T2SH00A40TA ¹⁾ |
| 12 V DC | T2SH00D01TA ¹⁾ |
| 24 V DC | T2SH00D02TA ¹⁾ |
| 48 V DC | T2SH00D04TA ¹⁾ |
| 110 V DC | T2SH00D10TA ¹⁾ |
| 230 V DC | T2SH00D20TA ¹⁾ |

For 1 pole S160NF MCCBs

| | |
|----------------|-------------|
| 110 V AC | T2SH16A10WA |
| 230 – 240 V AC | T2SH16A20WA |
| 24 V DC | T2SH16D02WA |
| 110 V DC | T2SH16D10WA |
| 230 V DC | T2SH16D20WA |

Instantaneous operation ²⁾

| | |
|----------------|--------------|
| 110 V AC | T2UV00A10NTA |
| 200 – 240 V AC | T2UV00A20NTA |
| 380 – 450 V AC | T2UV00A40NTA |
| 24 V DC | T2UV00D02NTA |
| 110 V DC | T2UV00D10NTA |
| 230 V DC | T2UV00D20NTA |

Time delayed operation (500 ms) - refer NHP

General type (2 A @ 240 V Inductive)

| | |
|---|-------------|
| 1 C/O Auxiliary | T2AX00M3STA |
| 1 C/O Auxiliary – with 0.7 m wire leads | T2AX00M3SWA |
| 1 C/O Alarm | T2AL00M3STA |
| 1 C/O Alarm – with 0.7 m wire leads | T2AL00M3SWA |

Heavy-duty type (4 A @ 240 V Inductive)

| | |
|-----------------|-------------|
| 1 N/O Auxiliary | T2AX00B1STA |
| 1 N/C Auxiliary | T2AX00B2STA |
| 1 N/O Alarm | T2AL00B1STA |
| 1 N/C Alarm | T2AL00B2STA |

Micro switching type (very low voltages)

| | |
|-----------------|-------------|
| 1 C/O Auxiliary | T2AX00M3RTA |
| 1 C/O Alarm | T2AL00M3RTA |

Notes: ¹⁾ Wire lead types available.
²⁾ Time delay types available. Refer NHP.

Accessories to suit 160 – 250 AF TemBreak 2

4



T2MC
Motor operator
fitted to MCCB

External accessories

| | | |
|--|---|-------------|
| Motor operators | Suits MCCB types | |
| | S/H/L160, E/S/H/L250 | Cat. No. |
| | 110 V AC | T2MC25A10NB |
| | 230 – 240 V AC | T2MC25A24NB |
| | 24 V DC | T2MC25D02NB |
| | 48 V DC | T2MC25D04NB |
| Motor Accessories | 110 V DC | T2MC25D10NB |
| | Motor connection cable loom for electrical interlocking | |
| | T2MC 25 cable 500 mm, 125/250 AF only | T2MM25L05A |
| | T2MC 25 cable 1500 mm, 125/250 AF only | T2MM25L15A |
| | 600 mm loom for 125/250 AF - 400/630 AF | T2MM40S06A |
| | 2100 mm loom for 125/250 AF - 400/630 AF | T2MM40S21A |
| Motor options: Contact NHP for key locking and auto-reset. | | |
| MCCB identification labels | | T25CAPLAB |

Accessories to suit 160 – 250 AF TemBreak 2



Operating handles Direct mounting, fixed depth, IP 54

| | | |
|-------------------------------------|---|---------------------------|
| Door interlocking | Suits MCCB types E400, S400, H400, L400, E630, S630 | Cat. No. |
| Direct mounting, fixed depth, IP 54 | Grey/black | T2HB40UR5BN ¹⁾ |
| | Red/yellow | T2HB40UR5RN ¹⁾ |
| | MCCB identification labels | T40CAPLAB |

HB



T2HS variable depth handle IP 55

| | | |
|---|--|--------------|
| Door interlocking variable depth handle | S/H/L160, E/S/H/L250 | |
| | Grey IP 55 handle + 357 mm shaft | T2HS25R5GM |
| | Red/ yellow IP 55 handle + 357 mm shaft | T2HS25R5RM |
| | Large escutcheon plate option: 100 mm ² | T2HSESC100 |
| | 90 mm T pin shaft for T2HS - no flexi coupling | T2HS250SHAFT |
| | Grey/ black IP 65 handle + 420 mm shaft | T2HP25R6BN |
| | Red/ yellow IP 65 handle + 420 mm shaft | T2HP25R6RN |
| | Grey IP 65 metal handle + 357 mm shaft | T2HP25R6ME |
| | Padlock attachment for T2HP/HS mechanism | T2HP25PALK |
| | T2HS handle shaft cam for trapped key interlocks | 1499 7702 |
| | MCCB identification labels | T25CAPLAB |

HS



T2HP Variable depth handle IP 65

HP



Mechanism Padlock attachment

Notes: ¹⁾ Refer to accessories in section 7 for handle assembly, especially escutcheon label assembly.

Accessories to suit 160 – 250 AF TemBreak 2

4

External accessories

| | |
|-----------------------|---|
| Mechanical Interlocks | Link Interlock – suitable for manual or motorised operation. |
| Link type | Will accept handles. Suitable for front or rear connect type MCCBs S/H/L160, E/S/H/ L250 |

ML

| With trip interlock function | Cat. No. |
|---------------------------------------|-----------|
| Common 3 or 4 pole right side section | T2ML25RA |
| 3 pole left side section | T2ML25L3A |
| 4 pole left side section | T2ML25L4A |
| MCCB identification labels | T25CAPLAB |

Left section 3 or 4 pole
(T2ML25L4A shown)



Common right section
(T2ML25RA shown)

Link interlocked 250 A MCCBs

Notes: Refer to Section 5 if MCCB labels are required or refer to NHP.

Accessories to suit 160 – 250 AF TemBreak 2

External accessories

| | | |
|----------------------|---|------------------------|
| Slide type interlock | Manual operation, padlockable. Does not allow motors, handles or other front mounted accessories to be fitted. Suitable for front or rear connection | |
| MS | S160, E250, S250 | Cat. No. |
| | 3 pole | T2MS253SFA |
| | 4 pole | T2MS254SFA |
| | H160, L160, H250, L250 | |
| | 3 pole | T2MS253LFA |
| | 4 pole | T2MS254LFA |
| Cable interlock | Allows an MCCB to be mounted horizontally, vertically or diagonally. Accepts Motors and handles. Suitable for 3 or 4 pole MCCBs S/H/L160, E/S/H/L250 | |
| MW | Interlock kit less wire | T2MW25CA ¹⁾ |
| | Wire for above interlocks | |
| | Wire 1.0 M | T2MW00SA ²⁾ |
| | Wire 1.5 M | T2MW00LA ²⁾ |
| | MCCB identification labels | T25CAPLAB |

4

T2MW

Cable interlock



T2MS

Slide type



Notes: ¹⁾ Order one interlock kit for each MCCB.
²⁾ Order one wire length for each pair of interlocked MCCBs.

Accessories to suit 160 – 250 AF TemBreak 2

External accessories



T2CS Flush IP 20 Cover

| | | | |
|---|----|---|--------------------------|
| Terminal Covers Flush IP 20 FC | CS | S/H/L160, E/S/H/L250 1 pole cover set of 2 3 pole cover set of 2 4 pole cover set of 2 | Cat. No. |
| | | | T2CS251SG |
| | | | T2CS253SG |
| | | | T2CS254SG |

4



T2CF Short terminal covers

| | | | |
|-----------------------------------|----|---|---|
| Short terminal covers FC | CF | \$160, E250, S250 – except S250-PE 3 pole cover set of 2, 30 mm long 4 pole cover set of 2, 30 mm long | T2CF253SSNBA T2CF254SSNBA |
| Standard terminal covers FC | | \$160, E250, S250 – except S250-PE 1 pole cover set of 2, 55 mm long 3 pole cover set of 2, 55 mm long 4 pole cover set of 2 | T2CF161SLNG T2CF253SLNG T2CF254SLNG |
| | | H/L160, S250-PE, H/L250 3 pole cover set of 2, 55 mm long 4 pole cover set of 2, 55 mm long | T2CF253LLNG T2CF254LLNG |



T2CF Standard term covers



Single pole terminal cover

Accessories to suit 160 – 250 AF TemBreak 2

4

External accessories



T2RC Rear connect term cover



T2CF locking clip



Inter pole barriers T2BA



Non captive lock attachment T2HL25B



T2HL25CAP Captive lock attachment



ProSafe key Interlock and cam

| | | |
|---|---|--------------------------|
| Terminal covers | Rear Connect MCCBs S/H/L160, E/S/H/L250 | Cat. No. |
| | 3 pole cover set of 2 | T2CR253SG |
| | 4 pole cover set of 2 | T2CR254SG |
| Terminal cover locking clip | A clip that provides additional terminal cover position locking, and also allows a lead seal to be fitted All sizes 125, 250, 400, 630 AF | T2CF00L |
| Interpole Barriers ¹⁾ ²⁾ | Suits MCCB types S160, E250, S250 – except S250-PE Interpole barrier (Qty 2) H/L160, S250-PE, H/L250 Interpole barrier (Qty 2) | T2BA253SHA T2BA253LHA |
| Toggle locks | Non Captive: Fits up to 3 padlocks or a multiple lock device All 250 AF MCCBs (1 - 4 pole) | |
| | Lock with 5 mm x 16.5 mm slot | T2HL25B |
| Non captive lock attachment ³⁾ ⁴⁾ | Captive: Allows a single padlock or multiple padlock device Suits 3/4 pole 250 AF MCCBs Lock with one 8 mm holes For 1 pole MCCBs, 1 x 8 mm hole | |
| | Allen-Bradley ProSafe locks can be used with T2HS variable depth handles. Refer NHP for direct mounting handle options | |
| | E/S/H/L 160 - 250 | |
| | Shot bolt lock HS handles AA code | TKNHPAA |
| | Standard Key AA | TKNHPKEYAA |
| | Cam for T2HS handle shafts | 14997702 |

- Notes:**
- ¹⁾ Line side interpole barriers or terminal covers must be installed with MCCBs.
 - ²⁾ Interpole Barriers are supplied with MCCBs as standard; 2 barriers with 3 pole MCCBs, and 3 barriers with 4 pole MCCBs.
 - ³⁾ Key codes AA to ZA are available. Specify by changing the key code above.
 - ⁴⁾ Refer NHP for other lock options.

Accessories to suit 160 – 250 AF TemBreak 2

4

External accessories



TXJD Attached busbar
(flanged)

FB

Attached Busbar

S/H/L160, E/S/H/L250

Cat. No.

T2FB251BA

2 straight terminal bars

T2FB253BA

3 Pole, set of 6, flanged bar set

TXJD0050B

3 Pole, set of 6, flanged bar set ¹⁾

T2FB254BA

4 Pole, set of 8, straight bar set

Tunnel clamp terminals

H/L125, S/H/L160, E/S/H/L250

T2FW25L3A

3 Pole, set of 6 clamps (35-120 mm²)

FW

4 Pole, set of 8 clamps (35-120 mm²)

T2FW25L4A

Rear connect terminal studs

Suits MCCB types

S160, E250, S250 ²⁾

RP

3 pole kit, set of 6 studs

T2RP253SA

4 pole kit, set of 8 studs

T2RP254SA

H160, L160, H250, L250

3 pole kit, set of 6 studs

T2RP253LA

4 pole kit, set of 8 studs

T2RP254LA

T2FW
Tunnel
terminals



T2CS Flush cover shown



T2RP
T2RP rear connect studs

Notes: ¹⁾ TemBreak 1 version will fit TemBreak 2.

²⁾ S160NF single pole MCCBs will accept T2RP25 rear connect studs.

Accessories to suit 160 – 250 AF TemBreak 2

External accessories

| | | |
|-------------------------------|--|---|
| TemPlug | TemPlug MCCB line-side plug-in attachment S160, E/S/250 | Cat. No. |
| | 3 pole TemPlug, vertical | T2UPX3250 |
| | TemPlug horizontal LHS | HBC3250L250 |
| | TemPlug horizontal RHS | HBC3250R250 |
| | S250PE | |
| | 3 pole TemPlug | T2UPXE3250 |
| | Templugs suit 6.3 mm busbar (10 mm bar option) 60 mm busbar system mounting adaptor | |
| WO | Suits S160/S250 MCCBs to 255 A Not suitable for S250PE or H/L MCCBs ²⁾ | 32592 |
| SF | 250 A thermal magnetic 250 A electronic | T2SF25NTA T2SF25NEA |
| Electronic OCR checker | 230 V AC | TNS2 |
| PM | Plug-in MCCBs (refer rear of section 4) | |
| DR | Draw-out MCCBs (refer NHP) | |
| Metering Block | | |
| S160, E250, S250 (not S250PE) | | |
| SW | 150 A CT/V block 3P (5A sec) ¹⁾ 250 A CT/V block 3P (5A sec) ¹⁾ Optional loadside Terminal cover | T2SW3P2501505K T2SW3P2502505K T2SW3P250TC |



T2UP
T2UP Templug



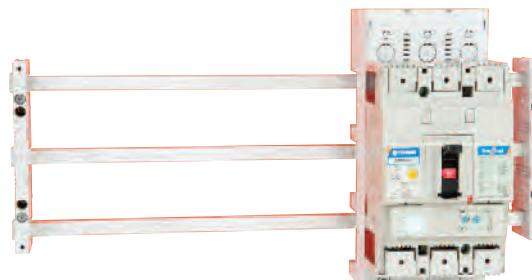
T2SF
OCR sealing kit. Suitable
for a compression sealing
device.



T2PM Plug-in MCCB



T2SW Metering blocks

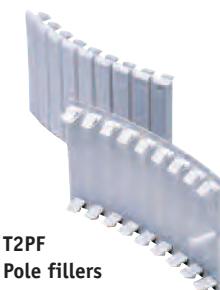


60 mm busbar mounting
block type 32592
(20 A - 250 A)

Notes: ¹⁾ For additional data see section 11.
²⁾ Refer NHP for S250PE or H/L types

Accessories to suit 160 – 250 AF TemBreak 2

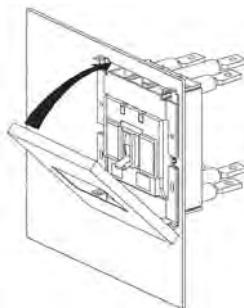
4



T2PF
Pole fillers



T2DF/DM
Door flange



FP

Wire lead
terminal
block

TF



T2TF
Wire lead
terminal block

External accessories

| | | |
|---------------------------|---|-----------|
| Pole fillers | S/H/L160, E/S/H/L250 | Cat. No. |
| PF | Pole filler 1 strip for a 46 mm high cut-out ¹⁾ | DTPF |
| | Pole filler 35 mm wide for a 104 mm cut-out | XAB3 |
| Door flange | Provides an attractive panel cut-out surround for MCCBs or motors | |
| DF | Suits MCCB sizes | |
| | S/H/L160, E/S/H/L250 | |
| | MCCB IP 30 gland and gasket | T2DF25A |
| | MOTOR IP 30 gland and gasket | T2DM25A |
| Door mounting flush plate | A kit that allows an MCCB to be mounted directly onto a door | |
| FP | S160, E250, S250 – except for S250PE | |
| | 3 pole kit | T2FP25S3B |
| | 4 pole kit | T2FP25S4B |
| | H/L160, S250-PE, H/L250 | |
| | 3 pole kit | T2FP25L3A |
| | 4 pole kit | T2FP25L4A |
| | 250 AF left side | T2TF25LGA |
| | 250 AF right side | T2TF25RGA |

Notes: ¹⁾ Order 2 strips per MCCB.

TemBreak 2 Thermal magnetic type MCCB

E400NJ

4

25 kA



Current rating: 252 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 25 | 25 |
| DC use | 250V | 25 | 19 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 |
|-----------------|-----|
| H | 260 |
| W | 140 |
| D (less toggle) | 103 |

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|----------------------|-------------------------------------|-------------------------------------|----------------------|
| 400 | 250 - 400 | 2400 - 4800 | E400 NJ 3 400 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: XS400CJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB S400CJ



36 kA

Current rating: 160 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 36 | 36 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 |
|-----------------|-----|
| H | 260 |
| W | 140 |
| D (less toggle) | 103 |

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|----------------------|-------------------------------------|-------------------------------------|---------------|
| 250 | 160 - 250 | 1500 - 3000 | S400 CJ 3 250 |
| 400 | 250 - 400 | 2400 - 4800 | S400 CJ 3 400 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE MARK | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
Adj. Im: Adjustable magnetic setting
NRC: Nominal rated current
Magnetic only MCCBs available on request.

Replaces: XS400CJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S400NJ



50 kA

Current rating: 160 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 50 | 50 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

S400NJ 3 Pole

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|-------------------|-------------------------------------|-------------------------------------|---------------|
| 250 | 160 - 250 | 1500 - 3000 | S400 NJ 3 250 |
| 400 | 250 - 400 | 2400 - 4800 | S400 NJ 3 400 |

S400NJ 4 Pole

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|-------------------|-------------------------------------|-------------------------------------|---------------|
| 250 | 160 - 250 | 1500 - 3000 | S400 NJ 4 250 |
| 400 | 250 - 400 | 2400 - 4800 | S400 NJ 4 400 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: XS400NJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Electronic type MCCB

S400NE



50 kA

Current rating: 100 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 50 | 50 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40% – 100% of the nominal rated current I_{N} .
- STD setting 2.5 – 10 ($\times I_R$) ¹⁾
- INST setting 13 – 14 ($\times I_R$) ¹⁾

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

S400NE 3 Pole

| Ampere Rating NRC | Adj. Ir Min - Max. | Cat. No. ²⁾ |
|-------------------|--------------------|------------------------|
| 250 | 100 - 250 | S400 NE 3 250 |
| 400 | 160 - 400 | S400 NE 3 400 |

S400NE 4 Pole

| Ampere Rating NRC | Adj. Ir Min - Max. | Cat. No. ²⁾ |
|-------------------|--------------------|------------------------|
| 250 | 100 - 250 | S400 NE 4 250 |
| 400 | 160 - 400 | S400 NE 4 400 |

Notes: ¹⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.

NRC = Nominal rated current, I_R = Current adjustment dial setting,

STD = Short Time Delay, INST = instantaneous

²⁾ For GF, PTA and NPP refer S400GE MCCB.

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Replaces: XS400SE

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Thermal magnetic type MCCB

S400GJ



70 kA

Current rating: 160 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 70 | 50 |
| DC use | 250V | 40 | 40 |

Trip unit:

Adjustable thermal (0.63 Ir to 100% Ir) and adjustable magnetic (6 Im to 12 Im)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

S400GJ 3 Pole

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|-------------------|-------------------------------------|-------------------------------------|---------------|
| 250 | 160 - 250 | 1500 - 3000 | S400 GJ 3 250 |
| 400 | 250 - 400 | 2400 - 4800 | S400 GJ 3 400 |

S400GJ 4 Pole

| Ampere Rating NRC | Adj. Ir ¹⁾ Min - Max. | Adj. Im ¹⁾ Min - Max. | Cat. No. |
|-------------------|-------------------------------------|-------------------------------------|---------------|
| 250 | 160 - 250 | 1500 - 3000 | S400 GJ 4 250 |
| 400 | 250 - 400 | 2400 - 4800 | S400 GJ 4 400 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Notes: ¹⁾ Adj. Ir: Adjustable thermal setting
 Adj. Im: Adjustable magnetic setting
 NRC: Nominal rated current
 Magnetic only MCCBs available on request.

Replaces: XH400PJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Electronic type MCCB S400GE

70 kA



4

Current rating: 100 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 70 | 50 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40 % – 100 % of the nominal rated current I_{N} .
- STD setting 2.5 – 10 ($\times I_R$) ²)
- INST setting 13 – 14 ($\times I_R$) ²)

OCR Options:

- Ground Fault Trip (GF) ⁴)
- Neutral Pole protection for 4 pole MCCBs ONLY (NP)
- Pre-Trip Alarm (PTA)

| Ampere Rating NRC | Adj. I_R ²) Min - Max. | Cat. No. ¹) |
|-------------------------------------|--|--|
| 250 | 100 - 250 | S400 GE_250 |
| 400 | 160 - 400 | S400 GE_400 |
| 3 P OCR options: PTA ³) | <input checked="" type="checkbox"/> S400 GE 3 AP # | |
| GF ³) | | <input checked="" type="checkbox"/> S400 GE 3 AG 400 ⁴) |
| PTA + GF ³) | | <input checked="" type="checkbox"/> S400 GE 3 APG 400 ⁴) |
| 4 P OCR options: PTA ³) | <input checked="" type="checkbox"/> S400 GE 4 AP # | |
| NP ³) | | <input checked="" type="checkbox"/> S400 GE 4 AN # |
| PTA + NP ³) | | <input checked="" type="checkbox"/> S400 GE 4 APN # |
| GF + NP ³) | | S400 GE 4 AGN 400 |

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

Notes: ¹⁾ Add poles to complete MCCB catalogue number. E.g. 3 pole 250 A: S400GE 3 250. "#" add OCR trip unit rating where shown. GF not available with 250A OCR's.

²⁾ The STD and Instantaneous pickup current (I_{sd} and I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 and 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples and setting data in Section 12.

NRC = Nominal rated current, I_R = Current adjustment dial setting,

STD = Short Time Delay, INST = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. No. E.g: S400GE 4 **AGN** 400 is an S400GE 4 Pole 400 A MCCB c/w, Neutral Protection and Ground Fault protection.

⁴⁾ Where a neutral is present, a 4th Neutral pole CT is required for 3 pole GF MCCBs, and must be ordered separately using Cat. No. T2GB40N04A.

Available on indent only.

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| | |
|-----------------------|---------------|
| IEC 60947-2 | Approvals |
| AS/NZS 60947-2 | ASTA (UK,AUS) |
| EN 60947-2 | Marine |
| JIS C 8201-2-1 Ann. 1 | Lloyd's / UK |
| CE Mark | ABS / USA |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Replaces: XS400SE, XH400PE, TL400NE

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Electronic type MCCB

S400PE

New
MCCB



85 kA

Current rating: 100 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 85 | 85 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40 % – 100 % of the nominal rated current I_{N_r} .
- STD setting 2.5 – 10 ($\times I_R$) ²)
- INST setting 13 – 14 ($\times I_R$) ²)

OCR Options:

- Ground Fault Trip (GF) ⁴)
- Neutral Pole protection for 4 pole MCCBs ONLY (NP)
- Pre-Trip Alarm (PTA)

| Ampere Rating NRC | Adj. Ir ²) Min - Max. | Cat. No. ¹) |
|-------------------------------------|-----------------------------------|--|
| 250 | 100 - 250 | S400 PE_250 |
| 400 | 160 - 400 | S400 PE_400 |
| 3 P OCR options: PTA ³) | | i S400 PE 3 AP # |
| | GF ³) | S400 PE 3 AG 400 ⁴) |
| | PTA + GF ³) | i S400 PE 3 APG 400 ⁴) |
| 4 P OCR options: PTA ³) | | i S400 PE 4 AP # |
| | NP ³) | i S400 PE 4 AN # |
| | PTA + NP ³) | i S400 PE 4 APN # |
| | GF + NP ³) | S400 PE 4 AGN 400 |

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

Notes: ¹) Add poles to complete MCCB catalogue number. E.g. 3 pole 250 A: S400GE 3 250. "#" add OCR trip unit rating where shown. GF not available with 250A OCR's.

²) The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.

NRC = Nominal rated current, I_R = Current adjustment dial setting,

STD = Short Time Delay, INST = instantaneous

³) To order an MCCB with the above options insert the required option after the pole to make up the Cat. No. E.g: S400PE 4 AGN 400 is an S400PE 4 Pole 400 A MCCB c/w, Neutral Protection and Ground Fault protection.

⁴) Where a neutral is present, a 4th Neutral pole CT is required for 3 pole GF MCCBs, and must be ordered separately using Cat. No. T2GB40N04A.

i Available on indent only.

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |

4

Replaces: TL400NE, XH400PE, XH400PJ
Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Electronic type MCCB H400NE



125 kA

Current rating: 100 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 125 | 85 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current Ir is adjustable from 40 % – 100 % of the nominal rated current In.
- STD setting 2.5 – 10 ($\times I_R$) ²)
- INST setting 13 – 14 ($\times I_R$) ²)

OCR Options:

- Ground Fault Trip (GF) ⁴⁾
- Neutral Pole protection for 4 pole MCCBs (NP)
- Pre-Trip Alarm (PTA)

| Ampere Rating NRC | Adj. Ir ²⁾ Min - Max. | Cat. No. ¹⁾ |
|------------------------------------|-------------------------------------|------------------------|
| 250 | 100 - 250 | H400 NE_250 |
| 400 | 160 - 400 | H400 NE_400 |
| 3 P OCR options: PTA ³⁾ | i H400 NE 3 AP # | |
| GF ³⁾ | i H400 NE 3 AG 400 ⁴⁾ | |
| PTA + GF ³⁾ | i H400 NE 3 APG 400 ⁴⁾ | |
| 4 P OCR options: PTA ³⁾ | i H400 NE 4 AP # | |
| NP ³⁾ | i H400 NE 4 AN # | |
| PTA + NP ³⁾ | i H400 NE 4 APN # | |
| GF + NP ³⁾ | i H400 NE 4 AGN 400 | |

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 140 | 140 |

Notes: ¹⁾ Add poles to complete MCCB Cat. NO. E.g: 3 pole 250 A: H400NE 3 250. "#" add OCR trip unit rating where shown. GF not available with 250A OCR's.

²⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.

NRC = Nominal rated current, I_R = Current adjustment dial setting,
STD = Short Time Delay, INST = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. No. E.g: H400NE 4 AGN 400 is an H400NE 4 Pole 400 A MCCB c/w Neutral Protection and Ground Fault protection.

⁴⁾ Where a neutral is present, a 4th Neutral pole CT is required for 3 pole GF MCCBs, and must be ordered separately using Cat. No. T2GB40N04A.

Available on indent only.

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| | |
|-----------------------|---------------|
| IEC 60947-2 | Approvals |
| AS/NZS 60947-2 | ASTA (UK,AUS) |
| EN 60947-2 | Marine |
| JIS C 8201-2-1 Ann. 1 | Lloyd's / UK |
| CE Mark | ABS / USA |

| |
|--------------|
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Replaces: TL400NE, TL630NE

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Electronic type MCCB L400NE



200 kA

Current rating: 100 – 400 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 200 | 150 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40 % – 100 % of the nominal rated current I_N .
- STD setting 2.5 – 10 ($\times I_R$) ²⁾
- INST setting 13 – 14 ($\times I_R$) ²⁾

OCR Options:

- Ground Fault Trip (GF) ^{“)}
- Neutral Pole protection for 4 pole MCCBs (NP)
- Pre-Trip Alarm (PTA)

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 140 | 140 |

Ampere

Rating **Adj. Ir ²⁾**
NRC **Min - Max.**

Cat. No. ¹⁾

| | | |
|------------------------------------|-----------------------------------|-------------|
| 250 | 100 - 250 | L400 NE_250 |
| 400 | 160 - 400 | L400 NE_400 |
| 3 P OCR options: PTA ³⁾ | i L400 NE 3 AP # | |
| GF ³⁾ | i L400 NE 3 AG 400 ^{“)} | |
| PTA + GF ³⁾ | i L400 NE 3 APG 400 ^{“)} | |
| 4 P OCR options: PTA ³⁾ | i L400 NE 4 AP # | |
| NP ³⁾ | i L400 NE 4 AN # | |
| PTA + NP ³⁾ | i L400 NE 4 APN # | |
| GF + NP ³⁾ | i L400 NE 4 AGN 400 | |

Notes: ¹⁾ Add poles to complete MCCB Cat. No. E.g: 3 pole 250 A: L400NE 3 250. “#” add OCR trip unit rating where shown. GF not available with 250A OCR's.

²⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.
NRC = Nominal rated current, I_R = Current adjustment dial setting,
STD = Short Time Delay, **INST** = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. No. E.g: L400NE 4 **AGN** 400 is an L400NE 4 Pole 400 A MCCB c/w Neutral Protection & Ground Fault protection.

⁴⁾ Where a neutral is present, a 4th Neutral pole CT is required for 3 pole GF MCCBs, and must be ordered separately using Cat. No. T2GB40N04A.

Available on indent only.

Replaces: TL400NE, TL630NE

Note: Check exact ratings or dimensions to suit your application requirement

4

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

TemBreak 2 Electronic type MCCB

E630NE

4



36 kA

Current rating: 252 - 630 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 36 | 36 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 6 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40% – 100% of the nominal rated current I_N .
- STD setting 2.5 – 8 ($\times I_R$) ¹⁾
- INST setting 10 – 14 ($\times I_R$) ¹⁾

Dimensions (mm)

| Poles | 3 |
|-----------------|-----|
| H | 260 |
| W | 140 |
| D (less toggle) | 103 |

| Ampere Rating NRC | Adj. Ir Min - Max. | Cat. No. |
|----------------------|-----------------------|---------------|
| 630 | 252 - 630 | E630 NE 3 630 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.

NRC = Nominal rated current, **I_R** = Current adjustment dial setting,
STD = Short Time Delay, **INST** = instantaneous

Replaces: XS630CJ

Note: Check exact ratings or dimensions to suit your application requirement

TemBreak 2 Electronic type MCCB

S630CE



50 kA

Current rating: 252 - 630 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 50 | 50 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 6 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40% – 100% of the nominal rated current I_N .
- STD setting $2.5 - 8 (x I_R)^{-1}$
- INST setting $10 - 14 (x I_R)^{-1}$

Dimensions (mm)

| Poles | 3 | 4 |
|-----------------|-----|-----|
| H | 260 | 260 |
| W | 140 | 185 |
| D (less toggle) | 103 | 103 |

Ampere

| Rating NRC | Adj. Ir Min - Max. | 3P Cat. No. | 4P Cat. No. |
|---------------|-----------------------|----------------------|----------------------|
| 630 | 252 - 630 | S630 CE 3 630 | S630 CE 4 630 |

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|-----------------------|
| IEC 60947-2 |
| AS/NZS 60947-2 |
| EN 60947-2 |
| JIS C 8201-2-1 Ann. 1 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| NK / Japan |
| DNV / Norway |

Notes: ¹⁾ The STD and Instantaneous pickup current (I_{sd} and I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 and 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 - 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 - 1.0 $I_i = 13 \times I_R$. Refer curve examples and setting data in Section 12.

NRC = Nominal rated current, I_R = Current adjustment dial setting,
STD = Short Time Delay, INST = instantaneous

Replaces: XH630SE, XH630PE, XH630PJ

Note: Check exact ratings or dimensions to suit your application requirement

4

TemBreak 2 Electronic type MCCB S630GE

70 kA



4

Current rating: 252 - 630 A

Interrupting capacity:

| | Voltage | Icu | Ics |
|--------|---------|-----|-----|
| AC use | 380/415 | 70 | 50 |

Overcurrent Relay:

- Electronic, for general and selectivity applications
- 7 dial selectable characteristic curves suited for a variety of applications
- Base current I_R is adjustable from 40 % – 100 % of the nominal rated current I_{N_r} .
- STD setting 2.5 – 8 ($\times I_R$) ²⁾
- INST setting 10 – 14 ($\times I_R$) ²⁾

OCR Options:

- Ground Fault Trip (GF) ⁴⁾
- Neutral Pole protection for 4 pole MCCBs (NP)
- Pre-Trip Alarm (PTA)

| Ampere Rating NRC | Adj. Ir ²⁾ Min - Max. | Cat. No. ¹⁾ | Dimensions (mm) |
|------------------------------------|-------------------------------------|-----------------------------------|---|
| 630 | 252 - 630 | S630 GE_630 | |
| 3 P OCR options: PTA ³⁾ | | i S630 GE 3 AP 630 | Poles |
| GF ³⁾ | | S630 GE 3 AG 630 ⁴⁾ | 3 4 |
| PTA + GF ³⁾ | | i S630 GE 3 APG 630 ⁴⁾ | H 260 260 |
| 4 P OCR options: PTA ³⁾ | | i S630 GE 4 AP 630 | W 140 185 |
| NP ³⁾ | | i S630 GE 4 AN 630 | D (less toggle) 103 103 |
| PTA + NP ³⁾ | | i S630 GE 4 APN 630 | |
| GF + NP ³⁾ | | i S630 GE 4 AGN 630 | |

Notes: ¹⁾ Add poles to complete MCCB Cat. No. E.g: 3 pole 630 A: S630GE 3 630.

²⁾ The STD and Instantaneous pickup current (I_{sd} & I_i) settings are not individually adjustable, however by selecting different curve types and different I_R settings the values will vary. Curve 1 & 2 $I_{sd} = 2.5 \times I_R$, curve 3 $I_{sd} = 5 \times I_R$, curve 4 - 7 $I_{sd} = 10 \times I_R$. I_R dial setting 0.4 – 0.9 $I_i = 14 \times I_R$ and I_R dial setting 0.95 – 1.0 $I_i = 13 \times I_R$. Refer curve examples & setting data in Section 12.

NRC = Nominal rated current, **I_R** = Current adjustment dial setting, **STD** = Short Time Delay, **INST** = instantaneous

³⁾ To order an MCCB with the above options insert the required option after the pole to make up the Cat. No. E.g: S630GE 3 AG 630 is an S630GE 3 Pole 630 A MCCB c/w Ground Fault protection.

⁴⁾ Where a neutral is present, a 4th Neutral pole CT is required for 3 pole GF MCCBs, and must be ordered separately using Cat. No. T2GB40N04A.

Available on indent only.

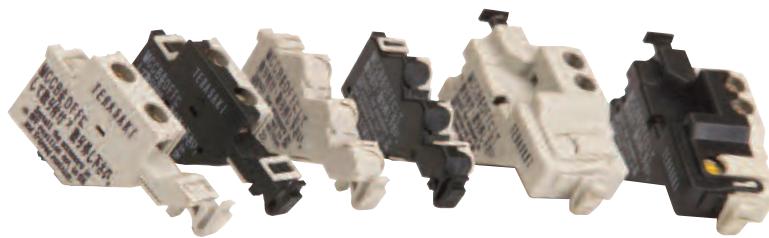
| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|-----------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| AS/NZS 60947-2 | Marine |
| EN 60947-2 | Lloyd's / UK |
| JIS C 8201-2-1 Ann. 1 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | NK / Japan |
| | DNV / Norway |

Replaces: XH630SE, XH630PE, XH630PJ

Note: Check exact ratings or dimensions to suit your application requirement

Accessories to suit 400 / 630 AF TemBreak 2



Internal accessories

| | | |
|----------------------------|---|---------------------------|
| Shunt trips | Internal accessories are common for MCCBs 125 A to 630 A. All have screw terminals except those indicated below with wire leads as standard | |
| SH | For 3 and 4 pole MCCBs | Cat. No. |
| | 110 V AC | T2SH00A10TA ¹⁾ |
| | 230 – 240 V AC | T2SH00A20TA ¹⁾ |
| | 400 – 415 V AC | T2SH00A40TA ¹⁾ |
| | 12 V DC | T25H00D01TA ¹⁾ |
| | 24 V DC | T2SH00D02TA ¹⁾ |
| | 48 V DC | T2SH00D04TA ¹⁾ |
| | 110 V DC | T2SH00D10TA ¹⁾ |
| | 230 V DC | T2SH00D20TA ¹⁾ |
| Undervoltage trips | Instantaneous operation ²⁾ | |
| UV | 110 V AC | T2UV00A10NTA |
| | 200 – 240 V AC | T2UV00A20NTA |
| | 380 – 450 V AC | T2UV00A40NTA |
| | 24 V DC | T2UV00D02NTA |
| | 110 V DC | T2UV00D10NTA |
| | 230 V DC | T2UV00D20NTA |
| | Time delayed operation (500 ms) – refer NHP | |
| Auxiliary & Alarm switches | General type (2 A @ 240 V Inductive) | |
| AX | 1 C/O Auxiliary | T2AX00M3STA |
| | 1 C/O Auxiliary – with 0.7 m wire leads | T2AX00M3SWA |
| | 1 C/O Alarm | T2AL00M3STA |
| | 1 C/O Alarm – with 0.7 m wire leads | T2AL00M3SWA |
| AL | Heavy-duty type (4 A @ 240 V Inductive) | |
| | 1 N/O Auxiliary | T2AX00B1STA |
| | 1 N/C Auxiliary | T2AX00B2STA |
| | 1 N/O Alarm | T2AL00B1STA |
| | 1 N/C Alarm | T2AL00B2STA |
| | Micro switching type (very low voltages) | |
| | 1 C/O Auxiliary | T2AX00M3RTA |
| | 1 C/O Alarm | T2AL00M3RTA |

Notes: ¹⁾ Wire lead types available.

²⁾ Time delay types available. Refer NHP.

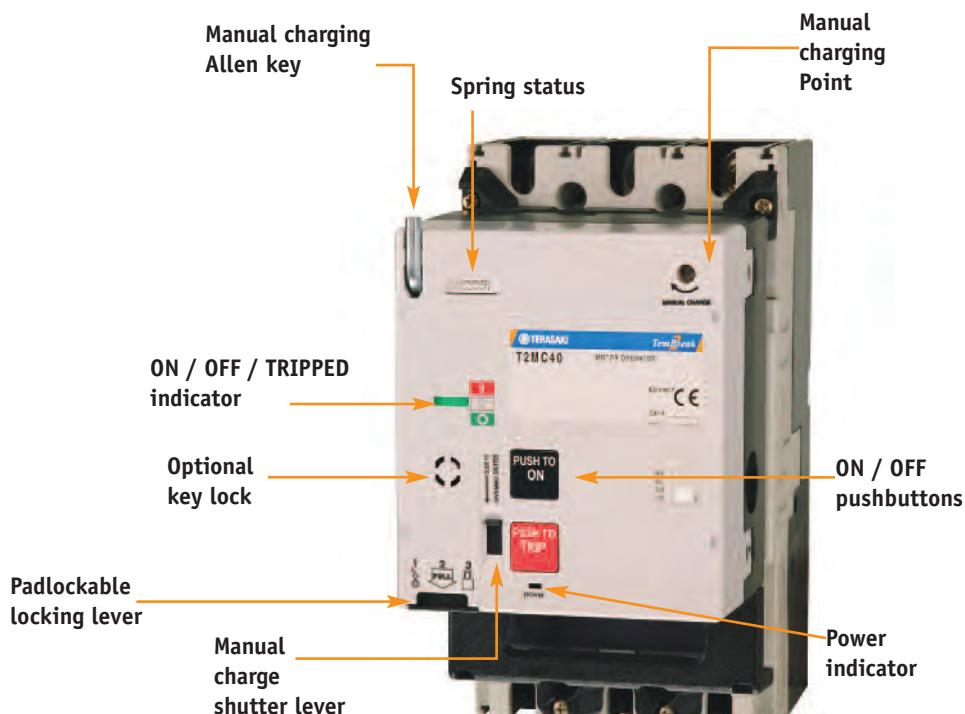
Accessories to suit 400 / 630 AF TemBreak 2

4

MC

External accessories

| Motor operators | Suits MCCB types | Cat. No. |
|--|------------------|----------|
| E400, S400, H400, L400, E630, S630 | | |
| 110 – 240 V AC | T2MC40A10NB | |
| 24 – 48 V DC | T2MC40D02NB | |
| 110 V DC | T2MC40D10NB | |
| Motor connection cable loom for Electrical interlocking | | |
| T2MC40 cable 600 mm 400/630 AF only | T2MM40L06A | |
| T2MC40 cable 2100 mm 400/630 AF only | T2MM40L21A | |
| 600 mm loom for 125/250 AF - 400/630 AF | T2MM40S06A | |
| 2100 mm loom for 125/250 AF - 400/630 AF | T2MM40S21A | |
| Motor options: Contact NHP for key locking and auto-reset. | | |
| MCCB identification labels | T40CAPLAB | |



Motor operator for 400 A and 630 A frame MCCBs

Accessories to suit 400 / 630 AF TemBreak 2

4



T2HB fixed depth "direct mount" handle



T2HP40 Variable depth handle



T2HS handle with optional escutcheon plate, type T2HSESC100



T2HP40PALK Mechanism padlock attachment

External accessories

| | | |
|-------------------------------------|---|---------------------------|
| Door interlocking | Suits MCCB types E400, S400, H400, L400, E630, S630 | Cat. No. |
| Direct mounting, fixed depth, IP 54 | Grey/black | T2HB40UR5BN ¹⁾ |
| | Red/yellow | T2HB40UR5RN ¹⁾ |
| | MCCB identification labels | T40CAPLAB |

HB

| | | |
|--|--|--------------|
| Door interlocking variable depth handles | E400, S400, H400, L400, E630, S630 | |
| | Grey IP 55 handle + 320 mm shaft | T2HS40R5GM |
| | Red/yellow IP 55 handle + 320 mm shaft | T2HS40R5RM |
| | Large escutcheon plate option: 100 mm ² | T2HSESC100 |
| | 390 mm T pin shaft for T2HS - no flexi coupling | T2HS400SHAFT |
| | Grey/black IP 65 handle + 445 mm shaft | T2HP40R6BN |
| | Red/yellow IP 65 handle + 445 mm shaft | T2HP40R6RN |
| | Grey IP 65 METAL handle + 445 mm shaft | T2HP40R6ME |
| | T2HS handle shaft cam for trapped key interlocks | 1499 7702 |
| | MCCB identification labels | T40CAPLAB |

HS

HP

Notes: ¹⁾ Refer to section 7 accessories installation data for details on escutcheon plates for direct mount handles.
Handles supplied with key locks available on request for T2HP handles.

Accessories to suit 400 / 630 AF TemBreak 2

4

External accessories

Mechanical

Interlocks

Link type

Link Interlock – suitable for motorised operation.

Suitable for front or rear connect MCCBs.¹⁾

E400, S400, H400, L400, E630, S630

Cat. No.

T2ML40RB

T2ML40L3B

T2ML40L4B

T40CAPLAB

ML

MH

Common 3 or 4 pole right side section

3 pole left side section

4 pole left side section

MCCB identification labels

Link Interlock - suitable for manual handle operation only.

Suitable for front or rear connect MCCB²⁾

E400, S400, H400, L400, E630, S630

T2MLH40RB

T2MLH40L3B

T2MLH40L4B

T40CAPLAB

Left section 3 or 4 pole
(T2ML40L3B shown)

Common right side
section T2ML40RB



T2ML Interlock for motorised operation

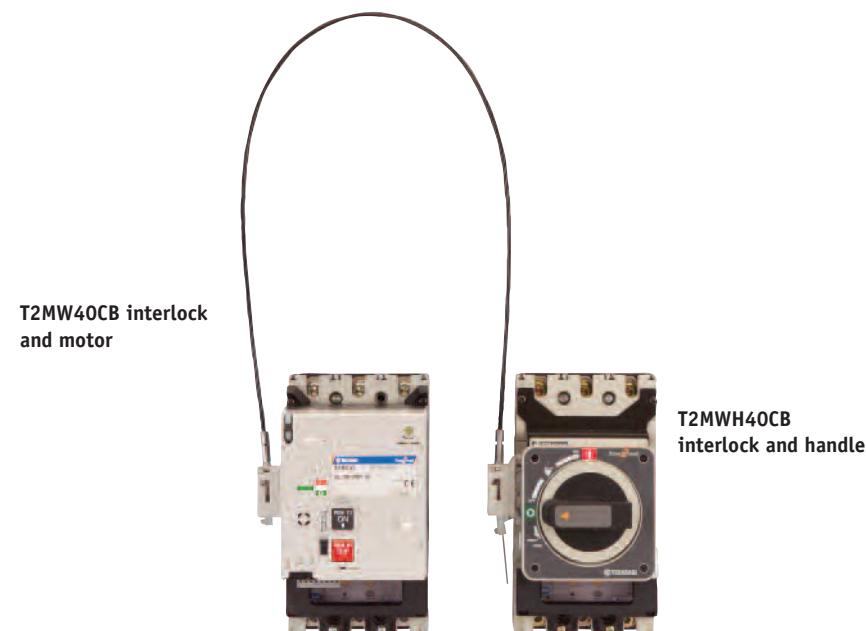
Notes: ¹⁾ A motor must be fitted in addition to the interlock.

²⁾ A handle must be fitted in addition to the interlock.

Accessories to suit 400 / 630 AF TemBreak 2

External accessories

| | | |
|----------------------|--|------------------------|
| Slide type interlock | Manual operation, padlockable. Does not allow motors, handles or other front mounted accessories to be fitted. Suitable for front or rear connection E400, S400, E630, S630 | Cat. No. |
| | 3 pole | T2MS403SFA |
| | 4 pole | T2MS404SFA |
| | H400, L400 | |
| | 3 pole | T2MS403LFA |
| | 4 pole | T2MS404LFA |
| Cable interlock | Allows an MCCB to be mounted horizontally, vertically or diagonally. Motorised or manual handle operated types. Suitable for 3 or 4 pole MCCBs E400, S400, H400, L400, E630, S630 | |
| MW | Interlock less wire for motorised operation ¹⁾ ⁴⁾ | T2MW40CB |
| | Interlock less wire for manual handle operation ³⁾ ⁴⁾ | T2MWH40CB |
| | Wire for above interlocks | |
| | Wire 1.0 M | T2MW00SA ²⁾ |
| | Wire 1.5 M | T2MW00LA ²⁾ |
| | MCCB identification labels | T40CAPLAB |



Wire interlocked MCCBs,
showing either a motor or handle installed

- Notes:**
- ¹⁾ A motor must be fitted in addition to the interlock.
 - ²⁾ Use one wire length for each MCCB pair.
 - ³⁾ A handle must be fitted in addition to the interlock.
 - ⁴⁾ Order 1 cable interlock for each MCCB.

Accessories to suit 400 / 630 AF TemBreak 2

4

External accessories

| Standard terminal covers FC | E400, S400, E630, S630 ⁴⁾ | Cat. No. |
|-----------------------------|---|---------------------------|
| | 3 pole cover set of 2, 180 mm wide (wide cover) | T2CF403SWNG ²⁾ |
| | 3P cover set of 2, 140 mm wide (narrow cover) | T2CF403SLNG ²⁾ |
| | 4 pole cover set of 2, 185 mm wide (narrow cover) | T2CF404SLNG |
| | 4 pole cover set of 2, 238 mm wide (wide cover) H400, L400 ¹⁾ ⁴⁾ | T2CF404SWNG |
| | 3 pole cover set of 2, 180 mm wide (wide cover) | T2CF403LWNG ³⁾ |
| | 4 pole cover set of 2, 238 mm wide (wide cover) | T2CF404LWNG ³⁾ |



T2CF Wide cover
shown at top of
MCCB



T2CF Narrow cover



T2CF403SWNG Wide cover suitable for
flanged bar connection.



T2CF403SLNG Narrow cover, which is the
same width as the MCCB.

TSCF403SLNG

Narrow covers include

as standard:

- Locking clip for seal device
- IP 20 inserts with knock outs

Notes: ¹⁾ T2CF403SWNG covers are 110 mm long
T2CF404SWNG covers are 110 mm long

T2CF403SLNG covers are 80 mm long
T2CF404SLNG covers are 85 mm long

²⁾ For 400/630 A MCCBs, 'Flush' and 'rear' covers are the same item.

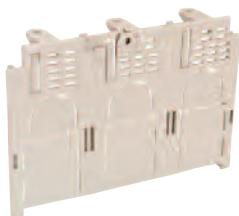
³⁾ Covers for H400 and L400 MCCBs are 134 mm deep.

⁴⁾ Locking clip T2FOOL tool supplied standard.

Accessories to suit 400 / 630 AF TemBreak 2

4

External accessories



T2CR / T2CS
Flush cover with 'knock-outs' for optional rear connect use.

| | | |
|-------------------------------|---|-----------|
| Terminal covers ³⁾ | Rear Connect/ or flush front connect cover. E400, S400, H400, L400, E630, S630 | Cat. No. |
| CS/CR | 3 pole cover set of 2 | T2CR403SG |
| | 4 pole cover set of 2 | T2CR404SG |

| | | |
|-------------------------------------|--|------------|
| Terminal cover locking clip | A clip that provides additional terminal cover position locking, and also allows a lead seal to be fitted All sizes 125, 250, 400, 630 AF | T2CF00L |
| Interpole Barriers ^{1) 2)} | E400, S400, E630, S630 | T2BA403SHA |
| BA | Interpole barrier (Qty 2) H400, L400 | T2BA403LHA |



T2CF00L
Locking clip



T2BA
Interpole barriers

- Notes:**
- ¹⁾ Line side interpole barriers or terminal covers must be installed with MCCBs.
 - ²⁾ Interpole Barriers are supplied with MCCBs as standard; 2 barriers with 3 pole MCCBs, and 3 barriers with 4 pole MCCBs.
 - ³⁾ For 400/630 A MCCBs, "Flush" and "rear" covers are the same item. "Knockouts" standard.

Accessories to suit 400 / 630 AF TemBreak 2

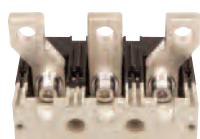
4



T2HL Toggle lock
(non-captive)



T2HL Toggle lock
(captive)



T2FB Attached flat bar



T2FW Tunnel clamp terminals

External accessories

ProSafe lock option Allen-Bradley ProSafe locks can be used with T2HS variable depth handles. Refer NHP for direct mounting handle options

TKN

| | |
|-----------------------------------|-------------------|
| E/S/H/L 160 - 250 | Cat. No. |
| Shot bolt lock HS handles AA code | TKNHPAA |
| Standard Key AA ¹⁾ | TKNHPKEYAA |
| Cam for T2HS handle shafts | 14997702 |

Toggle locks

Non Captive: Fits up to 3 padlocks or a multiple lock device
E400, S400, H400, L400, E630, S630

HL

| | |
|----------------------------|----------------|
| Lock with three 8 mm holes | T2HL40A |
|----------------------------|----------------|

Captive: Allows a single padlock or multiple padlock device
E400, S400, H400, L400, E630, S630

Lock with two 8 mm holes

T2HL40CAP

Attached

Suits MCCB types

Busbar

E400, S400, H400, L400, E630, S630

FB

3 Pole, set of 6, wide bar, 400 A

2H1384DAA

3 Pole, set of 6, wide bar set, 630 A

T2FB463BA

4 Pole, set of 8, wide bar set, 630 A

T2FB464BA

One straight bar 400/630 A

T2FB461BA

(30 x 10 x 60 mm)

Tunnel clamp terminals

FW

E400, S400, H400, L400, E630, S630

T2FW40L3A

3 Pole, set of 6 clamps 240 mm²

T2FW40L4A

4 Pole, set of 8 clamps 240 mm²

Accessories to suit 400 / 630 AF TemBreak 2

4

External accessories



T2RP rear connect studs



T2UPX3400
400 A TemPlug



T2UPX3630
630 A TemPlug



TNS Electronic OCR checker



T2PM plug-in MCCB

| | | |
|-----------------------------|---|--|
| Rear connect terminal studs | Suits MCCB types E400, S400 3 pole kit, set of 6 studs 4 pole kit, set of 8 studs H400, L400 3 pole kit, set of 6 studs 4 pole kit, set of 8 studs E630, S630 3 pole kit, set of 6 studs 4 pole kit, set of 8 studs | Cat. No. T2RP403SA T2RP404SA T2RP403LA T2RP404LA T2RP463SA T2RP464SA |
| TemPlug | TemPlug MCCB line-side plug-in attachment E400, S400 3 pole TemPlug, vertical 3 pole TemPlug, horizontal LHS 3 pole TemPlug, horizontal RHS E630, S630 3 pole TemPlug, vertical 3 pole TemPlug, horizontal LHS 3 pole TemPlug, horizontal RHS Templugs suit 6.3 mm busbar (10 mm optional) | T2UPX3400 HBC3400L400 HBC3400R400 T2UPX3630 HBC3630NSL630 HBC3630NSR630 |
| External neutral CT | 400 A CT for ground fault options 630 A CT for ground fault options | T2GB40N04A T2GB40N06A |
| Electronic | 110 V AC Suitable for TB1/2 | TNS2110V |
| OCR checker | 230 V AC Suitable for TB1/2 | TNS2240V |
| TNS | Plug-in MCCB (refer rear of section 3) | |
| PM | | |
| DR | Draw-out MCCB (Refer NHP) | |

Notes: Available on indent only.

Accessories to suit 400 / 630 AF TemBreak 2

4

External accessories



T2DF/DM
Door flange

DF

Provides an attractive panel cut-out surround for MCCBs or motors

Suits MCCB sizes

E400, S400, H400, L400, E630, S630

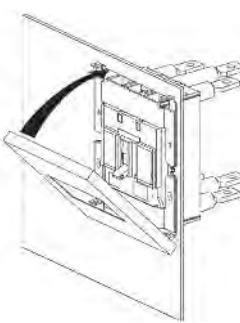
Cat. No.

T2DF40A

MCCB IP 30 gland and gasket

MOTOR IP 30 gland and gasket

T2DM40A



T2FP
Door mounting
flush plate

Door
mounting
flush plate

FP

A kit that allows an MCCB to be mounted directly onto a door

E400, S400, E630, S630

T2FP40S3B

3 pole kit

T2FP40S4B

4 pole kit

H400, L400

T2FP40L3A

3 pole kit

T2FP40L4A

4 pole kit

Wire lead
terminal
block

TF

left side

T2TF40LGA

right side

T2TF40RGA

Metering block

E400, S400, E630, S630

SW

400 A, CT/V block, 3P (5 A sec)¹⁾

T2SW3P6304005K

600 A, CT/V block, 3P (5 A sec)¹⁾

T2SW3P6306005K

Optional loadside terminal cover

T2SW3P630TC



T2TF
Wire lead
terminal block



T2SW Metering blocks

Notes: ¹⁾ For additional data, see section 11.

TemBreak 2 MCCB accessories

Plug-in base type MCCBs

4

External accessories

Description

Plug-in MCCBs

PM



Plug and socket set for MCCB internal accessories.

Plug-in MCCB ordering

A range of MCCBs are stocked with a rear mounted pre-fitted plug-in section that plugs into the panel mounted base section. The panel mounted base section is ordered separately. The TemBreak 2 plug-in bases include a safety interlock system where the MCCB must be switched OFF to allow MCCB removal. The plug-in base allows for the fitting of up to 4 terminal blocks when auxiliaries, alarms, shunts or UVTs are used. Rear connect terminal covers can be used on the front of the MCCB for IP 20 ingress protection. Standard MCCB conversion to plug-in – NHP can convert standard MCCB to plug-in use. Factory conversion only - refer NHP.

MCCBs complete with base plug (3 pole types below are stocked)

| MCCB Ampere Rating (A) NRC | 400/415 V rating (kA) | 3 pole Cat. No. ¹⁾ |
|----------------------------|-----------------------|-------------------------------|
| 20 | 20 kA | S125NJ320PM |
| 32 | 20 kA | S125NJ332PM |
| 50 | 65 kA | S125GJ350PM |
| 63 | 65 kA | S125GJ363PM |
| 100 | 65 kA | S125GJ3100PM |
| 125 | 65 kA | S125GJ3125PM |
| 160 | 65 kA | S160GJ3160PM |
| 250 | 65 kA | S250GJ3250PM |
| 400 | 70 kA | S400GE3400PM |
| 630 (530 A) ²⁾ | 70 kA | S630GE3630PM |

MCCB panel mounting base

S125

| | |
|-------------|-----------|
| 3 pole base | T2PM12A3A |
| 4 pole base | T2PM12A4A |

S160, S250

| | |
|-------------|-----------|
| 3 pole base | T2PM25A3A |
| 4 pole base | T2PM25A4A |

S400, S630 ³⁾)

| | |
|-------------|-----------|
| 3 pole base | T2PM40A3A |
| 4 pole base | T2PM40A4A |

Control wiring plug and socket for plug-in MCCBs ^{3) 4) 5)}

| | |
|---------------------------------------|------------|
| 3 pin plug for aux/alarms - MCCB side | 2H6959CAA1 |
| 3 pin plug for shunt/UVT - MCCB side | 2H6959CBA1 |
| 3 pin socket for panel mount section | T2TP003A |

Mounting base 'L' shaped terminal bar set ⁶⁾

S125

| | |
|----------------------|-----------|
| 3 pole kit of 6 bars | T2PF123BA |
| 4 pole kit of 8 bars | T2PF124BA |

S160, S250

| | |
|----------------------|-----------|
| 3 pole kit of 6 bars | T2PF253BA |
| 4 pole kit of 8 bars | T2PF254BA |

S400, S630

| | |
|----------------------|-----------|
| 3 pole kit of 6 bars | T2PF403BA |
| 4 pole kit of 8 bars | T2PF404BA |

Notes: ¹⁾ Other MCCBs not listed can be supplied on request.

²⁾ S630 MCCBs when used with a plug-in base must be derated to 530 A.

³⁾ Up to 4 control wiring plug and socket sets can be used in a base.

⁴⁾ Control wiring kits include pin lugs for internal accessories.

⁵⁾ Internal accessories must be ordered separately.

⁶⁾ For front or rear connection.

TemBreak 2 MCCB accessories

Accessories to suit 125 - 630 AF (Cont'd)

External accessories

Description

Plug-in MCCB kits

PM



Kit parts to convert a standard MCCB to a plug-in type

Withdrawable MCCB¹⁾

T2DR

New in
2011



TemBreak 2 draw-out MCCBs 250 AF to 630 AF

| Suits MCCB types | | Carton reference No. | Cat. No. |
|------------------------------------|---------------------|----------------------|------------------|
| E125, S125 | | | |
| 3 pole kit | (base not included) | 800160 | 2H6843CAB |
| 4 pole kit | (base not included) | 800177 | 2H6844CAB |
| S160, E/S 250 | | | |
| 3 pole kit | (base not included) | 800023 | 2H6845CAA |
| 4 pole kit | (base not included) | 800030 | 2H6846CAA |
| S250PE | | | |
| 3 pole kit | (base not included) | 800184 | 2H6940CBA |
| 4 pole kit | (base not included) | 800191 | 2H6941CAB |
| E400, S400 (not for H/L400) | | | |
| 3 pole kit | (base not included) | 800047 | 2H6847CAA |
| 4 pole kit | (base not included) | 800065 | 2H6848CAA |
| S630 | | | |
| 3 pole kit | (base not included) | 800085 | 2H7234CAA |
| 4 pole kit | (base not included) | 800092 | 2H7235CAA |

Line & loadside withdrawable kit with ACB style rack-out handle mechanism

Suits MCCB types

S160, E250, S250 – except S250PE

| | |
|---------------------------------------|--------------------|
| 3 pole kit | T2DR25253N |
| 4 pole kit | T2DR25254N |
| H/L125, H/L160, S250PE, H/L250 | |
| 3 pole kit | T2DR25253NL |
| 4 pole kit | T2DR25254NL |
| E400, S400, E630, S630 | |
| 3 pole kit | T2DR63403N |
| 4 pole kit | T2DR63404N |
| H400, L400 | |
| 3 pole kit | T2DR40403NL |
| 4 pole kit | T2DR40404NL |

Notes: ¹⁾ Contact NHP regarding availability.

TemBreak MCCBs

XS630 and XS800 series

thermal magnetic type

- Adjustable range 63 - 100 % of nominal current rating.
- Standards AS/NZS 3947-2 and IEC 60947-2.
- Adjustable thermal, fixed magnetic type.



XS630NJ (50 kA) 3 pole

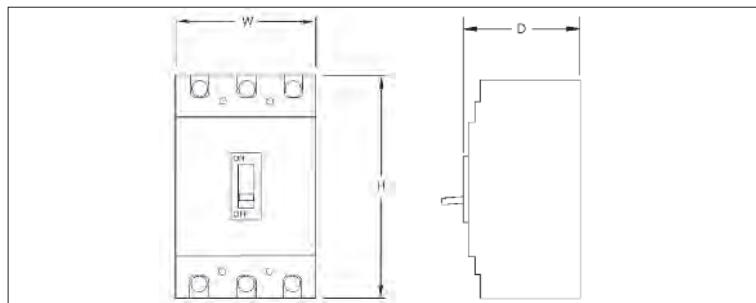
| Ampere rating | Min. | Max. | Cat. No. |
|---------------|------|------|---------------|
| 400 | 250 | 400 | XS630NJ 400 3 |
| 630 | 400 | 630 | XS630NJ 630 3 |

XS800NJ (50 kA) 3 pole

| Ampere rating | Min. | Max. | Cat. No. |
|---------------|------|------|---------------|
| 800 | 500 | 800 | XS800NJ 800 3 |

Dimensions (mm)

| Description | | Height ¹⁾ | Width | Depth | kg |
|-------------|--------|----------------------|-------|-------|-----|
| XS630NJ | 3 pole | 273 | 210 | 103 | 9.6 |
| XS800NJ | 3 pole | 273 | 210 | 103 | 9.7 |



Short circuit capacity

| Model | I/C | Voltage |
|---------|-------|-------------|
| XS630NJ | 50 kA | 400 V 50 Hz |
| XS800NJ | 50 kA | 400 V 50 Hz |

| DC use ²⁾ | I/C | Voltage |
|----------------------|-------|----------|
| XS630NJ | 40 kA | 250 V DC |
| XS800NJ | 40 kA | 250 V DC |

Notes: ¹⁾ Height excludes attached busbar.
²⁾ Poles in series. Refer applications, Section 13.
 Refer Section 7 for 4 pole dimensions.
 Magnetic only MCCBs available on request.

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| | |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | Marine |
| VDE 0660 Part 1 | NK/Japan |
| AS/NZS 60947-2 | Lloyd's / UK |
| JIS C 8372/Japan | ABS / USA |
| JIS 160/Japan | GL / Germany |
| CE Mark | BV / France |
| | DNV / Norway |

TemBreak Plus MCCBs

XH630PJ and XH800PJ PowerBreaker series

I_{cs} = 50 kA

4



- Powerful interrupting capacities
- Limitation of system damage
- Unique contact structure
- Adjustable thermal and magnetic trips
- Thermal adjustment range 63 - 100 % of nominal current rating
- Standards AS/NZS 3947-2 and IEC 60947-2

XH630/800PJ (85 kA) 3 pole

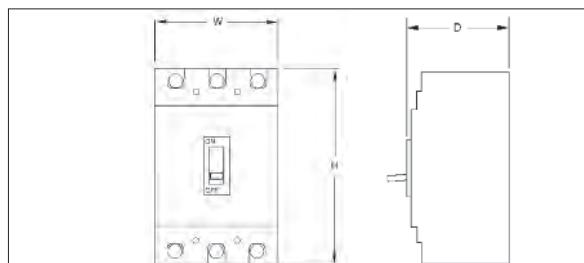
| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|---------------|
| 400 | 250 | 400 | XH630PJ 400 3 |
| 630 | 400 | 630 | XH630PJ 630 3 |
| 800 | 500 | 800 | XH800PJ 800 3 |

XH630/800PJ (85 kA) 4 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|-----------------|
| 400 | 250 | 400 | i XH630PJ 400 4 |
| 630 | 400 | 630 | i XH630PJ 630 4 |
| 800 | 500 | 800 | i XH800PJ 800 4 |

Dimensions (mm)

| Description | | Height ¹⁾ | Width | Depth | kg |
|-------------|--------|----------------------|-------|-------|------|
| XH630/800PJ | 3 pole | 273 | 210 | 103 | 9.6 |
| XH630/800PJ | 4 pole | 273 | 280 | 103 | 12.2 |



Short circuit capacity

AC use

| Model | I _{cu} | I _{cs} | Voltage |
|----------------------|-----------------|-----------------|----------|
| XH630/800PJ | 100 kA | 50 kA | 400 V AC |
| XH630/800PJ | 85 kA | 50 kA | 415 V AC |
| DC use ²⁾ | I _{cu} | I _{cs} | Voltage |
| XH630/800PJ | 40 kA | – | 250 V DC |

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| | |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | Marine |
| VDE 0660 Part 1 | Lloyd's / UK |
| AS/NZS 360947-2 | ABS / USA |
| CE Mark | GL / Germany |

Approvals

| |
|--------------|
| BV / France |
| DNV / Norway |

Notes: ¹⁾ Height excludes attached busbar.

²⁾ Poles in series. Refer applications, section 13.

 Available on indent only.

TemBreak Plus MCCBs

XS and XH630/800SE selectivity series electronic



- SE Upstream selectivity breakers
- SE series provides enhanced selectivity
- 3:1 ratio between upstream and downstream MCCBs
- I_{cs} rating is 50 % of I_{cu}
- I²t switch to assist in obtaining total selectivity
- True RMS monitoring
- Electronic trip unit with Long, Short and Instantaneous adjustments
- Adjustment range 50 - 100 % of nominal current rating
- Standards AS/NZS 3947-2 and IEC 60947-2

XS630SE (50 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|---------------|
| 630 | 315 | 630 | XS630SE 630 3 |

XH630SE (65 kA) 3 pole

| | | | |
|-----|-----|-----|---------------|
| 630 | 315 | 630 | XH630SE 630 3 |
|-----|-----|-----|---------------|

XS800SE (50 kA) 3 pole

| | | | |
|-----|-----|-----|---------------|
| 800 | 400 | 800 | XS800SE 800 3 |
|-----|-----|-----|---------------|

XH800SE (65 kA) 3 pole

| | | | |
|-----|-----|-----|---------------|
| 800 | 400 | 800 | XH800SE 800 3 |
|-----|-----|-----|---------------|

XS630SE (50 kA) 4 pole

| | | | |
|-----|-----|-----|---------------|
| 630 | 315 | 630 | XS630SE 630 4 |
|-----|-----|-----|---------------|

XH630SE (65 kA) 4 pole

| | | | |
|-----|-----|-----|---------------|
| 630 | 315 | 630 | XH630SE 630 4 |
|-----|-----|-----|---------------|

XS800SE (50 kA) 4 pole

| | | | |
|-----|-----|-----|---------------|
| 800 | 400 | 630 | XS800SE 800 4 |
|-----|-----|-----|---------------|

XH800SE (65 kA) 4 pole

| | | | |
|-----|-----|-----|-----------------|
| 800 | 400 | 630 | i XH800SE 800 4 |
|-----|-----|-----|-----------------|

Dimensions (mm)

| Description | Height ²⁾ | Width | Depth ³⁾ | kg |
|-------------|----------------------|-------|---------------------|-----|
| XS/XH630SE | 3 pole | 273 | 210 | 103 |
| XS/XH630SE | 4 pole | 273 | 280 | 103 |
| XS/XH800SE | 3 pole | 273 | 210 | 103 |
| XS/XH800SE | 4 pole | 273 | 280 | 103 |

Short circuit capacity

AC use

| Model | I _{cu} | I _{cs} | Voltage |
|-------------|-----------------|-----------------|-----------|
| XS630/800SE | 50 kA | 25 kA | 400/415 V |
| XH630/800SE | 65 kA | 33 kA | 400/415 V |

OCR options (factory fitted)

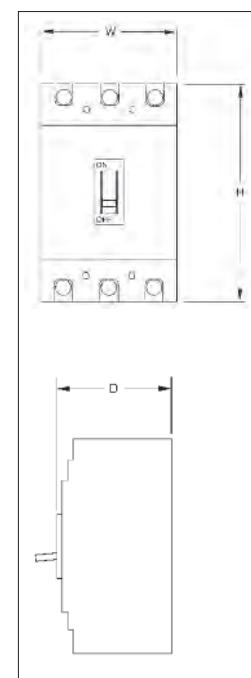
| Description | Code |
|--------------------------------|------|
| Ground fault trip | LSIG |
| Pre-trip alarm ¹⁾ | LSIP |
| Fault indicators ¹⁾ | FI |
| Special LTD curves | - |

Notes: ¹⁾ Includes factory fitted OCR controller, specify voltage 240 V or 110 V AC.

²⁾ Height excludes attached busbar.

³⁾ Less toggle

 Available on indent only.



4

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | Marine |
| VDE 0660 Part 1 | Lloyd's / UK |
| AS/NZS 60947-2 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | DNV / Norway |

TemBreak Plus MCCBs

XH630PE and XH800PE PowerBreaker series

I_{cs} = 50 kA electronic

4



- Current limiting
- True RMS monitoring
- I²t switch to assist in obtaining total selectivity
- Powerful interrupting capacities
- Limitation of system damage
- Unique contact structure
- Electronic trip unit with Long, Short and Instantaneous adjustments
- Adjustment range 50 - 100 % of nominal current rating
- Standards AS/NZS 3947-2 and IEC 60947-2

XH630PE (65 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|----------------------|
| 630 | 315 | 630 | XH630PE 630 3 |

XH630PE (65 kA) 4 pole

| | | | |
|-----|-----|-----|----------------------|
| 630 | 315 | 630 | XH630PE 630 4 |
|-----|-----|-----|----------------------|

XH800PE (65 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|----------------------|
| 800 | 400 | 800 | XH800PE 800 3 |

XH800PE (65 kA) 4 pole

| | | | |
|-----|-----|-----|----------------------|
| 800 | 400 | 800 | XH800PE 800 4 |
|-----|-----|-----|----------------------|

Dimensions (mm)

| Description | Height ¹⁾ | Width | Depth ²⁾ | kg |
|----------------|----------------------|-------|---------------------|------|
| XH630PE 3 pole | 273 | 210 | 103 | 9.6 |
| XH630PE 4 pole | 273 | 280 | 103 | 12.2 |
| XH800PE 3 pole | 273 | 210 | 103 | 9.7 |
| XH800PE 4 pole | 273 | 280 | 103 | 12.5 |

Short circuit capacity

AC use

| Model | I _{cu} | I _{cs} | Voltage |
|-------------|-----------------|-----------------|-----------|
| XH630/800PE | 65 kA | 50 kA | 400/415 V |

OCR options (factory fitted)

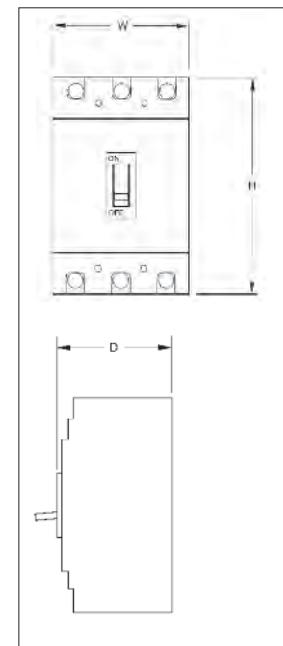
| Description | Code |
|---------------------------------|------|
| Ground fault trip ³⁾ | LSIG |
| Pre-trip alarm | LSIP |
| Fault indicators | FI |
| Special LTD curves | - |

Notes: ¹⁾ Height excludes attached busbar.

²⁾ Less toggle

³⁾ Includes factory fitted OCR controller, specify voltage 240 V or 110 V AC.

Available on indent only.



Cross reference table

| | |
|-------------------------|----|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

Base standards

| |
|--------------------|
| IEC 60947-2 |
| BS EN 60947 Part 2 |
| VDE 0660 Part 1 |
| AS/NZS 60947-2 |
| CE Mark |

Approvals

| |
|---------------|
| ASTA (UK,AUS) |
| Marine |
| Lloyd's / UK |
| ABS / USA |
| GL / Germany |
| BV / France |
| DNV / Norway |

TemBreak 1 MCCB accessories

Accessories to suit 630-800 AF

Internal accessories (factory fit)

| Description | | Cat. No. | |
|--------------------------|---------------------------------|---|------------------------|
| Shunt trip | 110 V AC/DC | 2H1515BAA | |
| | 240 V AC | 2H1516BAA | |
| | 12 V DC | 2H1517BAA | |
| | 24 V DC | 2H1518BAA | |
| | 48 V DC | 2H1519BAA | |
| | 200 V DC | 2H1520BAA | |
| | 24 V AC | 2H1521BAA | |
| | 48 V AC | 2H1522BAA | |
| Undervoltage trip UVT | Undervoltage trip | AC coil ¹⁾ | 2H1503BAA |
| | | 100-230 V DC coil ²⁾ | 2H1504BAA |
| | | 24 V DC coil ²⁾ | 2H1505BAA |
| | | 48 V DC coil ²⁾ | 2H1506BAA |
| | | 60 V DC coil ²⁾ | 2H1507BAA |
| | | 110 V AC instantaneous controller | UXUB0013B |
| | | 240 V AC instantaneous controller | UXUB0014B |
| | | 440 V AC instantaneous controller | UXUB0015B |
| | | 110 V AC time delay controller (100 ms delay) | UXUB0016B |
| | | 240 V AC time delay controller (100 ms delay) | UXUB0017B |
| | | 440 V AC time delay controller (100 ms delay) | UXUB0018B |
| | | 200-230 V DC controller | UXUB0038B |
| UVT controller | Auxiliary switch | AUX SW right hand 1 C (1 changeover) | UXXB0007D |
| | | AUX SW right hand 2 C | UXXB0008D |
| | | AUX SW right hand 3 C | UXXB0009D |
| Auxiliary switch | Alarm switch | ALT SW right hand | UXLB0010D |
| | Alarm & auxiliary switches | ALT/AUX SW right hand 1 C (1 C/O aux/1 C/O al) | UXLB0015D |
| | | ALT/AUX SW right hand 2 C | UXLB0016D |
| | Pre-trip alarm | For electronic OCR MCCBs only | Add LSIP |
| | Fault indication & contacts | Side of breaker mounted module. Electronic MCCBs only. | Add FI then voltage |
| | Earth fault option. | Earth fault, electronic breakers only. | Add LSIG |
| Alarm / auxiliary switch | 4th CTs are optional | 630 A 4th CT | UXOY0001A |
| | | 800 A 4th CT | UXOY0002A |
| | Extra low or high magnetic trip | Special selectivity, generator or marine applications | - |

4

Notes: ¹⁾ An AC UVT controller is required for 100-440 V AC.

²⁾ A DC UVT controller is needed for 200-230 V DC operation. None required for 24-110 V DC.

TemBreak 1 MCCB accessories

Accessories to suit 630-800 AF (Cont'd)

4

Cable mechanical interlock



T1HP80 handle operator



T1HS handle



Handle lock (UXKB)

External accessories

| Description | Cat. No. | |
|--------------------------------------|--|---|
| Tunnel clamp terminals | 3 P solderless terminals for 630 AF (6 in kit) 4 P solderless terminals for 630 AF (8 in kit) | TXLD0005A TXLD0006A |
| Rear connect studs | 3 P rear connect studs, 630/800 AF (6 in kit) 4 P rear connect studs, 630/800 AF (8 in kit) | UXRC0008B UXRC0009B |
| Motor operators (XMD6) | 110 V AC motor 110 V DC motor 24 V DC motor 240 V AC motor | 2H1299CAC 2H1301CAC 2H1302CAC 2H1303CAC |
| Motor operators (XMC6) ⁹⁾ | 110 V AC motor 110 V DC motor 24 V DC motor 240 V AC motor | UXMC0006B UXMC0008B UXMC0009B UXMC0010B |
| Mechanical interlocks | Motor base support | UXMC0002B |
| Handle operators | 3 P mech I/lock rear mounting 4 P mech I/lock rear mounting Interlock cable (wire) Cable interlock mechanism ³⁾ | UXKC0004A UXKC0005A UXKC0020A UXKC0022A |
| | IP 55 grey variable depth handle + 357 mm shaft T1HS escutcheon plate option: 100 mm ² | T1HS80R5GM T2HSESC100 |
| | 390 mm T pin shaft for T2HS - no flexi coupling | T2HS400SHAFT |
| | IP 65 grey variable depth handle + 420 mm shaft | T1HP80R6BNA4 ⁵⁾ ⁷⁾ ⁸⁾ |
| | IP 65 variable depth handle (metal) | YASD46 ⁷⁾ ⁸⁾ |
| | Padlock attachment for T1HP/HS mechanism | T1HP80PALK |
| | IP 55 direct mount fixed depth handle | TFJ36XU ⁵⁾ ⁷⁾ |
| | T2HS handle shaft cam for trapped key interlocks | 1499 7702 |
| Handle extension | Handle extension | 2A2272BAB |
| Handle lock | Handle lock - non captive Lock attachment - captive (uses LOCTITE 480) Key interlock (Fortress type) incl TFJ mechanism ⁵⁾ | UXKB0002A XKA6 - |
| Terminal covers | 3 P front connecting terminal cover (set of 2) 4 P front connecting terminal cover (set of 2) IP 20 protective cover ⁴⁾ 3 P rear connecting terminal cover (set of 2) 4 P rear connecting terminal cover (set of 2) | 2H1417DAB 2H1418DAB 2A1787DBA UXPD0013C UXPD0014B |
| Accessory lead terminal | Accessory terminal block Terminal and bolt | UXYD0001A UXYD0002A |
| TemPlug ⁶⁾ | TemPlug 800 A rated | UPX3800 |
| Interpole barrier | Interpole barrier | UXQH0004B |
| OCR sealing kit | Tamperproof cover for the OCR adjustment dials | XS6300CRSK |

Notes: ³⁾ Order one interlock mechanism for each circuit breaker.

⁴⁾ 6 pieces required for 3 P / 8 pieces required for 4 P.

⁵⁾ Refer note 8 on page 4 - 110 for additional detail.

⁶⁾ Not applicable to XV630PE/XV800PE.

⁷⁾ Red/Yellow handles available.

⁸⁾ YASD handles do not have a door defeat function.

⁹⁾ XMC6 motors are used on all transfer switches as standard, and require a motor base support along with the motor when ordered. XMD6 motors offer superior ON/OFF/TRIPPED status indication and can be fitted to transfer switches on request. XMD6 motors do not require a motor base support.

TemBreak Plus MCCBs

TL630NE, TL800NE and TL1250NE

LimitorBreaker series, electronic



- Standards AS/NZS 3947-2 and IEC 60947-2
- Powerful interrupting capacities
- Provides limitation of system damage during a fault
- Electronic trip unit with Long, Short & Inst. adjustments
- $I_{cs} = 65$ to 70 kA at 415 V

- Adjustment range $50 - 100\%$ of nominal current rating
- True RMS monitoring
- I^{2t} ramp switch to assist in obtaining total selectivity
- Can be used for selectivity applications
- 3 or 4 pole types available

TL630NE (125 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|---------------|
| 630 | 315 | 630 | TL630NE 630 3 |

TL800NE (125 kA) 3 pole

| | | | |
|-----|-----|-----|---------------|
| 800 | 400 | 800 | TL800NE 800 3 |
|-----|-----|-----|---------------|

TL1250NE (125 kA) 3 pole

| | | | |
|------|-----|------|-------------------|
| 1000 | 500 | 1000 | TL1250NE 1000 3FC |
| 1250 | 625 | 1250 | TL1250NE 1250 3FC |

TL630NE (125 kA) 4 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|-----|---------------|
| 630 | 315 | 630 | TL630NE 630 4 |

TL800NE (125 kA) 4 pole

| | | | |
|-----|-----|-----|---------------|
| 800 | 400 | 800 | TL800NE 800 4 |
|-----|-----|-----|---------------|

TL1250NE (125 kA) 4 pole

| | | | |
|------|-----|------|-------------------|
| 1000 | 500 | 1000 | TL1250NE 1000 4FC |
| 1250 | 625 | 1250 | TL1250NE 1250 4FC |

Dimensions (mm)

| Description | Height ¹⁾ | Width | Depth ²⁾ | kg |
|-------------------------|----------------------|-------|---------------------|------|
| TL630/800/1250NE 3 pole | 370 | 210 | 140 | 26.0 |
| TL630/800/1250NE 4 pole | 370 | 280 | 140 | 33.7 |

Short circuit capacity

AC use

| Model | Icu | Ics | Voltage |
|----------|--------|-------|----------|
| TL630NE | 125 kA | 70 kA | 400 V AC |
| TL630NE | 125 kA | 70 kA | 415 V AC |
| TL800NE | 125 kA | 70 kA | 400 V AC |
| TL800NE | 125 kA | 70 kA | 415 V AC |
| TL1250NE | 125 kA | 65 kA | 400 V AC |
| TL1250NE | 125 kA | 65 kA | 415 V AC |

OCR options (factory fitted)

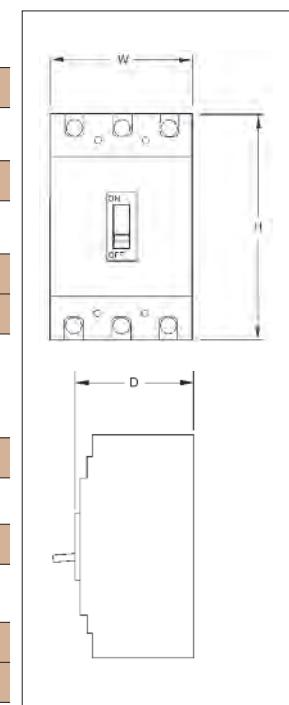
| Description | Code |
|--------------------------------|------|
| Ground fault trip | LSIG |
| Pre-trip alarm ³⁾ | LSIP |
| Fault indicators ³⁾ | FIP |
| Special LTD curves | - |

Notes: ¹⁾ Height excludes attached busbar.

²⁾ Less toggle

³⁾ Includes factory fitted OCR controller, specify voltage 240 V or 110 V AC.

Available on indent only.



4

| Cross reference table | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis | 6 |
| Dimensions and mounting | 5 |

| Base standards | Approvals |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | Marine |
| VDE 0660 Part 1 | Lloyd's / UK |
| AS/NZS 60947-2 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | DNV / Norway |

TemBreak Plus MCCBs

XS1250SE and XS1600SE selectivity series electronic



- SE Upstream selectivity breakers
- SE series provides enhanced selectivity
- 3:1 ratio between upstream and downstream MCCBs
- Ics rating is 75 % of Icu
- I²t switch to assist in obtaining total selectivity
- True RMS monitoring

- Electronic trip unit with Long, Short and Inst. adjustments
- Adjustment range 50 - 100 % of nominal current rating
- Standards AS/NZS 3947-2 and IEC 60947-2

XS1250SE (85 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|------|-------------------|
| 1000 | 500 | 1000 | XS1250SE 1000 3FC |
| 1250 | 625 | 1250 | XS1250SE 1250 3FC |

XS1600SE (100 kA) 3 pole

| | | | |
|------|-----|------|-------------------|
| 1600 | 800 | 1600 | XS1600SE 1600 3FC |
|------|-----|------|-------------------|

XS1250SE (85 kA) 4 pole

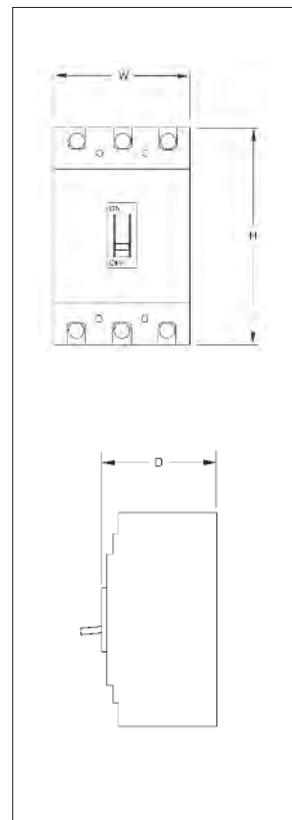
| Ampere rating | Min | Max | Cat. No. |
|---------------|-----|------|-------------------|
| 1000 | 500 | 1000 | XS1250SE 1000 4FC |
| 1250 | 625 | 1250 | XS1250SE 1250 4FC |

XS1600SE (100 kA) 4 pole

| | | | |
|------|-----|------|-------------------|
| 1600 | 800 | 1600 | XS1600SE 1600 4FC |
|------|-----|------|-------------------|

Dimensions (mm)

| Description | Height ¹⁾ | Width | Depth | kg |
|-------------|----------------------|-------|-------|-----|
| XS1250SE | 3 pole | 370 | 210 | 120 |
| XS1600SE | 3 pole | 370 | 210 | 140 |
| XS1250SE | 4 pole | 370 | 280 | 120 |
| XS1600SE | 4 pole | 370 | 280 | 140 |
| | | | | 35 |



Short circuit capacity

AC use

| Model | Icu | Ics | Voltage |
|----------|--------|-------|---------|
| XS1250SE | 85 kA | 64 kA | 400 V |
| XS1250SE | 65 KA | 50 KA | 415 V |
| XS1600SE | 100 kA | 75 kA | 400 V |
| XS1600SE | 85 KA | 64 KA | 415 V |

OCR options (factory fitted)

| Description | Code |
|--------------------|------|
| Ground fault trip | LSIG |
| Pre-trip alarm | LSIP |
| Fault indicators | FI |
| Special LTD curves | - |

Cross reference table

| | Section |
|-------------------------|---------|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Chassis ²⁾ | 6 |
| Dimensions and mounting | 5 |

Base standards

| | |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | Marine |
| VDE 0660 Part 1 | Lloyd's / UK |
| AS/NZS 60947-2 | ABS / USA |
| CE Mark | GL / Germany |
| | BV / France |
| | DNV / Norway |

Notes: ¹⁾ Height excludes attached busbar.

²⁾ For XS1250SE only.

TemBreak 1 MCCB accessories

Accessories to suit 1250-1600 AF, XS1250, XS1600,
TL630NE, TL800NE, TL1250NE³⁾

Internal accessories (factory fit)



Undervoltage trip
UVT



UVT controller



Auxiliary switch



Alarm / auxiliary
switch

| Description | Cat. No. |
|--|---|
| Shunt trip | 110 V AC/DC (110-115 V) |
| | 240 V AC (200-480 V) |
| | 12 V DC |
| | 24 V DC |
| | 48 V DC |
| | 200 V DC (200-230 V) |
| | 24 V AC |
| | 48 V AC |
| Undervoltage trip | AC coil ¹⁾ |
| | 100-230 V DC coil ²⁾ |
| | 24 V DC coil ²⁾ |
| | 48 V DC ²⁾ |
| | 60 V DC ²⁾ |
| | 110 V AC instantaneous controller |
| | 240 V AC instantaneous controller |
| | 440 V AC instantaneous controller |
| | 110 V AC time delay controller |
| | 240 V AC time delay controller |
| Auxiliary switch | 440 V AC time delay controller |
| | 200-230 V DC controller |
| | AUX SW right hand 1 C / 3 P (1 x changeover) |
| | AUX SW right hand 2 C / 3 P |
| | AUX SW right hand 3 C / 3 P |
| | AUX SW right hand 1 C / 4 P |
| Alarm switch | AUX SW right hand 2 C / 4 P |
| | AUX SW right hand 3 C / 4 P |
| Alarm & auxiliary switches | ALT SW right hand / 3 P |
| | ALT SW right hand / 4 P |
| | ALT/AUX right hand 1 C / 3 P (1 C/O aux/1 C/O al) |
| | ALT/AUX right hand 2 C / 3 P |
| Fault indication & contacts | ALT/AUX right hand 2 C / 4 P |
| | ALT/AUX right hand 1 C / 4 P |
| | An option for all 1250-1600 A types |
| | Add then voltage |
| Pre-trip alarm | An option for all 1250-1600 A types |
| Earth fault indication. | An option for all 1250-1600 A types |
| 4th CT optional | 1000 A 4th CT |
| | 1250 A 4th CT |
| | 1600 A 4th CT |
| Extra high instantaneous magnetic trip | An option for all 1000-1600 A types |
| | - |

Notes: ¹⁾ An AC UVT controller is required for 100-440 V AC.

²⁾ A DC UVT controller is needed for 200-230 V DC operation. None required for 24-110 V DC.

³⁾ TL630NE, TL800NE, TL1250NE are 1600 ampere frame MCCBs.

TemBreak 1 MCCB accessories

Accessories to suit 1250-1600 AF, TL630NE, TL800NE, TL1250NE⁹⁾

4

External accessories

| Description | Cat. No. |
|---------------------------|--|
| Rear connect studs | 3 P rear connect studs (6 in kit) 1250 A |
| | 4 P rear connect studs (8 in kit) 1250 A |
| | 3 P rear connect studs (6 in kit) 1600 A |
| | 4 P rear connect studs (8 in kit) 1600 A |
| Motor operators (XMD9) | 110 V AC motor |
| | 110 V DC motor |
| | 24 V DC motor |
| | 240 V AC motor |
| Mechanical interlocks | 3 P mech I/lock / 1250 A rear connect |
| | 4 P mech I/lock / 1250 A rear connect |
| | 3 P mech I/lock / 1600 A rear connect |
| | 4 P mech I/lock / 1600 A rear connect |
| | Interlock cable (wire) |
| | Interlock mechanism 1250 A cable type ³⁾ |
| | Interlock mechanism 1600 A cable type ³⁾ |
| | UXKC0024B |
| Handle operators | IP 55 grey extention handle + 320 mm shaft |
| | T1HS escutcheon plate option: 100 mm ² |
| | 390 mm T pin shaft for T2HS - no flexi coupling |
| | IP 65 grey variable depth handle + shaft |
| | IP 65 variable depth metal handle + shaft |
| | Padlock attachment for T1HP/HS mechanism |
| | IP 55 direct mount fixed depth handle |
| Toggle extension | T2HS handle shaft cam for fortres locks |
| | 1499 7702 |
| Handle lock | Toggle extension |
| | Handle lock - non captive (padlockable) |
| Terminal covers | Key interlock (Fortress type) incl TFJ mechanism ⁸⁾ |
| | - |
| | UXKB0003A |
| Accessory | 3 P FC terminal cover 1250 A (set of 2) |
| | 4 P FC terminal cover 1250 A (set of 2) |
| | IP 20 protective cover ⁵⁾ |
| lead terminal | Accessory terminal block |
| | UXYD0001A |
| Interpole barrier | Terminal and bolt ⁶⁾ |
| | UXYD0002A |
| OCR sealing kit | Interpole barrier ⁷⁾ |
| | UXQH0004B |
| | Tamperproof cover for the OCR adjustment dials |
| | XS12500CRSK |

Notes: ³⁾ Order one interlock mechanism for each breaker.

⁴⁾ Red/Yellow handles available.

⁵⁾ 6 pieces required for 3 P / 8 pieces required for 4 P.

⁶⁾ Specify quantity required (up to 6 pieces).

⁷⁾ Individual barrier (not a set).

⁸⁾ Refer NHP for details of locks to suit TFJ handles.

Cam & lock catalogue numbers:

Prosafe or Fortress locks are also available for variable depth handles.

NHP can supply a cam for the handle shaft and a lock and key.

The user is to mount the lock.

XFHSH31QKEYA: Fortress key code A

XFHSH31QRHALK: Fortress shot bolt, right hand, lock code A (key not supplied).

⁹⁾ TL630NE, TL800NE, TL1250NE are 1600 ampere frame MCCBs.

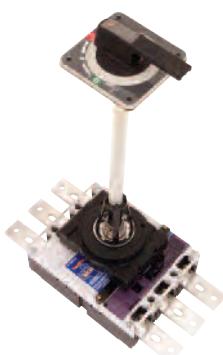
¹⁰⁾ YASD handles do not have a door defeat function.



Cable mechanical
interlock mechanism



XMD9 Motor operator
(spring charged type)



T1HP handle operator



T1HS handle

TemBreak MCCBs

XS2000NE, XS2500NE & XS3200NE series electronic type



- Current limiting.
- True RMS monitoring.
- I²t switch to assist in obtaining selectivity.
- Powerful interrupting capacities.
- Limitation of system damage.
- Unique contact structure.
- Electronic trip unit with Long, Short & Inst. adjustments.
- Adjustment range 50 - 100 % of nominal current rating.
- Standards AS/NZS 3947-2.

XS2000NE (85 kA) 3 pole

| Ampere rating | Min | Max | Cat. No. ²⁾ |
|---------------|------|------|------------------------|
| 2000 | 1000 | 2000 | XS2000NE 2000 3 RC |

XS2000NE (85 kA) 4 pole

| | | | |
|------|------|------|--------------------|
| 2000 | 1000 | 2000 | XS2000NE 2000 4 RC |
|------|------|------|--------------------|

XS2500NE (85 kA) 3 pole

| | | | |
|------|------|------|--------------------|
| 2500 | 1250 | 2500 | XS2500NE 2500 3 RC |
|------|------|------|--------------------|

XS2500NE (85 kA) 4 pole

| | | | |
|------|------|------|--------------------|
| 2500 | 1250 | 2500 | XS2500NE 2500 4 RC |
| 3200 | 1600 | 3200 | XS3200NE 3200 3 RC |

XS 3200NE (85 kA) 3 pole

| | | | |
|------|------|------|--------------------|
| 3200 | 1600 | 3200 | XS3200NE 3200 3 RC |
|------|------|------|--------------------|

Dimensions (mm)

| Description | Poles ⁴⁾ | Height | Width | Depth ¹⁾ | kg |
|-------------|---------------------|--------|-------|---------------------|------|
| XS2000NE | 3 | 450 | 320 | 185 | 54 |
| XS2500NE | 3 | 450 | 320 | 185 | 62.5 |
| XS3200NE | 3 | 450 | 320 | 185 | 62.5 |
| XS2000NE | 4 | 450 | 429 | 185 | 67 |
| XS2500NE | 4 | 450 | 429 | 185 | 78.2 |

Short circuit capacity

| Model | I/C | Voltage |
|----------|-------|-----------------|
| XS2000NE | 85 kA | 400/415 V 50Hz |
| XS2500NE | 85 kA | 400/415 V 50Hz |
| XS3200NE | 85 kA | 400/415 V 50 Hz |

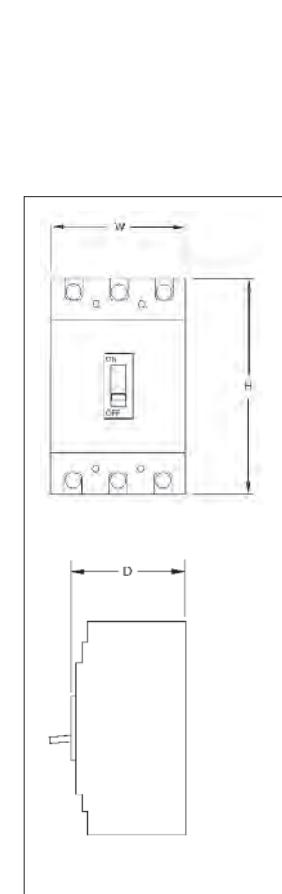
OCR options (factory fitted)

| Description | Code |
|-------------------|--------------------|
| Ground fault trip | LSIG ³⁾ |
| Pre-trip alarm | LSIP ³⁾ |
| Fault indicators | FIP ³⁾ |

Notes:

- ¹⁾ Depth excludes attached rear connect busbar.
- ²⁾ XS2000 and XS2500 MCCBs have black front covers fitted.
- ³⁾ XS2000/ 2500 only.
- ⁴⁾ XS2000/ 2500 only, in 4 pole.

For DC use refer NHP, or XS2000ND/XS2500ND series MCCBs in this catalogue.



Cross reference table

| | |
|-------------------------|----|
| Accessories | 4 |
| Application data | 12 |
| Characteristic curves | 5 |
| OCR / Trip unit set-up | 5 |
| Motor starting | 12 |
| Selectivity & Cascade | 12 |
| Dimensions and mounting | 5 |

Base standards

| | |
|--------------------|---------------|
| IEC 60947-2 | ASTA (UK,AUS) |
| BS EN 60947 Part 2 | |
| VDE 0660 Part 1 | NK/Japan |
| AS/NZS 60947-2 | Lloyd's / UK |
| JIS C 8372/Japan | ABS / USA |
| JIS 160/Japan | GL / Germany |
| CE Mark | BV / France |
| | DNV / Norway |

TemBreak 1 MCCB accessories

Accessories to suit 2000/2500/3200 AF

4

Internal accessories (factory fit)

Voltage release

| Description | Cat. No. | |
|--------------------------|-------------|-----------|
| Shunt trip ¹⁾ | 2H1532BAA | |
| 24 V AC | 2H1533BAA | |
| 48 V AC | 2H1526BAA | |
| 110 V AC/DC | 2H1527BAA | |
| 240 V AC | 2H1541BAA | |
| 415 V AC | 12 V DC | 2H1528BAA |
| 24 V DC | 2H1529BAA | |
| 48 V DC | 2H1530BAA | |
| 200 V DC | 12 H1531BAA | |



Shunt trip



Undervoltage trip
UVT



UVT controller



Auxiliary switch



Alarm/auxiliary
switch

Undervoltage trip

| | | |
|-------------------|----------------------------|-----------|
| Undervoltage trip | AC ²⁾ | 2H1509BAA |
| AC type | | |
| UVT coils | 24 V DC | 2H1511BAA |
| DC type | 48 V DC | 2H1512BAA |
| | 110/220 V DC ³⁾ | 2H1510BAA |

UVT controllers

| | | |
|--------------------|------------------------|-----------|
| AC inst type | 110 V AC ²⁾ | UXUB0013B |
| | 240 V AC ²⁾ | UXUB0014B |
| | 415 V AC ²⁾ | UXUB0015B |
| AC time delay type | 110 V AC | UXUB0016B |
| | 240 V AC | UXUB0017B |
| | 415 V AC | UXUB0018B |
| DC inst type | 200 V DC | UXUB0038B |

Signalling devices

| | | |
|---|----------------------------------|-----------|
| Auxiliary switch | 1 C (IC = 1X changeover contact) | UXXB0013C |
| | 2 C | UXXB0014C |
| | 3 C | UXXB0015C |
| | 4 C | UXXB0016C |
| | 5 C | UXXB0017C |
| | 6 C | UXXB0018C |
| Alarm switch | Alt sw | UXLB0012C |
| Alarm/auxiliary switches (combination unit) | 1 C (1X C/O AUX + 1 C/O alarm) | UXLB0019C |
| | 2 C | UXLB0020C |
| | 3 C | UXLB0021C |
| | 4 C | UXLB0022C |
| | 5 C | UXLB0023C |

Notes: ¹⁾ Other voltages available on request - refer NHP.

²⁾ A UVT controller (inst or time delay) is required with AC UVT coil.

³⁾ A UVT controller (inst) is required with 200 V DC UVT coil.

Available on indent only.

TemBreak 1 MCCB accessories

Accessories to suit 2000/2500/3200 AF (Cont'd)

4

External accessories

Connections ¹⁾



Front connect busbars

| Description | MCCB | Cat. No. |
|------------------|---|-----------|
| Attached busbars | 3 Pole FC mounting bolts XS2000NE only ⁵⁾ | TXRD0005A |
| (Front connect) | 3 Pole attached busbars XS2000NE only ⁵⁾ | TXRD0003A |
| | 4 Pole attached busbars XS2000 only ⁵⁾ | TXRD0004A |

Draw out carriage ²⁾

| | | |
|---------------------------------------|--------------------------|---|
| Draw out circuit breaker and carriage | XS2000NE only Refer NHP | - |
|---------------------------------------|--------------------------|---|

Remote operation ¹⁾

| | | |
|--------|----------------|-----------|
| Motors | 110 V AC motor | UXMB0006B |
| | 240 V AC motor | UXMB0008B |
| | 110 V DC motor | UXMB0009B |

Mechanical interlocks ¹⁾

| | | |
|------------|---|-----------|
| Rear type | 3 Pole rear mechanical interlock (std) | UXKC0012A |
| Cable type | Interlock mechanism - cable type (one on each MCCB) | UXKC0025B |
| | Interlock wire (for cable style interlock) | UXKC0020A |



Motor operator
UXMB large type

XFE direct mount handle

| | | |
|-----------------------------------|------------------|-------|
| Panel mount type | Handle mechanism | XFE10 |
| Prosafe Toggle lock ⁴⁾ | Refer NHP | - |

Toggle extension ³⁾

| | |
|------------------|-----------|
| Toggle extension | UXHB0001B |
|------------------|-----------|

Handle lock

| | |
|---|-----------|
| Toggle lock - non captive (padlockable) | UXKB0001A |
|---|-----------|

Accessory lead terminal

| | |
|-----------------------------|-----------|
| Accessory terminal block | UXYD0001A |
| Terminals and bolts (qty 6) | UXYD0002A |



Cable mechanical
interlock mechanism

OCR sealing kit

| | |
|-----------------|-------------|
| OCR sealing kit | XS20000CRSK |
|-----------------|-------------|

Notes: ¹⁾ Factory fitted.

²⁾ MCCB and carriage together, factory assembled.

³⁾ One (1) piece supplied as standard.

⁴⁾ There is not an XFE10 handle Prosafe lock option. A Prosafe lock may only be direct mounted to an MCCB to prevent toggle operation. Refer NHP for details.

⁵⁾ When an XS2000NE MCCB is configured for 'front connection', the front connect busbar kits TXRD0003A and 4A already include mounting screws for the FC terminals. The TXRD0005A mounting bolts, which also include spacers are required to mount the MCCB itself. TXRD0005A is always required for FC 2000A MCCBs, but not for RC.

Available on indent only.

TemBreak MCCB Switch disconnectors (Non-auto MCCBs)

Current rating:

TemBreak 2: 125 – 630 A

TemBreak 1: 800 – 2500 A



4

- Standards: AS/NZS 60947-2, and IEC 60947-2.
- Accepts MCCB internal and external accessories.
- No overcurrent protection (isolator only).
- Suitable for use as a panelboard or switchboard isolator switch.
- AC 23 and DC 22 rated to IEC 60947-3.
- Rated impulse withstand voltage $U_{imp} = 8 \text{ kV}$.

Switch disconnectors – 3 pole

| Ampere Rating NRC | Short time rating kA for 0.3 sec (I_{cw}) | Rated short circuit making capacity (I_{cm})(kA) | Cat. No. |
|--------------------|---|--|--------------|
| 125 | 2 | 3.6 | S125NN 3 |
| 160 | 3 | 6 | S160NN 3 |
| 250 | 3 | 6 | S250NN 3 |
| 400 | 5 | 9 | S400NN 3 |
| 630 | 5 | 9 | S630NN 3 |
| 800 ¹⁾ | 9.6 | 15 | XS800NN 3 |
| 1250 ¹⁾ | 15 | 32 | XS1250NN 3FC |
| 1600 ¹⁾ | 20 | 45 | XS1600NN 3FC |
| 2000 ¹⁾ | 42 | 90 | XS2000NN 3RC |
| 2500 ¹⁾ | 42 | 90 | XS2500NN 3RC |

Switch disconnectors – 4 pole

| Ampere Rating NRC | Short time rating kA for 0.3 sec (I_{cw}) | Rated short circuit making capacity (I_{cm})(kA) | Cat. No. |
|--------------------|---|--|--------------|
| 125 | 2 | 3.6 | S125NN 4 |
| 160 | 3 | 6 | S160NN 4 |
| 250 | 3 | 6 | S250NN 4 |
| 400 | 5 | 9 | S400NN 4 |
| 630 | 5 | 9 | S630NN 4 |
| 800 ¹⁾ | 9.6 | 15 | XS800NN 4 |
| 1250 ¹⁾ | 15 | 32 | XS1250NN 4FC |
| 1600 ¹⁾ | 20 | 45 | XS1600NN 4FC |
| 2000 ¹⁾ | 42 | 90 | XS2000NN 4RC |
| 2500 ¹⁾ | 42 | 90 | XS2500NN 4RC |

Dimensions (mm)

| Ampere rating (A) | Height ²⁾ | Width | | Depth | Weight (kg) | |
|-------------------|----------------------|--------|--------|-------------------|-------------|--------|
| | | 3 pole | 4 pole | | 3 pole | 4 pole |
| 125 | 155 | 90 | 120 | 68 | 1.1 | 1.4 |
| 160 / 250 | 165 | 105 | 140 | 68 | 1.5 | 1.9 |
| 400 / 630 | 260 | 140 | 185 | 103 | 4.2 | 5.6 |
| 800 | 273 | 210 | 280 | 103 | 9 | 12.2 |
| 1250 | 370 | 210 | 280 | 103 | 22 | 28 |
| 1600 | 370 | 210 | 280 | 140 | 27 | 35 |
| 2000 | 450 | 320 | 429 | 185 ³⁾ | 54 | 62.5 |
| 2500 | 450 | 320 | 429 | 185 ³⁾ | 67 | 78.2 |

| Cross reference | Section |
|-------------------------|---------|
| Accessories | 5 |
| Application data | 13 |
| Chassis | 7 |
| Dimensions and mounting | 6 |

Notes: ¹⁾ TemBreak 1 MCCBs.

²⁾ Height excludes attached busbar.

³⁾ Depth excludes attached rear connect busbar.

- UVTs and shunt trips are operated by the MCCB trip lever, which remains fitted in MCCB Switch disconnectors (Non-Auto MCCBs).

TemBreak DC MCCBs

Moulded Case Circuit Breakers



Features

- 'ND' models for 350 V to 600 V DC use ¹⁾
- Thermal magnetic and Magnetic only types
- 3 and 4 pole types
- 125 A – 2500 A
- Will accept standard accessories on sizes to 630 A

DC MCCBs to 800 A

| Ampere frame | Trip unit / OCR Sensor ratings (Aps) | Poles | OCR type | Cat. No. ²⁾ |
|--------------|--------------------------------------|-------|-----------|------------------------|
| 125 AF | 20, 32, 50, 63, 100, 125 | 3 | Therm Mag | S125ND |
| 125 AF | 20, 32, 50, 63, 100, 125 | 4 | Therm Mag | S125ND |
| 250 AF | 20, 32, 40, 50, 63, 100, 125, 160 | 3 | Therm Mag | S160ND |
| 250 AF | 20, 32, 40, 50, 63, 100, 125, 160 | 4 | Therm Mag | S160ND |
| 250 AF | 160, 250 | 3 | Therm Mag | S250ND |
| 250 AF | 160, 250 | 4 | Therm Mag | S250ND |
| 400/630 AF | 400 | 3 | Therm Mag | S400ND |
| 630/800 AF | 800 | 3 | Therm Mag | S800ND |

Ratings

| DC Breaking capacity (kA) | | | Poles | OCR type | Current adjustment | Cat. No. |
|---------------------------|-------|-------|-------|-----------|--------------------|----------|
| 350 V | 500 V | 600 V | | | | |
| 10 | - | - | 3 | Therm Mag | 63-100 % I_R | S125ND |
| 10 | 7.5 | 5 | 4 | Therm Mag | 63-100 % I_R | S125ND |
| 10 | - | - | 3 | Therm Mag | 63-100 % I_R | S160ND |
| 10 | 7.5 | 5 | 4 | Therm Mag | 63-100 % I_R | S160ND |
| 10 | - | - | 3 | Therm Mag | 63-100 % I_R | S250ND |
| 10 | 7.5 | 5 | 4 | Therm Mag | 63-100 % I_R | S250ND |
| 20 | 15 | 15 | 3 | Therm Mag | 63-100 % I_R | S400ND |
| 30 | 20 | 20 | 3 | Therm Mag | 50-100 % I_R | S800ND |

Notes: ¹⁾ All standard thermal magnetic MCCBs are rated to switch DC currents up to 250 V DC.

²⁾ Refer NHP for availability.

The time constant (L/R) of the circuit should be less than 2 ms at or below rated current, less than 7 ms for short circuit equal and below 10 kA, less than 15 ms for short circuits over 10 kA, the connections should be as shown in the diagrams on following page.

TemBreak DC MCCBs

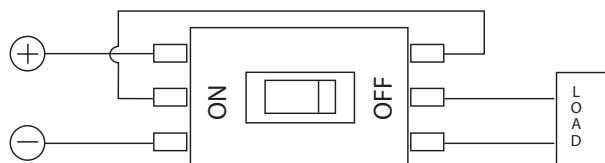
Moulded Case Circuit Breakers

4

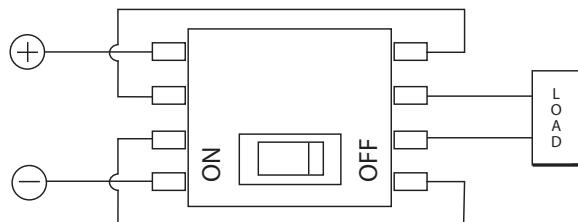
3 and 4 pole series connection

The following wiring connection diagrams should be followed to obtain the kA switching rating levels indicated in the table on the previous page.

3 pole in series



4 pole in series



MCCBs, Isolators & ACBs

1000 V DC
MCCBs,
isolator and
ACBs

| Device | DC voltage | Amperes | Type designation |
|----------|------------|-------------|------------------------------------|
| MCCB | 24 - 250 | 20 - 800 | Any standard thermal magnetic MCCB |
| MCCB | 350 - 600 | 20 - 2500 | S and XS - ND |
| MCCB | 750 | 250 - 800 | PVS - NDL |
| MCCB | 1000 | 250 - 800 | PVS - NDH |
| Isolator | 800 | 160 - 800 | PVS - NNL |
| Isolator | 1000 | 630 - 800 | PVS - NNH |
| ACB | 800 - 1000 | 1600 - 4000 | AR - DC |

Notes: Refer NHP for further information and availability.

DC magnetic types 630 A – 2500 A



- Ampere range 630 – 2500 A
- 3 pole
- Special shunt and UVT available for sizes - 1250 A to 1600 A
- Magnetic adjustment range 4 - 8 x Im

| Amp rating NRC | Trip Unit Type | 3 Pole Cat. No. ²⁾ ³⁾ |
|--------------------|------------------|--|
| 1000 ⁵⁾ | Thermal Magnetic | i XS1000ND10003FC |
| 1250 | Magnetic only | XS1250ND12503FC ¹⁾ ³⁾ |
| 1600 | Magnetic only | XS1600ND16003FC ¹⁾ ³⁾ |
| 2000 | Magnetic only | i XS2000ND20003RC |
| 2500 | Magnetic only | i XS2500ND25003RC |

Note: All TemBreak thermal magnetic MCCBs can be used for DC applications

| Ampere frame | 1000 | 1250 | 1600 | 2000 | 2500 |
|--|--|-----------|-----------|-----------|-----------|
| Type | XS1000ND | XS1250ND | XS1600ND | XS2000ND | XS2500ND |
| Number of poles | 2 3 | 2 3 | 2 3 | 2 3 | 2 3 |
| Rated current (A) In | 1000 | 1250 | 1600 | 2000 | 2500 |
| Calibrated at 45 °C | | | | | |
| DC RATED OPERATIONAL VOLTAGE (Ue) (V DC) | 250 600 | 250 600 | 250 600 | 250 600 | 250 600 |
| DC RATED INSULATION VOLTAGE (Ui) (V DC) | 600 | 600 | 600 | 600 | 600 |
| DC RATED BREAKING CAPACITY [kA] | | | | | |
| IEC 947-2 [Icu] | IEC 947-2 [Ics] 600 V - 20/10 - 20/15 - 20/15 - 20/15 - 20/15 | | | | |
| BS EN 60947-2 [Icu] | BS EN 60947-2 [Icu] 500 V - 20/10 - 20/15 - 20/15 - 20/15 - 20/15 | | | | |
| CEI EN 60947-2 | CEI EN 60947-2 350 V - 30/15 - 30/23 - 30/23 - 30/23 - 30/23 | | | | |
| | ⁶⁾ 250 V 40/12 - 40/30 - 40/30 - 40/30 - 40/30 - | | | | |
| OUTLINE DIMENSIONS (mm) | | | | | |
| a | 210 | 210 | 210 | 320 | 320 |
| b | 273 | 370 | 370 | 450 | 450 |
| c | 103 | 140 | 140 | 185 | 185 |
| d | 145 | 191 | 191 | 245 | 245 |
| Weight (kg) ◆ marked standard type | 9.2 10.3 | 23.8 26.0 | 24.0 27.0 | 50.0 54.0 | 55.7 62.5 |

Notes: ¹⁾ 3 pole sizes stocked.

²⁾ Mounting details for DC Applications series are identical to those for the same frame size Standard series (i.e. for XS1000ND refer to XS800NJ, XS1250ND and XS1600ND refer to XS1600NE, XS2000ND and XS2500ND refer to XS2500NE).

³⁾ For 1250 A and 1600 A DC MCCBs some internal accessories may differ from standard AC types. Information is as follows. Internal accessories are a FACTORY fit.

a) Auxiliaries and alarms Same as standard AC MCCB type

b) Shunt trips are type: 2H2438BAA - 110 V DC or 2H2439BDA - 220 V DC

c) Under voltage trips are type: 2H3776CCB - 110 V DC or 2H3776CB - 220 V DC + barrier 2H3748EBA

⁴⁾ The time constant (L/R) of the circuit should be less than 2 ms at or below rated current, less than 7 ms for short circuit equal and below 10 kA, less than 15 ms for short circuit over 10 kA, the connection should be three poles in series.

⁵⁾ Thermal/magnetic adjustment down to 630 amps.

⁶⁾ Suitable for 24 V DC use.

NRC: Nominal rated current.

Available on indent only.

TemBreak 1 MCCB ordering sheet

Factory or NHP branch assembled items only

List details below



Ordering branch / agent _____

Sales order _____

Branch sales order No. _____

Date: ____ / ____ / ____

Order Form
MCCB

| | |
|-----------------------|--|
| 1) Customer _____ | Project _____ |
| Contact name _____ | Phone: _____ |
| Deliver to _____ | Section _____ |
| | Circuit designation _____ |
| | Customer's requested delivery date / / |
| Cust. order No. _____ | Prepared by _____ / / |
| | Checked by _____ / / |

Work order numbers _____ Planned delivery / /

NOTE: Use a new form for each different configuration of MCCB & Accessories

Quantity Required

| Series | XM | XV | XS | XH | TL | No. of poles | 1 | 2 | 3 | 4 | | | | |
|--------|----|-----|-----|-----|-----|--------------|-----|-----|------|------|------|------|------|---------|
| | | | | | | | | | | | | | | |
| Frame | 30 | 100 | 125 | 160 | 250 | 400 | 630 | 800 | 1250 | 1600 | 2000 | 2500 | 3200 | Amperes |
| Model | NE | NJ | NN | NS | PB | PE | SE | PJ | | | | | | |

Special OCR Settings:-

Note: Thermal Magnetic & Electronic MCCBs are generally set to maximum current settings

Thermal Magnetic MCCB... Thermal: _____ Magnetic: _____

Electronic MCCB... Io _____ I₁ _____ T₁ _____ I₂ _____ T₂ _____ I₃ _____ **I_{2t}: ON or OFF.** I_P _____ T_P _____ I_G _____ T_G _____**Options:****Tick applicable boxes:****Options:****Tick applicable boxes:**

1. Tunnel clamp terminals (set of 6 on 3 P)
2. Rear bolt studs (set of 6 on 3 P)
3. Shunt trip _____ volts
4. Undervoltage trip _____ volts
Instantaneous
Time Delayed (fixed at 100 ms)
5. Auxiliary switch _____ contacts
6. Alarm switch
7. Alarm/auxiliary sw. _____ contacts
8. Motor Operator _____ volts
9. Accessory terminal lead
10. Mechanical interlock (rear type)
11. Mechanical interlock (cable type)
12. "H31"Fortress Key interlock TFJ MCCB MTG handle
Specify specific Fortress keylock no. - if required

13. Fault indicators (electronic MCCB only)
14. Pre-trip alarm (electronic MCCB only)
15. Earth fault + 4th CT - electronic MCCB 630 A & above
16. TFJ Handle (mounted on breaker)
17. XFE handle (2000/2500/3200 A MCCBs)
18. Plug-in set (XDM Terasaki type)
19. Handle lock (captive/glued type)
20. Trapped key interlock

Other specific requirements:

Total \$ Nett each _____

Note: 1) This form to be filled out either by NHP staff or purchaser.