

**Thermal magnetic type
S160GJ**



65kA

Current rating: 32 – 160A

Approvals and Tests:

Standards AS/NZS 3947-2, and IEC60947-2

Interrupting capacity:

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

Trip unit:

Adjustable thermal (0.63 *I_r* to 100% *I_r*) and adjustable magnetic (6 *I_m* to 13 *I_m*)

Dimensions (mm)

| | | |
|-----------------|--------------|-----|
| Poles | 3 | 4 |
| H | 165 | 165 |
| W | 105 | 140 |
| D (less toggle) | 68 | 68 |
| Toggle cut-out | Standard DIN | |

| Ampere Rating NRC | Adj. <i>I_r</i> ¹⁾ Min - Max. | Adj. <i>I_m</i> ¹⁾ Min - Max. | Cat. No. |
|----------------------|---|---|---------------|
| 50 | 32 - 50 | 300 - 600 | S160 GJ 3 50 |
| | | | S160 GJ 4 50 |
| 63 | 40 - 63 | 378 - 756 | S160 GJ 3 63 |
| | | | S160 GJ 4 63 |
| 100 | 63 - 100 | 600 - 1200 | S160 GJ 3 100 |
| | | | S160 GJ 4 100 |
| 125 | 80 - 125 | 750 - 1500 | S160 GJ 3 125 |
| | | | S160 GJ 4 125 |
| 160 | 100 - 160 | 960 - 2080 | S160 GJ 3 160 |
| | | | S160 GJ 4 160 |

1) NRC: Nominal rated current
Adj. *I_r*: Adjustable thermal setting
Adj. *I_m*: Adjustable magnetic setting

Replaces: XH250NJ, XH250PJ, XH160PJ, Note: check exact ratings or dimensions to suit your application requirement

OPERATING CHARACTERISTICS

THERMAL MAGNETIC CHARACTERISTICS

160A and 250A Frames

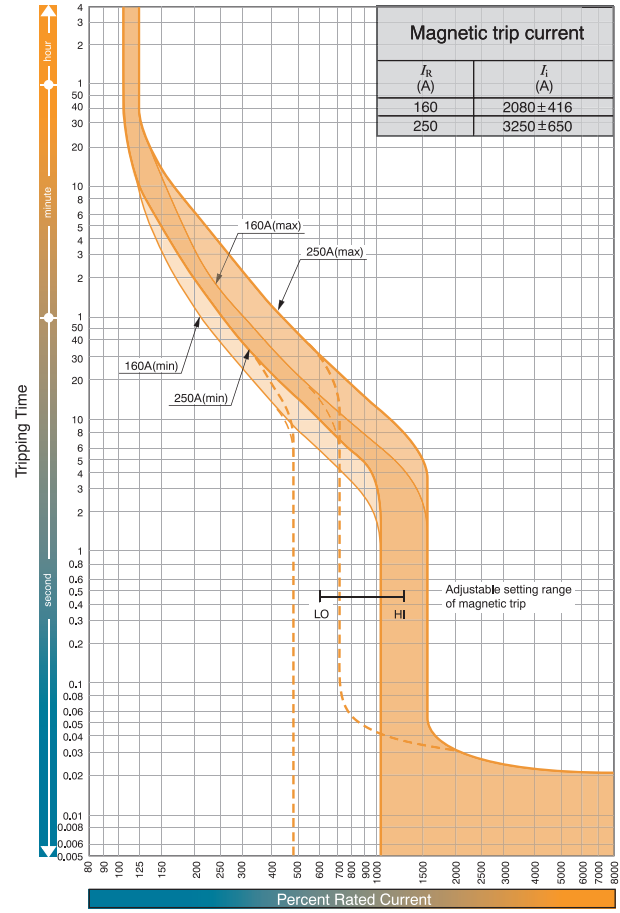
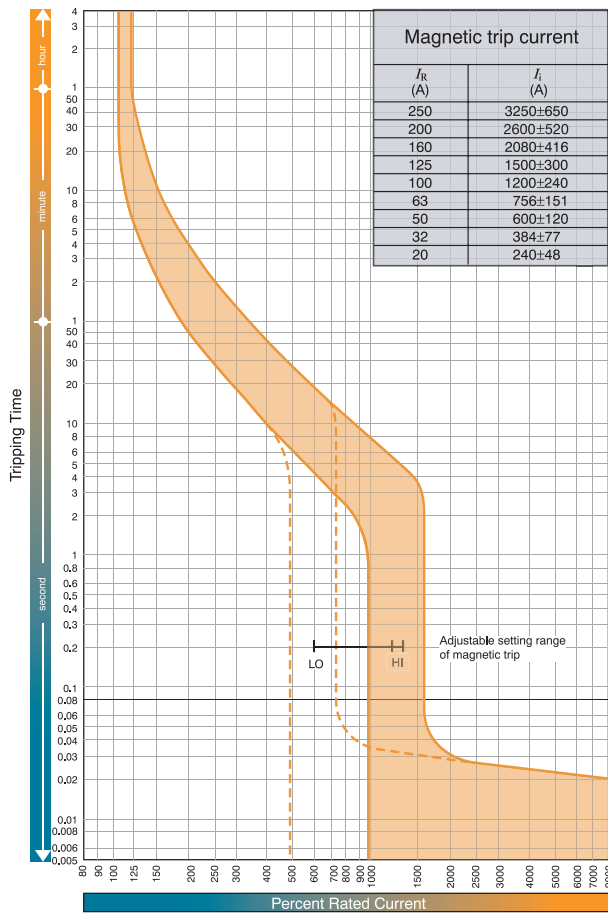
Time/current characteristic curves

S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ

Time/current characteristic curves

H160-NJ, H250-NJ, L160-NJ, L250-NJ

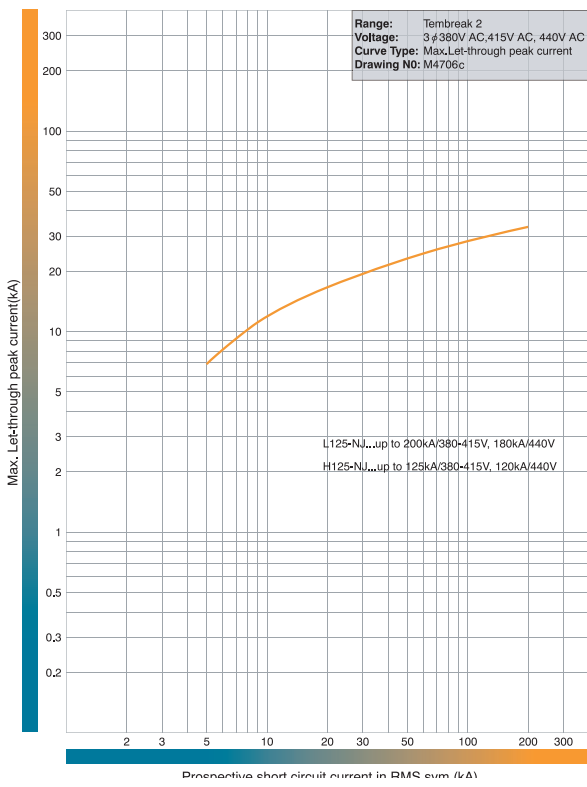
SECTION 3



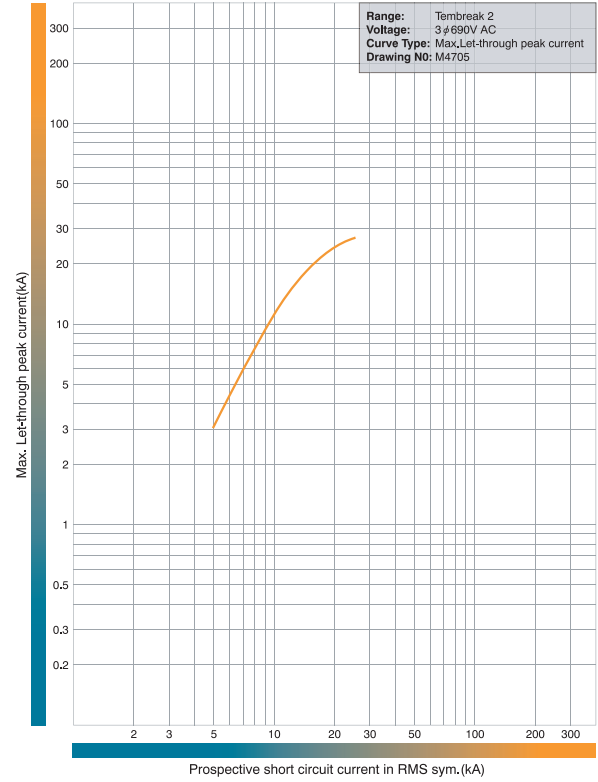
OPERATING CHARACTERISTICS

LET-THROUGH PEAK CURRENT CHARACTERISTICS

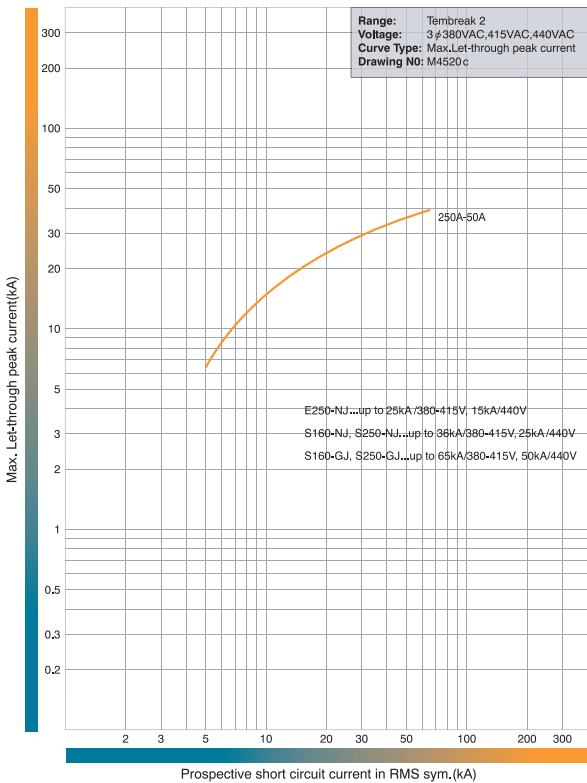
H125-NJ, L125-NJ. 440V AC.



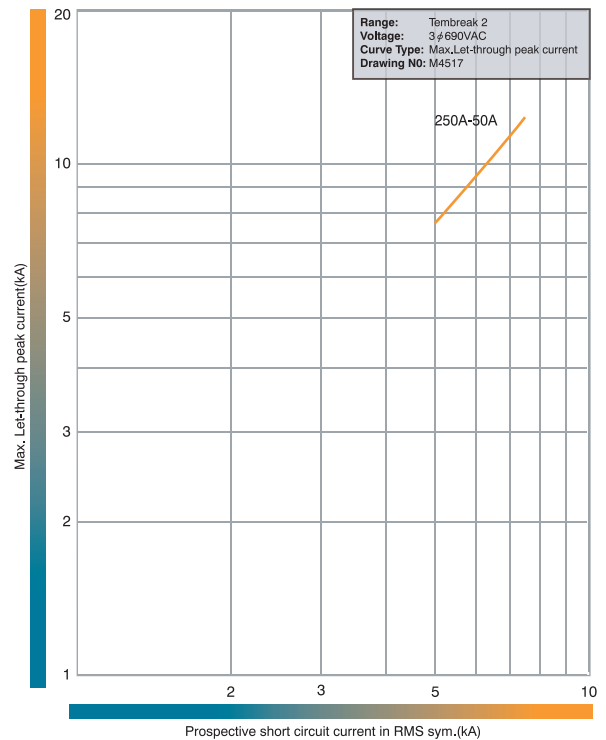
H125-NJ, L125-NJ. 690V AC



S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ. 440V AC.



S160-NJ, S160-GJ, S250-NJ, S250-GJ. 690V AC.



APPLICATION DATA

SELECTIVITY TABLES

Selectivity & Cascade Tables @ 400 / 415 V

 XX / YY
 Selectivity/ Cascade

| Upstream MCCBs (RMS) | Downstream MCCBs (RMS) | S250PE | H250NE | S400NE | S400GE | H400NE | L400NE | E630NE | S630CE |
|----------------------|------------------------|--------|---------|--------|--------|---------|---------|--------|--------|
| E125NJ | 25 | 25/25 | 25/65 | 25/36 | 25/50 | 25/65 | 25/85 | 25/36 | 25/25 |
| S125NJ | 36 | 36/36 | 36/85 | 36/60 | 36/65 | 36/85 | 36/125 | 36/36 | 36/36 |
| S125GJ | 65 | 65/65 | 65/125 | 50/60 | 65/70 | 65/125 | 65/150 | 36/36 | 50/50 |
| H125NJ | 125 | 70/70 | 125/125 | 50/60 | 70/70 | 125/125 | 125/200 | 36/36 | 50/50 |
| S160NJ | 36 | | | 36/60 | 36/65 | 36/85 | 36/125 | 36/36 | 36/50 |
| S160GJ | 65 | | | 50/60 | 65/70 | 65/125 | 65/150 | 36/36 | 50/50 |
| H160NJ | 125 | | | | | 125/125 | 125/200 | 36/36 | 50/50 |
| E250NJ | 25 | | | | | 25/65 | 25/85 | 25/36 | 25/25 |
| S250NJ | 36 | | | | | 36/85 | 36/125 | 36/36 | 36/36 |
| S250GJ | 65 | | | | | 65/125 | 65/150 | 36/36 | 50/50 |
| S250PE | 70 | | | | | 40/125 | 70/150 | 36/36 | 50/50 |
| H250NJ | 125 | | | | | 125/125 | 125/200 | 36/36 | 50/50 |
| H250PE | 125 | | | | | 125/125 | 125/200 | 36/36 | 50/50 |
| E400NJ | 25 | | | | | | | 10/25 | 10/25 |
| S400CJ | 36 | | | | | | | 10/36 | 10/36 |
| S400NE | 50 | | | | | | | 10/36 | 10/50 |
| S400NJ | 50 | | | | | | | 10/36 | 10/36 |
| S400GJ | 70 | | | | | | | 10/36 | 10/50 |
| H400NJ | 125 | | | | | | | 10/36 | 10/50 |
| H400NE | 125 | | | | | | | 10/36 | 10/50 |
| E630NE | 36 | | | | | | | | |
| E630CE | 50 | | | | | | | | |
| S630GE | 70 | | | | | | | | |
| XS630CJ | 45 | | | | | | | | |
| XS630NJ | 65 | | | | | | | | |
| XS630PJ | 85 | | | | | | | | |
| XS630SE | 50 | | | | | | | | |
| XH630SE | 65 | | | | | | | | |
| XH630PE | 65 | | | | | | | | |
| XS800NJ | 65 | | | | | | | | |
| XS800SE | 50 | | | | | | | | |
| XJ800PJ | 85 | | | | | | | | |
| XH800SE | 65 | | | | | | | | |
| XH800PE | 65 | | | | | | | | |
| XS1250SE | 65 | | | | | | | | |
| XS1600SE | 85 | | | | | | | | |

| XX / YY | S630GE | TL630NE | XS800SE | XH800SE | TL800NE | XS1250SE | TL1250NE | XS1600SE | XS2000NE | XS2500NE |
|---------|--------|---------|---------|---------|---------|----------|----------|----------|----------|----------|
| 70 | 25/50 | 25/25 | 25/36 | 25/36 | 25/65 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| 36/65 | 36/36 | 36/36 | 36/50 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 |
| 65/70 | 65/65 | 65/65 | 65/50 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 |
| 70/70 | 70/70 | 70/70 | 70/50 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 |
| 36/50 | 36/36 | 36/36 | 36/36 | 36/65 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 |
| 65/70 | 65/65 | 65/65 | 65/50 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 |
| 70/70 | 70/70 | 70/70 | 70/50 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 |
| 25/50 | 25/25 | 25/25 | 25/25 | 25/50 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| 36/65 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 |
| 65/70 | 65/65 | 65/65 | 65/50 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 |
| 70/70 | 70/70 | 70/70 | 70/50 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 |
| 70/70 | 70/70 | 70/70 | 70/50 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 | 70/65 |
| 10/50 | 10/36 | 25/25 | 25/25 | 25/36 | 25/25 | 25/25 | 25/25 | 25/36 | 25/25 | 25/25 |
| 10/65 | 10/50 | 25/36 | 25/36 | 25/50 | 36/36 | 36/36 | 36/36 | 36/50 | 36/36 | 36/36 |
| 10/50 | 10/50 | 25/50 | 25/50 | 25/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| 10/70 | 10/65 | 25/50 | 25/50 | 25/65 | 50/50 | 50/50 | 50/50 | 50/65 | 50/50 | 50/50 |
| 10/70 | 10/70 | 25/50 | 25/50 | 25/65 | 70/36 | 70/36 | 70/36 | 70/85 | 70/70 | 70/70 |
| 10/70 | 10/70 | 25/50 | 25/50 | 25/65 | 125/85 | 125/85 | 125/85 | 125/100 | 125/85 | 125/85 |
| 10/70 | 10/70 | 25/50 | 25/50 | 25/65 | 125/85 | 125/85 | 125/85 | 125/100 | 125/85 | 125/85 |
| | | 25/36 | 25/36 | 25/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 | 36/36 |
| | | 25/50 | 25/50 | 25/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| | | | | | 70/70 | 70/70 | 70/70 | 70/70 | 70/70 | 70/70 |
| | | | | | 30/45 | 30/45 | 30/45 | 30/45 | 35/45 | 35/45 |
| | | | | | 30/65 | 30/65 | 30/65 | 30/65 | 35/65 | 36/65 |
| | | | | | 30/85 | 30/85 | 30/85 | 30/85 | 35/85 | 35/85 |
| | | | | | 30/65 | 30/65 | 30/65 | 30/85 | 30/85 | 30/85 |
| | | | | | 30/65 | 30/65 | 30/65 | 30/85 | 30/85 | 30/85 |
| | | | | | 15/65 | 15/65 | 15/65 | 20/65 | 35/65 | 35/65 |
| | | | | | 15/50 | 15/50 | 15/50 | 20/50 | 35/50 | 35/50 |
| | | | | | 15/85 | 15/85 | 15/85 | 20/85 | 35/85 | 35/85 |
| | | | | | 15/65 | 15/65 | 15/65 | 20/65 | 35/65 | 35/65 |
| | | | | | 15/65 | 15/65 | 15/65 | 20/65 | 35/65 | 35/65 |
| | | | | | | | | 20/65 | 35/65 | 35/65 |
| | | | | | | | | | 35/85 | 35/85 |

APPLICATION DATA

CASCADE TABLES

SECTION 4

| CASCADE @ 380 – 415 V AC ¹⁾ Downstream MCCBs | kA (RMS) | E125NJ | S125NJ | S125GJ | H125NJ | L125NJ | S160NJ | S160GJ | H160NJ | L160NJ | E250NJ | S250NJ | S250GJ | S250PE | H250NJ | H250NE | L250NJ |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 25 | 36 | 65 | 125 | 200 | 36 | 65 | 125 | 200 | 25 | 36 | 65 | 70 | 125 | 125 | 200 |
| E125NJ | 25 | – | 36 | 36 | 65 | 85 | 36 | 36 | 65 | 85 | – | 36 | 36 | – | 65 | 65 | 85 |
| S125NJ | 36 | – | – | 50 | 85 | 125 | – | 50 | 85 | 125 | – | – | – | – | 85 | 85 | 125 |
| S125GJ | 65 | – | – | – | 125 | 150 | – | – | 125 | 150 | – | – | 65 | – | 125 | 125 | 150 |
| H125NJ | 125 | – | – | – | – | 200 | – | – | – | 200 | – | – | 65 | – | – | – | 200 |
| S160NJ | 36 | – | – | 65 | – | – | – | 65 | 85 | 125 | – | – | 65 | 65 | 85 | 85 | 125 |
| S160GJ | 65 | – | – | – | – | – | – | – | 125 | 150 | – | – | – | 70 | 125 | 125 | 150 |
| H160NJ | 125 | – | – | – | – | – | – | – | – | 200 | – | – | – | – | – | – | 200 |
| S250NJ | 36 | – | – | – | – | – | – | 65 | – | – | – | – | – | 65 | 85 | 85 | 125 |
| S250GJ | 65 | – | – | – | – | – | – | – | – | – | – | – | – | 70 | 125 | 125 | 150 |
| S250PE | 70 | – | – | – | – | – | – | – | – | – | – | – | – | – | 125 | 125 | 150 |
| H250NJ | 125 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 200 |
| E400NJ | 25 | – | – | – | – | – | – | – | – | – | – | – | – | 36 | 65 | 65 | – |
| S400CJ | 36 | – | – | – | – | – | – | – | – | – | – | – | – | 50 | 70 | 70 | – |
| S400NJ | 50 | – | – | – | – | – | – | – | – | – | – | – | 50 | 65 | 85 | 85 | – |
| S400GJ | 70 | – | – | – | – | – | – | – | – | – | – | – | 50 | – | 125 | 125 | – |
| H400NJ | 125 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

Note: ¹⁾ Ratings have not been verified where a dash “–” is shown.

All pick-up and time delay settings are to be set at a maximum for upstream MCCB's

| CASCADE @ 380 – 415 V AC ¹⁾ Downstream MCCBs | kA (RMS) | Upstream MCCBs | | | | | | | | | | | | | | | | | | | |
|--|-------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|----------|----------|----|
| | | S400CJ | S400NJ | S400NE | S400GJ | S400GE | H400NJ | H400NE | L400NJ | L400NE | E630NE | S630CE | S630GE | TL630NE | XS800SE | XS800NJ | XH800SE | TL800NE | XS1250SE | XS1600SE | |
| E125NJ | 25 | 36 | 36 | 50 | 65 | 85 | 85 | 36 | – | 50 | – | 36 | 36 | 36 | – | – | – | – | – | – | – |
| S125NJ | 36 | – | 50 | 65 | 85 | 125 | 125 | – | – | 65 | – | 50 | 50 | – | – | – | – | – | – | – | – |
| S125GJ | 65 | – | – | 70 | 125 | 150 | 150 | – | 50 | 70 | – | – | – | 65 | – | – | – | – | – | – | – |
| H125NJ | 125 | – | – | – | – | 200 | 200 | – | – | – | – | – | – | 65 | – | 50 | – | – | – | – | – |
| S160NJ | 36 | – | 50 | 65 | 85 | 125 | 125 | – | 50 | 50 | – | – | 65 | 65 | – | – | – | – | – | – | – |
| S160GJ | 65 | – | – | 70 | 125 | 150 | 150 | – | – | 70 | – | – | – | – | – | – | – | – | – | – | – |
| H160NJ | 125 | – | – | – | – | 200 | 200 | – | – | – | – | – | – | 65 | – | 65 | – | – | – | – | – |
| E250NJ | 25 | 36 | 36 | 50 | 65 | 85 | 85 | 36 | – | 50 | – | – | 36 | 50 | – | – | – | – | – | – | – |
| S250NJ | 36 | – | 50 | 65 | 85 | 125 | 125 | – | – | 65 | – | – | 65 | – | – | – | – | – | – | – | – |
| S250GJ | 65 | – | – | 70 | 125 | 150 | 150 | – | – | 70 | – | – | – | – | – | – | – | – | – | – | – |
| S250PE | 70 | – | – | – | 125 | 150 | 150 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| H250NJ | 125 | – | – | – | – | 200 | 200 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| E400NJ | 25 | 36 | 36 | 50 | 65 | 85 | 85 | 36 | – | 50 | 36 | – | – | – | – | 36 | – | – | – | – | 36 |
| S400CJ | 36 | – | 50 | 65 | 70 | 100 | 100 | – | – | 65 | 50 | – | – | – | – | 50 | – | – | – | – | 50 |
| S400NJ | 50 | – | – | 70 | 85 | 125 | 125 | – | 36 | 70 | 65 | – | – | 50 | 65 | – | – | – | – | – | 65 |
| S400GJ | 70 | – | – | – | 125 | 150 | 150 | – | 36 | – | – | – | – | 50 | – | 36 | 85 | – | – | – | 85 |
| H400NJ | 125 | – | – | – | – | 200 | 200 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

Note: ¹⁾ Ratings have not been verified where a dash “–” is shown.

All pick-up and time delay settings are to be set at a maximum for upstream MCCBs

APPLICATION DATA

SELECTIVITY AND CASCADE TEMBREAK 2 MCCBs AND DIN-T / SAFE-T MCBs

| SELECTIVITY / CASCADE @ 415 V AC | | | Upstream MCCB | | | | | | | |
|-------------------------------------|---------------|-------------|---------------|--------|------------------|--------|--------|--------|------------------|--------|
| | | | E125NJ | S125NJ | H125NJ S125GJ | S250NJ | S250GJ | S400CJ | S400GE S400GJ | H400NJ |
| Downstream MCB | Amp rating | kA (RMS) | 25 | 36 | 65 | 36 | 65 | 36 | 70 | 125 |
| DTCB6 | 2 – 20 | 6 | 18/18 | 25/25 | 35/35 | 35/35 | 35/35 | – | – | – |
| | 25 – 63 | 6 | 18/18 | 20/25 | 20/25 | 30/30 | 30/30 | – | – | – |
| DTCB10 | 0.5 – 32 | 10 | 18/18 | 30/30 | 30/50 | 35/35 | 40/50 | 35/35 | 40/50 | 40/50 |
| | 40 – 63 | 10 | 18/18 | 20/25 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| DSRCBH / | 0.5 – 32 | 10 | 18/18 | 30/30 | 30/50 | 35/35 | 40/50 | 35/35 | 40/50 | 40/50 |
| DSRCD | 40 | 10 | 18/18 | 20/25 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| Din-T10H | 80 – 125 | 10 | 4/18 | 4/25 | 4/25 | 15/15 | 15/15 | 10/10 | 10/10 | – |
| DTCH15 | 0.5 – 32 | 15 | 18/18 | 30 | 30/50 | 35/35 | 40/50 | 35/35 | 40/50 | 40/50 |
| | 40 – 63 | 15 | 18/18 | 20 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| Safe-T | 16 – 20 | 6 | 3/10 | 3/10 | 3/10 | – | – | – | – | – |
| SRCB | 16 – 20 | 6 | 3/10 | 3/10 | 3/10 | – | – | – | – | – |

Guide



Notes: All figures stated are at 400/415 V AC.

APPLICATION DATA

MOTOR STARTING TYPE 1 CO-ORDINATION TABLES

Short-Circuit Co-Ordination Motor Starting Table

Type '1'
 Terasaki MCCB's & Sprecher + Schuh KT7's
 DOL starting 50/65 kA @ 400/415 V to AS/NZS 60947.4.1

TYPE 1
50/65 kA

SECTION 4

| Motor Size (kW) | Approx. amps @ 400/415 V (A) | Terasaki Combinations | |
|-----------------|------------------------------|-----------------------|------------|
| | | MCCB | Contactors |
| 0.37 | 1.1 | XM30PB/1.4 | CA7-9 |
| 0.55 | 1.5 | XM30PB/2 | CA7-9 |
| 0.75 | 1.8 | XM30PB/2.6 | CA7-9 |
| 1.1 | 2.6 | XM30PB/4.0 | CA7-9 |
| 1.5 | 3.4 | XM30PB/5 | CA7-9 |
| 2.2 | 4.8 | XM30PB/8 | CA7-9 |
| 3 | 6.5 | XM30PB/10 | CA7-9 |
| 4 | 8.2 | XM30PB/12 | CA7-9 |
| 5.5 | 11 | S125GJ/20 | CA7-12 |
| 7.5 | 14 | S125GJ/20 | CA7-16 |
| 11 | 21 | S125GJ/32 | CA7-23 |
| 15 | 28 | S125GJ/50 | CA7-30 |
| 18.5 | 34 | S125GJ/50 | CA7-37 |
| 22 | 40 | S125GJ/63 | CA7-43 |
| 30 | 55 | S125GJ/100 | CA7-60 |
| 37 | 66 | S125GJ/100 | CA7-72 |
| 45 | 80 | S125GJ/125 | CA7-85 |
| 55 | 100 | S125GJ/125 | CA6-110 |
| 5 | 130 | S250PE/250 | CA6-140 |
| 0 | 155 | S250PE/250 | CA6-180 |
| 10 | 200 | S250PE/250 | CA6-210 |
| 32 | 225 | S400GE/400 | CA6-210 |
| 60 | 270 | S400GE/400 | CA6-300 |
| 00 | 361 | S400GE/400 | CA6-420 |

| Terasaki Combinations | | Sprecher + Schuh Combinations | |
|-----------------------|---------------------|-------------------------------|------------|
| Overload Relay | Thermal Setting (A) | KT7 Circuit Breaker | Contactors |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1.0A | CA7-9 |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1.6A | CA7-9 |
| CT 7-24 | 1.6 - 2.4 | KTA7-25S-2.5A | CA7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25S-2.5A | CA7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25S-4.0A | CA7-9 |
| CT 7-24 | 4.0 - 6.0 | KTA7-25S-6.3A | CA7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25S-6.3A | CA7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25S-10A | CA7-9 |
| CT 7-24 | 10 - 16 | KTA7-25H-16A | CA7-12 |
| CT 7-24 | 10 - 16 | KTA7-25H-16A | CA7-16 |
| CT 7-24 | 16 - 24 | KTA7-45H-20A | CA7-23 |
| CT 7-45 | 18 - 30 | KTA7-45H-32A | CA7-30 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA7-37 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA7-43 |
| CT 7-75 | 45 - 60 | KTA3-100-63A | CA7-60 |
| CT 7-75 | 60 - 75 | KTA3-100-90A | CA7-72 |
| CT 7-100 | 70 - 90 | KTA3-100-90A | CA7-85 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-100A | CA6-110 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-160A | CA6-140 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-160A | CA6-180 |
| CEF 1-41/42 | 160 - 400 | KTA3-250S-200A | CA6-210 |
| CEF 1-41/42 | 160 - 400 | KTA3-250S-250A | CA6-250 |
| CEF 1-41/42 | 160 - 400 | KTA3-400S-320A | CA6-300 |
| CEF 1-41/42 | 160 - 400 | KTA3-400S-400A | CA6-420 |

- Notes:**
- Thermal or electronic overload relays may be used.
 - XM30PB MCCB's can be replaced with S125GJ/20 if required.
 - Combinations based on the thermal overload relay tripping before the circuit breaker at overload currents up to the motor locked rotor current.

APPLICATION DATA

MOTOR STARTING TYPE 2 CO-ORDINATION TABLES

Short-Circuit Co-Ordination DOL Motor Starting Table

Type '2'
 Terasaki MCCB's & Sprecher + Schuh KT7's
 DOL starting 50/65 kA @ 400/415 V to AS/NZS 60947.4.1

TYPE 2
50/65 kA

| Motor Size (kW) | Approx. amps @ 400/415 V (A) | Terasaki Combinations | |
|-----------------|------------------------------|-----------------------|------------|
| | | MCCB | Contactors |
| 0.37 | 1.1 | XM30PB/1.4 | CA7-9 |
| 0.55 | 1.5 | XM30PB/2 | CA7-9 |
| 0.75 | 1.8 | XM30PB/2.6 | CA7-9 |
| 1.1 | 2.6 | XM30PB/4.0 | CA7-16 |
| 1.5 | 3.4 | XM30PB/5 | CA7-16 |
| 2.2 | 4.8 | XM30PB/8 | CA7-16 |
| 3 | 6.5 | XM30PB/10 | CA7-30 |
| 4 | 8.2 | XM30PB/12 | CA7-30 |
| 5.5 | 11 | S125GJ/20 | CA7-30 |
| 7.5 | 14 | S125GJ/20 | CA7-30 |
| 11 | 21 | S125GJ/32 | CA7-30 |
| 15 | 28 | S125GJ/50 | CA7-43 |
| 18.5 | 34 | S125GJ/50 | CA7-43 |
| 22 | 40 | S125GJ/63 | CA7-43 |
| 30 | 55 | S125GJ/100 | CA7-72 |
| 37 | 66 | S125GJ/100 | CA7-72 |
| 45 | 80 | S125GJ/125 | CA6-105 |
| 55 | 100 | S250PE/160 | CA6-105 |
| 75 | 130 | S250PE/250 | CA6-140 |
| 90 | 155 | S250PE/250 | CA6-170 |
| 110 | 200 | S250PE/250 | CA6-210 |
| 132 | 225 | S400PE/400 | CA6-210 |
| 160 | 270 | S400PE/400 | CA6-300 |
| 200 | 361 | S400PE/400 | CA6-420 |

| Terasaki Combinations | | Sprecher + Schuh Combinations | |
|-----------------------|---------------------|-------------------------------|------------|
| Overload Relay | Thermal Setting (A) | KT7 Circuit Breaker | Contactors |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1A | CA7-9 |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1.6A | CA7-9 |
| CT 7-24 | 1.6 - 2.4 | KTA7-25S-2.5A | CA7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25S-2.5A | CA7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25S-4A | CA7-9 |
| CT 7-24 | 4.0 - 6.0 | KTA7-25S-6.3A | CA7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25S-6.3A | CA7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25S-10A | CA7-9 |
| CT 7-24 | 10 - 16 | KTA7-25H-16A | CA7-12 |
| CT 7-24 | 10 - 16 | KTA7-25H-16A | CA7-16 |
| CT 7-24 | 16 - 24 | KTA7-45H-20A | CA7-23 |
| CT 7-45 | 18 - 30 | KTA7-45H-32A | CA7-30 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA7-37 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA7-43 |
| CT 7-75 | 45 - 60 | KTA3-100-63A | CA7-60 |
| CT 7-75 | 60 - 75 | KTA3-100-90A | CA7-72 |
| CT 7-100 | 70 - 90 | KTA3-100-90A | CA7-85 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-100A | CA6-110 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-160A | CA6-140 |
| CEF 1-11/12 | 20 - 180 | KTA3-160S-160A | CA6-180 |
| CEF 1-41/42 | 160 - 400 | KTA3-250S-200A | CA6-210 |
| CEF 1-41/42 | 160 - 400 | KTA3-250S-250A | CA6-250 |
| CEF 1-41/42 | 160 - 400 | KTA3-400S-320A | CA6-300 |
| CEF 1-41/42 | 160 - 400 | KTA3-400S-400A | CA6-420 |

- Notes:**
- Thermal or electronic overload relays may be used.
 - XM30PB combinations can be replaced with S125GJ/20 and CA7-30 if required.
 - Combinations based on the thermal overload relay tripping before the circuit breaker at overload currents up to the motor locked rotor current.

SECTION 4

APPLICATION DATA

MOTOR STARTING TYPE 2 CO-ORDINATION

Short-Circuit Co-Ordination DOL Motor Starting Table

Type '2'
 Terasaki MCCB's & Sprecher + Schuh KT7's
 DOL starting 85 kA @ 400/415 V to AS/NZS 60947.4.1

TYPE 2
85 kA

| Motor Size (kW) | Approx. amps @ 400/415 V (A) | Terasaki Combinations | |
|-----------------|------------------------------|-----------------------|------------|
| | | MCCB | Contactors |
| 0.37 | 1.1 | XM30PB/1.4 | CA 7-9 |
| 0.55 | 1.5 | XM30PB/2 | CA 7-9 |
| 0.75 | 1.8 | XM30PB/2.6 | CA 7-9 |
| 1.1 | 2.6 | XM30PB/4.0 | CA 7-16 |
| 1.5 | 3.4 | XM30PB/5 | CA 7-16 |
| 2.2 | 4.8 | XM30PB/8 | CA 7-30 |
| 3 | 6.5 | XM30PB/10 | CA 7-30 |
| 4 | 8.2 | XM30PB/12 | CA 7-30 |
| 5.5 | 11 | H125NJ/20 | CA 7-30 |
| 7.5 | 14 | H125NJ/20 | CA 7-30 |
| 11 | 21 | H125NJ/32 | CA 7-30 |
| 15 | 28 | H125NJ/50 | CA 7-43 |
| 18.5 | 34 | H125NJ/50 | CA 7-43 |
| 22 | 40 | H125NJ/63 | CA 7-43 |
| 30 | 55 | H125NJ/100 | CA 7-72 |
| 37 | 66 | H125NJ/100 | CA 7-72 |
| 45 | 80 | H125NJ/160 | CA 6-105 |
| 55 | 100 | H160NJ/160 | CA 6-105 |
| 75 | 130 | H250PE/250 | CA 6-210 |
| 90 | 155 | H250PE/250 | CA 6-210 |
| 110 | 200 | H250PE/250 | CA 6-210 |
| 132 | 225 | H400NE/400 | CA 6-210 |
| 160 | 270 | H400NE/400 | CA 6-300 |
| 200 | 361 | H400NE/400 | CA 6-420 |

| Terasaki Combinations | | Sprecher + Schuh Combinations | |
|-----------------------|---------------------|-------------------------------|------------|
| Overload Relay | Thermal Setting (A) | KT7 Circuit Breaker | Contactors |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1A | CA 7-9 |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1.6A | CA 7-9 |
| CT 7-24 | 1.6 - 2.4 | KTA7-25S-2.5A | CA 7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25H-2.5A | CA 7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25H-4A | CA 7-9 |
| CT 7-24 | 4.0 - 6.0 | KTA7-25H-6.3A | CA 7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25H-6.3A | CA 7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25H-10A | CA 7-9 |
| CT 7-24 | 10 - 16 | KTA7-45H-16A | CA 7-12 |
| CT 7-24 | 10 - 16 | KTA7-45H-16A | CA 7-16 |
| CT 7-24 | 16 - 24 | KTA7-45H-20A | CA 7-23 |
| CT 7-45 | 18 - 30 | KTA7-45H-32A | CA 7-30 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA 7-37 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA 7-43 |
| CT 7-75 | 45 - 60 | KTA3-100-63A | CA7-60 |
| CT 7-75 | 60 - 75 | KTA3-100-90A | CA7-72 |
| CT 7-100 | 70 - 90 | KTA3-100-90A | CA7-85 |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |

- Notes:**
- Thermal or electronic overload relays may be used.
 - XM30PB combinations can be replaced with H125GJ/20 and CA7-30 if required.
 - Combinations based on the thermal overload relay tripping before the circuit breaker at overload currents up to the motor locked rotor current.

APPLICATION DATA

MOTOR STARTING TYPE 2 CO-ORDINATION

Short-Circuit Co-Ordination DOL Motor Starting Table

Type '2'
 Terasaki MCCB's & Sprecher + Schuh KT7's
 DOL starting 100 kA @ 400/415 V to AS/NZS 60947.4.1

TYPE 2
100 kA

| Motor Size (kW) | Approx. amps @ 400/415 V (A) | Terasaki Combinations | |
|-----------------|------------------------------|-----------------------|------------|
| | | MCCB | Contactors |
| 0.37 | 1.1 | H125NJ/20 | CA 7-30 |
| 0.55 | 1.5 | H125NJ/20 | CA 7-30 |
| 0.75 | 1.8 | H125NJ/20 | CA 7-30 |
| 1.1 | 2.6 | H125NJ/20 | CA 7-30 |
| 1.5 | 3.4 | H125NJ/20 | CA 7-30 |
| 2.2 | 4.8 | H125NJ/20 | CA 7-30 |
| 3 | 6.5 | H125NJ/20 | CA 7-30 |
| 4 | 8.2 | H125NJ/20 | CA 7-30 |
| 5.5 | 11 | H125NJ/20 | CA 7-30 |
| 7.5 | 14 | H125NJ/20 | CA 7-30 |
| 11 | 21 | H125NJ/32 | CA 7-30 |
| 15 | 28 | H125NJ/50 | CA 7-43 |
| 18.5 | 34 | H125NJ/50 | CA 7-43 |
| 22 | 40 | H125NJ/63 | CA 7-43 |
| 30 | 55 | H125-NJ/100 | CA 7-60 |
| 37 | 66 | H125-NJ/100 | CA 7-72 |
| 45 | 80 | H125-NJ/125 | CA 7-85 |
| 55 | 100 | H250-NE/160 | CA 6-95 |
| 75 | 130 | H250-NE/250 | CA 6-140 |
| 90 | 155 | H250-NE/250 | CA 6-140 |
| 110 | 200 | H250-NE/250 | CA 6-180 |
| 132 | 225 | H400-NE/400 | CA 6-420 |
| 160 | 270 | H400-NE/400 | CA 6-420 |
| 200 | 361 | H400-NE/400 | CA 6-420 |

| Terasaki Combinations | | Sprecher + Schuh Combinations | |
|-----------------------|---------------------|-------------------------------|------------|
| Overload Relay | Thermal Setting (A) | KT7 Circuit Breaker | Contactors |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1A | CA 7-9 |
| CT 7-24 | 1.0 - 1.6 | KTA7-25S-1.6A | CA 7-9 |
| CT 7-24 | 1.6 - 2.4 | KTA7-25S-2.5A | CA 7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25H-2.5A | CA 7-9 |
| CT 7-24 | 2.4 - 4.0 | KTA7-25H-4A | CA 7-9 |
| CT 7-24 | 4.0 - 6.0 | KTA7-25H-6.3A | CA 7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25H-6.3A | CA 7-9 |
| CT 7-24 | 6.0 - 10 | KTA7-25H-10A | CA 7-9 |
| CT 7-24 | 10 - 16 | KTA7-45H-16A | CA 7-12 |
| CT 7-24 | 10 - 16 | KTA7-45H-16A | CA 7-16 |
| CT 7-24 | 16 - 24 | KTA7-45H-20A | CA 7-23 |
| CT 7-45 | 18 - 30 | KTA7-45H-32A | CA 7-30 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA 7-37 |
| CT 7-45 | 30 - 45 | KTA7-45H-45A | CA 7-43 |
| CT 7-75 | 45 - 60 | - | - |
| CT 7-75 | 60 - 75 | - | - |
| CT 7-100 | 70 - 90 | - | - |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-11/12 | 20 - 180 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |
| CEF 1-41/42 | 160 - 400 | - | - |

- Notes:**
- Thermal or electronic overload relays may be used.
 - Combinations based on the thermal overload relay tripping before the circuit breaker at overload currents up to the motor locked rotor current.

SECTION 4

INSTALLATION

INSULATION DISTANCE IN mm (AT 440V AC MAXIMUM)

| Model | Type | A | B1 | B2 | C | D | E |
|-------|------|-----|-----|----|---|----|------|
| E125 | NJ | 50 | 10 | 10 | 0 | 25 | *(1) |
| S125 | NF | 50 | 10 | 10 | 0 | 25 | *(1) |
| S125 | NJ | 50 | 10 | 10 | 0 | 25 | *(1) |
| S125 | GJ | 75 | 45 | 25 | 0 | 25 | *(1) |
| H125 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| L125 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| S160 | NF | 50 | 40 | 30 | 0 | 25 | *(1) |
| S160 | NJ | 50 | 40 | 30 | 0 | 25 | *(1) |
| S160 | GJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| H160 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| L160 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| E250 | NJ | 50 | 40 | 30 | 0 | 25 | *(1) |
| S250 | NJ | 50 | 40 | 30 | 0 | 25 | *(1) |
| S250 | GJ | 100 | 80 | 30 | 0 | 25 | *(1) |
| S250 | PE | 100 | 80 | 60 | 0 | 50 | *(1) |
| H250 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| H250 | NE | 100 | 80 | 60 | 0 | 50 | *(1) |
| L250 | NJ | 100 | 80 | 60 | 0 | 50 | *(1) |
| E400 | NJ | 100 | 80 | 40 | 0 | 30 | *(1) |
| S400 | CJ | 100 | 80 | 40 | 0 | 30 | *(1) |
| S400 | NJ | 100 | 80 | 40 | 0 | 30 | *(1) |
| S400 | GJ | 100 | 80 | 40 | 0 | 30 | *(1) |
| S400 | GE | 100 | 80 | 40 | 0 | 30 | *(1) |
| H400 | NJ | 120 | 120 | 80 | 0 | 80 | *(1) |
| H400 | NE | 120 | 120 | 80 | 0 | 80 | *(1) |
| L400 | NJ | 120 | 120 | 80 | 0 | 80 | *(1) |
| L400 | NE | 120 | 120 | 80 | 0 | 80 | *(1) |
| E630 | NE | 120 | 100 | 80 | 0 | 80 | *(1) |
| S630 | CE | 120 | 100 | 80 | 0 | 80 | *(1) |
| S630 | GE | 120 | 100 | 80 | 0 | 80 | *(1) |

*Note: (1) Insulate the exposed conductor until it overlaps the moulded case at the terminal, or the terminal cover.

INSTALLATION

TEMPERATURE RATINGS & DERATINGS

Calibration Temperature: 45°C

| MCCB Type | Connection Type | Rating at calibration temperature (50°C) | Rated Current (A) | | | | | | | | |
|--|-----------------|--|-------------------|------|------|------|-------|------|-----|-----|-----|
| | | | 50°C | 55°C | 60°C | 65°C | | | | | |
| E125-NJ S125-NJ S125-GJ | Front | 20A | 19 | 18.5 | 18 | 17.5 | | | | | |
| | Rear | 32A | 31 | 30.5 | 30 | 29 | | | | | |
| | Plug-in | 50A | 48 | 45 | 43 | 41 | | | | | |
| | | 63A | 60 | 57 | 55 | 52 | | | | | |
| | | 100A | 97 | 94 | 90 | 87 | | | | | |
| | | 125A | 121 | 117 | 113 | 109 | | | | | |
| H125-NJ L125-NJ | Front | 20A | 19 | 18.5 | 18 | 17.5 | | | | | |
| | Rear | 32A | 31 | 30 | 29 | 28 | | | | | |
| | Plug-in | 50A | 48 | 47 | 45 | 44 | | | | | |
| | | 63A | 61 | 59 | 57 | 55 | | | | | |
| | | 100A | 97 | 95 | 92 | 89 | | | | | |
| | | 125A | 121 | 118 | 114 | 111 | | | | | |
| S160-NJ S160-GJ | Front | 20A | 19 | 18.5 | 18 | 17.5 | | | | | |
| | Rear | 32A | 31 | 30 | 29 | 28 | | | | | |
| | Plug-in | 50A | 48 | 46 | 44 | 42 | | | | | |
| | | 63A | 61 | 59 | 57 | 55 | | | | | |
| | | 100A | 97 | 94 | 91 | 88 | | | | | |
| | | 125A | 121 | 117 | 113 | 109 | | | | | |
| H160-NJ L160-NJ | Front | 160A | 156 | 151 | 146 | 141 | | | | | |
| | Rear | | 156 | 151 | 146 | 141 | | | | | |
| E250-NJ | Front | 20A | 19 | 18.5 | 18 | 17.5 | | | | | |
| | Rear | 32A | 31 | 30 | 29 | 28 | | | | | |
| | Plug-in | 50A | 48 | 46 | 44 | 42 | | | | | |
| | | 63A | 61 | 59 | 57 | 55 | | | | | |
| | | 100A | 97 | 94 | 91 | 88 | | | | | |
| | | 125A | 121 | 117 | 113 | 109 | | | | | |
| E250-NJ S250-NJ S250-GJ | Front | 160A | 156 | 151 | 146 | 141 | | | | | |
| | Rear | 250A | 243 | 235 | 227 | 219 | | | | | |
| H250-NJ L250-NJ | Front | 160A | 156 | 151 | 147 | 143 | | | | | |
| | Rear | | | | | | | | | | |
| | Plug-in | | | | | | 250A | 244 | 237 | 230 | 223 |
| | | | | | | | Front | 250A | 244 | 237 | 230 |
| E400-NJ S400-CJ S400-NJ S400-GJ | Front | 250A | 244 | 237 | 230 | 223 | | | | | |
| | Rear | 400A | 390 | 380 | 369 | 358 | | | | | |
| | Plug-in | 400A | 390 | 380 | 369 | 358 | | | | | |
| H400-NJ L400-NJ | Front | 250A | 243 | 237 | 230 | 223 | | | | | |
| | Rear | 400A | 390 | 381 | 371 | 361 | | | | | |
| | Plug-in | 250A | 243 | 237 | 231 | 224 | | | | | |
| | | 400A | 392 | 384 | 376 | 368 | | | | | |

Calibration Temperature: 30°C

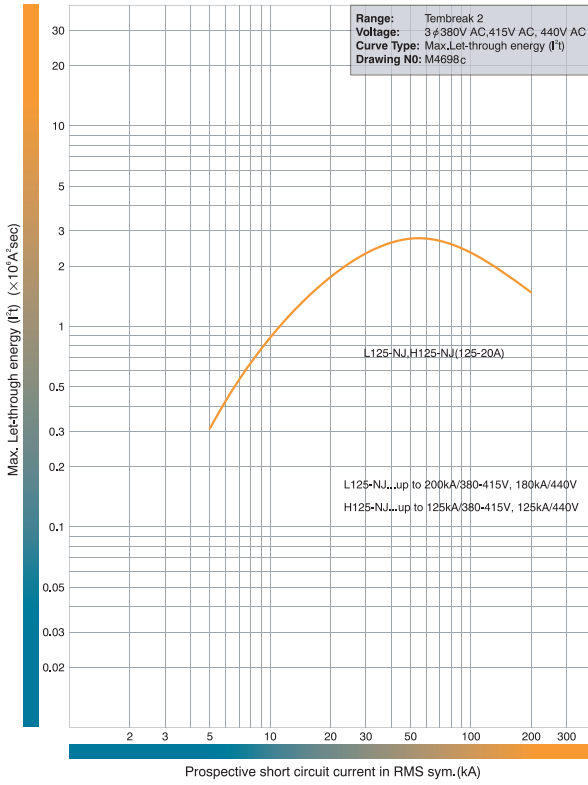
| MCCB Type | Connection Type | Rating at calibration temperature (30°C) | Rated Current (A) | | | | | | |
|--------------------|-----------------|--|-------------------|------|------|------|------|------|------|
| | | | 35°C | 40°C | 45°C | 50°C | 55°C | 60°C | 65°C |
| H250-NJ L250-NJ | Plug-in Conn. | 250A | 244 | 236 | 225 | 219 | 209 | 200 | 190 |

| MCCB Type | Connection Type | Rating | Rated Current (A) | | | | | | | |
|-------------------------------|-----------------|--------|-------------------|-------|------|------|-------|-------|-------|-------|
| | | | 30°C | 35°C | 40°C | 45°C | 50°C | 55°C | 60°C | 65°C |
| S250-PE H250-NE | Front | 250A | 250 | 250 | 250 | 250 | 237.5 | 225 | 200 | 200 |
| | Rear | | 250 | 250 | 250 | 250 | 237.5 | 225 | 200 | 200 |
| S400-NE S400-GE | Plug-in | 250A | 250 | 237.5 | 225 | 225 | 200 | 200 | 157.5 | 157.5 |
| | Front | 250A | 250 | 250 | 250 | 250 | 250 | 250 | 225 | 200 |
| | Rear | 400A | 400 | 400 | 400 | 400 | 400 | 380 | 360 | 320 |
| H400-NE L400-NE | Plug-in | 250A | 250 | 250 | 250 | 250 | 250 | 250 | 225 | 200 |
| | Front | 250A | 250 | 250 | 250 | 250 | 250 | 250 | 225 | 200 |
| | Rear | 400A | 400 | 400 | 400 | 400 | 400 | 380 | 360 | 320 |
| | Plug-in | 400A | 400 | 400 | 400 | 400 | 400 | 380 | 360 | 320 |
| E630-NE S630-CE S630-GE | Front | 630A | 630 | 630 | 630 | 630 | 598.5 | 598.5 | 567 | 504 |
| Rear* | | | | | | | | | | |

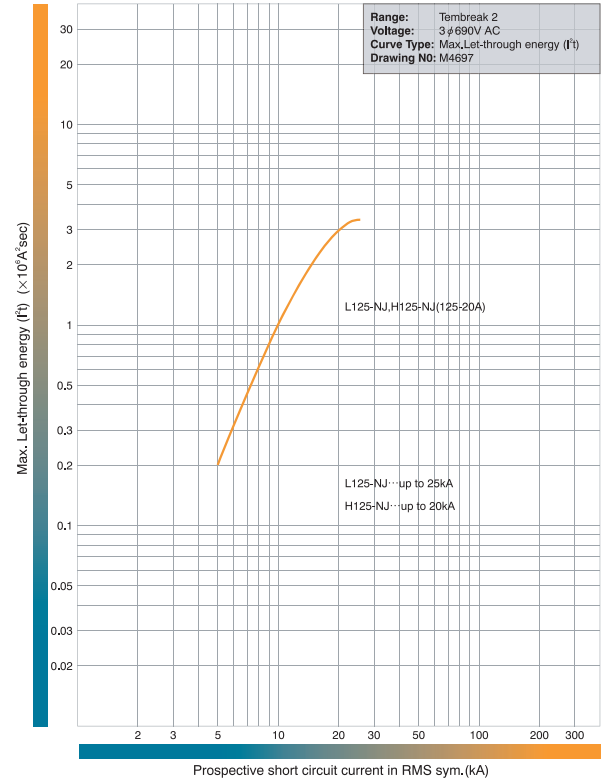
OPERATING CHARACTERISTICS

LET-THROUGH ENERGY CHARACTERISTICS

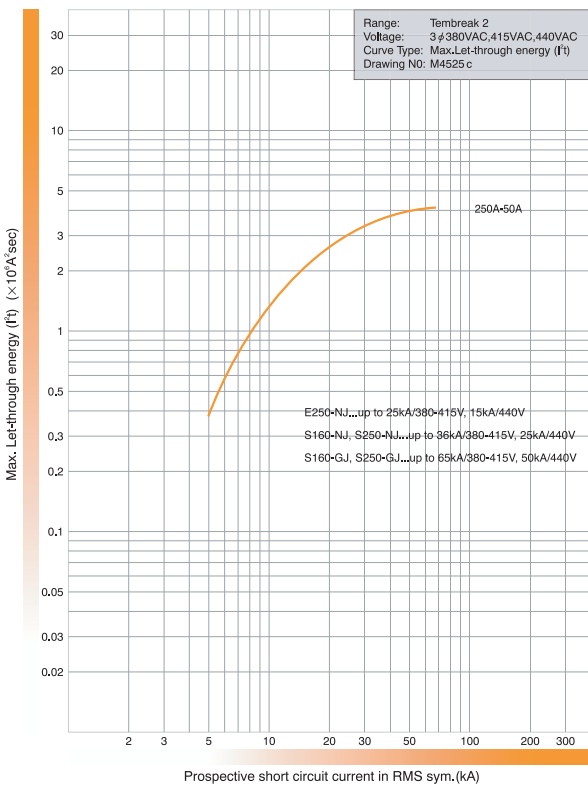
H125-NJ, L125-NJ. 440V AC.



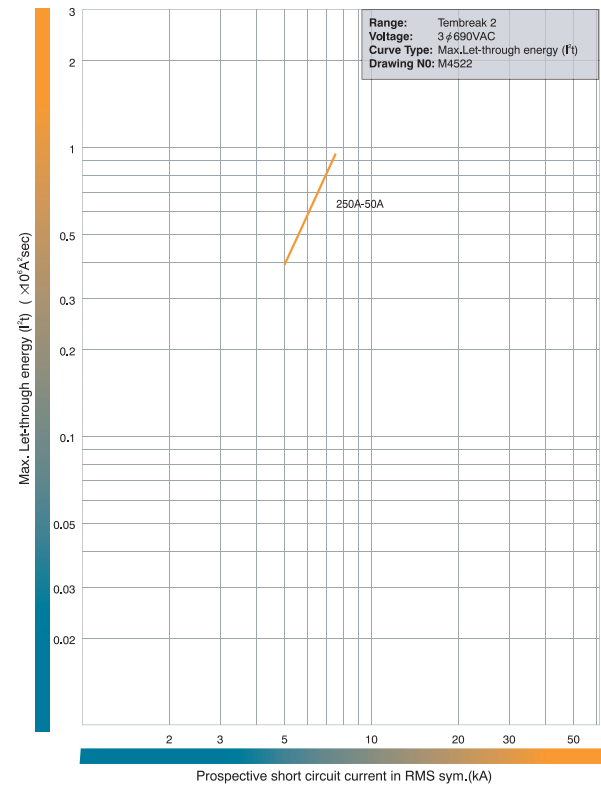
H125-NJ, L125-NJ. 690V AC



S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ. 440V AC.



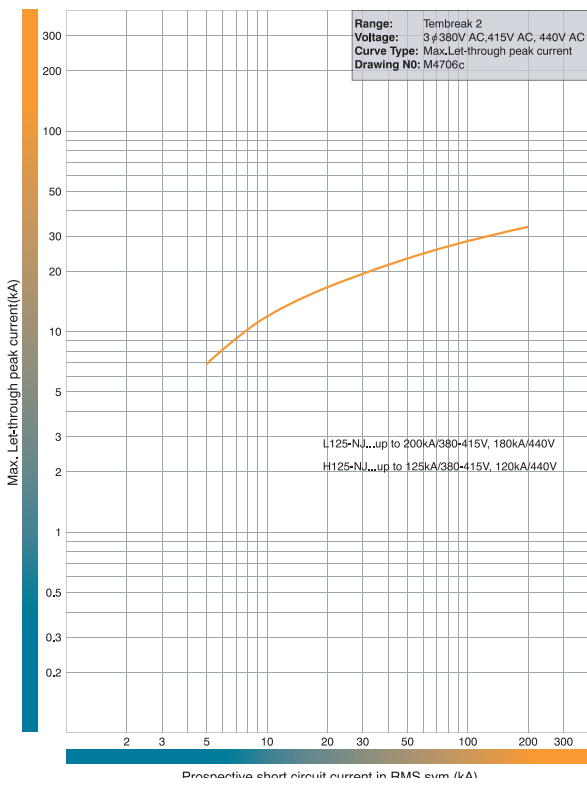
S160-NJ, S160-GJ, S250-NJ, S250-GJ. 690V AC.



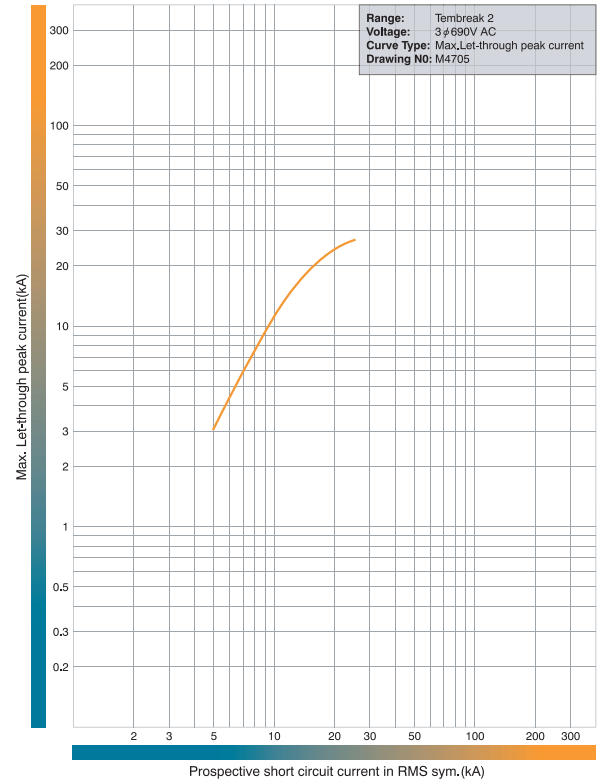
OPERATING CHARACTERISTICS

LET-THROUGH PEAK CURRENT CHARACTERISTICS

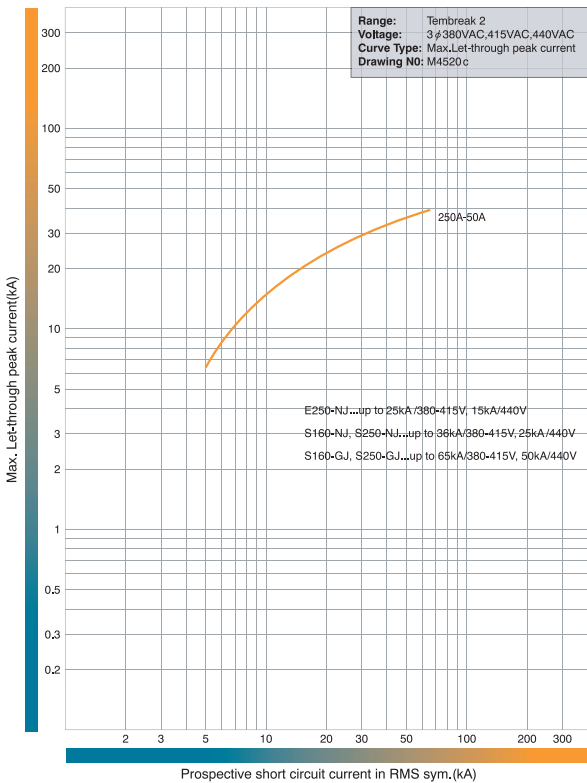
H125-NJ, L125-NJ. 440V AC.



H125-NJ, L125-NJ. 690V AC



S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ. 440V AC.



S160-NJ, S160-GJ, S250-NJ, S250-GJ. 690V AC.

