

Thermal magnetic type L160NJ



200kA

Current rating: 100 – 160A

Approvals and Tests:

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

Interrupting capacity:

	Voltage	Icu	Ics
AC use	380/415	200	150
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)	103	103
Toggle cut-out	Standard DIN	

Ampere Rating	Adj. <i>I_r</i> Min - Max.	Adj. <i>I_m</i> Min - Max.	Cat. No.
NRC			
160	100 - 160	960 - 2080	L160 NJ 3 160 L160 NJ 4 160

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

Replaces: TL225B, TL100C, Note: check exact ratings or dimensions to suit your application requirement

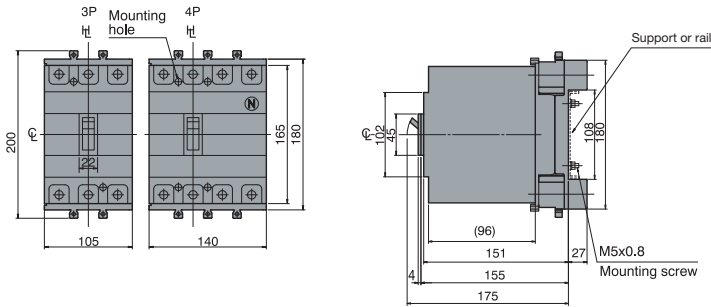
DIMENSIONS

H125-NJ, L125-NJ, H160-NJ, L160-NJ, S250-PE, H250-NJ, H250-NE, L250-NJ. Plug-in Versions

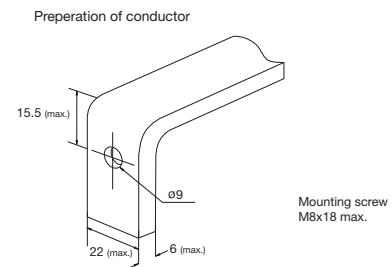
ASL: Arrangement Standard Line

HL: Handle Frame Centre Line

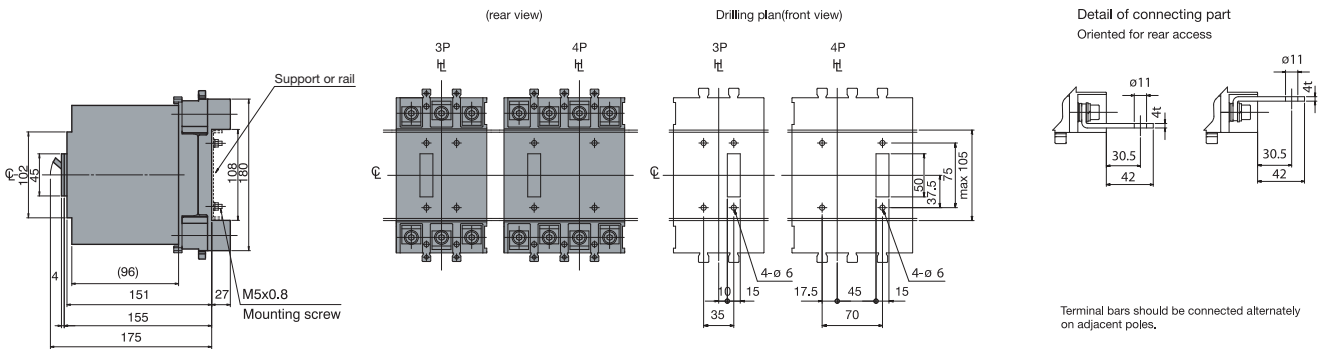
Outline Dimensions



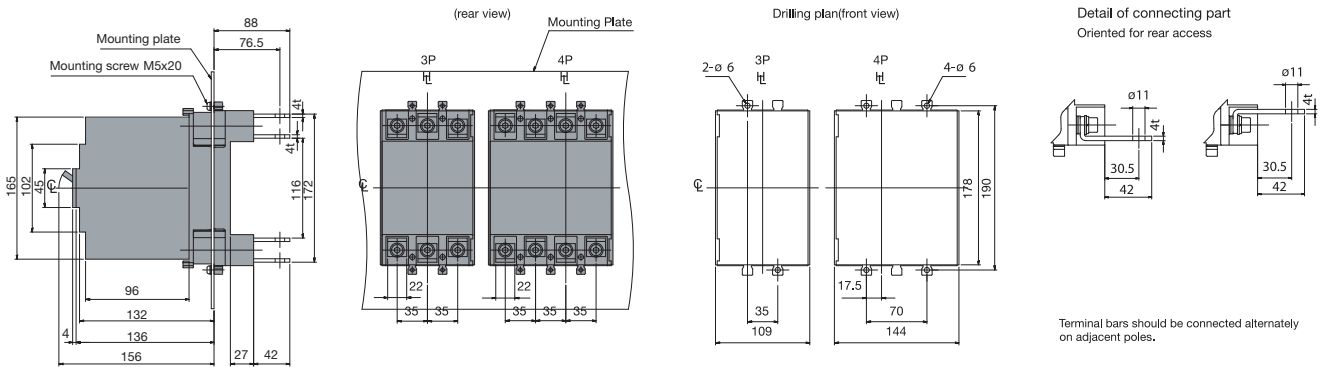
Termination of Busbar



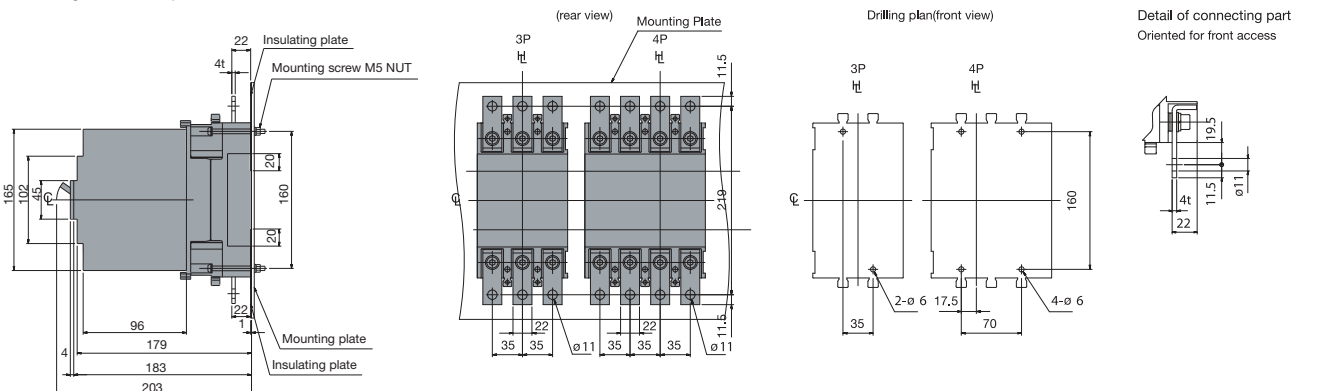
Mounting on a support or rails (shown with optional connection bars oriented for rear access)



Mounting through the backplate (shown with optional connection bars oriented for rear access)



Mounting on the backplate (optional connection bars must be oriented for front access)



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 Rear Plug-in	20A	19	18.5	18	17.5
		32A	31	30.5	30	29
		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 Rear Plug-in	20A	19	18.5	18	17.5
		32A	31	30	29	28
		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 Rear Plug-in	20A	19	18.5	18	17.5
		32A	31	30	29	28
		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 Rear Plug-in	160A	156	151	146	141
E250-NJ	Front Rear Plug-in	20A	19	18.5	18	17.5
		32A	31	30	29	28
		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 Rear Plug-in	160A	156	151	146	141
		250A	243	235	227	219
H250-NJ L250-NJ	Front Rear Plug-in	160A	156	151	147	143
E400-NJ S400-CJ S400-NJ S400-GJ	Front Rear Plug-in	250A	244	237	230	223
		400A	390	380	369	358
H400-NJ L400-NJ	Front Rear Plug-in	250A	243	237	230	223
		400A	390	381	371	361
		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 Rear	250A	250	250	250	250	237.5	225	200	200
S400-NE S400-GE	Front Rear	250A	250	250	250	250	250	250	225	200
		400A	400	400	400	400	400	380	360	320
H400-NE L400-NE	Front Rear Plug-in	250A	250	250	250	250	250	250	225	200
		400A	400	400	400	400	400	380	360	320
		250A	250	250	250	250	250	250	225	200
		400A	400	400	400	400	400	380	360	320
E630-NE S630-CE S630-GE	Front Rear*	630A	630	630	630	630	598.5	598.5	567	504

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.

APPLICATION DATA

SELECTIVITY (DISCRIMINATION) AND CASCADE

Selectivity

The principle of Selectivity (Discrimination) is based upon an analysis of several circuit breaker characteristics. These include time-current (tripping) curves, peak-let-through current (I_{peak}) and energy let-through (I^2t).

The figures stated give the maximum selectivity level with the two nominated breakers in series under short-circuit conditions. For an indication on selectivity under overloads refer to the circuit breaker tripping/characteristic curves, or use the NHP TemCurve selectivity analysis software package.

Selectivity can be enhanced beyond the breaking capacity of the downstream breaker provided it is backed up by an appropriately selected upstream breaker, which should not trip (unlatch) under the stated short circuit current.

Cascade

Cascading is achieved by using an upstream device to assist (back-up) a downstream device in clearing a fault current. This principal is necessary should the downstream device be required to clear a prospective short circuit current greater than the devices' breaking capacity.

In most cascading applications it is generally necessary for the upstream breaker to trip (unlatch), as well as the downstream breaker to give adequate back-up protection. As such, cascade is commonly used in feeding and protecting non-essential loads, such as basic lighting.

For more information on selectivity and cascading please refer to the latest NHP Part C catalogue.

APPLICATION DATA

SELECTIVITY TABLES

 XX / YY
 Selectivity/ Cascade

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

Selectivity & Cascade Tables @ 400 / 415 V

Upstream MCCBs	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	36/50	36/65	36/85	36/125	36/36	36/36
S125GJ	65	65/65	65/125	50/50	65/70	65/125	65/150	36/36	50/50
H125NJ	125	70/70	125/125	50/50	70/70	125/125	125/200	36/36	50/50
S160NJ	36			36/50	36/65	36/85	36/125	36/36	36/50
S160GJ	65			50/50	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								

APPLICATION DATA

CASCADE TABLES

SECTION 4

CASCADE @ 380 – 415 V AC ')	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	25	–	36	36	65	85	36	36	65	85	–	36	36	–	65	65	85
S125NJ	36	36	–	–	50	85	125	–	50	85	125	–	–	–	–	85	85	125
S125GJ	65	65	–	–	–	125	150	–	–	125	150	–	–	65	–	125	125	150
H125NJ	125	125	–	–	–	–	200	–	–	–	200	–	–	65	–	–	–	200
S160NJ	36	36	–	–	65	–	–	–	65	85	125	–	–	65	65	85	85	125
S160GJ	65	65	–	–	–	–	–	–	–	125	150	–	–	–	70	125	125	150
H160NJ	125	125	–	–	–	–	–	–	–	–	200	–	–	–	–	–	–	200
S250NJ	36	36	–	–	–	–	–	–	65	–	–	–	–	–	65	85	85	125
S250GJ	65	65	–	–	–	–	–	–	–	–	–	–	–	–	70	125	125	150
S250PE	70	70	–	–	–	–	–	–	–	–	–	–	–	–	–	125	125	150
H250NJ	125	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	200
E400NJ	25	25	–	–	–	–	–	–	–	–	–	–	–	–	36	65	65	–
S400CJ	36	36	–	–	–	–	–	–	–	–	–	–	–	–	50	70	70	–
S400NJ	50	50	–	–	–	–	–	–	–	–	–	–	–	50	65	85	85	–
S400GJ	70	70	–	–	–	–	–	–	–	–	–	–	–	50	–	125	125	–
H400NJ	125	125	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Note: ') 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 ')		Upstream MCCBs															
		S400CJ	S400NE S400NJ	S400GE S400GJ	H400NJ H400NE	L400NJ	L400NE	E630NE	S630CE	S630GE	TL630NE	XS800SE	XS800NJ	XH800SE	TL800NE	XS1250SE	XS1600SE
Downstream MCCBs	kA (RMS)	36	50	70	125	200	200	36	50	70	125	65	65	65	200	65	85
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
H400NJ	125	-	-	-	-	200	200	-	-	-	-	-	-	-	-	-	-

Note: ') 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
			25	36	65	36	65	36	70	125
Downstream MCB	Amp rating	kA (RMS)								
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

XX / YY

Selectivity

Cascade

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	Contactor
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	Contactor
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.

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	-	-

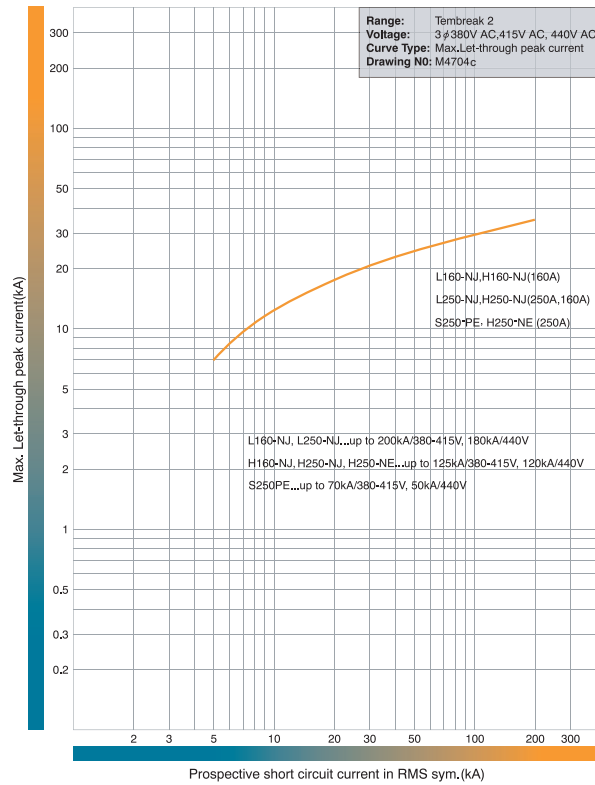
Notes:

- 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.

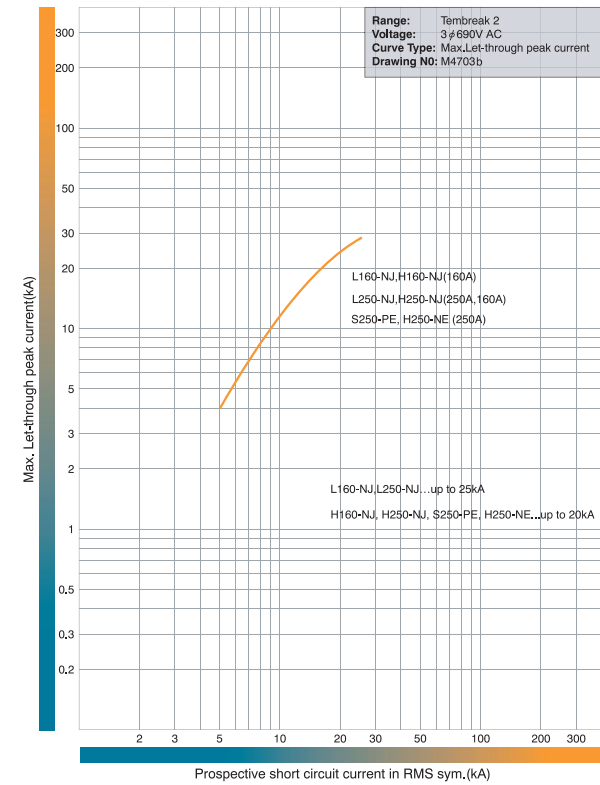
OPERATING CHARACTERISTICS

LET-THROUGH PEAK CURRENT CHARACTERISTICS

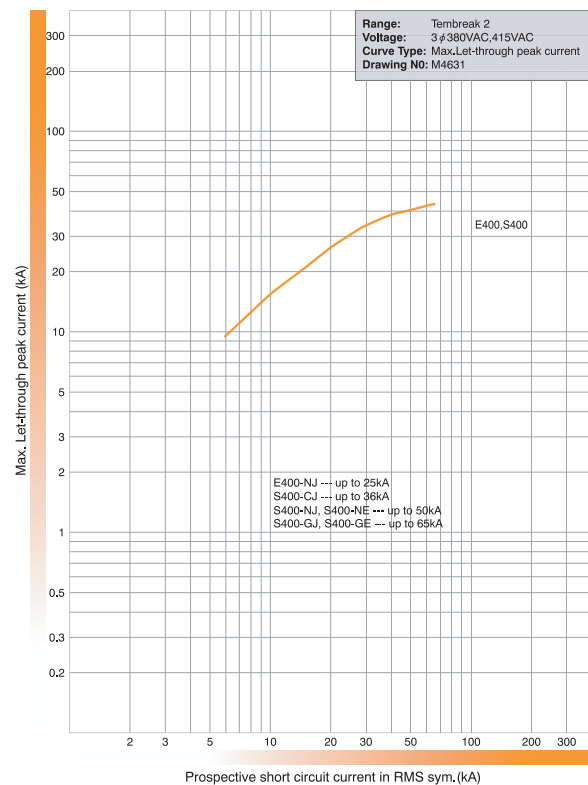
H160-NJ, L160-NJ, S250-PE, H250-NJ, H250-NE, L250-NJ. 440V AC.



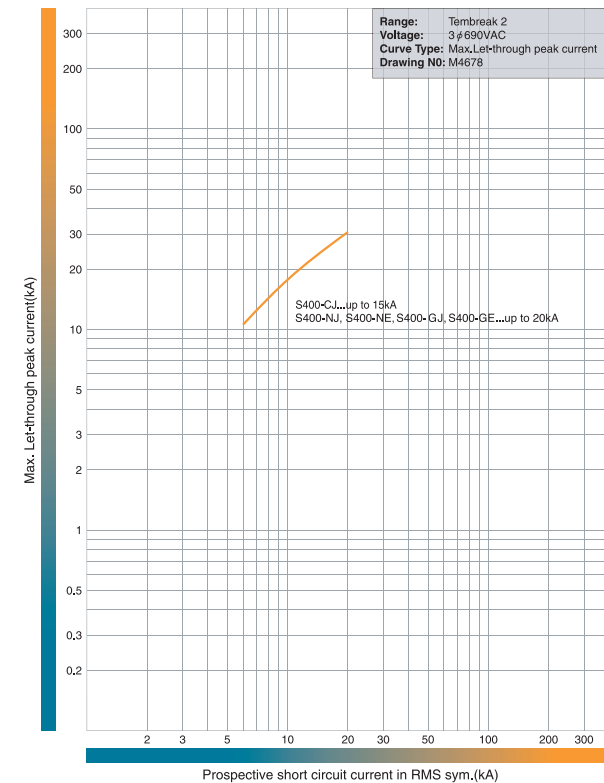
H160-NJ, L160-NJ, S250-PE, H250-NJ, H250-NE, L250-NJ. 690V AC.



E400-NJ, S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE, 415V AC.



S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE, 690V AC.



OPERATING CHARACTERISTICS

THERMAL MAGNETIC CHARACTERISTICS

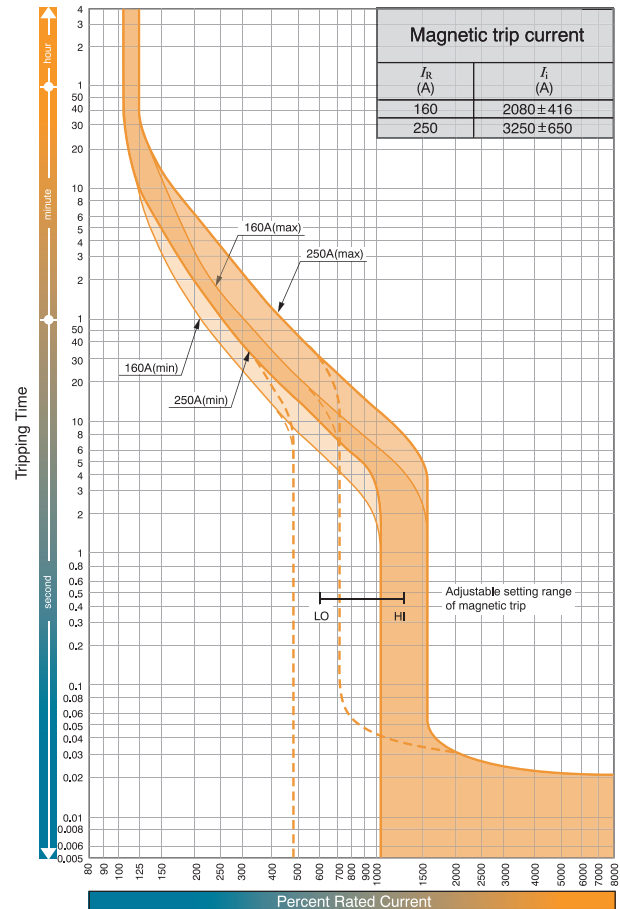
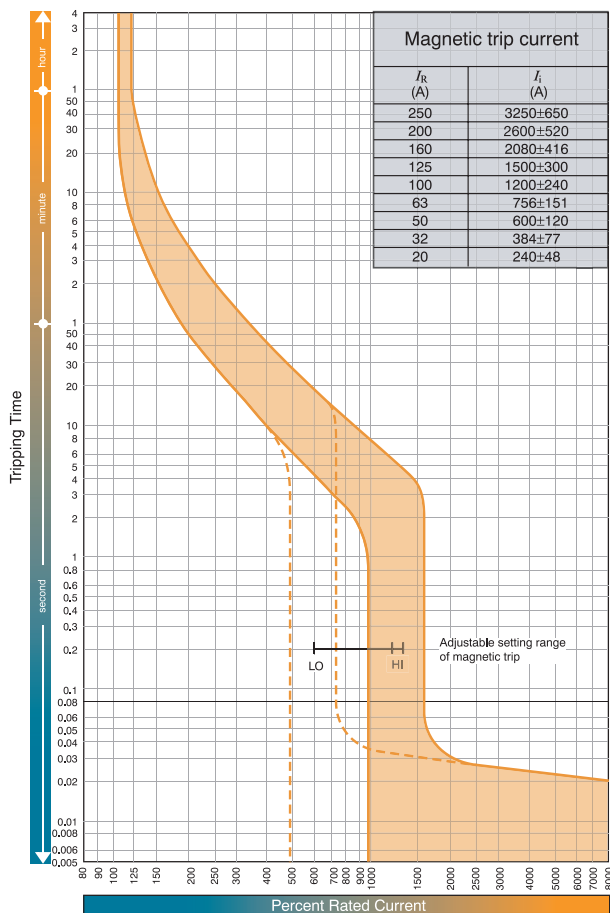
160A and 250A Frames

Time/current characteristic curves

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

Time/current characteristic curves

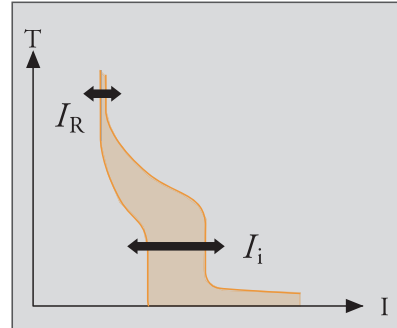
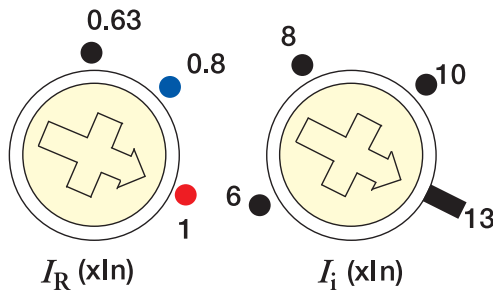
H160-NJ, H250-NJ, L160-NJ, L250-NJ



OPERATING CHARACTERISTICS

THERMAL MAGNETIC PROTECTION

Adjustment Dials



1. I_R is the thermal element adjustment dial and is used to set the rated current to match the conductor rating.

I_R can be set between 0.63 and 1.0 times I_n .

2. I_i is the magnetic element adjustment dial and is used to set the short circuit tripping threshold to suit the application.

I_i can be set between 6 and 12 times I_n on 125A and 400A frame models.

I_i can be set between 6 and 13 times I_n on 250A frame models with ratings of 160A, 200A and 250A.

I_i can be set between 6 and 12 times I_n on 250A frame models with ratings of 125A and less.

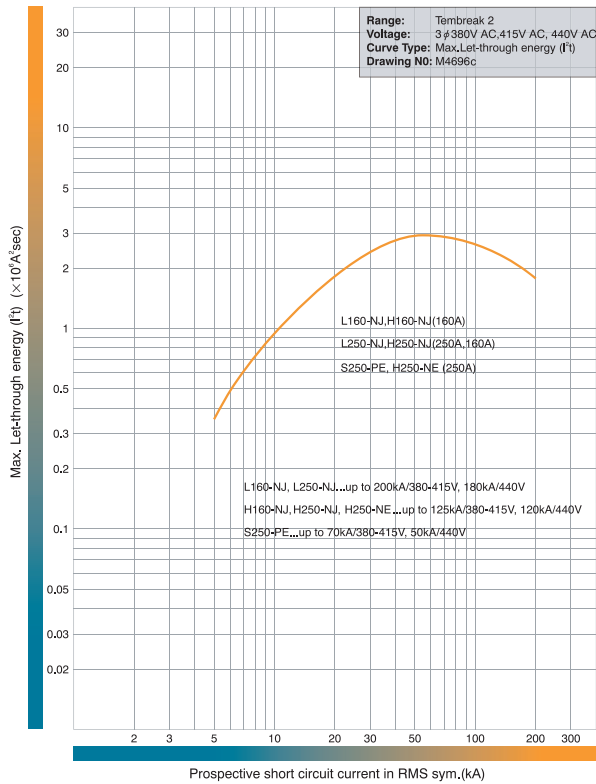
Models, Types and Rated Currents of Thermal Elements

Model	Type	Current Rating I_n (A)
S125	-NF	16, 20, 25, 32, 40, 50, 63, 80, 100, 125
E125	-NJ	20, 32, 50, 63, 100, 125
S125	-NJ	20, 32, 50, 63, 100, 125
S125	-GJ	20, 32, 50, 63, 100, 125
H125	-NJ	20, 32, 50, 63, 100, 125
L125	-NJ	20, 32, 50, 63, 100, 125
S160	-NF	16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160
S160	-NJ	20, 32, 50, 63, 100, 125, 160
S160	-GJ	50, 63, 100, 125, 160
H160	-NJ	160
L160	-NJ	160
E250	-NJ	20, 32, 50, 63, 100, 125, 160, 200, 250
S250	-NJ	160, 200, 250
S250	-GJ	160, 200, 250
H250	-NJ	160, 250
L250	-NJ	160, 250
E400	-NJ	250, 400
S400	-CJ	250, 400
S400	-NJ	250, 400
S400	-GJ	250, 400
H400	-NJ	250, 400
L400	-NJ	250, 400

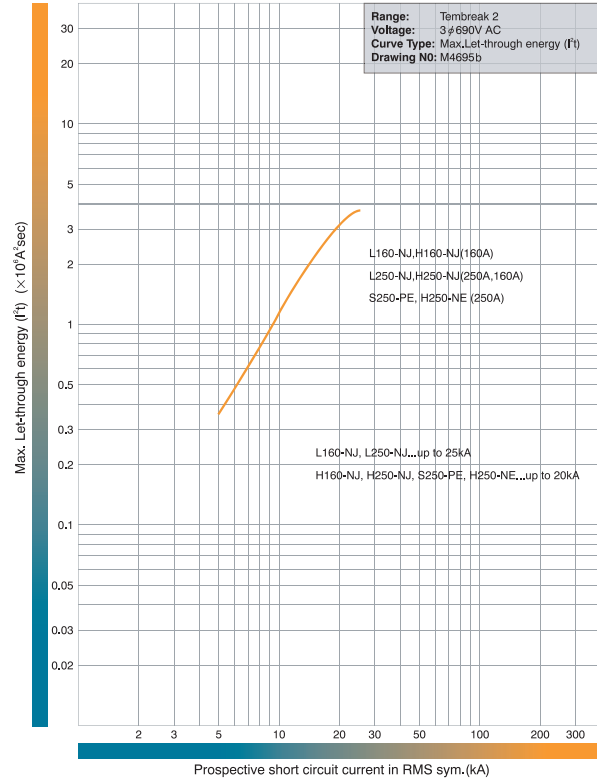
OPERATING CHARACTERISTICS

LET-THROUGH ENERGY CHARACTERISTICS

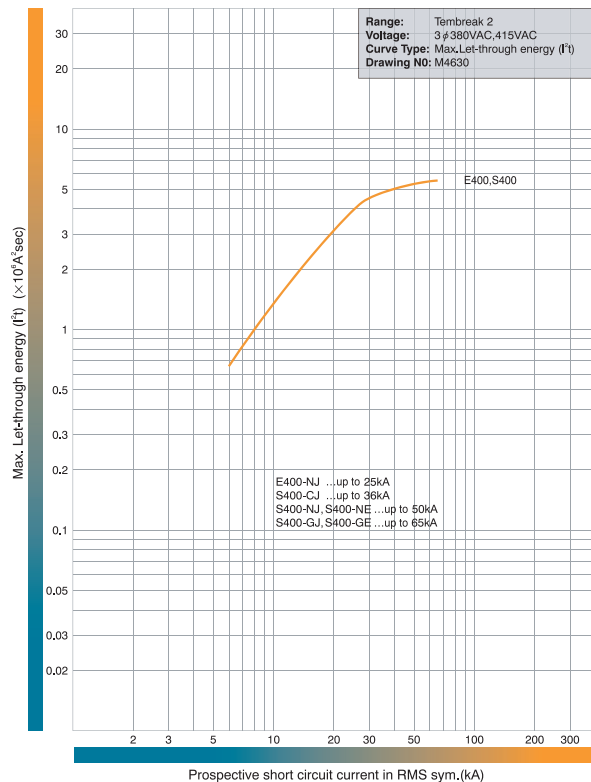
H160-NJ, L160-NJ, S250-PE, H250-NE, H250-NJ, L250-NJ. 440V AC.



H160-NJ, L160-NJ, S250-PE, H250-NE, H250-NJ, L250-NJ. 690V AC.



E400-NJ, S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE. 415V AC.



S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE. 690V AC.

