

# ALPHABETIC PRODUCT INDEX

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## AC MAGNETIC CONTACTORS

Part Number

Description	Current AC3	Auxillary Contacts	PRICE
<b>AC CONTROL RELAYS</b>			
RCR-10A22	Control Relays 10A	2 NO & 2 NC	285.00
RCR-10A31	Control Relays 10A	3 NO & 1 NC	285.00
RCR-10A40	Control Relays 10A	4 NO & 0 NC	285.00

Complete with Coil : RSC-12T

### AC MAGNETIC CONTACTORS COMPLETE WITH COILS PRICE

Description	Current		HP 400V	KW 400V	Auxillary Contacts	PRICE
	AC3	AC1				
RAB-A15T11	16A	25A	7.5 HP	5.5 KW	1 NO & 1NC	278.00
RAB-A18T11	18A	32A	10 HP	7.5 KW	1 NO & 1NC	435.00
RAB-A25T11	25A	40A	15 HP	11 KW	1 NO & 1NC	598.00
RAB-A35T11	35A	65A	20 HP	15 KW	1 NO & 1NC	790.00
RAB-45T11	45A	60A	25 HP	18.5 KW	1 NO & 1 NC	1 170.00
RAB-60T11	60A	70A	30 HP	22 KW	1 NO & 1 NC	1 445.00
RAB-70T11	70A	80A	50 HP	37 KW	1 NO & 1 NC	1 805.00
RAB-80T	80A	110A	60 HP	45 KW	1NO & 1NC	2 525.00
RAB-100T	100A	150A	80 HP	60 KW	1NO & 1NC	3 060.00
RAB-125T	125A	180A	85 HP	63 KW	1NO & 1NC	3 535.00
RAB-150T	150A	200A	125 HP	90 KW	1NO & 1NC	4 080.00
RAB-180T	180A	225A	150 HP	110 KW	1NO & 1NC	4 760.00
RAB-225T	195A	260A	160 HP	120 KW	1NO & 1NC	6 120.00
RAB-260T	224A	330A	175 HP	132 KW	1NO & 1NC	6 800.00
RAB-300T	270A	400A	200 HP	150 KW	1NO & 1NC	10 470.00
RAB-400T	400A	420A	300 HP	224 KW	1NO & 1NC	12 920.00



RAB-A15T11



RAB-A25T11



RAB-60T11



RAB-80T

Above Prices do not include VAT

# THERMAL OVERLOAD RELAYS



## Part Number

	Description	Current Range	HP 400V	KW 400V	PRICE
<b>BTH-12A2E 0,4</b>	Thermal Overload	0,3 - 0.4 Amp	1/8 HP	0.09 KW	320.00
<b>BTH-12A2E 0,8</b>	Thermal Overload	0.6 - 0.8 Amp	1/4 HP	0.20 KW	320.00
<b>BTH-12A2E 1,4</b>	Thermal Overload	1.0 - 1.4 Amp	1/2 HP	0.37 KW	320.00
<b>BTH-12A2E 2,2</b>	Thermal Overload	1.4 - 2.2 Amp	3/4 HP	0.55 KW	320.00
<b>BTH-12A2E 2,8</b>	Thermal Overload	1.8 - 2.8 Amp	1 HP	0.75 KW	320.00
<b>BTH-18A2E 4,3</b>	Thermal Overload	2.9 - 4.3 Amp	2 HP	1.5 KW	320.00
<b>BTH-18A2E 6,0</b>	Thermal Overload	4 - 6 Amp	3 HP	2.2 KW	320.00
<b>BTH-18A2E 8,0</b>	Thermal Overload	5.4 - 8 Amp	4 HP	3 KW	320.00
<b>BTH-18A2E 11</b>	Thermal Overload	7 - 11 Amp	5 HP	4 KW	320.00
<b>BTH-18A2E 13</b>	Thermal Overload	9 - 13 Amp	7.5 HP	5.5 KW	320.00
<b>BTH-18A2E 18</b>	Thermal Overload	12 - 18 Amp	10 HP	7.5 KW	333.00
<b>BTH-35A2E 26</b>	Thermal Overload	18 - 26 Amp	15 HP	11 KW	448.00
<b>BTH-35A2E 36</b>	Thermal Overload	24 - 36 Amp	20 HP	15 KW	461.00
<b>BTH-80T2E49</b>	Thermal Overload	33 - 49 Amp	25/30 HP	18/22 KW	830.00
<b>BTH-80T2E67</b>	Thermal Overload	45 - 67 Amp	34/40 HP	22/30 KW	952.00
<b>BTH-80T2E80</b>	Thermal Overload	54 - 80 Amp	45/50 HP	33/37 KW	1 054.00
<b>BTH-125T2E96</b>	Thermal Overload	64 - 96 Amp	50/60 HP	37/45 KW	1 292.00
<b>BTH-125T2E128</b>	Thermal Overload	85 - 128 Amp	75 HP	55 KW	1 565.00
<b>BTH-125T2E156</b>	Thermal Overload	104 - 156 Amp	100 HP	75 KW	1 633.00



BTH-18A2E



BTH-35A2E



BTH-80T2E



BTH-125T2E

Above Prices do not include VAT



## DIRECT ON LINE STARTERS

### Part Number

RAB-A15TCEH/2  
RAB-A25TCEH/2  
RAB-A15TCEH  
RAB-A25TCEH  
PB-50

RAB-A15TCE-  
RAB-A18TCE-

RAB-A15TCE0,4  
RAB-A15TCE0,8  
RAB-A15TCE1,4  
RAB-A15TCE2,2  
RAB-A15TCE2,8  
RAB-A15TCE4,3  
RAB-A15TCE6,0  
RAB-A15TCE8,0  
RAB-A15TCE11  
RAB-A15TCE13  
RAB-A18TCE18  
RAB-A25TCE26  
RAB-A35TCE36  
RAB-45TCE49  
RAB-60TCE49  
RAB-70TCE67  
RAB-70TCE80  
RAB-80TCE80

RAB-A15TICE-  
RAB-A18TICE-

RAB-A15TICE0,4  
RAB-A15TICE0,8  
RAB-A15TICE1,4  
RAB-A15TICE2,2  
RAB-A15TICE2,8  
RAB-A15TICE4,3  
RAB-A15TICE6,0  
RAB-A15TICE8,0  
RAB-A15TICE11  
RAB-A15TICE13  
RAB-A18TICE18  
RAB-A25TICE26  
RAB-A35TICE36  
RAB-45TICE49  
RAB-60TICE49  
RAB-70TICE67  
RAB-70TICE80  
RAB-80TICE80

Description	Current Range	HP 400V	KW 400V
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### DOL STARTER - ACCESSORIES

### PRICE

DOL Empty Housing - No Pushbuttons		RAB-15TCE / 18TCE	163.00
DOL Empty Housing - No Pushbuttons		RAB-25TCE / 35TCE	217.00
DOL Empty Housing - With Pushbuttons		RAB-15TCE / 18TCE	285.00
DOL Empty Housing - With Pushbuttons		RAB-25TCE / 35TCE	340.00
Start Switch for DOL Starter		RAB-15TCE / 35TCE	64.00

### DOL STARTERS - NO OVERLOAD - IP65

### PRICE

DOL - No Overload Relay		7.5 HP	5.5 KW	462.00
DOL - No Overload Relay		10 HP	7.5 KW	720.00

### DOL STARTERS - WITH OVERLOAD - IP65

### PRICE

DOL Starter	0.3 - 0.4 Amp	1/8 HP	0.09 KW	782.00
DOL Starter	0.6 - 0.8 Amp	1/4 HP	0.20 KW	782.00
DOL Starter	1.0 - 1.4 Amp	1/2 HP	0.37 KW	782.00
DOL Starter	1.4 - 2.2 Amp	3/4 HP	0.55 KW	782.00
DOL Starter	1.8 - 2.8 Amp	1 HP	0.75 KW	782.00
DOL Starter	2.9 - 4.3 Amp	2 HP	1.5 KW	782.00
DOL Starter	4 - 6 Amp	3 HP	2.2 KW	782.00
DOL Starter	5.4 - 8 Amp	4 HP	3 KW	782.00
DOL Starter	7 - 11 Amp	5 HP	4 KW	782.00
DOL Starter	9 - 13 Amp	7.5 HP	5.5 KW	782.00
DOL Starter	12 - 18 Amp	10 HP	7.5 KW	1 053.00
DOL Starter	18 - 26 Amp	15 HP	11 KW	1 345.00
DOL Starter	24 - 36 Amp	20 HP	15 KW	1 564.00
DOL Starter	33 - 49 Amp	25 HP	18.5 KW	2 720.00
DOL Starter	33 - 49 Amp	30 HP	22 KW	3 113.00
DOL Starter	45 - 67 Amp	40 HP	30 KW	3 943.00
DOL Starter	54 - 80 Amp	45 HP	33 KW	4 120.00
DOL Starter	54 - 80 Amp	50 HP	37 KW	5 035.00

### DOL STARTER WITH ISOLATOR - NO OVERLOAD - IP56

### PRICE

DOL with Isolator - No Overload Relay		7.5 HP	5.5 KW	1 250.00
DOL with Isolator - No Overload Relay		10 HP	7.5 KW	1 462.00

### DOL STARTER WITH ISOLATOR AND OVERLOAD - IP56

### PRICE

DOL with Isolator	0.3 - 0.4 Amp	1/8 HP	0.09 KW	1 680.00
DOL with Isolator	0.6 - 0.8 Amp	1/4 HP	0.20 KW	1 680.00
DOL with Isolator	1.0 - 1.4 Amp	1/2 HP	0.37 KW	1 680.00
DOL with Isolator	1.4 - 2.2 Amp	3/4 HP	0.55 KW	1 680.00
DOL with Isolator	1.8 - 2.8 Amp	1 HP	0.75 KW	1 680.00
DOL with Isolator	2.9 - 4.3 Amp	2 HP	1.5 KW	1 680.00
DOL with Isolator	4 - 6 Amp	3 HP	2.2 KW	1 680.00
DOL with Isolator	5.4 - 8 Amp	4 HP	3 KW	1 680.00
DOL with Isolator	7 - 11 Amp	5 HP	4 KW	1 680.00
DOL with Isolator	9 - 13 Amp	7.5 HP	5.5 KW	1 680.00
DOL with Isolator	12 - 18 Amp	10 HP	7.5 KW	1 920.00
DOL with Isolator	18 - 26 Amp	15 HP	11 KW	2 370.00
DOL with Isolator	24 - 36 Amp	20 HP	15 KW	2 930.00
DOL with Isolator	33 - 49 Amp	25 HP	18.5 KW	3 485.00
DOL with Isolator	33 - 49 Amp	30 HP	22 KW	3 945.00
DOL with Isolator	45 - 67 Amp	40 HP	30 KW	4 650.00
DOL with Isolator	54 - 80 Amp	45 HP	33 KW	4 760.00
DOL with Isolator	54 - 80 Amp	50 HP	37 KW	6 030.00



PB-50  
DOL Start Switch



RAB-A15TCEH/2  
DOL Empty Housing - No Pushbuttons



RAB-A15TCE  
Up to 15KW in Plastic IP65 Enclosure  
18.5 KW and Greater in Steel IP56 Enclosure



RAB-A15TICE  
Up to 15KW in Plastic IP56 Enclosure  
18.5 KW and Greater in Steel IP56 Enclosure

Above Prices do not include VAT



## REVERSING STARTERS

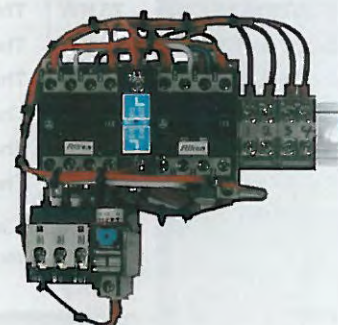
Part Number	Description	HP 400V	KW 400V	PRICE
<b>REVERSING STARTER - OPEN TYPE - ( TYPE 1 )</b>				
<b>MAINS WIRING ONLY</b>				
RRABA15T1	Open Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	1 068.00
RRABA18T1	Open Reversing Starter	10 HP	7.5 KW	1 420.00
RRABA25T1	Open Reversing Starter	15 HP	11 KW	1 818.00
RRABA35T1	Open Reversing Starter	20 HP	15 KW	2 270.00
RRAB45T1	Open Reversing Starter	25 HP	18.5 KW	3 140.00
RRAB60T1	Open Reversing Starter	30 HP	22 KW	3 835.00
RRAB70T1	Open Reversing Starter	45 HP	30 KW	4 660.00
<i>Overload Relay to be Ordered Separately</i>				
<i>Complete with Mechanical Interlock</i>				

<b>REVERSING STARTER - OPEN TYPE - ( TYPE 2 )</b>				PRICE
<b>MAINS AND CONTROL WIRING</b>				
RRABA15T2	Open Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	1 236.00
RRABA18T2	Open Reversing Starter	10 HP	7.5 KW	1 600.00
RRABA25T2	Open Reversing Starter	15 HP	11 KW	2 050.00
RRABA35T2	Open Reversing Starter	20 HP	15 KW	2 450.00
RRAB45T2	Open Reversing Starter	25 HP	18.5 KW	3 300.00
RRAB60T2	Open Reversing Starter	30 HP	22 KW	4 010.00
RRAB70T2	Open Reversing Starter	45 HP	30 KW	5 300.00
<i>Overload Relay to be Ordered Separately</i>				
<i>Complete with Mechanical Interlock</i>				

<b>REVERSING STARTER - ENCLOSED TYPE - ( TYPE 3 )</b>				PRICE
<b>WITH 3 PUSHBUTTONS AND INTERNAL WIRING</b>				
RRABA15T3	Enclosed Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	2 030.00
RRABA18T3	Enclosed Reversing Starter	10 HP	7.5 KW	2 245.00
RRABA25T3	Enclosed Reversing Starter	15 HP	11 KW	2 650.00
RRABA35T3	Enclosed Reversing Starter	20 HP	15 KW	3 140.00
RRAB45T3	Enclosed Reversing Starter	25 HP	18.5 KW	4 090.00
RRAB60T3	Enclosed Reversing Starter	30 HP	22 KW	4 795.00
RRAB70T3	Enclosed Reversing Starter	45 HP	30 KW	5 690.00
<i>Overload Relay to be Ordered Separately</i>				
<i>Complete with Mechanical Interlock</i>				
<i>Mounted in IP56 Plastic Enclosure</i>				
<i>( Available in Metal Enclosure on Request )</i>				



TYPE 1  
MAINS WIRING ONLY



TYPE 2  
MAINS & CONTROL WIRING



TYPE 3  
ENCLOSED

Above Prices do not include VAT



## STAR DELTA STARTERS



- TYPE 1 : OPEN TYPE ON DIN RAIL WITH MAINS AND CONTROL WIRING
- TYPE 2 : ENCLOSED TYPE PILOT DEVICES AND ISOLATOR
- TYPE 3 : ENCLOSED WITH PILOT DEVICES
- TYPE 4 : ENCLOSED WITH PILOT DEVICES AND AMMETER
- TYPE 5 : ENCLOSED WITH PILOT DEVICES , AMMETER & ISOLATOR

- All Starters include Thermal Overload and Phase Failure Protection
- Mechanical Interlocks fitted between Star and Delta Contactors
- All Enclosed units fitted with STOP/START Pushbuttons and RUN/TRIP Pilot Lights
- Overload Set at 0.58 of Full Load Current

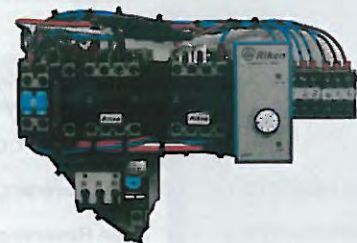
### Part Number

**RAS-A15TE1K5**  
**RAS-A15TE1K7**  
**RAS-A5TE1K11**  
**RAS-A18TE1K15**  
**RAS-A5TE1K18**  
**RAS-A25TE1K22**  
**RAS-A35TE1K30**  
**RAS-45TE1K37**  
**RAS-60TE1K45**  
**RAS-60TE1K55**  
**RAS-80TE1K75**  
**RAS-125TE1K90**  
**RAS-150TE1K110**  
**RAS-180TE1K132**  
**RAS-180TE1K160**  
**RAS-260TE1K200**

TYPE 1		PRICE	PRICE
5.5 KW	Thermal Overload	2 350.00	Electronic Overload 2 975.00
7.5 KW	Thermal Overload	2 350.00	Electronic Overload 2 975.00
11 KW	Thermal Overload	2 350.00	Electronic Overload 2 975.00
15 KW	Thermal Overload	2 575.00	Electronic Overload 3 210.00
18.5 KW	Thermal Overload	3 140.00	Electronic Overload 3 770.00
22 KW	Thermal Overload	3 140.00	Electronic Overload 3 770.00
30 KW	Thermal Overload	3 785.00	Electronic Overload 4 430.00
37 KW	Thermal Overload	5 150.00	Electronic Overload 5 790.00
45 KW	Thermal Overload	6 135.00	Electronic Overload 6 770.00
55 KW	Thermal Overload	6 810.00	Electronic Overload 7 450.00
75 KW	Thermal Overload	9 245.00	Electronic Overload 9 900.00
90 KW	Thermal Overload	13 330.00	Electronic Overload 13 300.00
110 KW	Thermal Overload	14 675.00	Electronic Overload 14 675.00
132 KW	Thermal Overload	18 200.00	Electronic Overload 18 200.00
160 KW	Thermal Overload	19 695.00	Electronic Overload 19 695.00
200 KW	Thermal Overload	22 700.00	Electronic Overload 22 700.00

Up to 30KW mounted on Din Rail

Greater than 30 KW mounted on Chassis Plate



TYPE 1  
OPEN TYPE

**RAS-A15TE2K5**  
**RAS-A15TE2K7**  
**RAS-A15TE2K11**  
**RAS-A18TE2K15**  
**RAS-A25TE2K18**  
**RAS-A25TE2K22**  
**RAS-A35TE2K30**  
**RAS-45TE2K37**  
**RAS-60TE2K45**  
**RAS-60TE2K55**  
**RAS-80TE2K75**  
**RAS-125TE2K90**  
**RAS-150TE2K110**  
**RAS-180TE2K132**  
**RAS-180TE2K160**  
**RAS-260TE2K200**

TYPE 2		PRICE	PRICE
5.5 KW	Thermal Overload	4 430.00	Electronic Overload 5 145.00
7.5 KW	Thermal Overload	4 430.00	Electronic Overload 5 145.00
11 KW	Thermal Overload	4 430.00	Electronic Overload 5 145.00
15 KW	Thermal Overload	4 695.00	Electronic Overload 5 420.00
18.5 KW	Thermal Overload	5 505.00	Electronic Overload 6 240.00
22 KW	Thermal Overload	5 505.00	Electronic Overload 6 240.00
30 KW	Thermal Overload	6 255.00	Electronic Overload 8 760.00
37 KW	Thermal Overload	7 990.00	Electronic Overload 11 800.00
45 KW	Thermal Overload	10 945.00	Electronic Overload 11 800.00
55 KW	Thermal Overload	11 645.00	Electronic Overload 12 460.00
75 KW	Thermal Overload	14 625.00	Electronic Overload 15 500.00
90 KW	Thermal Overload	20 700.00	Electronic Overload 21 000.00
110 KW	Thermal Overload	22 100.00	Electronic Overload 22 450.00
132 KW	Thermal Overload	26 355.00	Electronic Overload 26 750.00
160 KW	Thermal Overload	28 335.00	Electronic Overload 28 750.00
200 KW	Thermal Overload	31 260.00	Electronic Overload 31 700.00

Up to 30KW in Polycarbonate IP65 Enclosure

Greater than 30 KW in Metal IP55 Enclosure



TYPE 2  
ENCLOSED WITH ISOLATOR

Above Prices do not include VAT



## STAR DELTA STARTERS

### Part Number

RAS-A15TE3K5  
RAS-A15TE3K7  
RAS-A15TE3K11  
RAS-A18TE3K15  
RAS-A25TE3K18  
RAS-A25TE3K22  
RAS-A35TE3K30  
RAS-45TE3K37  
RAS-60TE3K45  
RAS-60TE3K55  
RAS-80TE3K75  
RAS-125TE3K90  
RAS-150TE3K110  
RAS-180TE3K132  
RAS-180TE3K160  
RAS-260TE3K200

RAS-A15TE4K5  
RAS-A15TE4K7  
RAS-A15TE4K11  
RAS-A18TE4K15  
RAS-A25TE4K18  
RAS-A25TE4K22  
RAS-A35TE4K30  
RAS-45TE4K37  
RAS-60TE4K45  
RAS-60TE4K55  
RAS-80TE4K75  
RAS-125TE4K90  
RAS-150TE4K110  
RAS-180TE4K132  
RAS-180TE4K160  
RAS-260TE4K200

RAS-A15TE5K5  
RAS-A15TE5K7  
RAS-A15TE5K11  
RAS-A18TE5K15  
RAS-A25TE5K18  
RAS-A25TE5K22  
RAS-A35TE5K30  
RAS-45TE5K37  
RAS-60TE5K45  
RAS-60TE5K55  
RAS-80TE5K75  
RAS-125TE5K90  
RAS-150TE5K110  
RAS-180TE5K132  
RAS-180TE5K160  
RAS-260TE5K200

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 3</b>				
5.5 KW	Thermal Overload	4 335.00	Electronic Overload	4 690.00
7.5 KW	Thermal Overload	4 335.00	Electronic Overload	4 690.00
11 KW	Thermal Overload	4 335.00	Electronic Overload	4 690.00
15 KW	Thermal Overload	4 585.00	Electronic Overload	4 930.00
18.5 KW	Thermal Overload	5 385.00	Electronic Overload	5 655.00
22 KW	Thermal Overload	5 385.00	Electronic Overload	5 655.00
30 KW	Thermal Overload	6 110.00	Electronic Overload	6 350.00
37 KW	Thermal Overload	7 750.00	Electronic Overload	7 930.00
45 KW	Thermal Overload	8 835.00	Electronic Overload	8 950.00
55 KW	Thermal Overload	9 580.00	Electronic Overload	9 665.00
75 KW	Thermal Overload	12 200.00	Electronic Overload	12 200.00
90 KW	Thermal Overload	16 090.00	Electronic Overload	16 090.00
110 KW	Thermal Overload	17 525.00	Electronic Overload	17 525.00
132 KW	Thermal Overload	21 330.00	Electronic Overload	21 330.00
160 KW	Thermal Overload	22 745.00	Electronic Overload	22 745.00
200 KW	Thermal Overload	25 280.00	Electronic Overload	25 280.00

Up to 30KW in Polycarbonate IP65 Enclosure  
Greater than 30 KW in Metal IP55 Enclosure



TYPE 3  
ENCLOSED

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 4</b>				
5.5 KW	Thermal Overload	4 800.00	Electronic Overload	5 160.00
7.5 KW	Thermal Overload	4 800.00	Electronic Overload	5 160.00
11 KW	Thermal Overload	4 800.00	Electronic Overload	5 160.00
15 KW	Thermal Overload	5 045.00	Electronic Overload	5 400.00
18.5 KW	Thermal Overload	6 005.00	Electronic Overload	6 295.00
22 KW	Thermal Overload	6 005.00	Electronic Overload	6 295.00
30 KW	Thermal Overload	6 730.00	Electronic Overload	7 000.00
37 KW	Thermal Overload	8 410.00	Electronic Overload	8 560.00
45 KW	Thermal Overload	9 505.00	Electronic Overload	9 580.00
55 KW	Thermal Overload	10 300.00	Electronic Overload	10 300.00
75 KW	Thermal Overload	13 070.00	Electronic Overload	13 070.00
90 KW	Thermal Overload	18 000.00	Electronic Overload	18 000.00
110 KW	Thermal Overload	19 525.00	Electronic Overload	19 525.00
132 KW	Thermal Overload	23 600.00	Electronic Overload	23 600.00
160 KW	Thermal Overload	25 125.00	Electronic Overload	25 125.00
200 KW	Thermal Overload	27 850.00	Electronic Overload	27 850.00

Up to 30KW in Polycarbonate IP65 Enclosure  
Greater than 30 KW in Metal IP55 Enclosure



TYPE 4  
ENCLOSED WITH AMMETER

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 5</b>				
5.5 KW	Thermal Overload	5 285.00	Electronic Overload	5 960.00
7.5 KW	Thermal Overload	5 285.00	Electronic Overload	5 960.00
11 KW	Thermal Overload	5 285.00	Electronic Overload	5 960.00
15 KW	Thermal Overload	5 575.00	Electronic Overload	6 254.00
18.5 KW	Thermal Overload	6 615.00	Electronic Overload	7 300.00
22 KW	Thermal Overload	6 615.00	Electronic Overload	7 300.00
30 KW	Thermal Overload	7 420.00	Electronic Overload	8 120.00
37 KW	Thermal Overload	9 300.00	Electronic Overload	10 025.00
45 KW	Thermal Overload	12 495.00	Electronic Overload	13 233.00
55 KW	Thermal Overload	13 245.00	Electronic Overload	14 000.00
75 KW	Thermal Overload	16 465.00	Electronic Overload	17 240.00
90 KW	Thermal Overload	23 250.00	Electronic Overload	23 250.00
110 KW	Thermal Overload	24 800.00	Electronic Overload	24 800.00
132 KW	Thermal Overload	29 450.00	Electronic Overload	29 450.00
160 KW	Thermal Overload	31 600.00	Electronic Overload	31 600.00
200 KW	Thermal Overload	32 760.00	Electronic Overload	34 760.00

Up to 30KW in Polycarbonate IP65 Enclosure  
Greater than 30 KW in Metal IP55 Enclosure



TYPE 5  
ENCLOSED WITH AMMETER & ISOLATOR

Above Prices do not include VAT

# CONTACTOR ACCESSORIES



Part Number

	Description	Contactor	
<b>COILS</b>			
			<b>PRICE</b>
RSC-12A	AC Magnetic Coil	RCR-A10T	124.00
RSC-15A	AC Magnetic Coil	RAB-15A / 18A	124.00
RSC-25A	AC Magnetic Coil	RAB-25A / 35T	153.00
RSC-45TC	AC Magnetic Coil	RAB-45T / 60T / 70T	366.00
RSC-45TB	AC Magnetic Coil	BASE FOR RSC-45TC COIL	104.00
RSC-80T	AC Magnetic Coil	RAB-80T	555.00
RSC-100T	AC Magnetic Coil	RAB-100T / 125T	797.00
RSC-150T	AC Magnetic Coil	RAB-150T / 180T / 225T	1 386.00
RSC-260T	AC Magnetic Coil	RAB-260T / 300T / 400T	1 800.00

Available Voltages : 12V : 24V : 48V : 110V : 230V : 400V : 550V

## AUXILLARY BLOCKS

				PRICE
RA1-T02	Auxillary Block	Top Mount	2 NC	62.00
RA1-T11	Auxillary Block	Top Mount	1 NO & 1 NC	62.00
RA1-T20	Auxillary Block	Top Mount	2 NO	62.00
RA1-T22	Auxillary Block	Top Mount	2 NO & 2 NC	110.00
RA1-T40	Auxillary Block	Top Mount	4 NO	110.00
RA1-T04	Auxillary Block	Top Mount	4 NC	110.00
RA1-T13	Auxillary Block	Top Mount	1 NO & 3 NC	110.00
RA1-T31	Auxillary Block	Top Mount	3 NO & 1 NC	110.00
RB-110	Auxillary Block	Side Mount	1 NO & 1 NC	93.00
<i>For Contactors RAB-15T / RAB-70T</i>				
RC-110	Auxillary Block	Side Mount	1 NO & 1 NC	124.00
<i>For Contactors RAB-80T / RAB-400T</i>				

## CONTACT KITS

			PRICE
RCK/RAB-45T	Comprising 6 Fixed and 3 Moving Contacts	RAB-45T	565.00
RCK/RAB-60T	Comprising 6 Fixed and 3 Moving Contacts	RAB-60T	742.00
RCK/RAB-70T	Comprising 6 Fixed and 3 Moving Contacts	RAB-70T	903.00
RCK/RAB-80T	Comprising 6 Fixed and 3 Moving Contacts	RAB-80T	1 377.00
RCK/RAB-100T	Comprising 6 Fixed and 3 Moving Contacts	RAB-100T	1 624.00
RCK/RAB-125T	Comprising 6 Fixed and 3 Moving Contacts	RAB-125T	1 906.00



RSC-A15



RSC-A25



RSC-45T



RA1-T11



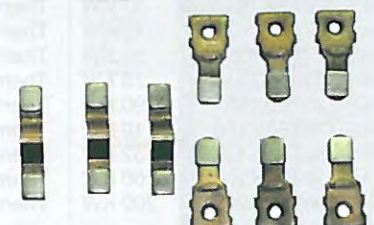
RA1-T22



RB-110



RC-110



RCK/RAB-70T

Above Prices do not include VAT

# CONTACTOR ACCESSORIES



Part Number

Description

Contactor

### PNEUMATIC TIMER

### PRICE

RA2-D22

Clip On Pneumatic Timer      Delay On      0 - 30 Seconds      - 665.00



RA2-D22

### MECHANICAL INTERLOCKS

### PRICE

RK-T352

Mechanical Interlock      N/A      RAB-15T / 70T      96.00

RL-T70

Mechanical Interlock      2NC Auxillary      RAB-15T / 70T      152.00

RL-800

Mechanical Interlock      2 NC Auxillary      RAB-80T / 400T      270.00



RK-T352



RL-T70

### CONNECTORS

### PRICE

T012660

Incoming Connector      Left & Right      RAB-15T / 18T      18.00

T012661

Incoming Connector      Middle      RAB-15T / 18T      20.00

T025660

Incoming Connector      Left & Right      RAB-25T / 35T      20.00

T025661

Incoming Connector      Middle      RAB-25T / 35T      22.00

T070660

Incoming Connector      Left      RAB-45T / 70T      38.00

T070661

Incoming Connector      Middle      RAB-45T / 70T      58.00

T070662

Incoming Connector      Right      RAB-45T / 70T      38.00



T070660/1/2

T035658

Star Point ( Connection Bridge )      RAB-15T / 35T      15.00



T035658

T070907

Spacer Bracket for Star Contactor ( Used in Star Delta Starter )      35.00

### DOOR CATCHES

### PRICE

DOOR-L

Door Catch      Left Hand      58.00

DOOR-R

Door Catch      Right Hand      58.00

DOOR-S

Door Catch      Straight Tongue      58.00



DOOR-L



DOOR-R

### LIQUID LEVEL CONTROLS AND PROBE HOLDERS

### PRICE

61F-T

Liquid Level      1 Function      8V Probe voltage      230V / 400V      625.00

61F-T1

Liquid Level      2 Function      8V Probe voltage      230V / 400V      1 005.00

61F-TA

Plug In Control Unit Only      382.00

PS-3

Probe Holder complete with 3 x 1 Meter Steel Rods      173.00

ROD-S

Steel 6mm Ø x 1 Meter Length      45.00



PS-3



61F-T

Above Prices do not include VAT

# ELECTRONIC TIMING MODULES



Diagram



Part Number

H3BA-8H

EMFR1

ESDT1

Function

### Multi Range / Multi Function Timer

### Star Delta

**H3BA-8H  
8 PIN  
TIMER**

**Delay On**

**Interval**

**Equal Repeating  
ON / OFF**

**Equal Repeating  
OFF / ON**

Multi function count DOWN timer. Panel or base mount-48mm square

Each of the 4 time Ranges can be Either in seconds, minutes, hours or 10 hours.

Maximum time setting = 100 hours

One instantaneous and one time delay change-over contacts

When power is applied the relay remains de-energized. After the preset time, the relay energizes.

Remove power to reset.

When power is applied the relay energizes. After the preset time, the relay de-energizes.

Remove power to reset.

When power is applied the relay will switch ON and OFF continuously. The preset time is the same for both cycles.

Remove power to reset.

When power is applied the relay will remain OFF, then switch ON and OFF continuously. The preset time is the same for both cycles.

Remove power to reset.

When power is applied a neutral contact closes between 1+4 for a "STAR" contactor connection. After a preset time, contact opens and pauses in the neutral (open) position. After 25MS the contact closes between 1+3 for a "DELTA" contactor connection. This contact remains in this closed position until power is removed.

Description of Operation

Time Ranges

0.01 - 0.5  
0.01 - 1.0  
0.01 - 5.0  
0.01 - 10

0.1 - 1.0 second      1.0 - 10 seconds  
0.1 - 1.0 minute      1.0 - 10 minutes  
0.1 - 1.0 hour      1.0 - 10 hours

0 - 30 seconds

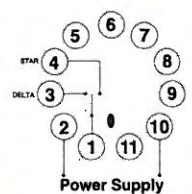
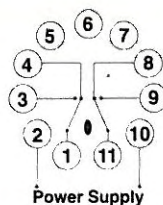
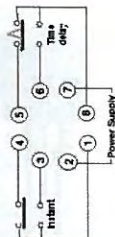
Voltages

240V AC

12V , 24V AC/DC  
110V , 230V , 400V AC

12V , 24V AC/DC  
110, 230V, 400V AC

Wiring Diagram



Price

264.00

370.00

280.00



# ELECTRONIC TIMING MODULES

Diagram



Part Number

EDO1

EDO2

INT

EERT1

EUNR1

Function

Delay On

Delay On Plus Instant DPDT Contact

Interval Timer (Delay Off)

Equal Repeating Timer

Unequal Repeating Timer Multi Range

Description of Operation

When power is applied the relay remains de-energized. After the preset time, the relay energizes.

Remove power to reset.

Operation as per EDO1 timer, but on power up, two DPDT contacts switch immediately.

Remove power to reset.

When power is applied the relay energizes. After the preset time, the relay de-energizes.

Remove power to reset.

When power is applied the relay will switch ON and OFF continuously. The preset time is the same for both cycles. This cycling continues until power is removed.

When power is applied the relay will remain de-energized for the first preset time after which the relay will energize for the 2nd preset time period, then switch OFF. This cycling continues until power is removed. (No link on 6+7).

Each adjusting pot has 2 DIP switches, which can be configured to offer 4 time ranges each.

Eg: POT 1 = 15 sec  
POT 2 = 64 min  
Extended time ranges available on order.

Time Ranges

0.3 - 6 sec 3 - 60 sec  
0.3 - 6 min 3 - 60 min  
0.3 - 6 hour 3 - 60 hour

0.3 - 6 sec 3 - 60 sec  
0.3 - 6 min 3 - 60 min  
0.3 - 6 hour 3 - 60 hour

0.3 - 6 sec 3 - 60 sec  
0.3 - 6 min 3 - 60 min  
0.3 - 6 hour 3 - 60 hour

0.3 - 6 sec 3 - 60 sec  
0.3 - 6 min 3 - 60 min  
0.3 - 6 hour 3 - 60 hour

Selectable  
Bridge terminals 6 & 7 for ON cycle first

Voltages

12V, 24V AC/DC  
110V, 230V, 400V AC

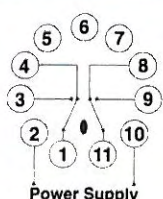
12V, 24V AC/DC  
110V, 230V, 400V AC

12V, 24V AC/DC  
110V, 230V, 400V AC

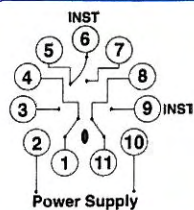
12V, 24V AC/DC  
110V, 230V, 400V AC

12V, 24V AC/DC  
110V, 230V, 400V AC

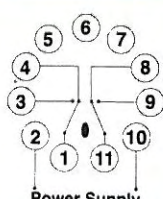
Wiring Diagram



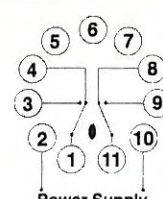
SP DP



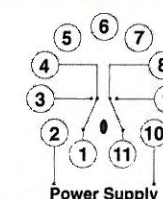
SP DP



SP DP



SP DP



SP DP

Price

270.00 285.00

— 270.00

270.00 285.00

270.00 285.00

480.00 500.00

# ELECTRONIC TIMING MODULES



Diagram



Part Number

EDOD1

EIRT1

EMRRPT

Function

**Delay on De-Energize**

**Interval Timer with Pulse Reset with Hold Reset**

**Remote POT Multi Range Timer**

Description of Operation

When power is applied the relay will switch ON. When power is removed the relay remains ON until the preset time has lapsed.

**Note :** The timer must be energized for 50% of the preset time.

**Pulse Reset :** The relay remains de-energized on power up until a reset occurs. When the pulse contact is closed the relay energizes for the set time period then switches OFF irrespective of the length of the pulse. A string of pulses that are shorter than the set time period will reset the timer and the relay will remain energized until the last pulse occurs when the timing cycle will time out and the relay will de-energize until the next reset pulse occurs.

**Hold Reset :** The relay remains de-energized on power up until a reset occurs. When the reset contact closes the relay energizes. When the reset contact opens the relay de-energizes after the preset time. The relay stays de-energized until another reset occurs. If the hold contact is closed before the time period has lapsed the time cycle is cancelled and the relay will remain energized.

Used mainly as an automatic STOP for irrigation pump starters. The remote POT, with pulse timing light and reset button, is fitted to a starter door providing time setting without opening the starter. The Interval timing function is selected for this operation.

The unit is fitted with a Power, Pulse timing, Relay on and 4 elapsed time percentage lights. A fine time tuning setting knob is also available based on, the faster or slower the pulse, the shorter or longer the set time becomes.

**Remote Pot Accessory**  
Remote POT + label (6hr, 12hr or 24hr )

Time Ranges

0.3 - 6 sec  
3 - 60 sec  
0.3 - 6 min

0.3 - 6 sec 3 - 60 sec  
0.3 - 6 min 3 - 60 min  
0.3 - 6 hour 3 - 60 hour

10min - 3hrs 40min - 12hrs  
20min - 6hrs 80min - 24hrs

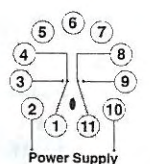
Voltages

12V, 24V AC/DC  
110V, 230V, 400V AC

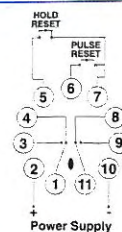
12V, 24V AC/DC  
110V, 230V, 400V AC

230V , 400V AC

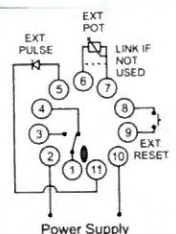
Wiring Diagram



SP DP



SP DP



Power Supply

Price

390.00

420.00

245.00

340.00

P.O.A.

# ELECTRONIC TIMING MODULES



Diagram



Part Number

ETSAR

EOST1

EDT

WM1

Function

Three Start Attempt Relay

One Shot Timer

Defrost Timer

Forward / Reverse Timer with Pause

Description of Operation

To start generating sets up to a maximum of 3 attempts. On power up the relay energizes for the pre-set time. With a successful start the power must be removed. On failure to start the relay de-energizes for the same pre-set time. The second and third attempt will be made in the same manner. If failure persists after 3 attempts an alarm relay is energized.

On power up with terminals 5+6 linked, the relay will energize for a set period of 0,5 seconds (ON pulse). On power up with terminals 6+7 linked, the relay will not energize. Only after power is removed will the relay energize for 0,5 seconds (OFF pulse). A pulse for power ON and power OFF is possible by leaving terminals 5,6+7 all disconnected (no links fitted).

The unit has 2 cooling cycle ranges which are selectable : 3-6 hours, and 6-12 hours. On power up, with terminals 5+6 linked, the timer starts the cooling cycle. After a 0,3-6 minute pause, the fan operation starts. The cooling duration is set for a time : 3-12 hours. After the set cooling time, the defrost cycle starts, which can be set for a duration of 3-60 minutes. During this cycle the fan control is also switched off. After the defrost cycle has lapsed, the cooling cycle restarts, but without the fan operation. The fan will restart after the set period of 0,3-6 minutes. If the link between pins 5+6 is disconnected, the unit will remain in the cooling/fan mode. If reconnected the defrost cycle will once again be operational. Three LED's indicate the status of either cooling, fan or defrost.

When power is applied there is a delay before contacts 1+4 close. Contacts 1+4 then remain closed for the "Forward" (ON) time period. After this time, contacts 1+4 then open. After an adjustable pause time (OFF period), contacts 1+3 close and remain closed for the "Reverse" (ON) time. The forward and reverse time periods are the same. After the reverse time, the unit goes into pause mode again. This forward, pause, reverse cycle is repeated until power on terminals 2+10 is removed.

Time Ranges

0 - 30 seconds  
Other times in request

<u>Cooling</u>	<u>Defrost</u>	<u>Fan</u>
3 - 6 hrs	3 - 60 min	0.3 - 6 min
6 - 12 hrs		

0.3 - 6 sec / 3 - 60 sec  
0.3 - 6 min / 3 - 60 min  
0.3 - 6 hrs / 3 - 60 hrs

Voltages

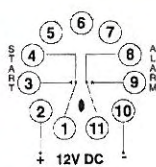
12V , 24V DC

12V , 24V AC  
110V, 230V, 400V AC

12V , 24V AC  
110V, 230V, 400V AC

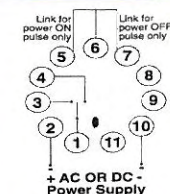
12V , 24V AC  
110V, 230V, 400V AC

Wiring Diagram



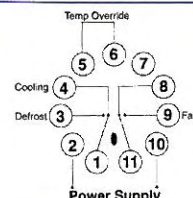
SP

DP



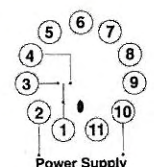
SP

DP



SP

DP



SP

DP

Price

330.00

295.00

325.00

385.00

360.00

# POWER MONITORS



Diagram



Part Number

EVM

EVWCT1

EVWCT3

EPFS1

Function

Voltage Monitor  
Over OR Under

Voltage Window  
Comparator  
Single Phase

Voltage Window  
Comparator  
Three Phase

Phase Failure  
Phase Sequence  
Relay

Description of  
Operation

The unit monitors a separate supply connected to terminals 5+7. on power up the relay energizes, providing the monitored voltage on pins 5+7 is within the set limit. If outside the set limit, the relay will remain de-energized. Under voltage monitoring is selectable by SW1 and over voltage monitoring is selectable by SW2. The difference between trip and recovery level "Hysteresis" is adjustable between 5% and 30%. A latch facility is between terminals 8+9. Latching is disabled for approx. 10 seconds at start up.

Monitors 10-30V AC/DC  
100-300V AC  
200-600V AC

The unit monitors its own supply and responds to both over and under voltage. The relay is energized when the voltage remains between the over and under voltage pre-set thresholds. If the voltage rises above the over voltage set point or falls below the under voltage set point, the relay de-energizes. LED indication is provided for both conditions. The relay energizes when the voltage recovers to within the 2% hysteresis band. A latch facility is between terminals 8+9. Latching is disabled for approx. 10 seconds at start up.

The unit derives its power from the monitored 3 phase supply. The relay is energized when the voltage is maintained between the over and under voltage set points. If the relay rises above the over voltage set point or falls below the under voltage set point, the relay de-energizes. LED indication is provided for both conditions. The relay energizes when the voltage recovers to within the 2% hysteresis band. A Latch facility is between terminals 8+9. Latching is disabled for approx. 10 seconds at start up.

Note: for motor control this unit is **not** a phase failure relay.

When power is applied the relay energizes for approx. 1 second. The unit will only operate if all 3 phases are present and in the correct sequence. The unit is also sensitive to excessive phase imbalance. The relay LED will illuminate when phases are in the correct sequence. If not, swap any 2 phases connected to terminals 5,6+7 to obtain the correct phase sequence, which will then be confirmed by the illumination of the LED.

Time Ranges

N/A

N/A

N/A

N/A

Voltages

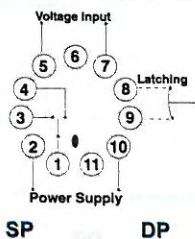
10-30V AC/DC  
110V, 230V, 400V AC

12V, 24V AC  
110V, 230V, 400V AC

230V, 400V AC

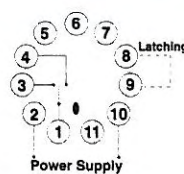
400V AC

Wiring Diagram



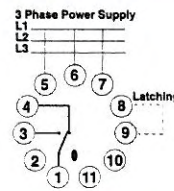
SP

DP



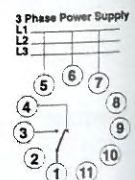
SP

DP



3 Phase

3 Phase & N



SP

DP

Price

485.00

435.00

480.00

495.00

300.00

Above Prices do not include VAT

# POWER MONITORS



Diagram



Part Number

EOCM1

ECWC

EEOLR

EGSU

Function

**Over OR Under Current Monitor Switch Selectable**

**Current Window Comparitor**

**Electronic Overload Relay With Phase Failure Protection**

**Generator Synchronising Unit**

Description of Operation

The unit interfaces with 5A secondary CT's. when power is applied the relay energizes immediately, ignoring load conditions for 10 seconds. The relay will de-energize when the load is over or under the pre-set value, depending on the switch selection. The difference between the trip and recovery level "Hysteresis" is adjustable between 5% and 30%. A latch facility is available between terminals 8+9.

The unit interfaces with 5A secondary CT's. when power is applied the relay energizes immediately, ignoring load conditions for 10 seconds. After the start up delay, the relay will remain energized whilst the current is maintained between the preset over and under load limits. If the load rises or falls beyond the set limits, the relay de-energizes. A LED indicates if an over or under load condition has occurred. "Hysteresis" is set at 2%. A latch facility is available between terminals 8+9.

Adjustable response delay 1-10 seconds on request.

Interfacing with 2 standard 5A current transformer units, the unit is designed for overload protection of motors. A start up delay of 10 seconds is only initiated once load is monitored by the current transformers. A 15% above set point switch, together with a trip response timer of 0-10 seconds, makes the unit easy to set up. After a trip condition, a timer prevents a reset function allowing the motor to cool down. This reset time is switch selectable for either 1 or 8 minutes. The unit has a reset button as well as 2 terminals for remote reset, which must be linked should local resetting on the unit be required. There a 3 LED's indicating "Relay On", "Trip" and "Reset Timing".

The unit monitors the voltage between L1 of a generator to L1 of the mains busbar, or a 2nd generator for parallel operation. The voltage difference between these 2 phases is measured. When the acceptable limit is reached (adjustable 5-30V), a preset timer (0,5-5 seconds) prevents immediate activation. After the preset time, the voltage must still be within the set limits ensuring that the frequency of both supplies are within an acceptable synchronizing limit. Then only will synchronization take place and the relay will be energized.

(20-60V units on request)

Time Ranges

N/A

N/A

N/A

N/A

Voltages

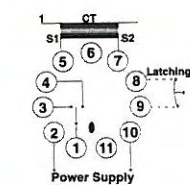
110V, 230V, 400V AC

110V, 230V, 400V AC

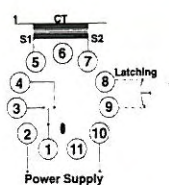
110V, 230V, 400V AC

230V, 400V AC

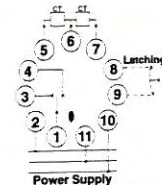
Wiring Diagram



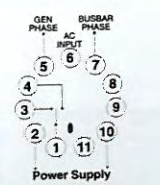
SP DP



SP DP



SP DP



SP DP

Price

425.00

455.00

490.00

370.00



# POWER MONITORS

Diagram



Part Number

EFM2

EPPR/3

EPAR

EPS1.5

Function

Frequency Monitor  
42-58Hz

Pump Protection Relay  
With Phase Failure  
Protection

Phase Angle Relay

Regulated Power Supply  
1.5 VA

Description of  
Operation

When power is applied with terminals 6+7 linked the relay energizes immediately, ignoring frequency conditions for approx. 10 seconds. Without link 6+7, the relay only energizes when the frequency is within the preset limits. The unit can be used for over or under conditions, as well as over and under window sensing limits. LED indication is offered for both over or under frequency faults. The relay de-energizes if there is a deviation from these set limits. The hysteresis is set to 0.5Hz to prevent relay chatter during small deviations in frequency.

Interfacing with one current transformer the unit offers over and under load protection for borehole pumps. On application of power the relay energizes immediately. The unit has a fixed 5 second start up delay. A 15% above set point switch, together with a trip response timer of 0-8 seconds, makes the unit easy to set up.

Conventional 5A secondary CT's are used for all loads. CT to be sized accordingly.

Phase angle relay for the protection of pumps. The relay will operate under conditions of blocked inlet or outlet of the pump and if the borehole / sump is dry. The relay has an adjustable dry restart delay.

Notes : for 230V unit

For 0.2KW up to 0.75KW use white shunt (supplied).  
For 1.1KW and larger use the following CT's :  
1.1KW=15:5A 1.5KW=20:5A  
2.25=25:5A

Notes : for 400V unit

For 0.37KW to 1.1KW use thin red shunt (supplied).  
For 1.5KW to 5.6KW use thick white shunt (supplied)  
For 7.5KW and larger CT's to be used.

Provides a 1.5VA regulated 24V DC supply from a 230V AC power source.

Used as a 24V DC power source for sensitive electronic equipment.

Time Ranges

N/A

N/A

N/A

N/A

Voltages

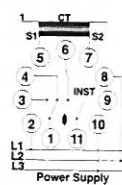
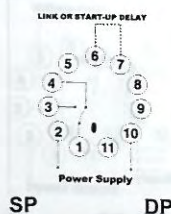
230V, 400V AC

110V, 230V, 400V AC

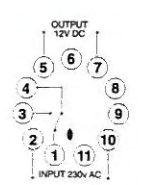
230V, 400V AC

230V, 400V AC

Wiring Diagram



Refer  
Brochure



Price

425.00

P.O.A.

490.00

370.00

# SENSING DEVICES



Diagram



Part Number

EDCU

EDCU/2

EPSM1

Function

Distance Control Unit

2 Pump Distance Control Unit

Pump Seal Monitor

Description of Operation

To control water levels in dams and reservoirs over long distances.

Float Switch - 2 wire control: When the float contact is closed between terminals 5+7, the relay is energized. Open to de-energize.

2 Float Switch - 3 wire control: Stop float - normally closed contact connected to terminals 6+7. Start float - normally open across terminals 5+6. Closing 5+6 energizes the relay and remains energized until stop float opens contact between 6+7.

Voltage on float terminals = 24VDC  
Distance: up to 4km using 1.5mm copper wire / cable.

To control water levels in sumps, dams, tanks, etc. Operation is the same as the normal EDCU, but this unit can control two pumps operating at different levels.

3 Float Switch (24V DC) - 4 wire control: Stop float - normally closed contact connected to terminals 6+7. First start float - normally open connected to terminals 5+6. Second start float - normally open connected to terminals 4+6.

Closing 5+6 (1st start float) will energize relay No.1 and closing 4+6 (2nd start float) will energize relay No.2. Both start relays will remain energized until the stop float opens between terminals 6+7. This system is used for "Duty Pump" and "Stand-By Pump" applications.

Where only one pump with an alarm is required, relay No.1 is used for the pump and relay No.2 for the alarm. Where 2 pumps and an alarm are required, a normal EDCU can be used for the alarm operation. If this system is used, a separate float must be used dedicated to this EDCU. The interconnection of the two 24V float outputs of the EDCU/2 and EDCU must be avoided at all times

Designed for use on submersible pump motors incorporating a built in oil bath. The relay energizes on application of power. If water enters the bath through a faulty pump seal, the relay de-energizes.

Time Ranges

N/A

N/A

N/A

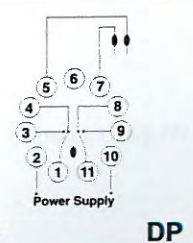
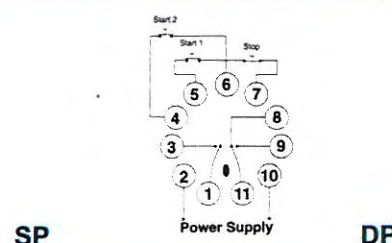
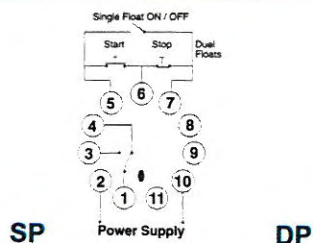
Voltages

230V, 400V AC

230V, 400V AC

230V, 400V AC

Wiring Diagram



Price

430.00

602.00

305.00

335.00

# SENSING DEVICES



Diagram



Part Number

EFF1

EFF2

EFFM

ETPR1

Function

Flip Flop Relay  
PULSE Controlled

Flip Flop Relay  
MAINS Controlled

Flip Flop Relay  
With Memory

Thermistor Protection  
Relay

Description of  
Operation

With power on terminals 2+10 and a pulse on terminals 5+7, the relay energizes.

A second pulse will de-energize the relay and it returns to its normal state. On loss of power on terminals 2+10, the relay, if energized, will de-energize and return to its original OFF state ( NO MEMORY ).

Used for alternating two pumps for duty and standby operation. Apply power for 30 seconds or longer and then removing the power will cause the relay to alter its state. The relay will remain in this new state until power is re-applied and once again removed when it will then return to its initial position.

With power on terminals 2+10 a closure or pulse across terminals 5+7 will cause the relay to energize.

A second pulse on terminals 5+7 will reset the relay to its normal state.

After loss and re-power on terminals 2+10, the status of the relay, at that time, will not alter.

Only after another closure or pulse on terminals 5+7 will the relay once again alter its state ( MEMORY ).

Interfacing with PTC sensors as per DIN 44081 (thermistors) embedded in the motor windings, the ETPR1 offers excellent motor protection. The LED's indicate trip conditions for motor overheat, cable fault (short or open circuit) as well as the relay's latch condition. Latching is enabled by bridging terminals 8+9.

Open circuit voltage  $\leq 2.5V$   
Short circuit current = 1ma (max). Maximum cold resistance of 1 or 6 sensors connected = 1500Ω.

Triggering threshold 3100Ω  $\pm 10\%$

Recovery threshold 1650Ω  $\pm 10\%$

Time Ranges

N/A

N/A

N/A

N/A

Voltages

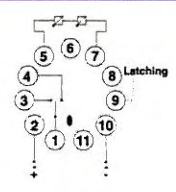
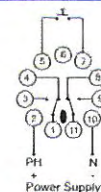
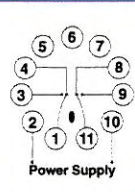
10V-30V AC/DC  
110V, 230V, 400V AC

10V-30V AC/DC  
110V, 230V, 400V AC

10V-30V AC/DC  
110V, 230V, 400V AC

110V, 230V, 400V AC

Wiring Diagram



Price

385.00

400.00

385.00

400.00

385.00

400.00

P.O.A.

# SENSING DEVICES



Diagram



Part Number

ELLE1

ESPR

ESM12

ETX

Function

Liquid Level Control

Shear Pin Relay

Siren Module

AC Power Supply  
10VA Transformer

Description of Operation

Used in conjunction with 3 conductive probes connected to terminals 5 (high), 6 (middle / low) and 7 (bottom / common).

**Filling:** When the liquid drops below the middle probe, the relay energizes. The relay remains energized until the level reaches the high level probe and then de-energizes.

**Emptying:** When the liquid rises above the high probe, the relay energizes. The relay de-energizes when the liquid falls below the middle probe.

Sensitivity - 50kΩ

This unit is designed for the fast tripping of overload conditions up to a maximum of a running current plus 15%. The current is monitored through a current transformer and the unit is fitted with a 1A or 5A selector switch. A knob is provided for fine tuning of the input current with the trip position incorporating an over current light. A response timer is provided for setting the trip time from virtually zero to a maximum of 8 seconds.

This device offers excellent protection to machinery where there is a possibility of accidental or intentional jamming.

To reset the unit after a trip condition, power must be removed and then re-instated.

The unit requires a 12V AC or DC supply. On application of the supply voltage it produces a "yelp" signal ( 8 watts) through a remote speaker, which must be connected to pins 5+6.

A 10VA AC "TX" plug in power supply is available for use with this unit.

**ESM Speaker:**  
Horn Speaker: 80mm  
8Ω  
10 watt

**Primary volts:**  
230V or 400V  
230V = pins 1+10  
400V = pins 2+10

**Secondary volts:**  
12V or 24V  
12V = pins 6+7  
24V = pins 5+7

Time Ranges

N/A

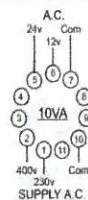
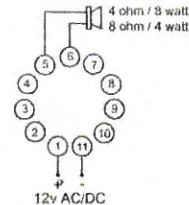
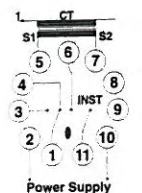
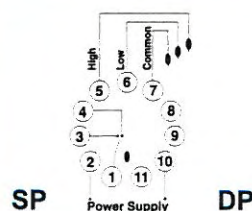
N/A

N/A

N/A

Voltages

Wiring Diagram



Price

310.00

345.00

P.O.A.

P.O.A.

305.00



## AC MAGNETIC CONTACTORS

### Part Number

Description	Current Rating		—AC3—		Auxillary Contact
	AC3	AC1	230V	400V	

### AC MINI MAGNETIC CONTACTORS

### PRICE

CEMC-E10

Mini Contactor 6A	20A	2,2KW	4 KW	1 NO	136.00
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Complete with Coil : CX1-EC

### AC MAGNETIC CONTACTORS

### PRICE

CE-D0910

Contacteur	9A	20A	5.5 HP	4 KW	1 NO	175.00
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CE-D0901

Contacteur	9A	20A	5.5 HP	4 KW	1 NC	175.00
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CE-D1210

Contacteur	12A	25A	7.5 HP	5.5 KW	1 NO	185.00
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CE-D1201

Contacteur	12A	25A	7.5 HP	5.5 KW	1 NC	185.00
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CE-D1810

Contacteur	18A	32A	10 HP	7.5 KW	1 NO	300.00
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CE-D1801

Contacteur	18A	32A	10 HP	7.5 KW	1 NC	300.00
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Complete with Coil : CX1-D2

CE-D2510

Contacteur	25A	40A	15 HP	11 KW	1 NO	400.00
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CE-D2501

Contacteur	25A	40A	15 HP	11 KW	1 NC	400.00
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CE-D3210

Contacteur	32A	50A	20 HP	15 KW	1 NO	530.00
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CE-D3201

Contacteur	32A	50A	20 HP	15 KW	1 NC	530.00
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Complete with Coil : CX1-D4

CE-D4011

Contacteur	40A	60A	25 HP	18.5 KW	1 NO & 1 NC	800.00
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CE-D5011

Contacteur	50A	80A	30 HP	22 KW	1 NO & 1 NC	908.00
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CE-D6511

Contacteur	65A	80A	40 HP	30 KW	1 NO & 1 NC	1 155.00
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CE-D8011

Contacteur	80A	125A	50 HP	37 KW	1 NO & 1 NC	1 603.00
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CE-D9511

Contacteur	95A	125A	60 HP	45 KW	1 NO & 1 NC	1 950.00
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Complete with Coil : CX1-D6

CE-F115

Contacteur	115A	200A	75 HP	55 KW		2 480.00
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CE-F150

Contacteur	150A	250A	100 HP	75 KW		2 560.00
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CE-F185

Contacteur	185A	275A	125 HP	90 KW		3 550.00
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CE-F225

Contacteur	225A	300A	150 HP	110 KW		4 275.00
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CE-F265

Contacteur	265A	350A	180 HP	132 KW		4 750.00
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CE-F330

Contacteur	330A	400A	220 HP	160 KW		6 900.00
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CE-F400

Contacteur	400A	500A	300 HP	220 KW		7 400.00
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CE-F500

Contacteur	500A	700A	400 HP	275 KW		9 100.00
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CE-F630

Contacteur	630A	1000A	500 HP	375 KW		11 100.00
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Complete with Coil : CX1-FF to CX1-FL



CEMC-E10



CE-D0910

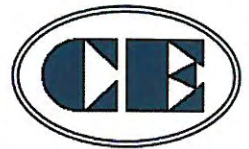


CE-D5011



CE-F115

Above Prices do not include VAT



# OVERLOAD RELAYS

Part Number

Description      Current Range Amps      HP 400V      KW 400V

## THERMAL OVERLOAD RELAYS      PRICE

CE2-D13 0.4	Thermal Overload	0.25 - 0.4 Amp	1/8 HP	0.09 KW	205.00
CE2-D13 0.63	Thermal Overload	0.40 - 0.63 Amp	1/4 HP	0.20 KW	205.00
CE2-D13 1.0	Thermal Overload	0.63 - 1.0 Amp	1/2 HP	0.37 KW	205.00
CE2-D13 1.6	Thermal Overload	1.0 - 1.6 Amp	3/4 HP	0.55 KW	205.00
CE2-D13 2.0	Thermal Overload	1.5 - 2.0 Amp	3/4 HP	0.57 KW	205.00
CE2-D13 2.5	Thermal Overload	1.6 - 2.5 Amp	1 HP	0.75 KW	205.00
CE2-D13 4.0	Thermal Overload	2.5 - 4.0 Amp	2 HP	1.5 KW	205.00
CE2-D13 6.0	Thermal Overload	4.0 - 6.0 Amp	3 HP	2.2 KW	205.00
CE2-D13 8.0	Thermal Overload	5.5 - 8.0 Amp	4 HP	3 KW	205.00
CE2-D13 10	Thermal Overload	7 - 10 Amp	5 HP	4 KW	205.00
CE2-D13 13	Thermal Overload	9 - 13 Amp	7.5 HP	5.5 KW	205.00
CE2-D13 18	Thermal Overload	12 - 18 Amp	10 HP	7.5 KW	205.00
CE2-D13 25	Thermal Overload	17 - 25 Amp	15 HP	11 KW	205.00
CE2-D13 32	Thermal Overload	23 - 32 Amp	20 HP	15 KW	205.00
CE2-D23 32	Thermal Overload	23 - 32 Amp	20 HP	15 KW	288.00
CE2-D33 32	Thermal Overload	28 - 32 Amp	20 HP	15 KW	529.00
CE2-D33 36	Thermal Overload	28 - 32 Amp	25 HP	18.5 KW	529.00
CE2-D33 40	Thermal Overload	30 - 40 Amp	25 HP	18.5 KW	529.00
CE2-D33 50	Thermal Overload	37 - 50 Amp	30 HP	22 KW	529.00
CE2-D33 65	Thermal Overload	48 - 65 Amp	40 HP	30 KW	529.00
CE2-D33 70	Thermal Overload	55 - 70 Amp	40 HP	30 KW	529.00
CE2-D33 80	Thermal Overload	63 - 80 Amp	50 HP	37 KW	529.00
CE2-D33 93	Thermal Overload	80 - 93 Amp	60 HP	45 KW	529.00
CE2-D62 120	Thermal Overload	90 - 120 Amp	75 HP	55 KW	855.00
CE2-D62 150	Thermal Overload	120 - 150 Amp	100 HP	75 KW	870.00
CE2-D62 180	Thermal Overload	150 - 180 Amp	125 HP	90 KW	920.00
CE2-D66 250	Thermal Overload	180 - 250 Amp	180 HP	132 KW	3 385.00
CE2-D66 400	Thermal Overload	250 - 400 Amp	270 HP	200 KW	3 385.00
CE2-D68 500	Thermal Overload	320 - 500 Amp	340 HP	250 KW	3 385.00
CE2-D68 630	Thermal Overload	400 - 630 Amp	430 HP	315 KW	3 385.00
CE2-JDA200	Electronic Overload	50 - 200 Amp	60-125HP	45-90KW	1 175.00
CE2-JDA600	Electronic Overload	150 - 600 Amp	150-480HP	110-355KW	3 564.00
EOCR-SS	Electronic Overload	5 - 60 Amp with start up time delay			675.00

## OVERLOAD ACCESSORIES      PRICE

CA7-D13	Free Standing Base for Overload	CE2-D13	145.00
CA7-D33	Free Standing Base for Overload	CE2-D33	185.00



CE2-D13



CE2-D23



CE2-D62



CE2-JDA200



EOCR-SS



CA7-D13

Above Prices do not include VAT

# DIRECT ON LINE STARTERS



## Part Number

CE1-D094-EH  
CE1-D258-EH

CEA-SS10  
CEA-SS20

CE1-D094  
CE1-D124  
CE1-D188

CE1-D094 1.0  
CE1-D094 1.6  
CE1-D094 2.5  
CE1-D094 2.5  
CE1-D094 4.0  
CE1-D094 6.0  
CE1-D094 8.0  
CE1-D094 10  
CE1-D124 13  
CE1-D188 18  
CE1-D258 25  
CE1-D325 32  
CE1-D401 40  
CE1-D501 50  
CE1-D651 65  
CE1-D801 80

CE1-D094I  
CE1-D124I  
CE1-D188I

CE1-D094I 0.63  
CE1-D094I 1.6  
CE1-D094I 2.5  
CE1-D094I 2.5  
CE1-D094I 4.0  
CE1-D094I 6.0  
CE1-D094I 8.0  
CE1-D094I 10  
CE1-D124I 13  
CE1-D188I 18  
CE1-D258I 25  
CE1-D325I 32  
CE1-D401I 40  
CE1-D501I 50  
CE1-D651I 65

## DOL STARTER - ACCESSORIES

		PRICE
Empty Housing - With Pushbuttons	CE1-D094 / D124 / D188	145.00
Empty Housing - With Pushbuttons	CE1-D258 / D325	283.00
Start Switch for DOL Starter	CE1-D094 / D124 / D188	43.00
Start Switch for DOL Starter	CE1-D094 / D124 / D188	50.00

## DOL STARTERS - NO OVERLOAD - IP65

			PRICE
DOL - NO Overload Relay	5 HP	4 KW	320.00
DOL - NO Overload Relay	7.5 HP	5.5 KW	330.00
DOL - NO Overload Relay	10 HP	7.5 KW	470.00

## DOL STARTERS - WITH OVERLOAD - IP65

				PRICE
DOL Starter	0.63 - 1.0 Amp	1/2 HP	0.37 KW	525.00
DOL Starter	1.0 - 1.6 Amp	3/4 HP	0.55 KW	525.00
DOL Starter	1.6 - 2.5 Amp	1 HP	0.75 KW	525.00
DOL Starter	1.6 - 2.5 Amp	1.5 HP	1.1 KW	525.00
DOL Starter	2.5 - 4.0 Amp	2 HP	1.5 KW	525.00
DOL Starter	4.0 - 6.0 Amp	3 HP	2.2 KW	525.00
DOL Starter	5.5 - 8.0 Amp	4 HP	3 KW	525.00
DOL Starter	7 - 10 Amp	5 HP	4 KW	525.00
DOL Starter	9 - 13 Amp	7.5 HP	5.5 KW	535.00
DOL Starter	12 - 18 Amp	10 HP	7.5 KW	675.00
DOL Starter	17 - 25 Amp	15 HP	11 KW	925.00
DOL Starter	23 - 32 Amp	20 HP	15 KW	1 080.00
DOL Starter	30 - 40 Amp	25 HP	18.5 KW	1 960.00
DOL Starter	37 - 50 Amp	30 HP	22 KW	2 150.00
DOL Starter	48 - 65 Amp	40 HP	30 KW	2 450.00
DOL Starter	63 - 80 Amp	50 HP	37 KW	3 100.00

## DOL STARTER WITH ISOLATOR - NO OVERLOAD - IP56

			PRICE
DOL with Isolator - NO Overload Relay	5 HP	4 KW	900.00
DOL with Isolator - NO Overload Relay	7.5 HP	5.5 KW	915.00
DOL with Isolator - NO Overload Relay	10 HP	7.5 KW	990.00

## DOL STARTER WITH ISOLATOR AND OVERLOAD - IP56

				PRICE
DOL with Isolator	0.63 - 1.0 Amp	1/2 HP	0.37 KW	1 300.00
DOL with Isolator	1.0 - 1.6 Amp	3/4 HP	0.55 KW	1 300.00
DOL with Isolator	1.6 - 2.5 Amp	1 HP	0.75 KW	1 300.00
DOL with Isolator	1.6 - 2.5 Amp	1.5 HP	1.1 KW	1 300.00
DOL with Isolator	2.5 - 4.0 Amp	2 HP	1.5 KW	1 300.00
DOL with Isolator	4.0 - 6.0 Amp	3 HP	2.2 KW	1 300.00
DOL with Isolator	5.5 - 8.0 Amp	4 HP	3 KW	1 300.00
DOL with Isolator	7 - 10 Amp	5 HP	4 KW	1 300.00
DOL with Isolator	9 - 13 Amp	7.5 HP	5.5 KW	1 330.00
DOL with Isolator	12 - 18 Amp	10 HP	7.5 KW	1 450.00
DOL with Isolator	17 - 25 Amp	15 HP	11 KW	1 850.00
DOL with Isolator	23 - 32 Amp	20 HP	15 KW	2 400.00
DOL with Isolator	30 - 40 Amp	25 HP	18.5 KW	2 900.00
DOL with Isolator	37 - 50 Amp	30 HP	22 KW	3 480.00
DOL with Isolator	48 - 65 Amp	40 HP	30 KW	3 800.00



CEA-SS10  
DOL Start Switch



CE1-D094 / D124 / D188  
Up to 15KW in Plastic IP65 Enclosure  
18.5 KW and Greater in Steel IP56 Enclosure



CE1-D258  
Up to 15KW in Plastic IP65 Enclosure  
18.5 KW and Greater in Steel IP56 Enclosure



CE1-D094I  
Up to 15KW in Plastic IP56 Enclosure  
18.5 KW and Greater in Steel IP56 Enclosure

Above Prices do not include VAT



## REVERSING STARTERS

### Part Number

Description HP 400V KW 400V

### REVERSING STARTER - OPEN TYPE - ( TYPE 1 ) PRICE

#### MAINS WIRING ONLY

Part Number	Description	HP 400V	KW 400V	PRICE
CER-12T1	Open Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	650.00
CER-18T1	Open Reversing Starter	10 HP	7.5 KW	920.00
CER-25T1	Open Reversing Starter	15 HP	11 KW	1 215.00
CER-32T1	Open Reversing Starter	20 HP	15 KW	1 570.00
CER-40T1	Open Reversing Starter	25 HP	18.5 KW	2 150.00
CER-50T1	Open Reversing Starter	30 HP	22 KW	2 570.00
CER-65T1	Open Reversing Starter	40 HP	30 KW	3 210.00
CER-80T1	Open Reversing Starter	50 HP	37 KW	4 390.00

Overload Relay to be Ordered Separately

Complete with Mechanical Interlock



TYPE 1  
MAINS WIRING ONLY

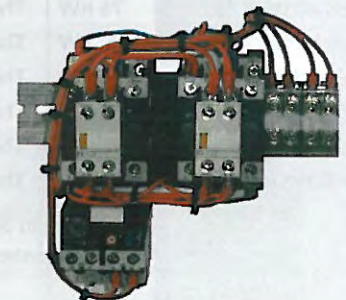
### REVERSING STARTER - OPEN TYPE - ( TYPE 2 ) PRICE

#### MAINS AND CONTROL WIRING

Part Number	Description	HP 400V	KW 400V	PRICE
CER-12T2	Open Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	900.00
CER-18T2	Open Reversing Starter	10 HP	7.5 KW	1 180.00
CER-25T2	Open Reversing Starter	15 HP	11 KW	1 480.00
CER-32T2	Open Reversing Starter	20 HP	15 KW	1 820.00
CER-40T2	Open Reversing Starter	25 HP	18.5 KW	2 390.00
CER-50T2	Open Reversing Starter	30 HP	22 KW	2 820.00
CER-65T2	Open Reversing Starter	40 HP	30 KW	3 460.00
CER-80T2	Open Reversing Starter	50 HP	37 KW	4 600.00

Overload Relay to be Ordered Separately

Complete with Mechanical Interlock



TYPE 2  
MAINS & CONTROL WIRING

### REVERSING STARTER - ENCLOSED TYPE - ( TYPE 3 ) PRICE

#### WITH 3 PUSHBUTTONS AND INTERNAL WIRING

Part Number	Description	HP 400V	KW 400V	PRICE
CER-12T3	Enclosed Reversing Starter	Up to 7.5 HP	Up to 5.5 KW	1 500.00
CER-18T3	Enclosed Reversing Starter	10 HP	7.5 KW	1 870.00
CER-25T3	Enclosed Reversing Starter	15 HP	11 KW	2 180.00
CER-32T3	Enclosed Reversing Starter	20 HP	15 KW	2 560.00
CER-40T3	Enclosed Reversing Starter	25 HP	18.5 KW	3 400.00
CER-50T3	Enclosed Reversing Starter	30 HP	22 KW	3 870.00
CER-65T3	Enclosed Reversing Starter	40 HP	30 KW	4 600.00
CER-80T3	Enclosed Reversing Starter	50 HP	37 KW	5 860.00

Overload Relay to be Ordered Separately

Complete with Mechanical Interlock

Mounted in IP56 Plastic Enclosure

( Available in Metal Enclosure on Request )



TYPE 3  
ENCLOSED

Above Prices do not include VAT



# STAR DELTA STARTERS—TYPES 1 and 2

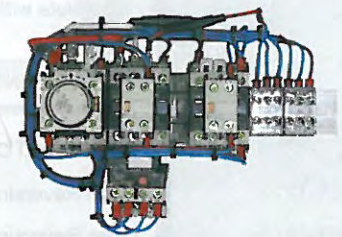


- TYPE 1 : OPEN TYPE ON DIN RAIL WITH MAINS AND CONTROL WIRING**
  - TYPE 2 : ENCLOSED TYPE PILOT DEVICES AND ISOLATOR**
  - TYPE 3 : ENCLOSED WITH PILOT DEVICES**
  - TYPE 4 : ENCLOSED WITH PILOT DEVICES AND AMMETER**
  - TYPE 5 : ENCLOSED WITH PILOT DEVICES , AMMETER & ISOLATOR**
- All Starters include Thermal Overload and Phase Failure Protection
  - Mechanical Interlocks fitted between Star and Delta Contactors
  - All Enclosed units fitted with STOP/START Pushbuttons and RUN/TRIP Pilot Lights
  - Overload Set at 0.58 of Full Load Current

- CES-12TE1K5**
- CES-12TE1K7**
- CES-12TE1K11**
- CES-18TE1K15**
- CES-25TE1K18**
- CES-25TE1K22**
- CES-32TE1K30**
- CES-40TE1K37**
- CES-50TE1K45**
- CES-65TE1K55**
- CES-80TE1K75**
- CES-115TE1K90**
- CES-150TE1K110**
- CES-185TE1K132**
- CES-185TE1K160**
- CES-265TE1K200**

TYPE 1		PRICE	PRICE
5.5 KW	Thermal Overload	1 860.00	Electronic Overload 2 440.00
7.5 KW	Thermal Overload	1 860.00	Electronic Overload 2 440.00
11 KW	Thermal Overload	1 860.00	Electronic Overload 2 440.00
15 KW	Thermal Overload	2 000.00	Electronic Overload 2 580.00
18.5 KW	Thermal Overload	2 435.00	Electronic Overload 3 010.00
22 KW	Thermal Overload	2 435.00	Electronic Overload 3 010.00
30 KW	Thermal Overload	3 150.00	Electronic Overload 3 720.00
37 KW	Thermal Overload	3 580.00	Electronic Overload 4 150.00
45 KW	Thermal Overload	3 868.00	Electronic Overload 4 443.00
55 KW	Thermal Overload	4 585.00	Electronic Overload 5 150.00
75 KW	Thermal Overload	5 720.00	Electronic Overload 6 300.00
90 KW	Thermal Overload	10 170.00	Electronic Overload 10 170.00
110 KW	Thermal Overload	11 440.00	Electronic Overload 11 440.00
132 KW	Thermal Overload	14 750.00	Electronic Overload 14 750.00
160 KW	Thermal Overload	16 200.00	Electronic Overload 16 200.00
200 KW	Thermal Overload	17 530.00	Electronic Overload 17 530.00

Up to 30KW mounted on Din Rail  
Greater than 30 KW mounted on Chassis Plate



TYPE 1  
OPEN TYPE

TYPE 2		PRICE	PRICE
5.5 KW	Thermal Overload	3 735.00	Electronic Overload 4 310.00
7.5 KW	Thermal Overload	3 735.00	Electronic Overload 4 310.00
11 KW	Thermal Overload	3 735.00	Electronic Overload 4 310.00
15 KW	Thermal Overload	3 880.00	Electronic Overload 4 460.00
18.5 KW	Thermal Overload	4 770.00	Electronic Overload 5 350.00
22 KW	Thermal Overload	4 770.00	Electronic Overload 5 350.00
30 KW	Thermal Overload	5 670.00	Electronic Overload 6 250.00
37 KW	Thermal Overload	7 105.00	Electronic Overload 7 680.00
45 KW	Thermal Overload	9 270.00	Electronic Overload 9 845.00
55 KW	Thermal Overload	9 870.00	Electronic Overload 10 400.00
75 KW	Thermal Overload	12 100.00	Electronic Overload 12 680.00
90 KW	Thermal Overload	18 840.00	Electronic Overload 19 400.00
110 KW	Thermal Overload	20 480.00	Electronic Overload 22 140.00
132 KW	Thermal Overload	20 900.00	Electronic Overload 22 600.00
160 KW	Thermal Overload	22 975.00	Electronic Overload 24 840.00
200 KW	Thermal Overload	24 070.00	Electronic Overload 26 000.00

Up to 30KW in Plastic IP56 Enclosure  
Greater than 30 KW in Metal IP55 Enclosure



TYPE 2  
ENCLOSED WITH ISOLATOR



## STAR DELTA STARTERS— Types 3, 4 and 5

### Part Number

CES-12TE3K5  
CES-12TE3K7  
CES-12TE3K11  
CES-18TE3K15  
CES-25TE3K18  
CES-25TE3K22  
CES-32TE3K30  
CES-40TE3K37  
CES-50TE3K45  
CES-65TE3K55  
CES-80TE3K75  
CES-115TE3K90  
CES-150TE3K110  
CES-185TE3K132  
CES-185TE3K160  
CES-265TE3K200

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 3</b>				
5.5 KW	Thermal Overload	3 285.00	Electronic Overload	3 820.00
7.5 KW	Thermal Overload	3 285.00	Electronic Overload	3 820.00
11 KW	Thermal Overload	3 285.00	Electronic Overload	3 820.00
15 KW	Thermal Overload	3 440.00	Electronic Overload	4 010.00
18.5 KW	Thermal Overload	4 340.00	Electronic Overload	4 910.00
22 KW	Thermal Overload	4 340.00	Electronic Overload	4 910.00
30 KW	Thermal Overload	5 080.00	Electronic Overload	5 650.00
37 KW	Thermal Overload	6 350.00	Electronic Overload	6 930.00
45 KW	Thermal Overload	6 720.00	Electronic Overload	7 300.00
55 KW	Thermal Overload	7 320.00	Electronic Overload	7 890.00
75 KW	Thermal Overload	9 114.00	Electronic Overload	9 600.00
90 KW	Thermal Overload	14 450.00	Electronic Overload	14 450.00
110 KW	Thermal Overload	15 998.00	Electronic Overload	15 998.00
132 KW	Thermal Overload	17 885.00	Electronic Overload	17 885.00
160 KW	Thermal Overload	19 400.00	Electronic Overload	19 400.00
200 KW	Thermal Overload	20 600.00	Electronic Overload	20 600.00

Up to 30KW in Plastic IP56 Enclosure

Greater than 30 KW in Metal IP55 Enclosure



TYPE 3  
ENCLOSED

CES-12TE4K5  
CES-12TE4K7  
CES-12TE4K11  
CES-18TE4K15  
CES-25TE4K18  
CES-25TE4K22  
CES-32TE4K30  
CES-40TE4K37  
CES-50TE4K45  
CES-65TE4K55  
CES-80TE4K75  
CES-115TE4K90  
CES-150TE4K110  
CES-185TE4K132  
CES-185TE4K160  
CES-265TE4K200

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 4</b>				
5.5 KW	Thermal Overload	3 880.00	Electronic Overload	4 780.00
7.5 KW	Thermal Overload	3 880.00	Electronic Overload	4 780.00
11 KW	Thermal Overload	3 880.00	Electronic Overload	4 780.00
15 KW	Thermal Overload	4 030.00	Electronic Overload	4 950.00
18.5 KW	Thermal Overload	4 920.00	Electronic Overload	5 495.00
22 KW	Thermal Overload	4 920.00	Electronic Overload	5 495.00
30 KW	Thermal Overload	5 533.00	Electronic Overload	6 100.00
37 KW	Thermal Overload	6 955.00	Electronic Overload	7 530.00
45 KW	Thermal Overload	7 330.00	Electronic Overload	7 900.00
55 KW	Thermal Overload	7 920.00	Electronic Overload	8 498.00
75 KW	Thermal Overload	9 720.00	Electronic Overload	10 290.00
90 KW	Thermal Overload	14 950.00	Electronic Overload	14 950.00
110 KW	Thermal Overload	16 600.00	Electronic Overload	16 600.00
132 KW	Thermal Overload	18 440.00	Electronic Overload	18 440.00
160 KW	Thermal Overload	19 900.00	Electronic Overload	19 900.00
200 KW	Thermal Overload	21 190.00	Electronic Overload	21 190.00

Up to 30KW in Plastic IP56 Enclosure

Greater than 30 KW in Metal IP55 Enclosure



TYPE 4  
ENCLOSED WITH AMMETER

CES-12TE5K5  
CES-12TE5K7  
CES-12TE5K11  
CES-18TE5K15  
CES-25TE5K18  
CES-25TE5K22  
CES-32TE5K30  
CES-40TE5K37  
CES-50TE5K45  
CES-65TE5K55  
CES-80TE5K75  
CES-115TE5K90  
CES-150TE5K110  
CES-185TE5K132  
CES-185TE5K160  
CES-265TE5K200

KW Rating	Overload Type	PRICE	Overload Type	PRICE
<b>TYPE 5</b>				
5.5 KW	Thermal Overload	4 340.00	Electronic Overload	4 900.00
7.5 KW	Thermal Overload	4 340.00	Electronic Overload	4 900.00
11 KW	Thermal Overload	4 340.00	Electronic Overload	4 900.00
15 KW	Thermal Overload	4 484.00	Electronic Overload	5 050.00
18.5 KW	Thermal Overload	5 380.00	Electronic Overload	5 950.00
22 KW	Thermal Overload	5 380.00	Electronic Overload	5 950.00
30 KW	Thermal Overload	6 270.00	Electronic Overload	6 850.00
37 KW	Thermal Overload	7 700.00	Electronic Overload	8 200.00
45 KW	Thermal Overload	9 870.00	Electronic Overload	10 448.00
55 KW	Thermal Overload	10 460.00	Electronic Overload	11 030.00
75 KW	Thermal Overload	12 710.00	Electronic Overload	13 280.00
90 KW	Thermal Overload	19 400.00	Electronic Overload	20 000.00
110 KW	Thermal Overload	21 100.00	Electronic Overload	22 790.00
132 KW	Thermal Overload	21 600.00	Electronic Overload	23 350.00
160 KW	Thermal Overload	23 528.00	Electronic Overload	25 400.00
200 KW	Thermal Overload	24 600.00	Electronic Overload	26 600.00

Up to 30KW in Plastic IP56 Enclosure

Greater than 30 KW in Metal IP55 Enclosure



TYPE 5  
ENCLOSED WITH AMMETER & ISOLATOR

Above Prices do not include VAT



## CONTACTOR ACCESSORIES

### Part Number

### Description

### Contactor

#### COILS

#### PRICE

CX1-D2	AC Magnetic Coil	CE-D09 / CE-D18	90.00
CX1-D4	AC Magnetic Coil	CE-D25 / CE-D32	100.00
CX1-D6	AC Magnetic Coil	CE-D40 / CE-D95	230.00
CX1-FF	AC Magnetic Coil	CE-F115 / CE-F150	590.00
CX1-FG	AC Magnetic Coil	CE-F185 / CE-F225	670.00
CX1-FH	AC Magnetic Coil	CE-F265 / CE-F330	1 010.00
CX1-FJ	AC Magnetic Coil	CE-F400	1 700.00
CX1-FK	AC Magnetic Coil	CE-F500	1 830.00
CX1-FL	AC Magnetic Coil	CE-F630	2 090.00

Available Voltages : 24V : 48V : 110V : 230V : 400V : 550V AC

#### AUXILLARY BLOCKS

#### PRICE

CEA-02	Top Mount Clip On Auxillary Block	2 NC	44.00
CEA-11	Top Mount Clip On Auxillary Block	1 NO & 1 NC	44.00
CEA-20	Top Mount Clip On Auxillary Block	2 NO	44.00
CEA-22	Top Mount Clip On Auxillary Block	2 NO & 2 NC	80.00
CEA-40	Top Mount Clip On Auxillary Block	4 NO	80.00
CEA-04	Top Mount Clip On Auxillary Block	4 NC	80.00
CEA-13	Top Mount Clip On Auxillary Block	1 NO & 3 NC	80.00
CEA-31	Top Mount Clip On Auxillary Block	3 NO & 1 NC	80.00

For Contactors CE-D09 / F630

#### PNEUMATIC TIMER

#### PRICE

CEA-DT2	Clip On Pneumatic Timer - Delay On	0 - 30 Seconds	440.00
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For Contactors CE-D09 / F630

#### MECHANICAL INTERLOCK

#### PRICE

CA9-D01	Mechanical Interlock	CE-D09 / CE-D32	90.00
CA9-D02	Mechanical Interlock	CE-D40 / CE-D65	110.00
CA9-D03	Mechanical Interlock	CE-D80 / CE-D95	130.00
CA9-FF970	Mechanical Interlock	CE-F115 / CE-F150	245.00
CA9-FG970	Mechanical Interlock	CE-F185 / CE-F225	280.00
CA9-FH970	Mechanical Interlock	CE-F265 / CE-F500	380.00
CA9-FL970	Mechanical Interlock	CE-F630	500.00

#### CONTACT KITS

#### PRICE

CECK-D40	Comprising 6 Fixed and 3 Moving Contacts	CE-D40	360.00
CECK-D50	Comprising 6 Fixed and 3 Moving Contacts	CE-D50	410.00
CECK-D65	Comprising 6 Fixed and 3 Moving Contacts	CE-D65	480.00
CECK-D80	Comprising 6 Fixed and 3 Moving Contacts	CE-D80	750.00
CECK-D95	Comprising 6 Fixed and 3 Moving Contacts	CE-D95	820.00



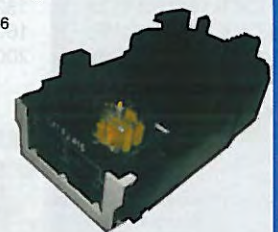
CX1-D2



CX1-D4



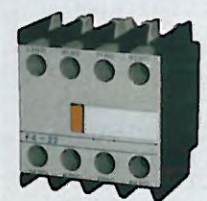
CX1-D6



CX1-FF to FL



CEA-11



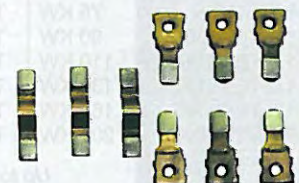
CEA-22



CEA-DT2



CA9-D01



CECK-D40



## 22mm Ø METAL CONTROL DEVICES — XB2 RANGE

### Part Number

Description Contact Block Colour

### PUSHBUTTONS

### PRICE

<b>XB2-BA21</b>	22mm Flush Pushbutton	1 NO	Black	72.00
<b>XB2-BA31</b>	22mm Flush Pushbutton	1 NO	Green	72.00
<b>XB2-BA42</b>	22mm Flush Pushbutton	1 NC	Red	72.00
<b>XB2-BA51</b>	22mm Flush Pushbutton	1 NO	Yellow	72.00
<b>XB2-BA61</b>	22mm Flush Pushbutton	1 NO	Blue	72.00
<b>XB2-BC42</b>	40mm NON Latching Mushroom Head	1 NC	Red	100.00
<b>XB2-BS142</b>	40mm KEY RELEASE mushroom Head	1 NC	Red	198.00
<b>XB2-BS542</b>	40mm Latching Mushroom Head - Twist Release	1 NC	Red	118.00
<b>XB2-BS545</b>	40mm Latching Mushroom Head - Twist Release	2 NC	Red	132.00
<b>XB2-BT42</b>	40mm Latching Mushroom Head - Push/Pull	1 NC	Red	118.00
<b>XB2-BW8465</b>	Double Pushbutton & Pilot Light- 230v Bulb	1 NO/C		145.00

### ILLUMINATED PUSHBUTTONS

### PRICE

<b>XB2-BW33</b>	22mm illuminated Pushbutton	230V	1 NO	Green	126.00
<b>XB2-BW34</b>	22mm illuminated Pushbutton	230V	1 NC	Red	126.00
<b>XB2-BW35</b>	22mm illuminated Pushbutton	230V	1 NO	Yellow	126.00
<b>XB2-BW36</b>	22mm illuminated Pushbutton	230V	1 NO	Blue	126.00

### SELECTOR SWITCHES

### PRICE

<b>XB2-BD25</b>	Selector	2 Position	Short Handle	1NO & 1NC	Black	96.00
<b>XB2-BD33</b>	Selector	3 Position	Short Handle	2 NO	Black	99.00
<b>XB2-BJ25</b>	Selector	2 Position	Long Handle	1NO & 1NC	Black	99.00
<b>XB2-BJ33</b>	Selector	3 Position	Long Handle	2 NO	Black	101.00

### KEY SWITCHES

### PRICE

<b>XB2-BG25</b>	Key Switch	2 Pos - Key removable in OFF Position	1NO & 1NC			132.00
<b>XB2-BG45</b>	Key Switch	2 Pos - Key removable in ON/OFF Pos	1NO & 1NC			132.00
<b>XB2-BG33</b>	Key Switch	3 Pos - Key removable in OFF Position	2NC			132.00
<b>XB2-BS142</b>	40mm Mushroom Head with Key		1NC		Red	198.00

### PILOT LIGHTS— 230 VOLT NEON BULBS TYPE BA9

### PRICE

<b>XB2-BV63</b>	22mm Pilot Light	230V	Green	72.00
<b>XB2-BV64</b>	22mm Pilot Light	230V	Red	72.00
<b>XB2-BV65</b>	22mm Pilot Light	230V	Yellow	72.00
<b>XB2-BV66</b>	22mm Pilot Light	230V	Blue	72.00

### PILOT LIGHTS— 400 VOLT NEON BULBS TYPE BA9

### PRICE

<b>XB2-BV63-Q</b>	22mm Pilot Light	400V	Green	72.00
<b>XB2-BV64-Q</b>	22mm Pilot Light	400V	Red	72.00
<b>XB2-BV65-Q</b>	22mm Pilot Light	400V	Yellow	72.00
<b>XB2-BV66-Q</b>	22mm Pilot Light	400V	Blue	72.00



XB2-BA51



XB2-BW33



XB2-BT42



XB2-BS542



XB2-BS142



XB2-BW8465



XB2-BD25



XB2-BJ25



XB2-BS142



XB2-BG25 / BG 45



XB2-BV66-M



XB2-BV66-Q

Above Prices do not include VAT



## 22mm Ø METAL CONTROL DEVICES — XB2 RANGE

*Part Number*

**AE/LOCK**

**XB2-BE101**

**XB2-BE102**

**XB2-BOOT**

**BS-211B**

**BS-216B**

**BS-230B**

**XB7-EA21**

**XB7-EA31**

**XB7-EA42**

**XB-6B**

**XB-6G**

**XB-6R**

**XB-6Y**

**AD22-22DH-B**

**AD22-22DH-G**

**AD22-22DH-R**

**AD22-22DH-Y**

**XAL-1E-Y**

**XAL-1E**

**XAL-2E**


**XAL-3E**

**XAL-4E**

**ALABEL**

**HP-22-G**

**HP-22-B**



<i>Description</i>		<i>Contact Block</i>	<i>Colour</i>		
<b>PADLOCKABLE COVER AND AUXILLARY FOR PUSHBUTTONS PRICE</b>					
AE/LOCK	Padlockable Devise	Hinged cover - Provision for 2 locks		132.00	
XB2-BE101	Contact Block		1 NO	13.00	
XB2-BE102	Contact Block		1 NC	13.00	
XB2-BOOT	Clear latex Boot for Pushbutton		Clear	15.00	
<b>LATCHING 3P METAL PUSHBUTTON STATION PRICE</b>					
BS-211B	Latching Station	10 Amp	3 Pole	Grey	79.00
BS-216B	Latching Station	15 Amp	3 Pole	Grey	96.00
BS-230B	Latching Station	30 Amp	3 Pole	Grey	132.00
<b>ECONOMY PUSHBUTTONS &amp; PILOT LIGHTS PRICE</b>					
XB7-EA21	22mm Pushbutton		1 NO	Yellow	36.00
XB7-EA31	22mm Pushbutton		1 NO	Green	36.00
XB7-EA42	22mm Pushbutton		1 NC	Red	36.00
XB-6B	22mm Pilot Light	12V - 400V		Blue	59.00
XB-6G	22mm Pilot Light	12V - 400V		Green	59.00
XB-6R	22mm Pilot Light	12V - 400V		Red	59.00
XB-6Y	22mm Pilot Light	12V - 400V		Yellow	59.00
<b>LED PILOT LIGHTS PRICE</b>					
AD22-22DH-B	22mm LED Pilot Light	24V/110V/230V / 400V		Blue	72.00
AD22-22DH-G	22mm LED Pilot Light	24V/110V/230V / 400V		Green	72.00
AD22-22DH-R	22mm LED Pilot Light	24V/110V/230V / 400V		Red	72.00
AD22-22DH-Y	22mm LED Pilot Light	24V/110V/230V / 400V		Yellow	72.00
<b>EMPTY CONTROL STATIONS PRICE</b>					
XAL-1E-Y	Empty Pushbutton Station	1 Hole		Yellow Cover	87.00
XAL-1E	Empty Pushbutton Station	1 Hole		White Cover	87.00
XAL-2E	Empty Pushbutton Station	2 Hole		White Cover	105.00
XAL-3E	Empty Pushbutton Station	3 Hole		White Cover	125.00
XAL-4E	Empty Pushbutton Station	4 Hole		White Cover	145.00
<b>BLANK LABELS AND 22MM BLANKING PLUGS PRICE</b>					
ALABEL	Black plastic label for XB2 range			Black	5.00
HP-22-G	22mm Blanking Plug			Light Grey	6.00
HP-22-B	22mm Blanking Plug			Black	6.00
<b>LABELS FOR ALABEL HOLDERS - 154 LABEL PER A4 SHEET PRICE</b>					
	MAXIMUM 7 LETTERS per label	—	White on Black		99.00
	MAXIMUM 7 LETTERS per label	—	Black on white		33.00





## CONTROL STATIONS (XB2 RANGE) & TOGGLE SWITCHES

Part Number

Description

Colour

### CONTROL STATIONS

PRICE

#### 1 WAY CONTROL STATIONS

XB2-B103	1 Pushbutton Green with N/O contact	Start	174.00
XB2-B112	1 Pushbutton Red with N/C contact	Stop	174.00
XB2-B164	1 Pushbutton E/Stop - Non Latching Mushroom Head		208.00
XB2-B174	1 Pushbutton E/Stop - Twist to Release Mushroom Head		241.00
XB2-B184	Key release Mushroom head pushbutton		320.00

#### 2 WAY CONTROL STATIONS

XB2-B215	2 Pushbutton	Start / Stop	257.00
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#### 3 WAY CONTROL STATIONS

XB2-B334	3 Pushbutton	← / Stop / →	382.00
XB2-B334	3 Pushbutton	↑ / Stop / ↓	382.00
XB2-B371	3 Pushbutton	Start / Stop / Red Pilot Light	349.00

### TOGGLE SWITCHES

PRICE

T1021	Toggle Switch	Single Pole	ON / OFF	30.00
T1221	Toggle Switch	Double Pole	ON / OFF	39.00
T1121	Toggle Switch	Single Pole	ON / ON	35.00
T1121A	Toggle Switch	Single Pole	Spring Return ON / ON	42.00
T1321	Toggle Switch	Double Pole	ON / ON	44.00
T1122	Toggle Switch	Single Pole	ON / OFF / ON	35.00
T1122B	Toggle Switch	Single Pole	Spring Return ON / OFF / ON	59.00
T1322	Toggle Switch	Double Pole	ON / OFF / ON	44.00
T-BOOT	Rubber Boot for Toggle Switch			13.00

12mm Ø Mounting Hole 15 Amp @ 250 VAC

### NEON , INCANDESCENT & LED LAMPS - BA9s

PRICE

BA9	Neon	Red & Green	110V / 230V / 400V	10.00
BA9I	Filament	Clear	12V - 400V	13.00
LED	LED	Red, Green, Yellow, Clear	24V / 230V	26.00



XB2-B174



XB2-B103



XB2-B215



XB2-B334



T1021



T1121



T1122



T-BOOT



BA9I



BA9



LED

Above Prices do not include VAT



## RELAYS , FUSES AND TERMINALS

### Part Number

Description	Poles	Contact Rating	Voltages Available
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### PLUG IN RELAYS AND BASES

### PRICE

#### RELAYS

MK-1P	8 Pin	1 Pole	5 Amp	12V - 400V AC/DC	60.00
MK-2P	8 Pin	2 Pole	5 Amp	12V - 400V AC/DC	65.00
MK-3P	11 Pin	3 Pole	5 Amp	12V - 400V AC/DC	85.00

#### BASES

PF-083A	8 Pin Base	Square	MK-2P	Screw Terminal	25.00
PF-113A	11 Pin Base	Square	MK-3P	Screw Terminal	30.00
90.23	11 Pin Base	Oval	MK-3P	Screw Terminal	42.00

### FUSE HOLDERS & FUSES

### PRICE

Description	Voltage	Size	Rated Current	PRICE
RT18-32	1 Pole	10 x 38mm	32 Amp	27.00
RF1038-02	500V	10 x 38mm	2 Amp	4.00
RF1038-04	500V	10 x 38mm	4 Amp	4.00
RF1038-06	500V	10 x 38mm	6 Amp	4.00
RF1038-10	500V	10 x 38mm	10 Amp	4.00
RF1038-16	500V	10 x 38mm	16 Amp	4.00
RF1038-LINK	Cylindrical Neutral Link	10 x 38mm	32 Amp	3.00
FHIL8	In Line Fuse Holder Complete with Glass Fuse		4 Amp	6.00
FHIL8 HOLDER	Holder for Surface Mounting FHIL8 Fuse			3.00

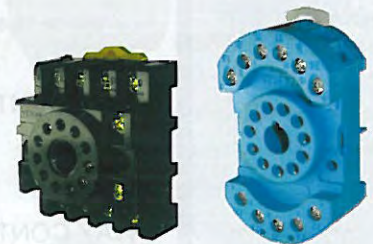
### DIN RAIL TERMINALS WITH COVERS

### PRICE

Description	Wire Size	Poles	Rated Current	PRICE
IN13SBK	2.5mm	3 Pole	15 Amp	28.00
IN12BK	2.5mm	2 Pole	20 Amp	23.00
IN20BK	4.0mm	3 Pole	30 Amp	43.00
IN30BK	10mm	3 Pole	50 Amp	56.00
IN411S	16mm	1 Pole	60 Amp	35.00
IN60BK	25mm	1 Pole	90 Amp	50.00
IN100K	35mm	1 Pole	130 Amp	99.00
IN200K	95mm	1 Pole	240 Amp	161.00
IN400K	195mm	1 Pole	370 Amp	385.00



MK-2P



PF-113A

90.23



RF1038-2

RT18-32



FHIL8



FHIL8 WITH HOLDER



IN12BK

IN20BK



# MICRO SWITCHES

Current Rating : 15 Amp @ 250 VAC  
 Contacts : 1NO 1NC COM  
 Service Life - Mechanical : 1 000 000 Operations  
 Electrical : 100 000 Operations



**MJ2-1300** PRICE : 70.00



**MJ2-1301** PRICE : 70.00



**MJ2-1303** PRICE : 70.00



**MJ2-1305** PRICE : 70.00



**MJ2-1306** PRICE : 70.00



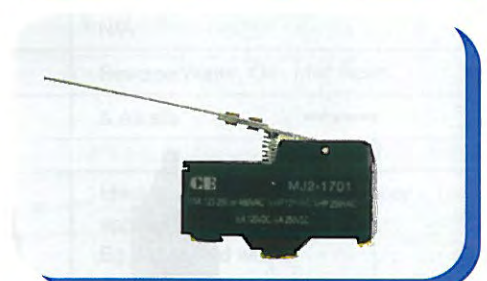
**MJ2-1307** PRICE : 70.00



**MJ2-1308** PRICE : 70.00



**MJ2-1318** PRICE : 70.00



**MJ2-1701** PRICE : 70.00



**MJ2-1702** PRICE : 70.00



**MJ2-1703** PRICE : 70.00



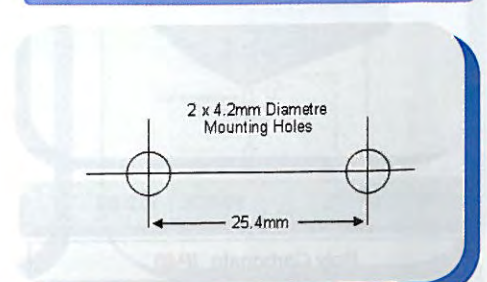
**MJ2-1704** PRICE : 70.00



**MJ2-1705** PRICE : 70.00



**MJ-CB1** PRICE : 15.00



**MOUNTING DIMENSIONS**

Above Prices do not include VAT

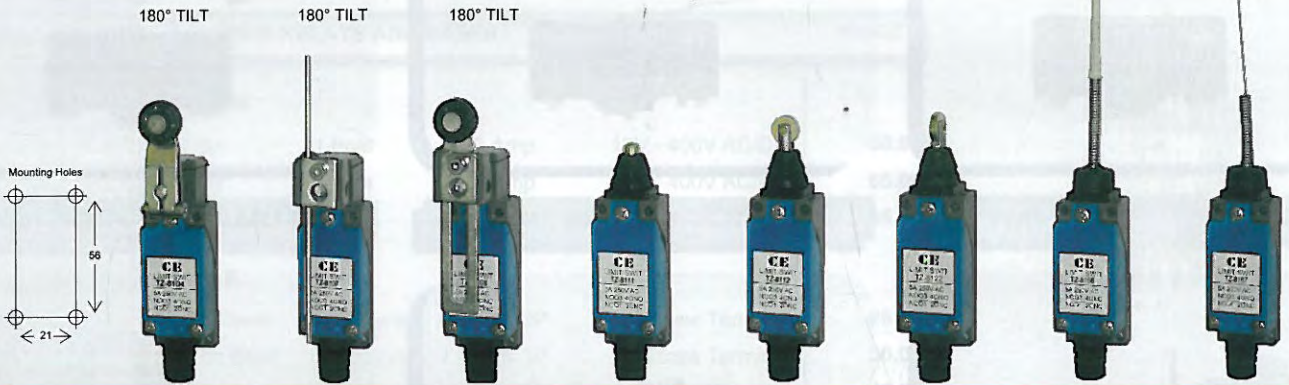
# LIMIT SWITCHES & FOOT SWITCHES



**TZ :** Current Rating : 5 Amp @ 250 VAC  
 Contacts : 1NO 1NC COM  
**MJ :** Current Rating : 10 Amp @ 250 VAC  
 Contacts : 1NO 1NC C

## STEEL TYPE TZ RANGE ( 28mm ) IP65

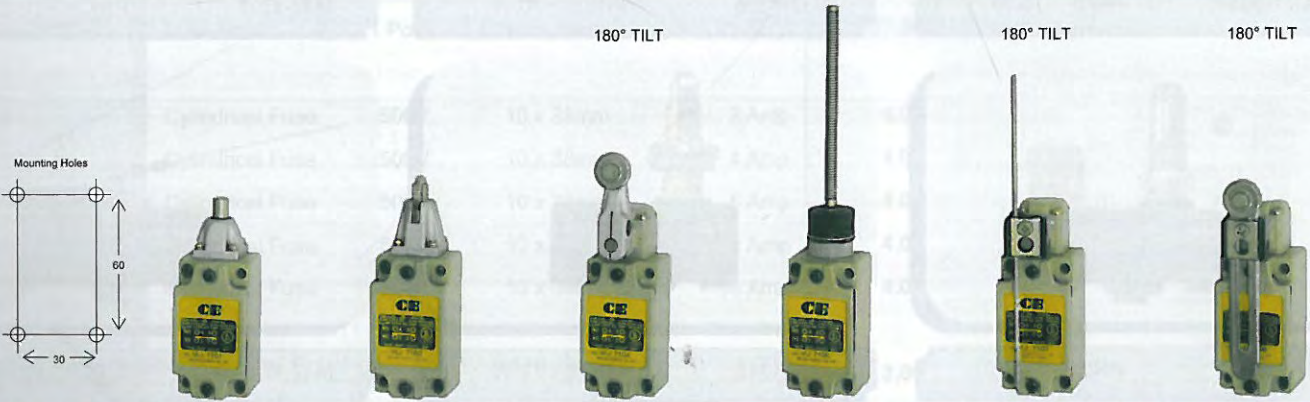
PRICE : 190.00



TZ-8104      TZ-8107      TZ-8108      TZ-8111      TZ-8112      TZ-8122      TZ-8166      TZ-8167

## STEEL TYPE MJ RANGE ( 40mm ) IP65

PRICE : 300.00



MJ-7101      MJ-7102      MJ-7104      MJ-7106      MJ-7107      MJ-7108

## FOOT SWITCHES



MFS201      PRICE : 132.00

Poly Carbonate **IP40**  
 10A @ 250 VAC  
 1NO 1NC COM



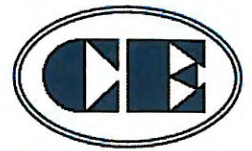
SFM-1      PRICE : 290.00

Aluminium - NO Guard **IP54**  
 10A @ 250 VAC  
 1NO 1NC COM



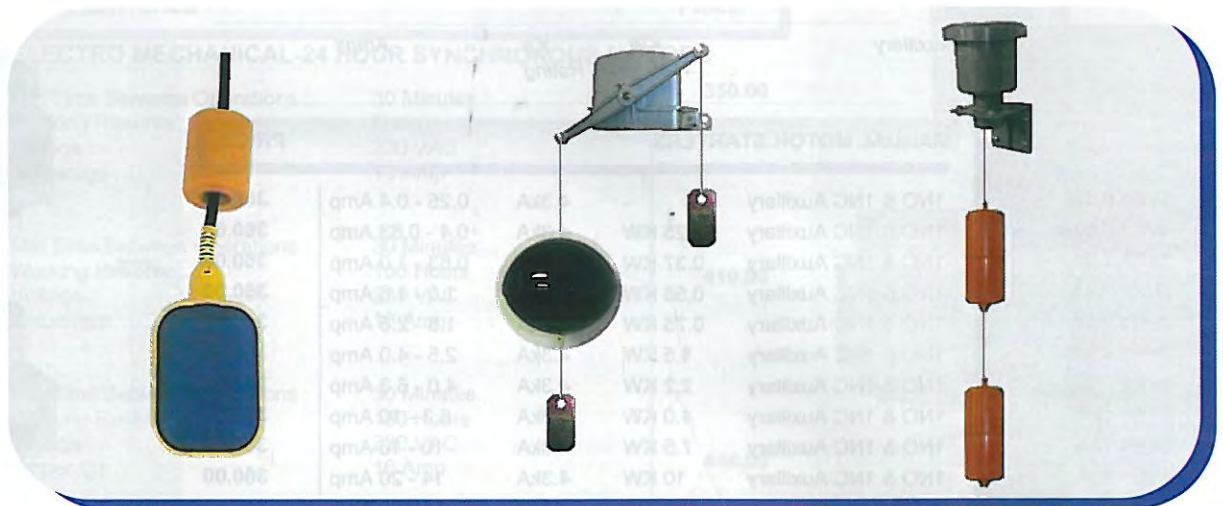
SFMP-1      PRICE : 336.00

Aluminium - WITH Guard **IP 54**  
 10A @ 250 VAC  
 1NO 1NC COM



# FLOAT SWITCHES

Diagram



Part Number

LPF-A1.15

LPF-M3.15

LPF-DT

Switch Type

Micro Switch

Mercury

Micro Switch

Current

15 Amp

10 Amp

15 Amp

Max Temp

70° C

70° C

80° C

Cable Length

10 Metres

N/A

N/A

Resistant to

Sewage Water, Oil, Mild Acids

Sewage Water, Oil, Mild Acids

Sewage Water, Oil, Mild Acids

& Alkalis

& Alkalis

& Alkalis

Description

For regulation of liquid levels in tanks and cisterns.

Commutator Micro Switch ball actuated.

Suited for the control of high and low levels of liquids with one switch.

For regulation of liquid levels in tanks and cisterns.

Float slides on cord and settings are done by positioning stop/start pieces along cord.

Ideal float switch for small caliber applications  
Eg. Pipes and wells.

Stop / start settings easily adjusted by tying of counter weights at desired levels.

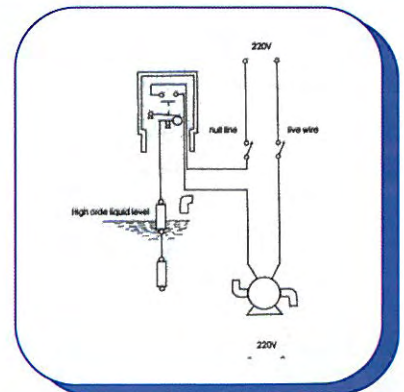
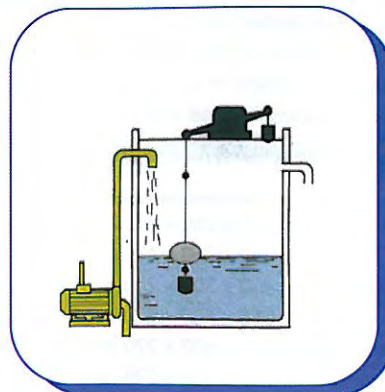
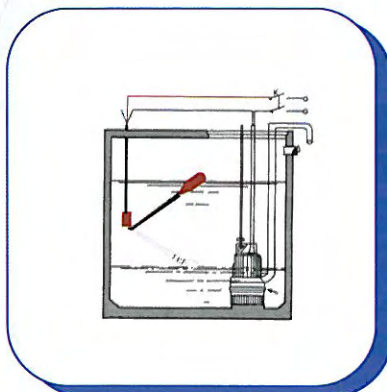
Voltage

230 VAC

230 VAC

230 VAC

Diagram



Price

350.00

400.00

300.00



# MANUAL MOTOR STARTERS AND ENCLOSURES

Auxiliary                      KW                      Ka                      Amps  
Rating                      Rating                      Rating

## MANUAL MOTOR STARTERS                      PRICE

3VE1 0,4A	1NO & 1NC Auxillary	-	4.3kA	0.25 - 0.4 Amp	360.00
3VE1 0,63A	1NO & 1NC Auxillary	0.25 KW	4.3kA	0.4 - 0.63 Amp	360.00
3VE1 1,0A	1NO & 1NC Auxillary	0.37 KW	4.3kA	0.63 - 1.0 Amp	360.00
3VE1 1,6A	1NO & 1NC Auxillary	0.55 KW	4.3kA	1.0 - 1.6 Amp	360.00
3VE1 2,5A	1NO & 1NC Auxillary	0.75 KW	4.3kA	1.6 - 2.5 Amp	360.00
3VE1 4,0A	1NO & 1NC Auxillary	1.5 KW	4.3kA	2.5 - 4.0 Amp	360.00
3VE1 6,3A	1NO & 1NC Auxillary	2.2 KW	4.3kA	4.0 - 6.3 Amp	360.00
3VE1 10A	1NO & 1NC Auxillary	4.0 KW	4.3kA	6.3 - 10 Amp	360.00
3VE1 16A	1NO & 1NC Auxillary	7.5 KW	4.3kA	10 - 16 Amp	360.00
3VE1 20A	1NO & 1NC Auxillary	10 KW	4.3kA	14 - 20 Amp	360.00
3VE3 20A	NO Auxillaries	10 KW	17kA	14 - 20 Amp	812.00
3VE3 25A	NO Auxillaries	11 KW	17kA	16 - 25 Amp	812.00
3VE3 32A	NO Auxillaries	15 KW	17kA	22 - 32 Amp	812.00
3VE4 32A	NO Auxillaries	15 KW	45kA	22 - 32 Amp	1 695.00
3VE4 40A	NO Auxillaries	18.5 KW	45kA	28 - 40 Amp	1 695.00
3VE4 56A	NO Auxillaries	22 KW	45kA	45 - 56 Amp	1 695.00

3VE1-SE

Surface enclosure for 3VE1—IP 65                      185.00

## PLASTIC ENCLOSURES IP65 NO BASE PLATES                      PRICE

H x W x D	Chassis plate		PRICE
PE12107	120 x 100 x 70 mm	BPE12107	Grey Lid 68.00
PE15117	150 x 110 x 70 mm	BPE15117	Grey Lid 85.00
PE20108	200 x 100 x 80 mm	BPE20108	Grey Lid 114.00
PE201510	200 x 155 x 100 mm	BPE201510	Grey Lid 198.00
PE252010	250 x 200 x 100 mm	BPE252010	Grey Lid 300.00
PE302513	300 x 250 x 130 mm	BPE302513	Grey Lid 345.00
PE353013	350 x 300 x 130 mm	BPE353013	Grey Lid 365.00
PE403513	400 x 350 x 130 mm	BPE403513	Grey Lid 435.00

BPE12107  
BPE15117  
BPE20108  
BPE201510  
BPE252010  
BPE302513  
BPE353013  
BPE403513

## GALVANISED METAL BASE PLATES FOR PLASTIC BOXES

H x W		PRICE
105 x 85 x 1,6 mm	Galvanised steel plate	29.00
135 x 95 x 1,6 mm	Galvanised steel plate	33.00
185 x 85 x 1,6 mm	Galvanised steel plate	37.00
185 x 140 x 1,6 mm	Galvanised steel plate	58.00
235 x 185 x 1,6 mm	Galvanised steel plate	66.00
285 x 235 x 1,6 mm	Galvanised steel plate	80.00
335 x 285 x 1,6 mm	Galvanised steel plate	152.00
385 x 335 x 1,6 mm	Galvanised steel plate	205.00

## STEEL ENCLOSURES                      PRICE

FTE101	Steel Enclosure IP55	175 x 250 x 170 mm	B26 Orange	973.00
FTE102	Steel Enclosure IP55	350 x 250 x 170 mm	B26 Orange	1 226.00
FTE103	Steel Enclosure IP55	450 x 300 x 220 mm	B26 Orange	1 425.00
FTE104	Steel Enclosure IP55	550 x 400 x 220 mm	B26 Orange	1 735.00
FTE105	Steel Enclosure IP55	650 x 450 x 270 mm	B26 Orange	2 286.00
FTE106	Steel Enclosure IP55	750 x 550 x 270 mm	B26 Orange	2 662.00
FTE107	Steel Enclosure IP55	950 x 700 x 270 mm	B26 Orange	3 801.00
FTE108	Steel Enclosure IP55	1150 x 850 x 270 mm	B26 Orange	5 220.00



3VE1



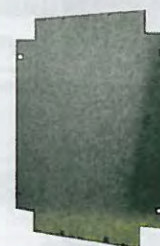
3VE3



3VE1-ES



PE400X350X130



BP403513 PLATE



FTE103

Above Prices do not include VAT



Part Number	Description	Specifications	PRICE			
<b>TIME SWITCHES</b>						
<b>ELECTRO MECHANICAL-24 HOUR SYNCHRONOUS MOTORS</b>						
<b>TB17</b>	Min Time Between Operations : Working Reserve : Voltage : Amperage :	30 Minutes None 230 VAC 15 Amp	<b>350.00</b>			
<b>SUL181H</b>	Min Time Between Operations : Working Reserve : Voltage : Amperage :	30 Minutes 150 Hours 230 VAC 16 Amp	<b>410.00</b>			
<b>SUL180A</b>	Min Time Between Operations : Working Reserve : Voltage : Amperage :	30 Minutes 150 Hours 230 VAC 16 Amp	<b>440.00</b>			
<b>DIGITAL TIME SWITCHES</b>						
<b>AHC15A</b>	24 Hour 7 Day Time Switch : Min Time Between Operations : Working Reserve : Voltage : Amperage : No. of Settings :	Quartz 1 Minute 150 Hours 230 VAC 12 Amp ( AC1 ) 10 On / 10 Off	<b>435.00</b>			
<b>HC8A</b>	24 Hour 7 Day Time Switch : Min Time Between Operations : Working Reserve : Voltage : Amperage : No. of Settings :	Quartz 1 Minute 150 Hours 230 VAC 12 Amp ( AC1 ) 10 On / 10 Off	<b>456.00</b>			
<b>DAYLIGHT SWITCHES</b>						
<b>AS-22010</b>	Daylight Switch : Dimensions : Voltage : Amperage : Mounting :	45mm x 35mm x 40mm 230 VAC 10 Amp Wall / Pole	<b>95.00</b>			
<b>ASO-22020</b>	Daylight Switch : Dimensions : Voltage : Amperage : Mounting :	55mm Ø 230 VAC 20 Amp Wall / Pole	<b>155.00</b>			
<b>PANEL FANS</b>						
	<i>Description</i>	<i>Size</i>	<i>Watts</i>	<i>Voltage</i>	<i>Air Flow</i>	<b>PRICE</b>
<b>100FZY-S</b>	Fan with Grill	100mm	18 Watt	24,110,230 V	1.4m³ / min	<b>250.00</b>
<b>113FZY-S</b>	Fan with Grill	113mm	18 Watt	24,110,230 V	1.4m³ / min	<b>285.00</b>
<b>125FZY-S</b>	Fan with Grill	125mm	25 Watt	24,110,230 V	2.5m³ / min	<b>355.00</b>
<b>100FZY-FILTER</b>	Filter for 100mm Panel Fan					<b>60.00</b>
<b>113FZY-FILTER</b>	Filter for 113mm Panel Fan					<b>60.00</b>
<b>125FZY-FILTER</b>	Filter for 125mm Panel Fan					<b>80.00</b>



TB17



SUL181H



SUL180A



AHC15A



HC8A



AS-22010



ASO-22020



100FZY-S

Above Prices do not include VAT



## TRANSFORMERS , AUDIBLE & VISUAL ALARMS

Part Number	Description	Specifications	PRICE
<b>TRANSFORMERS - 1 PHASE</b>			
BK-25VA	1 Phase Transformer	25 VA      230/24 VAC	190.00
BK-50VA	1 Phase Transformer	50 VA      230/24 VAC	225.00
BK-100VA	1 Phase Transformer	100 VA     230/24 VAC	340.00
BK-200VA	1 Phase Transformer	200 VA     230/24 VAC	550.00
<b>BUZZERS</b>			
TBY-30-B	Panel Mount Buzzer :	30mm Ø Mounting Voltage : 24 VAC dB Rating @ 30cm : 85 dB IP Rating : IP 44 <i>Time Period must not exceed 5 minutes per operation</i>	55.00
TBY-30-M	Panel Mount Buzzer :	30mm Ø Mounting Voltage : 230 VAC dB Rating @ 30cm : 85 dB IP Rating : IP 44 <i>Time Period must not exceed 5 minutes per operation</i>	55.00
<b>SIRENS 110VOLT AND 230VOLT</b>			
BJ-1	Electronic Mini Siren :	Surface Mounting Voltage : 230 VAC dB Rating @ 1 Metre : 100 dB Audible Range : 100 Metres IP Rating : IP 44	100.00
BJ-2	Electronic Mini Siren :	Surface Mounting Voltage : 230 VAC dB Rating @ 1 Metre : 90 dB Audible Range : 100 Metres IP Rating : IP 44	180.00
MS-190	Mini Motor Siren :	Surface Mounting Voltage : 110V / 230 VAC dB Rating @ 1 Metre : 100 dB Audible Range : 250 Metres IP Rating : IP 44	300.00
MS-290	Motor Driven Siren :	Surface Mounting Voltage : 110V / 230 VAC dB Rating @ 1 Metre : 115 dB Audible Range : 500 Metres IP Rating : IP 45	400.00
MS-390	Motor Driven Siren :	Surface Mounting Voltage : 110V / 230 VAC dB Rating @ 1 Metre : 120 dB Audible Range : 750 Metres IP Rating : IP 45	705.00
<i><b>NOTE : Motor sirens are not continuously rated and should be used with an equal repeating timer</b></i>			
<b>STROBE LIGHT</b>			
LTE-3072R	Colour :	Red	350.00
	Dimensions :	75mm Ø x 80mm Height	
	Voltage :	230 VAC	



BK-25VA



TBY-30-M



BJ-1



BJ-2



MS-190



MS-290



MS-390



LTE-3072R

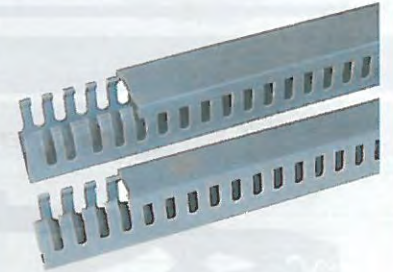
Above Prices do not include VAT



## WIRING ACCESSORIES

Part Number

Description	Dimensions	Length	Colour	PRICE	
<b>SLOTTED TRUNKING ( Price per Length ) INCLUDING COVER</b>					
WD20X15	Slotted Trunking	20H x 15W(mm)	2 Meter	Grey	33.00
WD30X15	Slotted Trunking	30H x 15W(mm)	2 Meter	Grey	44.00
WD30X25	Slotted Trunking	30H x 25W(mm)	2 Meter	Grey	50.00
WD25X40	Slotted Trunking	25H x 40W(mm)	2 Meter	Grey	70.00
WD40X25	Slotted Trunking	40H x 25W(mm)	2 Meter	Grey	70.00
WD40X40	Slotted Trunking	40H x 40W(mm)	2 Meter	Grey	104.00
WD60X60	Slotted Trunking	60H x 60W(mm)	2 Meter	Grey	133.00
WD80X55	Slotted Trunking	80H x 55W(mm)	2 Meter	Grey	177.00
WD80X80	Slotted Trunking	80H x 80W(mm)	2 Meter	Grey	188.00



WD40X40

### CABLE MARKERS ( Price per Roll ) PRICE

CM-1,5-0	White Cable Marker	No. 0	1,5mm Ø	1000 per Roll	50.00
CM-1,5-1	White Cable Marker	No. 1	1,5mm Ø	1000 per Roll	50.00
CM-1,5-2	White Cable Marker	No. 2	1,5mm Ø	1000 per Roll	50.00
CM-1,5-3	White Cable Marker	No. 3	1,5mm Ø	1000 per Roll	50.00
CM-1,5-4	White Cable Marker	No. 4	1,5mm Ø	1000 per Roll	50.00
CM-1,5-5	White Cable Marker	No. 5	1,5mm Ø	1000 per Roll	50.00
CM-1,5-6	White Cable Marker	No. 6	1,5mm Ø	1000 per Roll	50.00
CM-1,5-7	White Cable Marker	No. 7	1,5mm Ø	1000 per Roll	50.00
CM-1,5-8	White Cable Marker	No. 8	1,5mm Ø	1000 per Roll	50.00
CM-1,5-9	White Cable Marker	No. 9	1,5mm Ø	1000 per Roll	50.00



CM-1,5-4

### PRE-INSULATED LUGS ( Price per Box ) PRICE

BM00151	Red Pre-Insulated Pin Lug	1.5mm Ø	1000 per Box	726.00
BM00132	Red Pre-insulated Fork Lug	1.5mm Ø	1000 per Box	660.00
BV1,5 BUTT	Red Pre-Insulated Ferrules	1.5mm Ø	500 per Box	831.00



BM00132



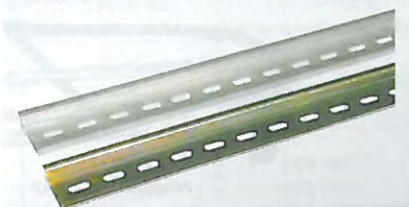
BM00151



BV1,5 BUTT

### DIN RAIL ( Price per Length ) PRICE

DIN RAIL-A	Slotted 35mm Din Rail	Aluminium	1 Meter Length	39.00
DIN RAIL-M	Slotted 35mm Din Rail	Galvanised Steel	1 Meter Length	30.00



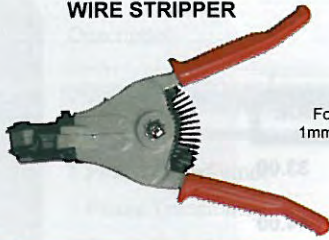
DIN RAIL-A

DIN RAIL-M



# TOOLS

## WIRE STRIPPER



For wire size :  
1mm up to 3.2mm

TOOL-HY-369B

PRICE : 184.00

## CRIMPING PLIERS

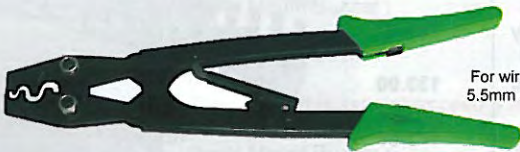


For wire size :  
0.5mm, 1mm, 1.5mm  
2.5mm, 4mm,  
6mm, 10mm

TOOL-DG1

PRICE : 198.00

## CRIMPING PLIERS

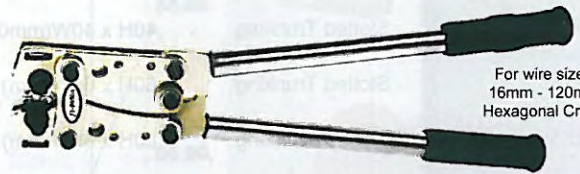


For wire size :  
5.5mm - 25mm

TOOL-HD-25L

PRICE : 739.00

## MECHANICAL CRIMPING PLIERS



For wire size :  
16mm - 120mm  
Hexagonal Crimp

TOOL-JY-16120

PRICE : 1 320.00

## HYDRAULIC CRIMPING PLIERS



For wire size :  
16mm - 240mm  
Hexagonal Crimp

Complete with dies

TOOL-YQK-240

PRICE : 2 500.00

## HYDRAULIC CRIMPING PLIERS



For wire size :  
50mm - 400mm  
Hexagonal Crimp

Complete with dies

TOOL-KYQ-400

PRICE : 12 712.00

## HAND HELD CABLE CUTTERS



Up to 150mm  
Copper and  
Aluminium Cable

TOOL-CC-325

PRICE : 924.00

## HAND HELD CABLE CUTTERS

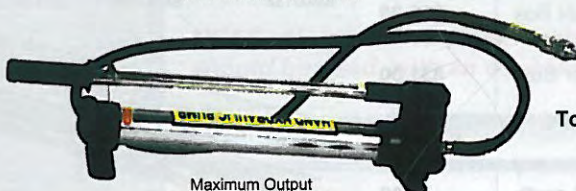


Up to 240mm  
Copper and  
Aluminium Cable

TOOL-HS-250

PRICE : 565.00

## HYDRAULIC PUMP



Maximum Output  
Pressure : 700Kg/cm2

To be used with

## HYDRAULIC CRIMPING HEAD



For cable size :  
50mm, 70mm, 95mm  
120mm, 150mm, 185mm  
240mm, 300mm, 400mm  
Hexagonal Crimp



TOOL-CP-630

PRICE : 7 600.00

TOOL-CYO-400B

PRICE : 6 920.00

# LOAD BREAK SWITCH ( ISOLATORS )



## Isolators from 25A to 100A Supplied standard with :

200mm x 8mm Ø Extension Shaft  
 Red / Yellow Door Interlocked Handle  
 Rated up to 690 Vac

## Isolators from 125A to 400A Supplied

330 x 10mm Ø Extension Shaft  
 Black Door Interlocked Handle  
 Rated up to 690 Vac

### 3 POLE LOAD BREAK ISOLATORS—BASE MOUNT

SPARE SHAFTS AND HANDLES - AVAILABLE ON REQUEST



JFD11-25A



JFD11-63A



JFD11-100A

Conforms to  
 IEC 60669-1

Part Number

AC22 400 Vac

AC23 400 Vac

Dimension - Length  
 Width  
 Depth

Price

JFD11-25A      JFD11-32A      JFD11-40A      JFD11-63A      JFD11-80A      JFD11-100A

	25A	32A	40A	63A	80A	100A
AC22 400 Vac	11 KW	15 KW	18.5 KW	30 KW	37 KW	45 KW
AC23 400 Vac	11 KW	15 KW	18.5 KW	30 KW	37 KW	45 KW
Dimension - Length	68 mm	68 mm	80 mm	80 mm	100 mm	100 mm
Width	42 mm	42 mm	50 mm	50 mm	70 mm	70 mm
Depth	55 mm	55 mm	61 mm	61 mm	69 mm	69 mm

360.00      360.00      460.00      460.00      630.00      680.00

### 3 POLE LOAD BREAK ISOLATORS IN ENCLOSURES

16A TO 100A SUPPLIED IN IP65 PLASTIC ENCLOSURE



JFDE11-25A & LW30-32A



JFDE11-63A & LW30-63A



JFDE1100A & LW3-100A

Part Number

AC22 400 Vac

AC23 400 Vac

Dimension - Length  
 Width  
 Depth

Price

JFDE11-16A      JFDE11-25A      JFDE11-32A      JFDE11-40A      JFDE11-63A      JFDE11-80A      JFDE11-100A

	16A	25A	32A	40A	63A	80A	100A
AC22 400 Vac	5.5 KW	11 KW	15 KW	18.5 KW	30 KW	37 KW	45 KW
AC23 400 Vac	5.5 KW	11 KW	15 KW	18.5 KW	30 KW	37 KW	45 KW
Dimension - Length	158 mm	158 mm	158 mm	189 mm	189 mm	248 mm	248 mm
Width	84 mm	84 mm	84 mm	99 mm	99 mm	143 mm	143 mm
Depth	82 mm	82 mm	82 mm	90 mm	90 mm	100 mm	100 mm

290.00      350.00      390.00      495.00      700.00      800.00      920.00

### 4 POLE LOAD BREAK ISOLATORS IN ENCLOSURES

Part Number

AC22 440 Vac

AC23 440 Vac

Dimension - Length  
 Width  
 Depth

Price

LW30-16A      LW30-32A      LW30-40A      LW30-63A      LW30-80      LW30-100A

	16A	32A	40A	63A	80A	100A
AC22 440 Vac	7.5 KW	11 KW	15 KW	22 KW	30 KW	37KW
AC23 440 Vac	7.5 KW	11 KW	15 KW	22 KW	30 KW	37KW
Dimension - Length	158 mm	158 mm	189 mm	189 mm	248 mm	248 mm
Width	84 mm	84 mm	99 mm	99 mm	143 mm	143 mm
Depth	82 mm	82 mm	90 mm	90 mm	100 mm	100 mm

440.00      485.00      595.00      792.00      946.00      990.00

Above Prices do not include VAT



## LOAD BREAK SWITCH ( ISOLATORS )

### Isolators from 25A to 100A Supplied standard with :

200mm x 8mm Ø Extension Shaft  
 Red / Yellow Door Interlocked Handle  
 Rated up to 690 Vac

### Isolators from 125A to 400A Supplied standard with :

330 x 10mm Ø Extension Shaft  
 Black Door Interlocked Handle  
 Rated up to 690 Vac

### 3 POLE LOAD BREAK ISOLATORS—BASE MOUNT

SPARE SHAFTS AND HANDLES - AVAILABLE ON REQUEST



Diagram

Part Number

AC22 400 Vac

AC23 400 Vac

Dimension - Length  
 Width  
 Depth

Price

**GGL-125/3J      GGL-160/3J      GGL-200/3J      GGL-250/3J      GGL-315/3J      GGL-400/3J**

	GGL-125/3J	GGL-160/3J	GGL-200/3J	GGL-250/3J	GGL-315/3J	GGL-400/3J
AC22 400 Vac	125A	160A	200A	250A	315A	400A
AC23 400 Vac	55 KW	75 KW	110 KW	132 KW	160 KW	200 KW
Dimension - Length	134 mm	134 mm	169 mm	169 mm	240 mm	240 mm
Width	139 mm	139 mm	179 mm	179 mm	230 mm	230 mm
Depth	95 mm	95 mm	108 mm	108 mm	138 mm	138 mm

**920.00      1 130.00      1 695.00      1 765.00      2 120.00      2 545.00**

### 3 POLE LOAD BREAK ISOLATORS IN ENCLOSURES

125A TO 400A SUPPLIED IN IP55 STEEL ENCLOSURE



Diagram

Part Number

AC22 400 Vac

AC23 400 Vac

Dimension - Length  
 Width  
 Depth

Price

**GGLE-125/3J      GGLE-160/3J      GGLE-200/3J      GGLE-250/3J      GGLE-315/3J      GGLE-400/3J**

	GGLE-125/3J	GGLE-160/3J	GGLE-200/3J	GGLE-250/3J	GGLE-315/3J	GGLE-400/3J
AC22 400 Vac	125A	160A	200A	250A	315A	400A
AC23 400 Vac	55 KW	75 KW	110 KW	132 KW	160 KW	200 KW
Dimension - Length	350 mm	350 mm	450 mm	450 mm	550 mm	550 mm
Width	250 mm	250 mm	300 mm	300 mm	400 mm	400 mm
Depth	170 mm	170 mm	220 mm	220 mm	220 mm	220 mm

**2 275.00      2 473.00      2 885.00      3 083.00      4 098.00      4 428.00**



## ROTARY SWITCHES - Reversing / 2 Speed & Star Delta

Part Number	Description	KW Rating AC 3	Current Rating	PRICE
<b>( FOR-OFF-REV ) - 1 PHASE MOTOR WITH AUX WINDING</b>				
A11-32-11	1P Reversing Switch	2.2 KW	10 Amp	P.O.A.
A16-32-11	1P Reversing Switch	5.5 KW	16 Amp	P.O.A.
A20-32-11	1P Reversing Switch	7.5 KW	20 Amp	P.O.A.
A25-32-11	1P Reversing Switch	11 KW	25 Amp	P.O.A.
<b>( FOR-OFF-REV ) - 1 PHASE MOTOR WITH CAPACITOR</b>				
A11-37-11	1P Reversing Switch	2.2 KW	10 Amp	P.O.A.
A16-37-11	1P Reversing Switch	5.5 KW	16 Amp	P.O.A.
A20-37-11	1P Reversing Switch	7.5 KW	20 Amp	P.O.A.
A25-37-11	1P Reversing Switch	11 KW	25 Amp	P.O.A.
<b>( FOR-OFF-REV ) - 3 PHASE MOTOR</b>				
A11-08-11	3P Reversing Switch	2.2 KW	10 Amp	P.O.A.
A16-08-11	3P Reversing Switch	5.5 KW	16 Amp	P.O.A.
A20-08-11	3P Reversing Switch	7.5 KW	20 Amp	P.O.A.
A25-08-11	3P Reversing Switch	11 KW	25 Amp	P.O.A.
A32-08-11	3P Reversing Switch	15 KW	32 Amp	P.O.A.
A40-08-11	3P Reversing Switch	18.5 KW	40 Amp	P.O.A.
A50-08-11	3P Reversing Switch	22 KW	50 Amp	P.O.A.
<b>2 SPEED SWITCH 3 POLE</b>				
A11-09-11	3P 2 Speed Switch	2.2 KW	10 Amp	P.O.A.
A16-09-11	3P 2 Speed Switch	5.5 KW	16 Amp	P.O.A.
A20-09-11	3P 2 Speed Switch	7.5 KW	20 Amp	P.O.A.
A25-09-11	3P 2 Speed Switch	11 KW	25 Amp	P.O.A.
A32-09-11	3P 2 Speed Switch	15 KW	32 Amp	P.O.A.
<b>2 SPEED FORWARD REVERSE SWITCH 3 POLE</b>				
A11-11-11	3P 2 Speed Forward / Reverse	2.2 KW	10 Amp	P.O.A.
A16-11-11	3P 2 Speed Forward / Reverse	5.5 KW	16 Amp	P.O.A.
A20-11-11	3P 2 Speed Forward / Reverse	7.5 KW	20 Amp	P.O.A.
A25-11-11	3P 2 Speed Forward / Reverse	11 KW	25 Amp	P.O.A.
A32-11-11	3P 2 Speed Forward / Reverse	15 KW	32 Amp	P.O.A.
<b>STAR DELTA SWITCH 3 POLE</b>				
A11-10-11	3P 2 Speed Forward / Reverse	2.2 KW	10 Amp	P.O.A.
A16-10-11	3P 2 Speed Forward / Reverse	5.5 KW	16 Amp	P.O.A.
A20-10-11	3P 2 Speed Forward / Reverse	7.5 KW	20 Amp	P.O.A.
A25-10-11	3P 2 Speed Forward / Reverse	11 KW	25 Amp	P.O.A.
A32-10-11	3P 2 Speed Forward / Reverse	15 KW	32 Amp	P.O.A.



A11-32-11



A11-09-11



A11-11-11



A11-10-11

Above Prices do not include VAT



# ISOLATORS & ACCESSORIES

Part Number	Description	AC-23 KW Rating	AC21A Current Rating	PRICE
<b>LOCKABLE ISOLATOR - RED/YELLOW HANDLES 3 POLE</b>				
JFDP11-16A	Panel Mount Isolator	5.5 KW	16 Amp	235.00
JFDP11-20A	Panel Mount Isolator	7.5 KW	20 Amp	240.00
JFDP11-25A	Panel Mount Isolator	11 KW	25 Amp	300.00
JFDP11-32A	Panel Mount Isolator	15 KW	32 Amp	310.00
JFDP11-40A	Panel Mount Isolator	18.5 KW	40 Amp	355.00
JFDP11-63A	Panel Mount Isolator	30 KW	63 Amp	525.00
JFDP11-80A	Panel Mount Isolator	37 KW	80 Amp	635.00
JFDP11-100A	Panel Mount Isolator	37 KW	100 Amp	705.00
<b>ROTARY</b>				
LW26-20-9C/3	Isolator ( ON - OFF )	3 Pole	10 Amp	155.00
LW26-63-9C/2	Isolator ( ON - OFF )	2 Pole	63 Amp	396.00
LW26-D-1-2/1	Change Over ( HAND - OFF - AUTO )	1 Pole	10 Amp	115.00
LW26-D-1-2/3	Change Over ( HAND - OFF - AUTO )	3 Pole	10 Amp	177.00
LH3/3-M1	<b>Ammeter Selector</b> - 4 Position CT Operated	1 Pole	10 Amp	170.00
YH3/3-M1	<b>Voltmeter Selector Switch</b> - 4 Pos ( PH - PH )		10 Amp	184.00
YH5/3-M1	<b>Voltmeter Selector Switch</b> - 7 Pos ( PH / PH : PH / N )		10 Amp	190.00
<b>ACCESSORIES - SHAFTS</b>				
JFD-001-S	Extension Shaft 200 x 6mm Ø	JFD11-25A to JFD11-32A		46.00
JFD-002-S	Extension Shaft 200 x 8mm Ø	JFD11-40A to JFD11-100A		72.00
GGL-001-S	Extension Shaft 330 x 10mm Ø	GGL-125/3J to GGL-400/3J		92.00
<b>ACCESSORIES - HANDLES</b>				
JFD-001-H	Red / Yellow Door Interlock Handle	JFD11-25A to 100A		72.00
GGL-001-H	Black Door Interlock Handle	GGL-125A to 400A		162.00
<b>ESCUTHEON PLATES FOR CHANGE-OVER ISOLATORS</b>				
MI-MOS	Mains—Off—Standby	LW26-25		25.00
M2-MOS	Mains—Off—Standby	LW26-32		30.00
M3-MOS	Mains—Off—Standby	LW26-63 to LW26-160		60.00
M1-IOII	I — O — II	LW26-25		25.00
M2-IOII	I — O — II	LW26-32		40.00
M2-IOII	I — O — II	LW26-63 to LW26-160		70.00
<b>BASE MOUNTING FITTING CHANGE-OVER ISOLATORS</b>				
LW26-25-B11R	Rear mount adaptor	LW26-25 Amp		20.00
LW26-32/63-B11R	Rear mount adaptor	LW26-32 and 63 Amp		30.00
LW26-160-B11R	Rear mount adaptor	LW26-125 and 160 Amp		50.00



JFDP11-16A



LW26-20-9C/2



LW26-D-1-2/3



LH3/3-M1



YH5/3-M1



M1-IOII

M1-MOS



LW-32/63-B11R

Above Prices do not include VAT

## CHANGE-OVER ROTARY SWITCHES



ALL switches with neutral or 4 poles have LATE BREAK and EARLY MAKE neutrals

“ I—OFF—II “ Standard Escutcheon plates  
 “MAINS—OFF—STANDBY” are available on request at time of order

Part Number  
 LW26-63/1P&N  
 LW26-63/2  
 LW26-25/3  
 LW26-32/3  
 LW26-63/3  
 LW26-125/3  
 LW26-160/3

Mounting	Current ratings				PRICE
	AC 23A	AC 21A	AC-23A	AC-3	
<b>2 &amp; 3 POLE OPEN TYPE CHANGE OVER SWITCH ( I - OFF - II )</b>					
Panel Mount	30 KW	63A	57A	36A	350.00
Panel Mount	30 KW	63A	57A	36A	325.00
Panel Mount	11 KW	25A	22A	15A	182.00
Panel Mount	15 KW	32A	30A	22A	321.00
Panel Mount	30 KW	63A	57A	36A	482.00
Panel Mount	45 KW	125A	90A	75A	960.00
Panel Mount	75 KW	160A	135A	95A	1 175.00

**2 & 3 POLE ENCLOSED CHANGE OVER SWITCH  
 IP55 STEEL ENCLOSURES** PRICE

LW26-63/1P&N ES  
 LW26-63/2 ES  
 LW26-25/3 ES  
 LW26-32/3 ES  
 LW26-63/3 ES  
 LW26-125/3 ES  
 LW26-160/3 ES

Type	Colour	Height	Width	Depth	PRICE
FTE 101	Orange	175mm	250mm	170mm	1 450.00
FTE 101	Orange	175mm	250mm	170mm	1 725.00
FTE 101	Orange	175mm	250mm	170mm	1 285.00
FTE 101	Orange	175mm	250mm	170mm	1 420.00
FTE 102	Orange	350mm	250mm	170mm	1 750.00
FTE 103	Orange	450mm	300mm	220mm	2 200.00
FTE 104	Orange	550mm	400mm	220mm	2 920.00

**2 & 3 POLE ENCLOSED CHANGE OVER SWITCH  
 IP56 PLASTIC ENCLOSURES** PRICE

LW26-63/1P&N EP  
 LW26-63/2 EP  
 LW26-25/3 EP  
 LW26-32/3 EP  
 LW26-63/3 EP  
 LW26-125/3 EP  
 LW26-160/3 EP

GW44209	Grey	300mm	220mm	120mm	1 025.00
GW44209	Grey	300mm	220mm	120mm	1 025.00
GW44209	Grey	300mm	220mm	120mm	870.00
GW44209	Grey	300mm	220mm	120mm	1 000.00
GW44209	Grey	300mm	220mm	120mm	1 150.00
GW44218	Grey	240mm	190mm	160mm	1 435.00
GW44219	Grey	240mm	190mm	180mm	1 895.00

**4 POLE OPEN TYPE CHANGE OVER SWITCH ( I - OFF - II )** PRICE

LW26-63/1 P&N EP  
 LW26-63/2 EP  
 LW26-25/3 EP

Mounting	Current ratings				PRICE
	AC 23	AC 21A	AC-23A	AC-3	
Panel Mount	30 KW	63A	57A	36A	535.00
Panel Mount	45 KW	125A	90A	75A	1 070.00
Panel Mount	75 KW	160A	135A	95A	1 500.00

**4 POLE ENCLOSED CHANGE OVER SWITCH  
 IP55 STEEL ENCLOSURES** PRICE

LW26-63/4 ES  
 LW26-125/4 ES  
 LW26-160/4 ES

Type	Colour	Height	Width	Depth	PRICE
FTE 102	Orange	350mm	250mm	170mm	1 785.00
FTE 103	Orange	450mm	300mm	220mm	2 535.00
FTE 104	Orange	550mm	400mm	220mm	3 220.00

**4 POLE ENCLOSED CHANGE OVER SWITCH  
 IP56 PLASTIC ENCLOSURES** PRICE

LW26-63/4 EP  
 LW26-125/4 EP  
 LW26-160/4 EP

GW44209	Grey	300mm	220mm	120mm	1 200.00
GW44218	Grey	240mm	190mm	160mm	1 550.00
GW44219	Grey	240mm	190mm	180mm	2 200.00

3 pole



OPEN TYPE



METAL ENCLOSED

LW26-63/3 ES



PLASTIC ENCLOSED

4 pole



METAL ENCLOSED



PLASTIC ENCLOSED

Above Prices do not include VAT

# GENERATORS - PETROL & DIESEL



ALL RATINGS SHOWN ARE AT SEA LEVEL WITH AN AMBIENT NOT EXCEEDING 25° C

Performance outputs decrease by:- 3% for every 10° above 25° celsius

AND

2.65% for every 200meters above sea-level



GEN 5,5KW SILENT



FQ2500CX



SDE6500E

Part Number

SDE 6500E/1P FQ1800CX FQ2500CX FQ5500CXD ZQS2500CX ZQS5500CXD SDE6500

Fuel type

DIESEL

Petrol - Lead Free

Petrol - Lead Free

Petrol - Lead Free

Petrol - Lead Free

Petrol - Lead Free

DIESEL

Max Power ( W )

6300

1800

2500

5500

2500

5500

6300

Rated Power ( W )

5700

1500

2000

5000

2000

5000

5700

Rated Current ( A )

22

6.8

10

22

4

9

22

Frequency ( Hz )

50

50

50

50

50

50

50

Voltage ( V )

1 Phase 230V

1 Phase 230V

1 Phase 230V

1 Phase 230V

3 Phase + N 400/230v

3 Phase + N 400/230v

1 Phase 230v

Model

7,0KW 4 Stroke, aircooled, Direct injection

4 Stroke Air cooled

4 Stroke Air cooled

4 Stroke Air cooled

4 Stroke Air cooled

4 Stroke Air cooled

7,0KW 4 Stroke, aircooled, Direct injection

Dimensions ( cm<sup>3</sup> )

406

163

163

389

163

389

406

Max power

6,3/3000

4,0/4000

4,0/4000

9,5/3600

4,0/4000

9,5/3600

6,3/3000

Oil Capacity ( L )

1,65

0,6

0,6

1,1

0,6

1,1

1,65

Fuel tank Capacity

16

12

12

25

12

25

16

Start System

Electric

Pull

Pull

Electric

Pull

Electric

Electric

Noise Level Db @

62

64

65

74

65

74

89

Dimensions ( cm )

91 x 52 x 74

58 x 45 x 46

58 x 45 x 46

70.5 x 54 x 57.5

58 x 45 x 46

70.5 x 54 x 57.5

72 x 48 x 65

Weight ( Kg )

171

40

43

95

43

95

115

Price

13 000.00

2 700.00

3 300.00

6 250.00

3 750.00

7 100.00

9 200.00



## COBALT 15AMP SOCKET OUTLETS WITH FLUORESCENT STRIP

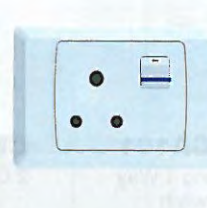
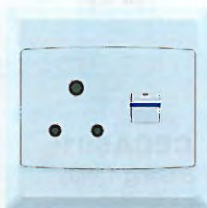
126mm x 126mm

126mm x 126mm

126mm x 126mm

126mm x 126mm

126mm x 80mm



**CECB13**

**CECB14**

**CECB120-10**

**CECB120-20**

**CECA11**

Double 15 Amp switch  
Socket outlet

Single 15 Amp switch  
Socket outlet

Single 15 Amp switch  
Socket outlet With 2 Pin Euro

Single 15Amp Switch  
Socket outlet with 3 pin SANS

Single 15 Amp Switch  
Socket outlet

R 70.00

R 58.00

R 65.00

R 65.00

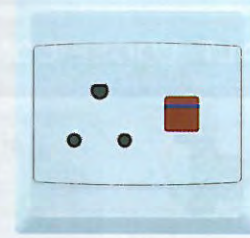
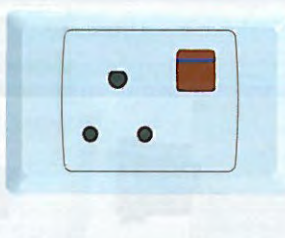
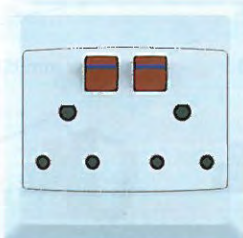
R 47.00

## COBALT DEDICATED EARTH PIN SOCKET OUTLETS WITH FLUORESCENT STRIP

126mm x 126mm

80mm x 126mm

126mm x 126mm



**CECB13-1**

Double 15 Amp switch  
socket

**CECA11-1**

15 Amp switch socket  
outlet

**CECB14-1**

15Amp switch socket  
outlet

R 72.00

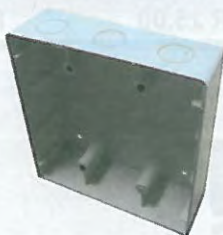
R 47.00

R 60.00

## COBALT SURFACE MOUNTING EXTENSION BOXES

126mm x 126mm x 40mm

126mm x 80mm x 40mm



**CEC-44**

Surface mounting  
Extension box

**CEC-42**

Surface mounting  
Extension box

R 30.00

R 22.00



## COBALT —80mm x 126mm WITH FLOURESCENT STRIP



**CECA101**  
1 Gang 1 Way  
Switch

R 24.00



**CECA201**  
2 Gang 1 Way  
Switch

R 33.00



**CECA301**  
3 Gang 1 Way  
Switch

R 40.00



**CECA401**  
4 Gang 1 Way  
Switch

R 48.00



**CECA501**  
5 Gang 1 Way  
Switch

R 60.00



**CECA601**  
6 Gang 1 Way  
Switch

R 70.00

**CECAS201**  
2 Gang  
1 x 1 Way Switch  
1 x 2 Way Switch

R 34.00

**CECAS301**  
3 Gang  
2 x 1 Way Switch  
1 x 2 Way Switch

R 41.00

**CECAS401**  
4 Gang  
3 x 1 Way Switch  
1 x 2 Way Switch

R 49.00

**CECAS501**  
5 Gang  
4 x 1 Way Switch  
1 x 2 Way Switch

R 61.00

**CECAS601**  
6 Gang  
5 x 1 Way Switch  
1 x 2 Way Switch

R 71.00

**CECA102**  
1 Gang  
2 Way Switch

R 25.00

**CECA202**  
2 Gang  
2 Way Switches

R 35.00

**CECA302**  
3 Gang  
2 Way Switches

R 42.00

**CECA402**  
4 Gang  
2 Way Switches

R 50.00

## COBALT LOOSE COMPONENTS



**CEC-27**  
1 Way Switch  
Left Hand  
Connection

R 10.00



**CEC-27-2**  
1 Way Switch  
Middle  
component

R 10.00



**CEC-27R**  
1 Way Switch  
Right Hand  
Connection

R 10.00



**CEC-28**  
2 Way Switch  
Left Hand  
Connection

R 11.00



**CEC-27-1**  
1 Way switch  
Red Toggle  
Left Hand Connection

R 10.00



**CEC-30**  
Bell Push

R 15.00



**CEC-30D**  
Dimmer Bell Push  
for Electronic  
Dimmers-CECA116

R15.00



**CEC-29**  
20 Amp  
Double Pole

R 40.00



**CEC-29-2**  
20 Amp  
Intermediate

R 50.00



**CEC-33**  
Telephone Socket  
With Door

R 28.00



**CEC-34**  
Computer Socket  
With Door

R 38.00



**CEC-31**  
TV Outlet  
Satellite

R 25.00



**CEC-32**  
TV Outlet for  
co-ax cable

R 25.00

## COBALT DIMMER COMPONENTS



**CEC115L**  
300 Watt dimmer

R 110.00



**CECA116L**  
600 Watt Dimmer Control

R 165.00



**CECA117L**  
1000 Watt Dimmer Control

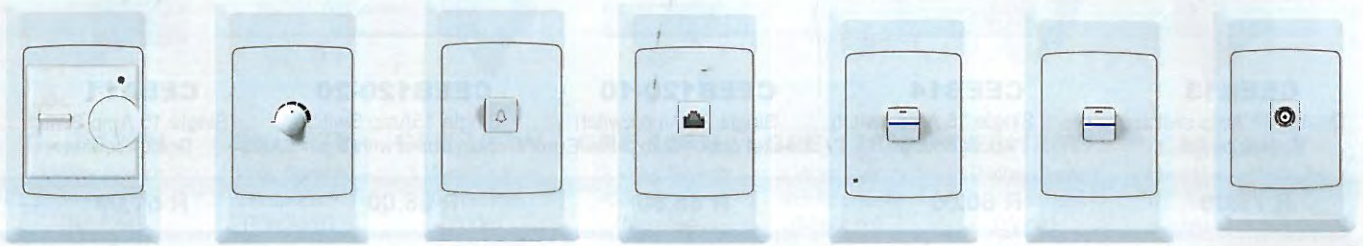
R 205.00



**COBALT CONTROL SWITCHES –80mm X 126mm**

80mm x 126mm

80mmx 126mm



<b>CEC-26</b> Under floor heating control (3KW)	<b>CECA115</b> 300 Watt dimmer	<b>CECAML</b> Bell push control	<b>CECA114</b> Telephone socket	<b>CECA29</b> 20Amp Double pole switch	<b>CECA-29-2</b> 20 Amp <b>SIX</b> pole Intermediate switch	<b>CECA113</b> TV socket outlet
<b>R 700.00</b>	<b>R 140.00</b>	<b>R 27.00</b>	<b>R 38.00</b>	<b>R 53.00</b>	<b>R 67.00</b>	<b>R 40.00</b>

**COBALT ISOLATORS, WEATHERPROOF SOCKET OUTLETS AND LOOSE COVERS**

126mm x 126m

80mm x126mm

126mmx 80mmx40mm

IP55-95mmx85mmx60mmD

IP55-70mmx85mmx60D

80mmx126mm



<b>CEC-1S45</b> 45 Amp Double pole Stove Isolator	<b>CEC-1S32</b> 32 Amp Double Pole Stove Isolator	<b>CEC-1S20</b> 20 Amp Double Pole Geyser Isolator Surface mounting	<b>CEC-SSR</b> Weatherproof Switch Socket Outlet	<b>CEC-1GS</b> Weatherproof One Way Switch	<b>CEC120A13</b> Shaving Plug 230v/115v Round/Flat 2 Pin
<b>R 80.00</b>	<b>R 73.00</b>	<b>R 71.00</b>	<b>R 90.00</b>	<b>R 60.00</b>	<b>R 330.00</b>

80mmx 126mm

126mm x126mm

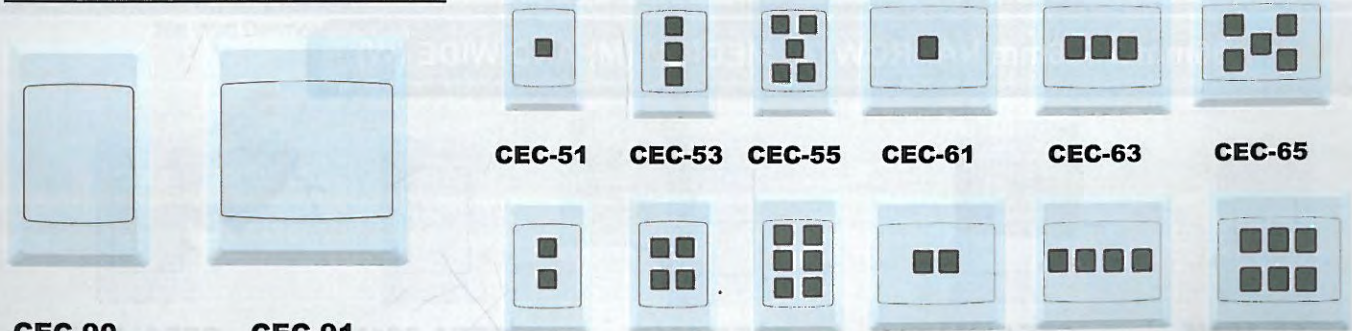
80mm x126mm

80mm x126mm

126mm x 126mm

126mm x126mm

**BLANK AND EMPTY COVERS**



<b>CEC-90</b>	<b>CEC-91</b>	<b>CEC-51</b>	<b>CEC-53</b>	<b>CEC-55</b>	<b>CEC-61</b>	<b>CEC-63</b>	<b>CEC-65</b>
<b>R 17.00</b>	<b>R 24.00</b>	<b>R 17.00</b>	<b>R 17.00</b>	<b>R 17.00</b>	<b>R 24.00</b>	<b>R 24.00</b>	<b>R 24.00</b>



## ELITE 15AMP SOCKET OUTLETS WITH FLOURESCENT INSERT

126mm x 126mm



### CEEB13

Double 15 Amp switch  
Socket outlet

R 75.00

126mm x 126mm



### CEEB14

Single 15 Amp switch  
Socket outlet

R 60.00

126mm x 126mm



### CEEB120-10

Single 15 Amp switch  
Socket outlet With 2 Pin Euro

R 88.00

126mm x 126mm



### CEEB120-20

Single 15 Amp Switch  
Socket outlet with 3 pin SANS

R 88.00

126mm x 80mm



### CEEA11

Single 15 Amp Switch  
Socket outlet

R 51.00

## ELITE DEDICATED EARTH PIN SOCKET OUTLETS WITH FLUORESCENT INSERT

126mm x 126mm



### CEEB13-1

Double 15 Amp Switch  
Socket

R 77.00



80mm x 126 mm



### CEEB11-1

15 Amp Switch Socket  
Outlet

R 53.00

126mm x 126mm



### CEEB14-1

15 Amp Switch Socket  
Outlet

R 62.00

## ELITE SURFACE MOUNTING EXTENSION BOXES

126mm x 126mm x 40mm



### CEE-44

Surface Mounting  
Extension Box

R 30.00

126mm x 126mm



### CEE-42

Surface Mounting  
Extension Box

R 22.00

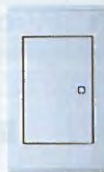
## ELITE 80mm x 126mm NARROW (N) MEDIUM (M) AND WIDE (W)



### CEEA-101M

1 Gang  
1 Way Switch  
(Medium)

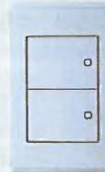
R 37.00



### CEEA-101W

1 Gang  
1 Way Switch  
(Wide)

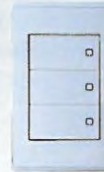
R 38.00



### CEEA-201M

2 Gang  
1 Way Switch  
(Medium)

R 52.00



### CEEA-301N

3 Gang  
1 Way Switch  
(Narrow)

R 65.00



### CEEA-401M

4 Gang  
1 Way Switch  
(Medium)

R 70.00

# NEW



## ELITE LOOSE COMPONENTS NARROW (N) MEDIUM (M) AND WIDE (W)



**CEE-127N**  
1 Way Switch Component (Narrow)

R 16.00



**CEE-127M**  
1 Way Switch Component (Medium)

R 17.00



**CEE-127W**  
1 Way Switch Component (Wide)

R 18.00



**CEE-128N**  
2 Way Switch Component (Narrow)

R 21.00



**CEE-128M**  
2 Way Switch Component (Medium)

R 22.00



**CEE-128W**  
2 Way Switch Component (Wide)

R 23.00



**CEE-129-2**  
1 Lever Intermediate Switch (Medium)

R 36.00



**CEE-33N**  
4-Core Phone Socket (Narrow)

R 22.00



**CEE-33M**  
4-Core Phone Socket (Medium)

R 23.00



**CEE-34N**  
Computer Socket Component (Narrow)

R 39.00



**CEE-34M**  
Computer Socket Component (Medium)

R 40.00



**CEE-31N**  
TV Outlet Satellite (Narrow)

R 17.00



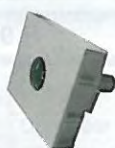
**CEE-31M**  
TV Outlet Satellite (Medium)

R 18.00



**CEE-32N**  
TV Outlet for Co-Aux Cable

R 17.00



**CEE-32M**  
TV Outlet for Co-Aux Cable

R 18.00



**CEE11-1**  
16A Socket Component for (Dedicated)

R 32.00



**CEE11**  
16A Socket Component

R 32.00



**CEE-12**  
16A 3 Pin Socket Component

R 21.00



**CEE-15**  
Multifunctional Socket Outlet

R 32.00



**CEE-16**  
Round Two-Pin Socket

R 21.00

## ELITE DIMMER COMPONENTS

**CECA115L**  
300 Watt Dimmer



R 110.00

**CECA116L**  
600 Watt Dimmer



R 165.00

**CECA117L**  
1000 Watt Dimmer Control



R 205.00

# NEW



## ELITE CONTROL SWITCHES –126mm X 126mm NARROW-MEDIUM-WIDE



**CEE-101W**  
One Gang One Way Switch

R 47.00



**CEE-201M**  
Two Gang One Way Switch

R 62.00



**CEE-301N**  
Three Gang One Way Switch

R 75.00



**CEE-401M**  
Four Gang One Way Switch

R 90.00



**CEE-501MN**  
Five Gang One Way Switch

R 102.00



**CEE-601N**  
Six Gang One Way Switch

R 115.00



**CEE-701MN**  
Seven Gang One Way Switch

R 120.00



**CEE-801MN**  
Eight Gang One Way Switch

R 128.00

## ELITE ISOLATORS, SHAVING PLUG AND UNDER-FLOOR HEATING CONTROL



**CEE-203L**  
20 Amp Triple Pole Stove Isolator

R 104.00



**CEE-203S**  
20 Amp Triple Pole Stove Isolator

R 92.00



**CEE-323L**  
32 Amp Triple Pole Stove Isolator

R 107.00



**CEE-323S**  
32 Amp Triple Pole Stove Isolator

R 96.00



**CEE-453L**  
40 Amp Triple Pole Stove Isolator

R 110.00



**CEE-453S**  
40 Amp Triple Pole Stove Isolator

R 100.00



**CEE120A13**  
Shaving Plug  
230v/115v  
Round/Flat 2 Pin

R 350.00



**CEE-26**  
Under Floor Heating Control (3kw)

R 800.00

## ELITE CLIP-IN BLANKS & EMPTY COVERS FOR 80mm x126mm AND 126mm x 126mm



**CEE-90M**  
Blank Cover With Frame (Medium)

R 21.00



**CEE-90M-S**  
Electroplated Silver Frame

R 15.00



**CEE-90W**  
Blank Cover With Frame (Wide)

R 19.00



**CEE-90W-S**  
Electroplated Silver Frame

R 15.00



**CEE-80N**  
Clip-in Blank for Narrow Size Switch

R 3.00



**CEE-91W**  
Blank Cover With Frame (Wide)

R 29.00



**CEE-91W-S**  
Electroplated Silver Frame

R 21.00



**CEE-91-WW**  
Blank Cover With Frame (Wide x 2)

R 23.00



**CEE-91WW-S**  
Electroplated Silver Frame

R 18.00



**CEE-80W**  
Clip-in Blank for Wide Size Switch

R 4.00

## AC MAGNETIC CONTACTORS — TRIPLE POLE

Part Number

Description Current Rating AC3 AC1 HP 400V KW 400V Auxillary Contacts

### AC MAGNETIC CONTACTORS

PRICE

NC1-0910	Contactors	9A	20A	5.5 HP	4 KW	1 NO	175.00
NC1-0901	Contactors	9A	20A	5.5 HP	4 KW	1 NC	175.00
NC1-1210	Contactors	12A	25A	7.5 HP	5.5 KW	1 NO	185.00
NC1-1201	Contactors	12A	25A	7.5 HP	5.5 KW	1 NC	185.00
NC1-1810	Contactors	18A	32A	10 HP	7.5 KW	1 NO	285.00
NC1-1801	Contactors	18A	32A	10 HP	7.5 KW	1 NC	285.00
<i>Complete with Coil</i>							
NC1-2510	Contactors	25A	40A	15 HP	11 KW	1 NO	390.00
NC1-2501	Contactors	25A	40A	15 HP	11 KW	1 NC	390.00
NC1-3210	Contactors	32A	50A	20 HP	15 KW	1 NO	520.00
NC1-3201	Contactors	32A	50A	20 HP	15 KW	1 NC	520.00
<i>Complete with Coil</i>							
NC1-4011	Contactors	40A	60A	25 HP	18.5 KW	1 NO & 1 NC	775.00
NC1-5011	Contactors	50A	80A	30 HP	22 KW	1 NO & 1NC	875.00
NC1-6511	Contactors	65A	80A	40 HP	30 KW	1 NO & 1 NC	1 100.00
NC1-8011	Contactors	80A	125A	50 HP	37 KW	1 NO & 1 NC	1 500.00
NC1-9511	Contactors	95A	125A	60 HP	45 KW	1 NO & 1 NC	1 700.00
<i>Complete with Coil</i>							
NC2-115	Contactors	115A	200A	75 HP	55 KW	-	2 275.00
NC2-150	Contactors	150A	250A	100 HP	75 KW	-	2 450.00
NC2-185	Contactors	185A	275A	125 HP	90 KW	-	3 300.00
NC2-225	Contactors	225A	300A	150 HP	110 KW	-	4 100.00
NC2-265	Contactors	265A	350A	180 HP	132 KW	-	4 500.00
NC2-330	Contactors	330A	400A	220 HP	160 KW	-	6 400.00
NC2-400	Contactors	400A	500A	300 HP	200 KW	-	6 900.00
NC2-500	Contactors	500A	700A	400 HP	250 KW	-	8 900.00
NC2-630	Contactors	630A	1000A	500 HP	375 KW	-	11 000.00
<i>Complete with Coil</i>							

### VACUUM CONTACTORS

PRICE

Description	Current AC3	KW 690V	KW 1140V	Auxillary Contacts	PRICE	
NC9-160	Contactors	160A	140KW	230KW	2NO & 1NC	9 000.00
NC9-250	Contactors	250A	230KW	380KW	2NO & 1NC	9 500.00
NC9-400	Contactors	400A	350KW	590KW	4NO & 3NC	16 900.00
NC9-630	Contactors	630A	540KW	930KW	4NO & 3NC	17 800.00
NC9-800	Contactors	800A	685KW	1180KW	4NO & 3NC	27 300.00
NC9-1000	Contactors	1000A	850KW	1480KW	4NO & 3NC	28 500.00



NC1-09



NC1-50



NC2-115



NC9-160

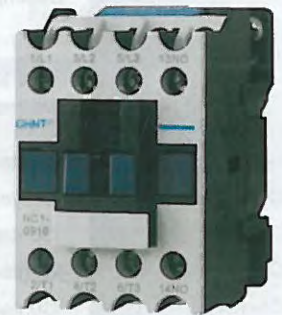
Above Prices do not include VAT

## AC MAGNETIC CONTACTORS — 4 POLE AUXILLIARY BLOCKS AND SPARES

Part Number	Description	Current Rating		HP 400V	KW 400V	Main Contacts	PRICE
		AC3	AC1				
<b>AC MAGNETIC CONTACTORS — 4 POLE</b>							
NC1-0904	Contactors	9A	20A	5.5 HP	4 KW	4 NO	190.00
NC1-0908	Contactors	9A	20A	5.5 HP	4 KW	2 NO & 2 NC	190.00
NC1-1204	Contactors	12A	25A	7.5 HP	5.5 KW	4 NO	200.00
NC1-1208	Contactors	12A	25A	7.5 HP	5.5 KW	2 NO & 2 NC	200.00
NC1-2504	Contactors	25A	40A	15 HP	11 KW	4 NO	430.00
NC1-2508	Contactors	25A	40A	15 HP	11 KW	2 NO & 2 NC	430.00
NC1-4004	Contactors	40A	60A	25 HP	18.5 KW	4 NO	800.00
NC1-4008	Contactors	40A	60A	25 HP	18.5 KW	2 NO & 2 NC	800.00
NC1-5004	Contactors	50A	80A	30 HP	22 KW	4 NO	920.00
NC1-5008	Contactors	50A	80A	30 HP	22 KW	2 NO & 2 NC	920.00
NC1-6504	Contactors	65A	80A	40 HP	30 KW	4 NO	1 150.00
NC1-6508	Contactors	65A	80A	40 HP	30 KW	2 NO & 2 NC	1 150.00
NC1-8004	Contactors	80A	125A	50 HP	37 KW	4 NO	1 225.00
NC1-8008	Contactors	80A	125A	50 HP	37 KW	2 NO & 2 NC	1 225.00
NC1-9504	Contactors	95A	125A	60 HP	45 KW	4 NO	1 350.00
NC1-9508	Contactors	95A	125A	60 HP	45 KW	2 NO & 2 NC	1 350.00

### CHINT MOTOR CONTROL ACCESSORIES

Description	Current	Operation	Auxillary Contacts	PRICE
F4-20	Auxillary 10A	Instantaneous	2 NO	45.00
F4-11	Auxillary 10A	Instantaneous	1NO & 1 NC	45.00
F4-02	Auxillary 10A	Instantaneous	2 NC	45.00
F4-40	Auxillary 10A	Instantaneous	4 NO	80.00
F4-31	Auxillary 10A	Instantaneous	3 NO & 1 NC	80.00
F4-22	Auxillary 10A	Instantaneous	2 NO & 2 NC	80.00
F4-13	Auxillary 10A	Instantaneous	1 NO & 3 NC	80.00
F4-04	Auxillary 10A	Instantaneous	4 NC	80.00
F5-T2	Pneumatic timer	0,1 ~ 30Sec delay ON	1 NO & 1 NC	475.00
F5-T4	Pneumatic timer	10 ~ 180Sec delay ON	1 NO & 1 NC	475.00
F5-D2	Pneumatic timer	0,1 ~ 30Sec delay OFF	1 NO & 1 NC	475.00
F5-D4	Pneumatic timer	10 ~ 180Sec delay OFF	1 NO & 1 NC	475.00
CJX2-09	Coil for NC1-09 and NC1-18	24v, 48v, 110v, 230, 400v		90.00
CJX2-25	Coil for NC1-25 and NC1-32	24v, 48v, 110v, 230, 400v		110.00
CJX2-40	Coil for NC1-40 and NC1-95	24v, 48v, 110v, 230, 400v		250.00
CJMI-09/32	Mechanical Interlock suitable for NC1-09 to NC1-32			90.00
CJMI-40/65	Mechanical Interlock suitable for NC1-40 to NC1-65			110.00
CJMI-80/95	Mechanical Interlock suitable for NC1-80 to NC1-95			120.00
CJMI-115/150	Mechanical Interlock suitable for NC2-115 to NC2-150			190.00
CJMI-185/225	Mechanical Interlock suitable for NC2-185 to NC2-225			200.00
CJMI-265/500	Mechanical Interlock suitable for NC2-265 to NC2-500			300.00
CJMI-630	Mechanical Interlock suitable for NC2-630			400.00



NC1-0904/1204



NC1-4004 TO NC1-9504



F4-22



F5-T2



CJX2-40 COIL



CJMI-09/32

Above Prices do not include VAT

## OVERLOAD RELAYS

Part Number

NR2-25 0.4  
NR2-25 0.6  
NR2-25 1.0  
NR2-25 1.6  
NR2-25 2.0  
NR2-25 2.5  
NR2-25 4.0  
NR2-25 6.0  
NR2-25 8.0  
NR2-25 10  
NR2-25 13  
NR2-25 18  
NR2-25 25  
NR2-36 32  
NR2-36 36  
NR2-93 40  
NR2-93 50  
NR2-93 65  
NR2-93 80  
NR2-93 93

JD-5 200  
JD-5 400  
NRE8-25 1.2  
NRE8-25 2.4  
NRE8-25 4.0  
NRE8-25 8.0  
NRE8-25 10  
NRE8-25 12  
NRE8-25 20  
NRE8-25 25  
NRE8-25 32  
NRE8-40 40  
NRE8-100 65  
NRE8-100 100

NS2-25 0,10-0,16A  
NS2-25 0,16-0,25A  
NS2-25 0,25-0,4A  
NS2-25 0,4-0,63A  
NS2-25 0,63-1A  
NS2-25 1-1,6A  
NS2-25 1,6-2,5A  
NS2-25 2,5-4A  
NS2-25 4-6,3A  
NS2-25 6-10A  
NS2-25 9-14A  
NS2-25 13-18A  
NS2-25 17-23A  
NS2-25 20-25A

NS2-MS  
NS2-AU11  
NS2-UV

Description	Current Range Amps	HP 400V	KW 400V	PRICE
<b>THERMAL OVERLOAD RELAYS</b>				
Thermal Overload	0.25 - 0.4 Amp	1/8 HP	0.09 KW	200.00
Thermal Overload	0.40 - 0.63 Amp	1/4 HP	0.20 KW	200.00
Thermal Overload	0.63 - 1.0 Amp	1/2 HP	0.37 KW	200.00
Thermal Overload	1.0 - 1.6 Amp	3/4 HP	0.55 KW	200.00
Thermal Overload	1.5 - 2.0 Amp	3/4 HP	0.57 KW	200.00
Thermal Overload	1.6 - 2.5 Amp	1 HP	0.75 KW	200.00
Thermal Overload	2.5 - 4.0 Amp	2 HP	1.5 KW	200.00
Thermal Overload	4.0 - 6.0 Amp	3 HP	2.2 KW	200.00
Thermal Overload	5.5 - 8.0 Amp	4 HP	3 KW	200.00
Thermal Overload	7 - 10 Amp	5 HP	4 KW	200.00
Thermal Overload	9 - 13 Amp	7.5 HP	5.5 KW	200.00
Thermal Overload	12 - 18 Amp	10 HP	7.5 KW	200.00
Thermal Overload	17 - 25 Amp	15 HP	11 KW	200.00
Thermal Overload	23 - 32 Amp	20 HP	15 KW	300.00
Thermal Overload	28 - 36 Amp	25 HP	18.5 KW	300.00
Thermal Overload	30 - 40 Amp	25 HP	18.5 KW	525.00
Thermal Overload	37 - 50 Amp	30 HP	22 KW	525.00
Thermal Overload	48 - 65 Amp	40 HP	30 KW	525.00
Thermal Overload	63 - 80 Amp	50 HP	37 KW	525.00
Thermal Overload	80 - 93 Amp	60 HP	45 KW	525.00

Description	Current Range Amps	PRICE
<b>ELECTRONIC OVERLOAD RELAYS</b>		
Electronic Overload	80 - 200 Amp	720.00
Electronic Overload	160 - 400 Amp	840.00
Electronic Overload	0.6 - 1.2 Amp	730.00
Electronic Overload	1.2 - 2.4 Amp	730.00
Electronic Overload	2.0 - 4.0 Amp	730.00
Electronic Overload	4 - 8.0 Amp	730.00
Electronic Overload	5 - 10 Amp	730.00
Electronic Overload	7 - 12 Amp	730.00
Electronic Overload	10 - 20 Amp	730.00
Electronic Overload	20 - 25 Amp	730.00
Electronic Overload	22 - 32 Amp	730.00
Electronic Overload	20 - 40 Amp	730.00
Electronic Overload	30 - 65 Amp	925.00
Electronic Overload	50 - 100 Amp	925.00

Auxiliaries	KW	kA (Ics) Rating	Amps	PRICE
<b>MANUAL MOTOR STARTERS</b>				
No	-	100kA	0,1-0,16 Amp	440.00
No	-	100kA	0,16-0,25 Amp	440.00
No	-	100kA	0,25-0,4 Amp	440.00
No	-	100kA	0,4 -0,63 Amp	440.00
No	0,37kw	100kA	0,63-1 Amp	440.00
No	0,55kw	100kA	1-1,6 Amp	440.00
No	0,75kw	100kA	1,6-2,5 Amp	440.00
No	1,5kw	100kA	2,5 - 4 Amp	440.00
No	2,2kw	100kA	4-6,3 Amp	440.00
No	4,0kw	100kA	6 -10 Amp	440.00
No	5,5kw	7.5kA	9-14 Amp	440.00
No	7,5kw	7.5kA	13-18 Amp	440.00
No	11kw	6kA	17-23 Amp	460.00
No	11kw	6kA	20-25 Amp	460.00

Description	PRICE
<b>MANUAL MOTOR STARTERS ACCESSORIES</b>	
Surface Enclosure	IP 65 (MMS) 200.00
Side Mount Auxiliary	1N/O + 1N/C 88.00
Under-Voltage Release (Side mount)	110V,230V,400V 210.00



NR2-25



NR2-36



NR2-93



JD-5 200 A



NRE8-25



NS2-25 6,3A



NS2-MS



NS2-AU11



NS2-UV

Above Prices do not include VAT

## DIRECT ON LINE STARTERS

### Part Number

LE1-D09-EH  
LE1-D25-EH

### DOL STARTER - ACCESSORIES

### PRICE

Empty Housing - With Pushbuttons	LE1-D09 / D12 / D18	201.00
Empty Housing - With Pushbuttons	LE1-D25 / D32	264.00

### DOL STARTERS - NO OVERLOAD - IP65

### PRICE

LE1-D09  
LE1-D12  
LE1-D18

DOL - NO Overload Relay	5 HP	4 KW	330.00
DOL - NO Overload Relay	7.5 HP	5.5 KW	350.00
DOL - NO Overload Relay	10 HP	7.5 KW	580.00

### DOL STARTERS - WITH OVERLOAD - IP65

### PRICE

LE1-D09 1.0  
LE1-D09 1.6  
LE1-D09 2.5  
LE1-D09 2.5  
LE1-D09 4.0  
LE1-D09 6.0  
LE1-D09 8.0  
LE1-D09 10  
LE1-D12 13  
LE1-D18 18  
LE1-D25 25  
LE1-D32 32  
LE1-D40 40  
LE1-D50 50  
LE1-D65 65

DOL Starter	0.63 - 1.0 Amp	1/2 HP	0.37 KW	528.00
DOL Starter	1.0 - 1.6 Amp	3/4 HP	0.55 KW	528.00
DOL Starter	1.6 - 2.5 Amp	1 HP	0.75 KW	528.00
DOL Starter	1.6 - 2.5 Amp	1.5 HP	1.1 KW	528.00
DOL Starter	2.5 - 4.0 Amp	2 HP	1.5 KW	528.00
DOL Starter	4.0 - 6.0 Amp	3 HP	2.2 KW	528.00
DOL Starter	5.5 - 8.0 Amp	4 HP	3 KW	528.00
DOL Starter	7 - 10 Amp	5 HP	4 KW	528.00
DOL Starter	9 - 13 Amp	7.5 HP	5.5 KW	546.00
DOL Starter	12 - 18 Amp	10 HP	7.5 KW	722.00
DOL Starter	17 - 25 Amp	15 HP	11 KW	1 100.00
DOL Starter	23 - 32 Amp	20 HP	15 KW	1 225.00
DOL Starter	30 - 40 Amp	25 HP	18.5 KW	2 200.00
DOL Starter	37 - 50 Amp	30 HP	22 KW	2 450.00
DOL Starter	48 - 65 Amp	40 HP	30 KW	3 175.00

### DOL STARTER WITH ISOLATOR - NO OVERLOAD - IP56

### PRICE

LE1-D09I  
LE1-D12I  
LE1-D18I

DOL with Isolator - NO Overload Relay	5 HP	4 KW	950.00
DOL with Isolator - NO Overload Relay	7.5 HP	5.5 KW	963.00
DOL with Isolator - NO Overload Relay	10 HP	7.5 KW	1 102.00

### DOL STARTER WITH ISOLATOR AND OVERLOAD - IP56

### PRICE

LE1-D09I 0.63  
LE1-D09I 1.6  
LE1-D09I 2.5  
LE1-D09I 2.5  
LE1-D09I 4.0  
LE1-D09I 6.0  
LE1-D09I 8.0  
LE1-D09I 10  
LE1-D12I 13  
LE1-D18I 18  
LE1-D25I 25  
LE1-D32I 32  
LE1-D40I 40  
LE1-D50I 50  
LE1-D65I 65

DOL with Isolator	0.63 - 1.0 Amp	1/2 HP	0.37 KW	1 425.00
DOL with Isolator	1.0 - 1.6 Amp	3/4 HP	0.55 KW	1 425.00
DOL with Isolator	1.6 - 2.5 Amp	1 HP	0.75 KW	1 425.00
DOL with Isolator	1.6 - 2.5 Amp	1.5 HP	1.1 KW	1 425.00
DOL with Isolator	2.5 - 4.0 Amp	2 HP	1.5 KW	1 425.00
DOL with Isolator	4.0 - 6.0 Amp	3 HP	2.2 KW	1 425.00
DOL with Isolator	5.5 - 8.0 Amp	4 HP	3 KW	1 425.00
DOL with Isolator	7 - 10 Amp	5 HP	4 KW	1 425.00
DOL with Isolator	9 - 13 Amp	7.5 HP	5.5 KW	1 446.00
DOL with Isolator	12 - 18 Amp	10 HP	7.5 KW	1 609.00
DOL with Isolator	17 - 25 Amp	15 HP	11 KW	2 056.00
DOL with Isolator	23 - 32 Amp	20 HP	15 KW	2 659.00
DOL with Isolator	30 - 40 Amp	25 HP	18.5 KW	3 224.00
DOL with Isolator	37 - 50 Amp	30 HP	22 KW	3 866.00
DOL with Isolator	48 - 65 Amp	40 HP	30 KW	4 222.00



LE1-D09 / D12 / D18  
Up to 15KW in Plastic IP65 Enclosure  
18.5 KW and larger in Plastic IP56 Enclosure



LE1-D25  
Up to 15KW in Plastic IP65 Enclosure  
18.5 KW and larger in Plastic IP56 Enclosure



LE1-D09I  
Up to 15KW in Plastic IP56 Enclosure  
18.5 KW and larger in Plastic IP56 Enclosure

## MINIATURE DIN CIRCUIT BREAKERS ( 3 kA C CURVE )

In Accordance to IEC 60947-2 Standards

### Part Number

Description	Ka Rating	Curve	No of Poles	Current Rating	PRICE
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### 1 POLE

### PRICE

eB 101	Circuit Breaker	3kA	C Curve	1 Pole	1 Amp	38.00
eB 102	Circuit Breaker	3kA	C Curve	1 Pole	2 Amp	38.00
eB 103	Circuit Breaker	3kA	C Curve	1 Pole	3 Amp	38.00
eB 104	Circuit Breaker	3kA	C Curve	1 Pole	4 Amp	38.00
eB 106	Circuit Breaker	3kA	C Curve	1 Pole	6 Amp	38.00
eB 110	Circuit Breaker	3kA	C Curve	1 Pole	10 Amp	38.00
eB 116	Circuit Breaker	3kA	C Curve	1 Pole	16 Amp	38.00
eB 120	Circuit Breaker	3kA	C Curve	1 Pole	20 Amp	38.00
eB 125	Circuit Breaker	3kA	C Curve	1 Pole	25 Amp	38.00
eB 132	Circuit Breaker	3kA	C Curve	1 Pole	32 Amp	38.00
eB 140	Circuit Breaker	3kA	C Curve	1 Pole	40 Amp	38.00
eB 150	Circuit Breaker	3kA	C Curve	1 Pole	50 Amp	38.00
eB 163	Circuit Breaker	3kA	C Curve	1 Pole	63 Amp	38.00

### 1 POLE + N

### PRICE

NBH8-40 110	Circuit Breaker	4,5kA	C Curve	1 Pole + N	10 Amp	110.00
NBH8-40 116	Circuit Breaker	4,5kA	C Curve	1 Pole + N	16 Amp	110.00
NBH8-40 120	Circuit Breaker	4,5kA	C Curve	1 Pole + N	20 Amp	110.00
NBH8-40 125	Circuit Breaker	4,5kA	C Curve	1 Pole + N	25 Amp	110.00
NBH8-40 132	Circuit Breaker	4,5kA	C Curve	1 Pole + N	32 Amp	110.00
NBH8-40 140	Circuit Breaker	4,5kA	C Curve	1 Pole + N	40 Amp	110.00

### 2 POLE

### PRICE

eB 201	Circuit Breaker	3kA	C Curve	2 Pole	1 Amp	114.00
eB 202	Circuit Breaker	3kA	C Curve	2 Pole	2 Amp	114.00
eB 203	Circuit Breaker	3kA	C Curve	2 Pole	3 Amp	114.00
eB 204	Circuit Breaker	3kA	C Curve	2 Pole	4 Amp	114.00
eB 206	Circuit Breaker	3kA	C Curve	2 Pole	6 Amp	114.00
eB 210	Circuit Breaker	3kA	C Curve	2 Pole	10 Amp	114.00
eB 216	Circuit Breaker	3kA	C Curve	2 Pole	16 Amp	114.00
eB 220	Circuit Breaker	3kA	C Curve	2 Pole	20 Amp	114.00
eB 225	Circuit Breaker	3kA	C Curve	2 Pole	25 Amp	114.00
eB 232	Circuit Breaker	3kA	C Curve	2 Pole	32 Amp	114.00
eB 240	Circuit Breaker	3kA	C Curve	2 Pole	40 Amp	114.00
eB 250	Circuit Breaker	3kA	C Curve	2 Pole	50 Amp	114.00
eB 263	Circuit Breaker	3kA	C Curve	2 Pole	63 Amp	114.00

### 3 POLE

### PRICE

eB 301	Circuit Breaker	3kA	C Curve	3 Pole	1 Amp	168.00
eB 302	Circuit Breaker	3kA	C Curve	3 Pole	2 Amp	168.00
eB 303	Circuit Breaker	3kA	C Curve	3 Pole	3 Amp	168.00
eB 304	Circuit Breaker	3kA	C Curve	3 Pole	4 Amp	168.00
eB 306	Circuit Breaker	3kA	C Curve	3 Pole	6 Amp	168.00
eB 310	Circuit Breaker	3kA	C Curve	3 Pole	10 Amp	168.00
eB 316	Circuit Breaker	3kA	C Curve	3 Pole	16 Amp	168.00
eB 320	Circuit Breaker	3kA	C Curve	3 Pole	20 Amp	168.00
eB 325	Circuit Breaker	3kA	C Curve	3 Pole	25 Amp	168.00
eB 332	Circuit Breaker	3kA	C Curve	3 Pole	32 Amp	168.00
eB 340	Circuit Breaker	3kA	C Curve	3 Pole	40 Amp	168.00
eB 350	Circuit Breaker	3kA	C Curve	3 Pole	50 Amp	168.00
eB 363	Circuit Breaker	3kA	C Curve	3 Pole	63 Amp	168.00



eB110  
1 POLE 230V 50/60 Hz



eB-210  
2 POLE 400V 50/60 Hz



eB-310  
3 POLE 400V 50/60 Hz

## MINIATURE DIN CIRCUIT BREAKERS ( 6 kA C CURVE )

In Accordance to IEC 60947-2 Standards

**Part Number**

NB1-63 101  
 NB1-63 102  
 NB1-63 103  
 NB1-63 104  
 NB1-63 106  
 NB1-63 110  
 NB1-63 116  
 NB1-63 120  
 NB1-63 125  
 NB1-63 132  
 NB1-63 140  
 NB1-63 150  
 NB1-63 163  
 DZ158-125 180  
 DZ158-125 1100  
 DZ158-125 1125

NB1-63 201  
 NB1-63 202  
 NB1-63 203  
 NB1-63 204  
 NB1-63 206  
 NB1-63 210  
 NB1-63 216  
 NB1-63 220  
 NB1-63 225  
 NB1-63 232  
 NB1-63 240  
 NB1-63 250  
 NB1-63 263  
 DZ158-125 280  
 DZ158-125 2100  
 DZ158-125 2125

NB1-63 301  
 NB1-63 302  
 NB1-63 303  
 NB1-63 304  
 NB1-63 306  
 NB1-63 310  
 NB1-63 316  
 NB1-63 320  
 NB1-63 325  
 NB1-63 332  
 NB1-63 340  
 NB1-63 350  
 NB1-63 363  
 DZ158-125 380  
 DZ158-125 3100  
 DZ158-125 3125

Description	Ka Rating	Curve	Unit Width (mm)	Current Rating	PRICE
<b>1 POLE</b>					
Circuit Breaker	6kA	C Curve	17,5mm	1 Amp	61.00
Circuit Breaker	6kA	C Curve		2 Amp	61.00
Circuit Breaker	6kA	C Curve		3 Amp	61.00
Circuit Breaker	6kA	C Curve		4 Amp	61.00
Circuit Breaker	6kA	C Curve		6 Amp	61.00
Circuit Breaker	6kA	C Curve		10 Amp	61.00
Circuit Breaker	6kA	C Curve		16 Amp	61.00
Circuit Breaker	6kA	C Curve		20 Amp	61.00
Circuit Breaker	6kA	C Curve		25 Amp	61.00
Circuit Breaker	6kA	C Curve		32 Amp	61.00
Circuit Breaker	6kA	C Curve		40 Amp	61.00
Circuit Breaker	6kA	C Curve		50 Amp	61.00
Circuit Breaker	6kA	C Curve		63 Amp	61.00
Circuit Breaker	6kA	C Curve		80 Amp	112.00
Circuit Breaker	6kA	C Curve		100 Amp	112.00
Circuit Breaker	6kA	C Curve		125 Amp	237.00

Description	Ka Rating	Curve	Current Rating	PRICE
<b>2 POLE</b>				
Circuit Breaker	6kA	C Curve	1 Amp	142.00
Circuit Breaker	6kA	C Curve	2 Amp	142.00
Circuit Breaker	6kA	C Curve	3 Amp	142.00
Circuit Breaker	6kA	C Curve	4 Amp	142.00
Circuit Breaker	6kA	C Curve	6 Amp	142.00
Circuit Breaker	6kA	C Curve	10 Amp	137.00
Circuit Breaker	6kA	C Curve	16 Amp	137.00
Circuit Breaker	6kA	C Curve	20 Amp	137.00
Circuit Breaker	6kA	C Curve	25 Amp	137.00
Circuit Breaker	6kA	C Curve	32 Amp	137.00
Circuit Breaker	6kA	C Curve	40 Amp	137.00
Circuit Breaker	6kA	C Curve	50 Amp	144.00
Circuit Breaker	6kA	C Curve	63 Amp	144.00
Circuit Breaker	6kA	C Curve	80 Amp	218.00
Circuit Breaker	6kA	C Curve	100 Amp	218.00
Circuit Breaker	6kA	C Curve	125 Amp	495.00

Description	Ka Rating	Curve	Current Rating	PRICE
<b>3 POLE</b>				
Circuit Breaker	6kA	C Curve	1 Amp	225.00
Circuit Breaker	6kA	C Curve	2 Amp	225.00
Circuit Breaker	6kA	C Curve	3 Amp	225.00
Circuit Breaker	6kA	C Curve	4 Amp	225.00
Circuit Breaker	6kA	C Curve	6 Amp	225.00
Circuit Breaker	6kA	C Curve	10 Amp	225.00
Circuit Breaker	6kA	C Curve	16 Amp	225.00
Circuit Breaker	6kA	C Curve	20 Amp	225.00
Circuit Breaker	6kA	C Curve	25 Amp	225.00
Circuit Breaker	6kA	C Curve	32 Amp	225.00
Circuit Breaker	6kA	C Curve	40 Amp	225.00
Circuit Breaker	6kA	C Curve	50 Amp	235.00
Circuit Breaker	6kA	C Curve	63 Amp	235.00
Circuit Breaker	6kA	C Curve	80 Amp	500.00
Circuit Breaker	6kA	C Curve	100 Amp	500.00
Circuit Breaker	6kA	C Curve	125 Amp	720.00



NB1-63 110



DZ158-100 100 and DZ158-125 1125



NB1-63 206



NB1-63 310



DZ158-100 3100 and DZ158-125 3125

Above Prices do not include VAT

## MINIATURE DIN CIRCUIT BREAKERS ( 10 kA C CURVE )

In Accordance to IEC 60947-2 Standards

### Part Number

Description	Ka Rating	Curve	No of Poles	Current Rating	PRICE
<b>1 POLE</b>					<b>PRICE</b>
NB1-63H 101	10kA	C Curve	1 Pole	1 Amp	90.00
NB1-63H 102	10kA	C Curve	1 Pole	2 Amp	90.00
NB1-63H 103	10kA	C Curve	1 Pole	3 Amp	90.00
NB1-63H 104	10kA	C Curve	1 Pole	4 Amp	90.00
NB1-63H 106	10kA	C Curve	1 Pole	6 Amp	90.00
NB1-63H 110	10kA	C Curve	1 Pole	10 Amp	90.00
NB1-63H 116	10kA	C Curve	1 Pole	16 Amp	90.00
NB1-63H 120	10kA	C Curve	1 Pole	20 Amp	90.00
NB1-63H 125	10kA	C Curve	1 Pole	25 Amp	90.00
NB1-63H 132	10kA	C Curve	1 Pole	32 Amp	90.00
NB1-63H 140	10kA	C Curve	1 Pole	40 Amp	90.00
NB1-63H 150	10kA	C Curve	1 Pole	50 Amp	90.00
NB1-63H 163	10kA	C Curve	1 Pole	63 Amp	90.00
DZ159-100 180	10kA	C Curve	1 Pole	80 Amp	160.00
DZ159-100 1100	10kA	C Curve	1 Pole	100 Amp	160.00
<b>2 POLE</b>					<b>PRICE</b>
NB1-63H 201	10kA	C Curve	2 Pole	1 Amp	188.00
NB1-63H 202	10kA	C Curve	2 Pole	2 Amp	188.00
NB1-63H 203	10kA	C Curve	2 Pole	3 Amp	188.00
NB1-63H 204	10kA	C Curve	2 Pole	4 Amp	188.00
NB1-63H 206	10kA	C Curve	2 Pole	6 Amp	188.00
NB1-63H 210	10kA	C Curve	2 Pole	10 Amp	188.00
NB1-63H 216	10kA	C Curve	2 Pole	16 Amp	188.00
NB1-63H 220	10kA	C Curve	2 Pole	20 Amp	188.00
NB1-63H 225	10kA	C Curve	2 Pole	25 Amp	188.00
NB1-63H 232	10kA	C Curve	2 Pole	32 Amp	188.00
NB1-63H 240	10kA	C Curve	2 Pole	40 Amp	188.00
NB1-63H 250	10kA	C Curve	2 Pole	50 Amp	204.00
NB1-63H 263	10kA	C Curve	2 Pole	63 Amp	204.00
DZ159-100 280	10kA	C Curve	2 Pole	80 Amp	500.00
DZ159-100 2100	10kA	C Curve	2 Pole	100 Amp	500.00
<b>3 POLE</b>					<b>PRICE</b>
NB1-63H 301	10kA	C Curve	3 Pole	1 Amp	280.00
NB1-63H 302	10kA	C Curve	3 Pole	2 Amp	280.00
NB1-63H 303	10kA	C Curve	3 Pole	3 Amp	280.00
NB1-63H 304	10kA	C Curve	3 Pole	4 Amp	280.00
NB1-63H 306	10kA	C Curve	3 Pole	6 Amp	280.00
NB1-63H 310	10kA	C Curve	3 Pole	10 Amp	280.00
NB1-63H 316	10kA	C Curve	3 Pole	16 Amp	280.00
NB1-63H 320	10kA	C Curve	3 Pole	20 Amp	280.00
NB1-63H 325	10kA	C Curve	3 Pole	25 Amp	280.00
NB1-63H 332	10kA	C Curve	3 Pole	32 Amp	280.00
NB1-63H 340	10kA	C Curve	3 Pole	40 Amp	280.00
NB1-63H 350	10kA	C Curve	3 Pole	50 Amp	300.00
NB1-63H 363	10kA	C Curve	3 Pole	63 Amp	300.00
DZ159-100 380	10kA	C Curve	3 Pole	80 Amp	700.00
DZ159-100 3100	10kA	C Curve	3 Pole	100 Amp	700.00



NB1-63H 106  
1 POLE 230V 50/60 Hz 10KA



NB1-63H 206  
2 POLE 400V 50/60 Hz 10KA



NB1-63H 306  
3 POLE 400V 50/60 Hz 10KA

Above Prices do not include VAT

# MINIATURE DIN CIRCUIT BREAKERS ( 6 kA D CURVE )

**CHINT**

In Accordance to IEC 60947-2 Standards

Voltage Rating : 230V / 400V 50-60 Hz  
 Insulation Voltage Ui : 500V  
 Electric Life : ≥ 4000  
 Mechanical Life : ≥ 10 000

**Part Number**

Description	Ka Rating	Curve	No of Poles	Current Rating	PRICE
<b>1 POLE</b>					
Circuit Breaker	6 kA	D Curve	1 Pole	1 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	2 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	3 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	4 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	6 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	10 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	16 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	20 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	25 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	32 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	40 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	50 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	63 Amp	73.00
Circuit Breaker	6 kA	D Curve	1 Pole	80 Amp	190.00
Circuit Breaker	6 kA	D Curve	1 Pole	100 Amp	210.00



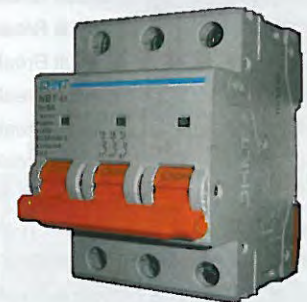
NB1-63D 106  
1 POLE 230V 50/60 Hz

Description	Ka Rating	Curve	No of Poles	Current Rating	PRICE
<b>2 POLE</b>					
Circuit Breaker	6 kA	D Curve	2 Pole	1 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	2 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	3 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	4 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	6 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	10 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	16 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	20 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	25 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	32 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	40 Amp	170.00
Circuit Breaker	6 kA	D Curve	2 Pole	50 Amp	175.00
Circuit Breaker	6 kA	D Curve	2 Pole	63 Amp	175.00
Circuit Breaker	6 kA	D Curve	2 Pole	80 Amp	POA
Circuit Breaker	6 kA	D Curve	2 Pole	100 Amp	POA



NB1-63D 206  
2 POLE 400V 50/60 Hz

Description	Ka Rating	Curve	No of Poles	Current Rating	PRICE
<b>3 POLE</b>					
Circuit Breaker	6 kA	D Curve	3 Pole	1 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	2 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	3 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	4 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	6 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	10 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	16 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	20 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	25 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	32 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	40 Amp	283.00
Circuit Breaker	6 kA	D Curve	3 Pole	50 Amp	288.00
Circuit Breaker	6 kA	D Curve	3 Pole	63 Amp	288.00
Circuit Breaker	6 kA	D Curve	3 Pole	80 Amp	550.00
Circuit Breaker	6 kA	D Curve	3 Pole	100 Amp	600.00



NB1-63D 306  
3 POLE 400V 50/60 Hz

Above Prices do not include VAT

## DIN CIRCUIT BREAKERS ( 10 kA DC ) & FOUR POLE AC MCB'S

In Accordance to IEC 60947-2 Standards

Electric Life : ≥ 4000  
Mechanical Life : ≥ 10 000  
Ambient Temperature : -5°C to +40°C

### Part Number

Description	Ka Rating	Voltage	No. of Poles	Current Rating	PRICE	
<b>1 POLE</b>						
NB1-DC 101	Circuit Breaker	10 kA	110V DC	1 Pole	1 Amp	127.00
NB1-DC 102	Circuit Breaker	10 kA	110V DC	1 Pole	2 Amp	127.00
NB1-DC 103	Circuit Breaker	10 kA	110V DC	1 Pole	3 Amp	127.00
NB1-DC 104	Circuit Breaker	10 kA	110V DC	1 Pole	4 Amp	127.00
NB1-DC 106	Circuit Breaker	10 kA	110V DC	1 Pole	6 Amp	127.00
NB1-DC 110	Circuit Breaker	10 kA	110V DC	1 Pole	10 Amp	127.00
NB1-DC 116	Circuit Breaker	10 kA	110V DC	1 Pole	16 Amp	127.00
NB1-DC 120	Circuit Breaker	10 kA	110V DC	1 Pole	20 Amp	127.00
NB1-DC 125	Circuit Breaker	10 kA	110V DC	1 Pole	25 Amp	127.00
NB1-DC 132	Circuit Breaker	10 kA	110V DC	1 Pole	32 Amp	127.00
NB1-DC 140	Circuit Breaker	10 kA	110V DC	1 Pole	40 Amp	127.00
NB1-DC 150	Circuit Breaker	10 kA	110V DC	1 Pole	50 Amp	130.00
NB1-DC 163	Circuit Breaker	10 kA	110V DC	1 Pole	63 Amp	130.00



NB1-DC 106  
1 POLE 110V DC

Description	Ka Rating	Voltage	No. of Poles	Current Rating	PRICE	
<b>2 POLE</b>						
NB1-DC 201	Circuit Breaker	10 kA	125V DC	2 Pole	1 Amp	207.00
NB1-DC 202	Circuit Breaker	10 kA	125V DC	2 Pole	2 Amp	207.00
NB1-DC 203	Circuit Breaker	10 kA	125V DC	2 Pole	3 Amp	207.00
NB1-DC 204	Circuit Breaker	10 kA	125V DC	2 Pole	4 Amp	207.00
NB1-DC 206	Circuit Breaker	10 kA	125V DC	2 Pole	6 Amp	207.00
NB1-DC 210	Circuit Breaker	10 kA	125V DC	2 Pole	10 Amp	207.00
NB1-DC 216	Circuit Breaker	10 kA	125V DC	2 Pole	16 Amp	207.00
NB1-DC 220	Circuit Breaker	10 kA	125V DC	2 Pole	20 Amp	207.00
NB1-DC 225	Circuit Breaker	10 kA	125V DC	2 Pole	25 Amp	207.00
NB1-DC 232	Circuit Breaker	10 kA	125V DC	2 Pole	32 Amp	207.00
NB1-DC 240	Circuit Breaker	10 kA	125V DC	2 Pole	40 Amp	207.00
NB1-DC 250	Circuit Breaker	10 kA	125V DC	2 Pole	50 Amp	212.00
NB1-DC 263	Circuit Breaker	10 kA	125V DC	2 Pole	63 Amp	212.00



NB1-DC 206  
2 POLE 125V DC

Description	Ka Rating	Voltage	No. of Poles	Current Rating	PRICE	
<b>4 POLE MINATURE DIN RAIL MCB'S</b>						
NB1-63 401	Circuit Breaker	6kA	C Curve	4 Pole	1 Amp	350.00
NB1-63 402	Circuit Breaker	6kA	C Curve	4 Pole	2 Amp	350.00
NB1-63 403	Circuit Breaker	6kA	C Curve	4 Pole	3 Amp	350.00
NB1-63 404	Circuit Breaker	6kA	C Curve	4 Pole	4 Amp	350.00
NB1-63 406	Circuit Breaker	6kA	C Curve	4 Pole	6 Amp	350.00
NB1-63 410	Circuit Breaker	6kA	C Curve	4 Pole	10 Amp	345.00
NB1-63 416	Circuit Breaker	6kA	C Curve	4 Pole	16 Amp	345.00
NB1-63 420	Circuit Breaker	6kA	C Curve	4 Pole	20 Amp	345.00
NB1-63 425	Circuit Breaker	6kA	C Curve	4 Pole	25 Amp	345.00
NB1-63 432	Circuit Breaker	6kA	C Curve	4 Pole	32 Amp	345.00
NB1-63 440	Circuit Breaker	6kA	C Curve	4 Pole	40 Amp	345.00
NB1-63 450	Circuit Breaker	6kA	C Curve	4 Pole	50 Amp	360.00
NB1-63 463	Circuit Breaker	6kA	C Curve	4 Pole	63 Amp	360.00
DZ158-100 480	Circuit Breaker	6kA	C Curve	4 Pole	80 Amp	790.00
DZ158-100 4100	Circuit Breaker	6kA	C Curve	4 Pole	100 Amp	790.00



NB1-63 416

Above Prices do not include VAT

## DIN TYPE KILOWATT HOUR METERS AND READY BOARDS

Description Current Rating

### KILOWATT HOUR METERS-ANALOGUE PRICE

<b>DDS666</b>	KWH Meter - Surface mount 1 phase 230VAC 50Hz Dimensions : (H) 166mm x (W) 110mm x (D) 58mm	20(80A)	<b>450.00</b>
<b>DEM015S</b>	KWH Meter - Din mount 1 Phase 230VAC 50Hz Dimensions : (H) 96mm x (W) 26mm x (D) 63mm	10/63 Amp	<b>725.00</b>
<b>DEM011</b>	KWH Meter - Din mount 1 Phase 230VAC 50Hz Dimensions : (H) 88mm x (W) 75mm x (D) 73mm	20/80 Amp	<b>501.00</b>
<b>DEM021</b>	KWH Meter - Din mount 3 Phase 400VAC 50Hz Dimensions : (H) 88mm x (W) 125mm x (D) 73mm	20/80 Amp	<b>1 950.00</b>
<b>DEM021-5A</b>	KWH Meter - Din mount 3 Phase 400VAC 50Hz Dimensions : (H) 88mm x (W) 125mm x (D) 73mm For CT Connected meter calculate reading as per example : CT Ratio : 100/5 ÷ Factor 20 Take actual reading x 20	5 Amp CT 2,5va	<b>1 950.00</b>



DDS666



DEM015s



DEM011



DEM021

### KILOWATT HOUR METERS-DIGITAL PRICE

<b>DEM015SN</b>	KWH Meter-Din Mount 1 Phase 230VAC 50Hz Dimensions: (H) 96mm x (W) 26mm x (D) 63mm	60/100 Amp	<b>975.00</b>
<b>DEM011D</b>	KWH Meter-Din Mount 1 Phase 230VAC 50Hz Dimensions: (H) 88mm x (W) 75mm x (D) 73mm	60/100 Amp	<b>659.00</b>
<b>DEM021D</b>	KWH Meter-Din Mount 3 Phase 400VAC 50Hz Dimensions: (H) 88mm x (W) 125mm x (D) 73mm	60/100 Amp	<b>2 350.00</b>



DEM011D



DEM021D



DEM015SN

## LOAD CONTROL UNITS – THERMAL TYPE WITH INDICATION Activates @125% FLC—Deactivates @ 85% FLC

### DZ47 LOAD CONTROL UNITS –17,5mm WIDE PRICE

	Description All ratings at 230V 50Hz	AC23 Rating of switch	No. of Poles	Current Rating	Max Current	PRICE
<b>DZ-LCU 106</b>	Load Control unit	3KW	1 Pole	6 Amp	10 Amp	<b>280.00</b>
<b>DZ-LCU 110</b>	Load Control unit	3KW	1 Pole	10 Amp	16 Amp	<b>280.00</b>
<b>DZ-LCU 116</b>	Load Control unit	3KW	1 Pole	16 Amp	25 Amp	<b>280.00</b>
<b>DZ-LCU 120</b>	Load Control unit	3KW	1 Pole	20 Amp	32 Amp	<b>280.00</b>
<b>DZ-LCU 125</b>	Load Control unit	3KW	1 Pole	25 Amp	40 Amp	<b>280.00</b>
<b>DZ-LCU 132</b>	Load Control unit	3KW	1 Pole	32 Amp	50 Amp	<b>280.00</b>



DZ-LCU116

## LOAD CONTROL UNITS – ELECTRONIC TYPE WITH INDICATION Activates @120% FLC—Deactivates @ 80% FLC

### DZ47 ELECTRONIC CURRENT LIMITOR UNITS –34mm WIDE PRICE

	Description All ratings at 230V 50Hz	AC23 Rating of switch	No. of Poles	Current Rating	Max Current	PRICE
<b>DZ-LCUE 106</b>	E/Load Control unit	16A/3KW	1 Pole	6 Amp	60 Amp	<b>440.00</b>
<b>DZ-LCUE 110</b>	E/Load Control unit	16A/3KW	1 Pole	10 Amp	60 Amp	<b>440.00</b>
<b>DZ-LCUE 116</b>	E/Load Control unit	16A/3KW	1 Pole	16 Amp	60 Amp	<b>440.00</b>
<b>DZ-LCUE 120</b>	E/Load Control unit	16A/3KW	1 Pole	20 Amp	60 Amp	<b>440.00</b>
<b>DZ-LCUE 125</b>	E/Load Control unit	16A/3KW	1 Pole	25 Amp	60 Amp	<b>440.00</b>
<b>DZ-LCUE 132</b>	E/Load Control unit	16A/3KW	1 Pole	32 Amp	60 Amp	<b>440.00</b>



DZ-LCUE 116

**NEW**

## DISTRIBUTION BOARD ACCESSORIES

### INSULATED BUSBAR — 63AMP RATED AND BLANKS PRICE

<b>DZ47 1BB</b>	Pin Type Insulated	1 Meter - 54 Way	1 Phase	<b>120.00</b>
<b>DZ47 3BB</b>	Pin Type Insulated	1 Meter - 3 x 18 Way	3 Phase	<b>335.00</b>
<b>DB-001</b>	Clip in Blanking Strip	1 Module wide		<b>2.00</b>
<b>DB - DUMMY</b>	DIN Rail mount MCB dummy	1 Module wide		<b>5.00</b>
<b>EGAN ADAPTOR</b>	CONVERSION CLIP - Single 17mm wide with panel filler piece			<b>7.00</b>

### BRASS DOUBLE AND SINGLE ROW BARS - 1 METER LONG PRICE

	DESCRIPTION	SIZE	HOLE	SCREW	AMPERE	PRICE
<b>BRASS 1</b>	Single row	10mmx10mm	5mm	4mm	100A	<b>200.00</b>
<b>BRASS 2</b>	Double row	12mmx18mm	6mm	4,6mm	216A	<b>390.00</b>
<b>P-004</b>	Plastic Support for Double Row bar (PER PAIR)					<b>4.00</b>
<b>P-006</b>	Plastic Support for Single Row bar (PER PAIR)					<b>2.00</b>

### FLUSH MOUNTING DISTRIBUTION BOARD COVERS ONLY PRICE

<b>DB-12W-COVER</b>	12 Way Plastic Front Cover	<b>36.00</b>
<b>DB-15W-COVER</b>	15 Way Plastic Front Cover	<b>52.00</b>
<b>DB-18W-COVER</b>	18 Way Plastic Front Cover	<b>66.00</b>

### PLASTIC FLAPS FOR DISTRIBUTION BOARDS PRICE

<b>DB-12W-FLAP</b>	12 Way Plastic flap - Available Clear Smoke or Grey	<b>33.00</b>
<b>DB-15W-FLAP</b>	15 Way Plastic flap - Available Clear Smoke or Grey	<b>42.00</b>
<b>DB-18W-FLAP</b>	18 Way Plastic flap - Available Clear Smoke or Grey	<b>52.00</b>

### SURGE ARRESTORS WITH REPLACEMENT CARTRIDGES PRICE

<b>NU6-II-15</b>	<b>CHINT NU6-II-15 Surge Arrestor</b>	15kA	1,2kV	1 Pole	<b>465.00</b>
<b>NU6-II-40</b>	<b>CHINT NU6-II-40 Surge Arrestor</b>	40kA	1,2kV	2 Pole	<b>1 450.00</b>
<b>LYD1-D-1P</b>	<b>REYUN LYD1-1P Surge Arrestor</b>	5kA	1,3kV	1 Pole	<b>225.00</b>
<b>LYD1-D-1P&amp;N</b>	<b>REYUN LYD1-1P&amp;N Surge Arrestor</b>	5kA	1,3kV	1P & N	<b>450.00</b>

### PILOT DEVICES PRICE

<b>ND9-1/B</b>	Blue Indicator Light 230 Volt Din-Mount	<b>170.00</b>
<b>ND9-1/G</b>	Green Indicator Light 230 Volt Din-Mount	<b>170.00</b>
<b>ND9-1/R</b>	Red Indicator Light 230 Volt Din-Mount	<b>170.00</b>
<b>ND9-1/Y</b>	Yellow Indicator Light 230 Volt Din-Mount	<b>170.00</b>
<b>NP9-22/1 G</b>	Green Pushbutton 2NO/2NC 230 Volt Din-Mount	<b>165.00</b>
<b>NP9-22/2 R</b>	Red Pushbutton 2NO/2NC 230 Volt Din-Mount	<b>165.00</b>



DZ47 1BB



DZ47 3BB

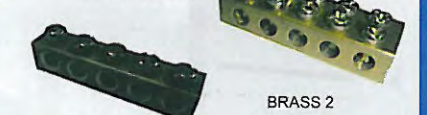


DB-DUMMY

CONVERSION CLIP



DB-001 BLANK



BRASS 1

BRASS 2



P-006

P-004



DB COVER ONLY



SMOKED FLAP

GREY FLAP



NU-6-II-15



LYD1-D-1P&N



NU-6-II-40



ND9-1/R

NP9-22/1

Above Prices do not include VAT

## DIN TYPE KILOWATT HOUR METERS AND READY BOARDS

Description Current Rating

### KILOWATT HOUR METERS-ANALOGUE

### PRICE

DDS666	KWH Meter - Surface mount 1 phase 230VAC 50Hz Dimensions : (H) 166mm x (W) 110mm x (D) 58mm	20(80A)	450.00
DEM015S	KWH Meter - Din mount 1 Phase 230VAC 50Hz Dimensions : (H) 96mm x (W) 26mm x (D) 63mm	10/63 Amp	725.00
DEM011	KWH Meter - Din mount 1 Phase 230VAC 50Hz Dimensions : (H) 88mm x (W) 75mm x (D) 73mm	20/80 Amp	501.00
DEM021	KWH Meter - Din mount 3 Phase 400VAC 50Hz Dimensions : (H) 88mm x (W) 125mm x (D) 73mm	20/80 Amp	1 950.00
DEM021-5A	KWH Meter - Din mount 3 Phase 400VAC 50Hz Dimensions : (H) 88mm x (W) 125mm x (D) 73mm For CT Connected meter calculate reading as per example : CT Ratio : 100/5 ÷ Factor 20 Take actual reading x 20	5 Amp CT 2,5va	1 950.00



DDS666



DEM015s



DEM011



DEM021

### KILOWATT HOUR METERS-DIGITAL

### PRICE

DEM015SN	KWH Meter-Din Mount 1 Phase 230VAC 50Hz Dimensions: (H) 96mm x (W) 26mm x (D) 63mm	60/100 Amp	975.00
DEM011D	KWH Meter-Din Mount 1 Phase 230VAC 50Hz Dimensions: (H) 88mm x (W) 75mm x (D) 73mm	60/100 Amp	659.00
DEM021D	KWH Meter-Din Mount 3 Phase 400VAC 50Hz Dimensions: (H) 88mm x (W) 125mm x (D) 73mm	60/100 Amp	2 350.00



DEM011D



DEM021D



DEM015SN

## LOAD CONTROL UNITS – THERMAL TYPE WITH INDICATION

Activates @125% FLC—Deactivates @ 85% FLC

### DZ47 LOAD CONTROL UNITS –17,5mm WIDE

### PRICE

	Description All ratings at 230V 50Hz	AC23 Rating of switch	No. of Poles	Current Rating	Max Current	PRICE
DZ-LCU 106	Load Control unit	3KW	1 Pole	6 Amp	10 Amp	280.00
DZ-LCU 110	Load Control unit	3KW	1 Pole	10 Amp	16 Amp	280.00
DZ-LCU 116	Load Control unit	3KW	1 Pole	16 Amp	25 Amp	280.00
DZ-LCU 120	Load Control unit	3KW	1 Pole	20 Amp	32 Amp	280.00
DZ-LCU 125	Load Control unit	3KW	1 Pole	25 Amp	40 Amp	280.00
DZ-LCU 132	Load Control unit	3KW	1 Pole	32 Amp	50 Amp	280.00



DZ-LCU116

## LOAD CONTROL UNITS – ELECTRONIC TYPE WITH INDICATION

Activates @120% FLC—Deactivates @ 80% FLC

### DZ47 ELECTRONIC CURRENT LIMITOR UNITS –34mm WIDE

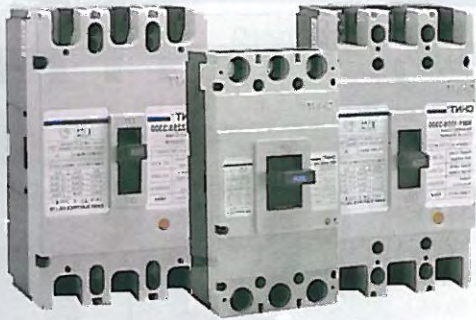
### PRICE

	Description All ratings at 230V 50Hz	AC23 Rating of switch	No. of Poles	Current Rating	Max Current	PRICE
DZ-LCUE 106	E/Load Control unit	16A/3KW	1 Pole	6 Amp	60 Amp	440.00
DZ-LCUE 110	E/Load Control unit	16A/3KW	1 Pole	10 Amp	60 Amp	440.00
DZ-LCUE 116	E/Load Control unit	16A/3KW	1 Pole	16 Amp	60 Amp	440.00
DZ-LCUE 120	E/Load Control unit	16A/3KW	1 Pole	20 Amp	60 Amp	440.00
DZ-LCUE 125	E/Load Control unit	16A/3KW	1 Pole	25 Amp	60 Amp	440.00
DZ-LCUE 132	E/Load Control unit	16A/3KW	1 Pole	32 Amp	60 Amp	440.00



DZ-LCUE 116

## LOAD BREAK SWITCH ( ISOLATORS )



In Accordance to IEC 60947-3 Standards

### Environmental Temperature

The upper temperature limit is +40°C

The lower temperature limit is 5°C

The average temperature in 24 hours shall not exceed +35°C

Maximum rated voltage = 690Volt AC 50 Hertz

### Diagram



NM1-125SI 100A



NM1-400SI 400A



NM1-800HI 800A

### Part Number

**NM1-125SI    NM1-250SI    NM1-250SI    NM1-400SI    NM1-630SI    NM1-800HI    NM1-1250HI**

### Rated Current ( A )

100A    160A, 225A    250A    400A    630A    800A    1000A , 1250A

### Let thru current

25 kA    25 kA    25kA    35 kA    35 kA    60 kA    65 kA

### Dimensions

#### Depth

#### Length

#### Width

63 mm	86 mm	86 mm	107 mm	160 mm	116 mm	141 mm
155 mm	165 mm	165 mm	270 mm	270 mm	280 mm	406 mm
90 mm	105 mm	105 mm	182 mm	182 mm	210 mm	210 mm

### Price

750.00    990.00    1 050.00    2 830.00    4 725.00    10 600.00    16 000.00

## NM1 "S" RANGE MOULDED CASE CIRCUIT BREAKERS



### Environmental Temperature

The upper temperature limit is +40°C  
 The lower temperature limit is 5°C  
 The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads and short circuits.  
 Suitable for industrial installation.  
 The breaker can be installed vertically or horizontally.

In Accordance to IEC 60947-2 Standards

### Diagram



NM1-125S



NM1-250S



NM1-400S



NM1-630S

### Part Number

**NM1-125S**

**NM1-250S**

**NM1-400S**

**NM1-630S**

### Rated Current ( A )

25A, 32A, 40A, 50A, 63A, 80A, 100A

125A, 150A, 160A, 175A, 200A, 225A, 250A

250A, 315A, 350A, 400A

450A, 500A, 630A

### Rated Operation Voltage ( V )

690 Volts

690 Volts

690 Volts

690 Volts

### Rated Ultimate short circuit breaking capacity ( Ka )

**25 kA**

**25 kA**

**35 kA**

**35 kA**

### Depth Length Width

63 mm

86 mm

107 mm(Was 104mm)

112 mm

155 mm

165 mm

257 mm(Was 258mm)

270 mm

90 mm

105 mm

150 mm(Was 140mm)

182 mm

### Price

**810.00**

**1 100.00**

**3 200.00**

**5 400.00**

### Performance Curve

Fig 1 NM1 63/10-32, NM1 125/16-32 Characteristic Curve

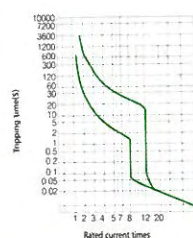


Fig 5 NM1 250 Characteristic Curve

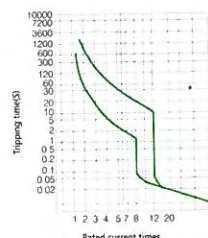


Fig 7 NM1 400 Characteristic Curve

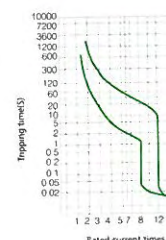
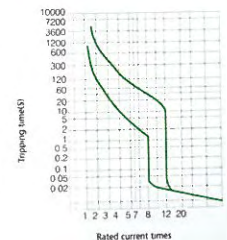
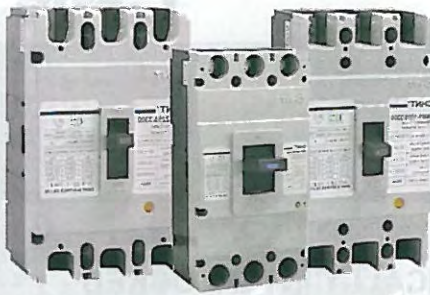


Fig 9 NM1 630, NM1 800 Characteristic Curve



Above Prices do not include VAT

## NM1 "S" RANGE MOULDED CASE CIRCUIT BREAKERS



### Environmental Temperature

The upper temperature limit is +40°C

The lower temperature limit is 5°C

The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads and short circuits. Suitable for industrial installation.

The breaker can be installed vertically or horizontally.

In Accordance to IEC 60947-2 Standards

### Diagram



### Part Number

NM1-125S

NM1-250S

NM1-400S

NM1-630S

### Rated Current ( A )

25A, 32A, 40A, 50A, 63A, 80A, 100A

125A, 150A, 160A, 175A, 200A, 225A, 250A

250A, 315A, 350A, 400A

450A, 500A, 630A

### Rated Operation Voltage ( V )

690 Volts

690 Volts

690 Volts

690 Volts

### Rated Ultimate short circuit breaking capacity ( Ka )

25 kA

25 kA

35 kA

35 kA

### Depth Length Width

63 mm  
155 mm  
90 mm

86 mm  
165 mm  
105 mm

107 mm(Was 104mm)  
257 mm(Was 258mm)  
150 mm(Was 140mm)

112 mm  
270 mm  
182 mm

### Price

810.00

1 100.00

3 200.00

5 400.00

### Performance Curve

Fig 1 NM1-63(10-32), NM1-125(16-32) Characteristic Curve

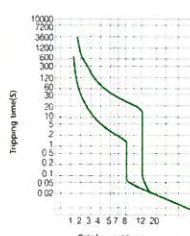


Fig 5 NM1-250 Characteristic Curve

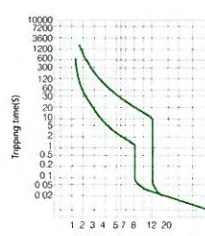


Fig 7 NM1-400 Characteristic Curve

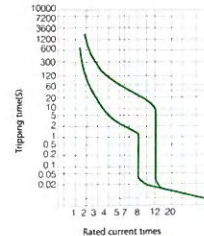
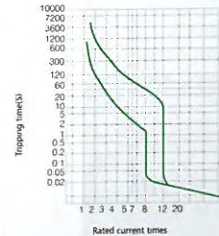
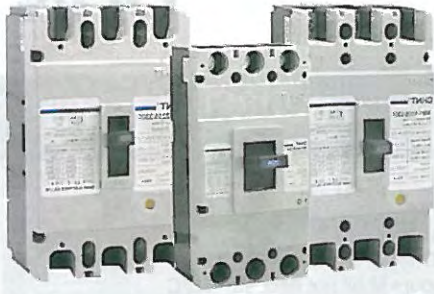


Fig 9 NM1-630, NM1-800 Characteristic Curve





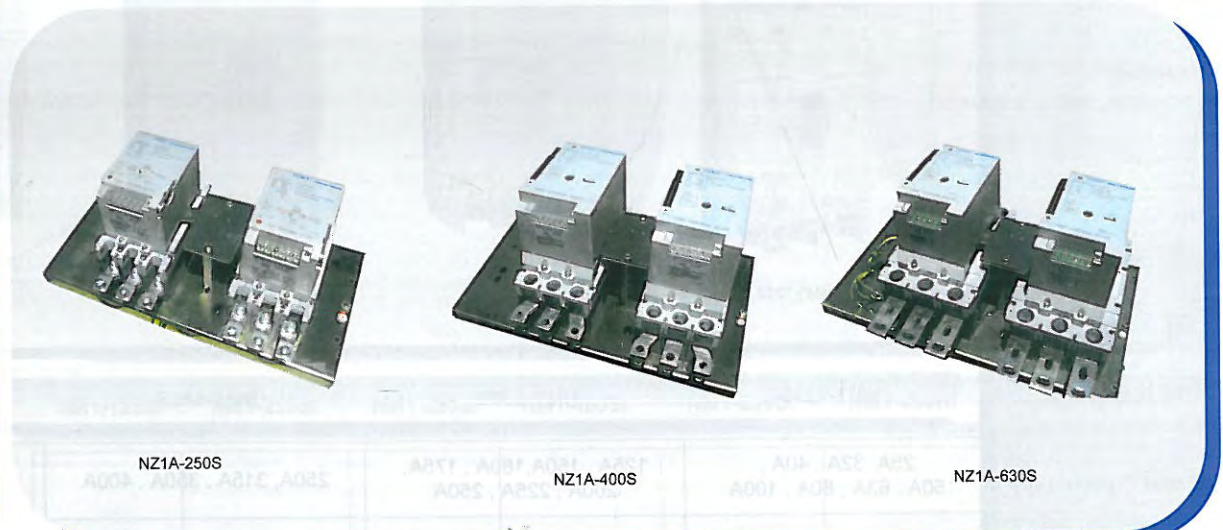
## NZ1A RANGE MOULDED CASE AUTOMATIC CHANGE-OVER CIRCUIT BREAKERS

**MOTORISED, MECHANICALLY INTERLOCKED CIRCUIT BREAKERS COMPRISING 2 MCCB's ON A BASE PLATE EACH FITTED WITH A MOTOR UNIT, 2 CHANGE-OVER AUXILLARIES .**

In Accordance to IEC 60947-2 Standards

### Application

For automated application to change from one power source to another.  
Suitable for industrial installation.  
2 units mounted on steel base plates



Part Number

**NZ1A-250S**

**NZ1A-400S**

**NZ1A-630S**

**NZ1A-800H**

MCCB Frame

NM1-250S

NM1-400S

NM1-630S

NM1-800H

Rated Current ( A )

125A , 160A , 200A , 225A , 250A

250A, 315A , 350A , 400A

500A , 630A

700A, 800A

Rated Motor Voltage ( V )

230 Volts

230 Volts

230 Volts

230 Volts

Rated Operation Voltage ( V )

690 Volts

690 Volts

690 Volts

690 Volts

Rated Ultimate short circuit breaking capacity ( kA )

**25 kA**

**35 kA**

**35 kA**

**60 kA**

Depth

205mm

280 mm

285 mm

AVAILABLE ON RE-  
QUEST

Length(left to right)

450mm

550 mm

600 mm

Width(Top to bottom)

220mm

330 mm

340 mm

Price

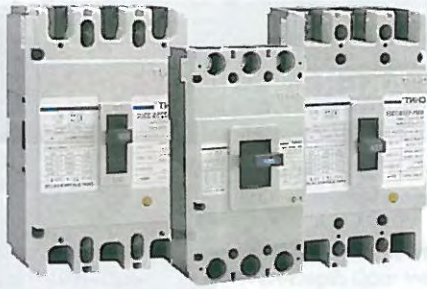
**18 480.00**

**29 040.00**

**34 980.00**

**55 440.00**

## NM1 "H" RANGE MOULDED CASE CIRCUIT BREAKERS



### Environmental Temperature

The upper temperature limit is +40°C

The lower temperature limit is 5°C

The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads and short circuits. Suitable for industrial installation.

The breaker can be installed vertically or horizontally.

In Accordance to IEC 60947-2 Standards

### Diagram



### Part Number

NM1-125H      M1-250H      NM1-400H      NM1-630H      NM1-800H      NM1-1250H

### Rated Current ( A )

16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A	125A, 160A, 200A, 225A, 250A	250A, 315A, 350A, 400A	500A, 630A	630A, 700A, 800A	1000A, 1250A
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### Rated Operation Voltage ( V )

690 Volts	690 Volts	690 Volts	690 Volts	690 Volts	690 Volts
-----------	-----------	-----------	-----------	-----------	-----------

### Rated Ultimate short circuit breaking capacity ( Ka )

50 kA (Ics=50% Icu)	50 kA (Ics=50% Icu)	50 kA (Ics=50% Icu)	50 kA (Ics=50% Icu)	60 kA (Ics=50% Icu)	65 kA (Ics=50% Icu)
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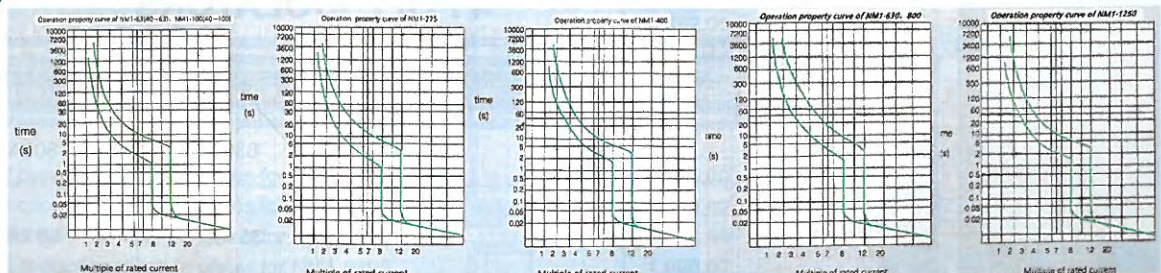
### Depth Length Width

87 mm	103 mm	107 mm	112 mm	116 mm	141 mm
155 mm	165 mm	257 mm	270 mm	280 mm	406 mm
90 mm	105 mm	150 mm	182 mm	210 mm	210 mm

### Price

1 235.00      2 050.00      5 200.00      5 975.00      10 900.00      17 000.00

### Performance Curve





## FOUR POLE MOULDED CASE CIRCUIT BREAKERS & ISOLATORS

### Environmental Temperature

The upper temperature limit is +40°C  
 The lower temperature limit is 5°C  
 The average temperature in 24 hours shall not exceed +35°C

### Operation

All poles switch but no overload trip mechanism on the neutral leg  
 Neutral opens when unit is switched OFF or TRIPS  
 The breaker can be installed vertically or horizontally.

In Accordance to IEC 60947-2 Standards

### Diagram



NM1-250H/4



NM1-400S/4



NM1-630S/4

### Part Number

NM1-125H/4    NM1-250H/4    NM1-400S/4    NM1-630S/4    NM1-800H/4    NM1-1250H/4

### Rated Current ( A )

16A, 20A, 25A, 32A, 40A, 50A, 63A, 80A, 100A	125A, 160A, 200A, 225A, 250A	250A, 315A, 350A, 400A	500A, 630A	630A, 700A, 800A	1000A, 1250A
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### Rated Operation Voltage ( V )

690 Volts	690 Volts	690 Volts	690 Volts	690 Volts	690 Volts
-----------	-----------	-----------	-----------	-----------	-----------

### Rated Ultimate short circuit breaking capacity (Icu)

50 kA (Ics=50% Icu)	50 kA (Ics=50% Icu)	35 kA (Ics=50% Icu)	35 kA (Ics=50% Icu)	60 kA (Ics=50% Icu)	65 kA (Ics=50% Icu)
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### Depth Length Width

86 mm	103 mm	104 mm	112 mm	109 mm	141 mm
155 mm	165 mm	257 mm	270 mm	276 mm	406 mm
120 mm	140 mm	198 mm	240 mm	280 mm	280 mm

### Price

1 450.00	2 300.00	5 500.00	7 700.00	22 000.00	P.O.A
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## 4 POLE ISOLATORS

NM1-125HI/4    NM1-250HI/4    NM1-400SI/4    NM1-630SI/4    NM1-800HI/4    NM1-1250HI/4

### Amperage

100A	160A, 250A	400A	630A	800A	1000A, 1250A
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### Let thru current

50 kA	50 kA	35 kA	35 kA	60 kA	65 kA
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1 455.00	2 355.00	4 650.00	6 900.00	P.O.A	P.O.A
----------	----------	----------	----------	-------	-------



**ACCESSORIES FOR NM1 RANGE**

**NM1-VDH-125S**  
**NM1-VDH-250S**  
**NM1-VDH-400S**  
**NM1-VDH-630S**  
**NM1-VDH-800H**  
**NM1-VDH-1250H**

VARI-DEPTH HANDLES WITH 300mm SHAFTS		PRICE
Vari-Depth Door Interlocked Handle with Shaft	NM1-125S	475.00
Vari-Depth Door Interlocked Handle with Shaft	NM1-250S	550.00
Vari-Depth Door Interlocked Handle with Shaft	NM1-400S	690.00
Vari-Depth Door Interlocked Handle with Shaft	NM1-630S	760.00
Vari-Depth Door Interlocked Handle with Shaft	NM1-800S	1 100.00
Vari-Depth Door Interlocked Handle with Shaft	NM1-1250S	2 700.00



VARI DEPTH HANDLE WITH 300mm SHAFT

**NM1-ST-125S**  
**NM1-ST-250S**  
**NM1-ST-400S**  
**NM1-ST-630S**  
**NM1-ST-800H**  
**NM1-ST-1250H**

SHUNT TRIPS		PRICE
Shunt Trip 110V / 230V / 400V / 550V	NM1-125S	375.00
Shunt Trip 110V / 230V / 400V / 550V	NM1-250S	425.00
Shunt Trip 110V / 230V / 400V / 550V	NM1-400S	825.00
Shunt Trip 110V / 230V / 400V / 550V	NM1-630S	900.00
Shunt Trip 110V / 230V / 400V / 550V	NM1-800H	1000.00
Shunt Trip 110V / 230V / 400V / 550V	NM1-1250H	1 275.00



NM1-ST-225S SHUNT TRIP

**NM1-AS-125S**  
**NM1-AS-250S**  
**NM1-AS-400S**  
**NM1-AS-630S**  
**NM1-AS-800R**  
**NM1-AS-1250R**

AUXILLARY CONTACTS		PRICE
1 NO & 1 NC Auxillary Contact for	NM1-125S	231.00
1 NO & 1 NC Auxillary Contact for	NM1-250S	250.00
1 NO & 1 NC Auxillary Contact for	NM1-400S	400.00
1 NO & 1 NC Auxillary Contact for	NM1-630S	465.00
1 NO & 1 NC Auxillary Contact for	NM1-800H	500.00
1 NO & 1 NC Auxillary Contact for	NM1-1250H	800.00



NM1-AS-225S AUXILLARY

**NM1-UVR-125S**  
**NM1-UVR-250S**  
**NM1-UVR-400S**  
**NM1-UVR-630S**  
**NM1-UVR-800R**  
**NM1-UVR-1250R**

UNDER VOLTAGE RELEASE		PRICE
Under Voltage Release 400V/525V	NM1-125S	700.00
Under Voltage Release 400V/525V	NM1-250S	800.00
Under Voltage Release 400V/525V	NM1-400S	1 100.00
Under Voltage Release 400V/525V	NM1-630S	1 150.00
Under Voltage Release 400V/525V	NM1-800H	1 300.00
Under Voltage Release 400V/525V	NM1-1250H	1 900.00



NM1-UVR-225S UNDER VOLTAGE RELEASE

**NM1-TC-250S**

SHROUDS ( TERMINAL COVER )		PRICE
Plastic Shroud	NM1-250S	118.00
<i>Price listed is for one cover ( Specify top or bottom cover )</i>		-



NM1-TC-225S SHROUD



NM1-KEY

**NM1-KEY**

KEY LOCKOUTS-KEY REMOVABLE IN BOTH POSITIONS		PRICE
Key lockout for NM1-250S up to NM1-1250H (Keyed alike)		462.00

**NM1-SB-125S**  
**NM1-SB-250S**  
**NM1-SB-400S**  
**NM1-SB-630S**  
**NM1-SB-800H**

COPPER CONNECTIONS PLATES-BOLTS NOT INCLUDED		PRICE
6 copper connection plates for NM1-125S		140.00
6 copper connection plates for NM1-250S		300.00
6 copper connection plates for NM1-400S		750.00
6 copper connection plates for NM1-630S		1 900.00
6 copper connection plates for NM1-800H		2 000.00



NM1-SB-225S

Above Prices do not include VAT



## ACCESSORIES FOR NM1 RANGE

NM1-ML-125S  
 NM1-ML-250S  
 NM1-ML-400S  
 NM1-ML-630S

### MECHANICAL INTERLOCK UNITS

#### PRICE

Panel or MCCB mounting mechanical Interlock for NM1-125S	675.00
Panel or MCCB mounting mechanical Interlock for NM1-250S	800.00
Panel or MCCB mounting mechanical Interlock for NM1-400S	950.00
Panel or MCCB mounting mechanical Interlock for NM1-630S	1 100.00



PANEL MOUNT MECHANICAL INTERLOCK

NM1-ST-125S  
 NM1-ST-250S  
 NM1-ST-400S  
 NM1-ST-630S  
 NM1-ST-800H  
 NM1-ST-1250H

### SHUNT TRIPS

#### PRICE

Shunt Trip	110V / 230V / 400V / 550V	NM1-125S	375.00
Shunt Trip	110V / 230V / 400V / 550V	NM1-250S	425.00
Shunt Trip	110V / 230V / 400V / 550V	NM1-400S	825.00
Shunt Trip	110V / 230V / 400V / 550V	NM1-630S	900.00
Shunt Trip	110V / 230V / 400V / 550V	NM1-800H	1 000.00
Shunt Trip	110V / 230V / 400V / 550V	NM1-1250H	1 275.00



SURFACE MOUNT MECHANICAL INTERLOCK

NM1-AS-125S  
 NM1-AS-250S  
 NM1-AS-400S  
 NM1-AS-630S  
 NM1-AS-800R  
 NM1-AS-1250R

### AUXILLARY CONTACTS

#### PRICE

1 NO & 1 NC Auxillary Contact for	NM1-125S	231.00
1 NO & 1 NC Auxillary Contact for	NM1-250S	250.00
1 NO & 1 NC Auxillary Contact for	NM1-400S	400.00
1 NO & 1 NC Auxillary Contact for	NM1-630S	465.00
1 NO & 1 NC Auxillary Contact for	NM1-800H	500.00
1 NO & 1 NC Auxillary Contact for	NM1-1250H	800.00

NM1-UVR-125S  
 NM1-UVR-250S  
 NM1-UVR-400S  
 NM1-UVR-630S  
 NM1-UVR-800R  
 NM1-UVR-1250R

### UNDER VOLTAGE RELEASE

#### PRICE

Under Voltage Release	400V	NM1-125S	700.00
Under Voltage Release	400V	NM1-250S	800.00
Under Voltage Release	400V	NM1-400S	1 100.00
Under Voltage Release	400V	NM1-630S	1 150.00
Under Voltage Release	400V	NM1-800H	1 300.00
Under Voltage Release	400V	NM1-1250H	1 900.00



NM1-UVR-225S UNDER VOLTAGE RELEASE

NM1-TC-125S  
 NM1-TC-250S  
 NM1-TC-400S

### SHROUDS ( TERMINAL COVER )

#### PRICE

Plastic Shroud	NM1-125S	-
Plastic Shroud	NM1-250S	118.00
Plastic Shroud	NM1-400S	-
<i>Price listed is for one cover ( Specify top or bottom cover )</i>		



NM1TC-225S SHROUD



NM1-KEY

NM1-KEY

### KEY LOCKOUTS-KEY REMOVABLE IN BOTH POSITIONS

#### PRICE

Key lockout for NM1-225S up to NM1-1250H (Keyed alike)	462.00
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NM1-MO-125S  
 NM1-MO-250S  
 NM1-MO-400S  
 NM1-MO-630S  
 NM1-MO-800H

### MOTORISED UNITS FOR NM1 RANGE OF MCCB'S

#### PRICE

230V Motor unit for open and closing functions	NM1-125S	T.B.A.
230V Motor unit for open and closing functions	NM1-250S	5 000.00
230V Motor unit for open and closing functions	NM1-400S	8 700.00
230V Motor unit for open and closing functions	NM1-630S	10 000.00
230V Motor unit for open and closing functions	NM1-800S	10 800.00



NM1-MO-400S

## NM6 ADJUSTABLE MOULDED CASE CIRCUIT BREAKERS



Accordance to IEC 60947-2 Standards

### Environmental Temperature

The upper temperature limit is +40°C  
 The lower temperature limit is 5°C  
 The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads and short circuits.  
 Suitable for industrial installation.  
 The breaker can be installed vertically or horizontally.

**Thermal Magnetic :** Range Adjustable from 0.8 x full load  
**Electronic :** Range Adjustable from 0.4 x of full load

### Diagram



### THERMAL MAGNETIC RELEASE ( ADJUSTABLE FROM 80% TO 100% )

#### Part Number

#### Amp Adjustment

#### Voltage ( V )

#### 440V Icu kA rating

#### Release Type

#### Dimensions

#### Price

	NM6-125S	NM6-160S	NM6-250S	NM6-400S	NM6-800S	NM6-800S	NM6-1250S	NM6-1600S
Part Number	100 - 125A	( 100 - 125A ) ( 128 - 160A )	( 160 - 200A ) ( 200 - 250A )	( 252 - 315A ) ( 320 - 400A )	( 400 - 500A ) ( 504 - 630A )	640 - 800A	( 800 - 1000A ) ( 1000 - 1250A )	1280 - 1600A
Amp Adjustment	400 / 690V	400 / 690V	400 / 690V	400 / 690V	400 / 690V	400 / 690V	400 / 690V	400 / 690v
Voltage ( V )	25kA Ics=12,5Ka	35kA Ics=25Ka	35kA Ics=25Ka	35kA Ics=25Ka	50kA Ics=37,5Ka	50kA Ics=37,5Ka	50kA Ics=37,5Ka	50kA Ics=37,5Ka
440V Icu kA rating	Thermal Mag- netic	Thermal Mag- netic	Thermal Mag- netic	Thermal Mag- netic	Thermal Mag- netic	Thermal Mag- netic	Thermal Mag- netic	Thermal Magnetic
Release Type	120x78x68 mm	120x90x68 mm	170x105x103m mm	254x140x103 mm	268x210x102 mm	268x210x102 mm	406x210x143 mm	406x210x143 mm
Dimensions	1 100.00	1 520.00	2 700.00	5 200.00	7 000.00	14 900.00	27 000.00	40 000.00
Price								

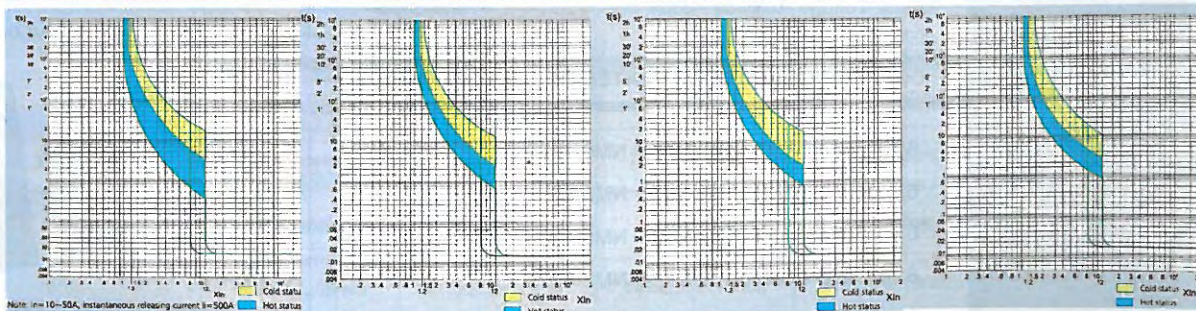
### NM6 TRIP CURVES

#### NM6-125S & 160S

#### NM6-250S

#### NM6-400S

#### NM6-1250S / 1600S



Above Prices do not include VAT



## ACCESSORIES FOR NM6 RANGE

- NM6-VDH-125S
- NM6-VDH-160S
- NM6-VDH-250S
- NM6-VDH-400S
- NM6-VDH-800H
- NM6-VDH-1250H
  
- NM6-ST-125S
- NM6-ST-160S
- NM6-ST-250S
- NM6-ST-400S
- NM6-ST-630S
- NM6-ST-800S
  
- NM6-AS-160S
- NM6-AS-250S
- NM6-AS-400S
- NM6-AS-630S
- NM6-AS-800S
  
- NM6-UVR-160S
- NM6-UVR-250S
- NM6-UVR-400S
- NM6-UVR-630S
- NM6-UVR-800S
  
- NM6-SB-125S
- NM6-SB-250S
- NM6-SB-400S
- NM6-SB-630S
- NM6-SB-800H
- NM6-SB-1250H

### VARI-DEPTH HANDLES PRICE

Description	Model	Price
Door Interlocked Handle with Shaft	NM6-125S	739.00
Door Interlocked Handle with Shaft	NM6-160S	759.00
Door Interlocked Handle with Shaft	NM6-250S	858.00
Door Interlocked Handle with Shaft	NM6-400S	924.00
Door Interlocked Handle with Shaft	NM6-630S/800H	1 023.00
Door Interlocked Handle with Shaft	NM6-1250S	1 056.00

### SHUNT TRIPS PRICE

Description	Model	Price
Shunt Trip 110V / 230V / 400V / 550V	NM6-125S	400.00
Shunt Trip 110V / 230V / 400V / 550V	NM6-160S	462.00
Shunt Trip 110V / 230V / 400V / 550V	NM6-250S	594.00
Shunt Trip 110V / 230V / 400V / 550V	NM6-400S	660.00
Shunt Trip 110V / 230V / 400V / 550V	NM6-630S	891.00
Shunt Trip 110V / 230V / 400V / 550V	NM6-800S	990.00

### AUXILLARY CONTACTS PRICE

Description	Model	Price
1 NO & 1 NC Auxillary Contact for	NM6-160S	211.00
1 NO & 1 NC Auxillary Contact for	NM6-250S	297.00
1 NO & 1 NC Auxillary Contact for	NM6-400S	343.00
1 NO & 1 NC Auxillary Contact for	NM6-630S	369.00
1 NO & 1 NC Auxillary Contact for	NM6-800S	369.00

### UNDER VOLTAGE RELEASE PRICE

Description	Model	Price
Under Voltage Release - 230V or 400Volt	NM6-160S	P.O.A
Under Voltage Release - 230V or 400Volt	NM6-250S	P.O.A
Under Voltage Release - 230V or 400Volt	NM6-400S	P.O.A
Under Voltage Release - 230V or 400Volt	NM6-630S	P.O.A
Under Voltage Release - 230V or 400Volt	NM6-800S	P.O.A

### COPPER CONNECTIONS PLATES-BOLTS NOT INCLUDED PRICE

Description	Price
6 copper connection plates for NM6-125S	112.00
6 copper connection plates for NM6-250S	400.00
6 copper connection plates for NM6-400S	520.00
6 copper connection plates for NM6-630S	1 075.00
6 copper connection plates for NM6-800H	1 175.00
6 copper connection pieces for NM6-1250H	4 100.00



VARI DEPTH HANDLE WITH 300mm SHAFT



NM6 SHUNT TRIP



NM6 AUXILLARY



NM6-Under Volt Release



NM6-630S Connection plates

Above Prices do not include VAT

## NM8 ADJUSTABLE MOULDED CASE CIRCUIT BREAKERS



Accordance to IEC 60947-2 Standards

### Environmental Temperature

The upper temperature limit is +40°C

The lower temperature limit is 5°C

The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads and short circuits.

Suitable for industrial installation.

The breaker can be installed vertically or horizontally.

**Thermal Magnetic :** Range Adjustable from 0.8 x full load

**Electronic :** Range Adjustable from 0.4 x of full load

### Diagram



### THERMAL MAGNETIC RELEASE ( ADJUSTABLE FROM 80% TO 100% )

	NM8-125S	NM8-250S	NM8-400S	NM8-630S	NM8-800S
<b>Part Number</b>					
<b>Amp Adjustment</b>	( 80 - 100A ) ( 100 - 125A )	( 128-160A ) ( 160-200A ) ( 200-250A )	( 252 - 315A ) ( 320 - 400A )	400 - 500A	640 - 800A
<b>Voltage ( V )</b>	400V / 690V	400V / 690V	400V / 690V	400V / 690V	400V / 690V
<b>440V Icu kA rating</b>	50 kA (Ics=Icu)	50 kA (Ics=Icu)	70 kA (Ics=Icu)	70 kA (Ics=Icu)	50 kA (Ics=50% Icu)
<b>Release Type</b>	Thermal Magnetic	Thermal Magnetic	Thermal Magnetic	Thermal Magnetic	Thermal Magnetic
<b>Dimensions</b>	90x140x79mm	105x157x88mm	140x255x113mm	140x255x113mm	210x370x196mm
<b>Price</b>	1 500.00	2 700.00	5 200.00	6 200.00	16 000.00

### ELECTRONIC RELEASE ( ADJUSTABLE FROM 40% TO 100% )

	NM8S-125S	NM8S-250S	NM8S-400S	NM8S-630S	NM8S-800S	NM8S-1250S
<b>Part Number</b>						
<b>Amp Adjustment</b>	50 - 125A	100 - 250A	160 - 400A	252 - 630A	320 - 800A	500 - 1250A
<b>Voltage ( V )</b>	400V / 690V	400V / 690V	400V / 690V	400V / 690V	400V / 690V	400V / 690V
<b>440v Icu kA rating</b>	50 kA (Ics=Icu)	50 kA (Ics=Icu)	70 kA (Ics=Icu)	70 kA (Ics=Icu)	50 kA (Ics=50% Icu)	50 kA (Ics=50% Icu)
<b>Release Type</b>	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
<b>Dimensions</b>	105x157x88mm	105x157x88mm	140x255x113mm	140x255x113mm	210x370x196mm	210x370x196mm
<b>Price</b>	4 600.00	5 600.00	7 200.00	8 400.00	19 000.00	24 000.00

Above Prices do not include VAT

## NM8 ADJUSTABLE EARTH LEAKAGE CIRCUIT BREAKERS



### Environmental Temperature

The upper temperature limit is +40°C  
 The lower temperature limit is 5°C  
 The average temperature in 24 hours shall not exceed +35°C

### Application

For protection and control of circuits against overloads, short circuits and earth-faults.  
 Suitable for industrial installation.  
 The breaker can be installed vertically

**Thermal Magnetic :** Range Adjustable from 0.8 x full load

### Diagram



NM8L-125S/3P 100A



NM8L-250S/3P 216A



NM8L-250S/3P 160A

### THERMAL MAGNETIC RELEASE ( ADJUSTABLE FROM 80% TO 100% )

### Part Number

NM8L-125S

NM8L-250S

NM8L-400S

NM8L-630S

NM8L-800S

### Amp Adjustment

(80-100A)

(128-160A) (160-200 A)  
(200-250A)

(252-315A)  
(320-400A)

400-500A

640-800A

### Voltage ( V )

400V / 750V

400V / 750V

400V / 750V

400V / 750V

400V / 750V

### 440V Icu kA rating

50 kA (Ics=Icu)

50 kA (Ics=Icu)

70 kA (Ics=Icu)

70 kA (Ics=Icu)

50 kA (Ics=Icu)

### Trip Time

0.1-0.3-0.5-1(s)

0.1-0.3-0.5-1(s)

0.1-0.3-0.5-1(s)

0.1-0.3-0.5-1(s)

0.1-0.3-0.5-1(s)

### Sensitivity Setting

50-100-200-500(mA)

50-100-200-500(mA)

50-100-200-500(mA)

50-100-200-500(mA)

50-100-200-500(mA)

### Release Type

Thermal Magnetic

Thermal Magnetic

Thermal Magnetic

Thermal Magnetic

Thermal Magnetic

### Dimensions

205x90x78mm

233x104x87mm

N/A

N/A

N/A

### Price

3 800.00

4 800.00

POA

POA

POA

## AIR CIRCUIT BREAKERS - FIXED & DRAW-OUT



**SANS 10142 Compliant**

### FEATURES

With intelligent, Selective and Earth Protection Trip Unit

Each breaker is supplied standard with :

- 2NO & 2NC Auxillaries

### Diagram

### Part Number

### Rated Current Range

Rated Ultimate short circuit Icu ( Ka )	400V
	690V

### Number of Poles

### Rated Voltage Ue ( V )

### Rated Insulation Voltage Ui ( V )

### Tripping Time

### Electrical Life Time

Mechanical Life Time	No Maintenance
	Maintenance

Installation Type	Horizontal
	Vertical

### Arcing Distance

### Versions



NA1-2000



NA1-3200

### NA1-2000

### NA1-3200

	NA1-2000	NA1-3200
Rated Current Range	( 252 - 630A ) ( 400 - 1000A ) ( 640 - 1600A ) ( 800 - 2000A )	( 1000 - 2500 ) ( 1280 - 3200A )
Rated Ultimate short circuit Icu ( Ka )	80 kA	80 kA
	50 kA	65 kA
Number of Poles	3 Pole	3 Pole
Rated Voltage Ue ( V )	400 , 690V	400 , 690V
Rated Insulation Voltage Ui ( V )	1000V	1000V
Tripping Time	23 ~ 32ms	23 ~ 32ms
Electrical Life Time	5000	5000
Mechanical Life Time	10 000	10 000
	20 000	20 000
Installation Type	Yes	Yes
	Yes	Yes
Arcing Distance	0 mm	0 mm
Versions	Fixed / Withdrawable	Fixed / Withdrawable

## AIR CIRCUIT BREAKERS - FIXED & DRAW-OUT



**SANS 10142 Compliant**

### FEATURES

With intelligent, Selective and Earth Protection Trip Unit

Each breaker is supplied standard with :

- 2NO & 2NC Auxillaries

Diagram

Part Number

Rated Current Range

Rated Ultimate short circuit Icu ( Ka )

400V  
690V

Number of Poles

Rated Voltage Ue ( V )

Rated Insulation Voltage Ui ( V )

Tripping Time

Electrical Life Time

Mechanical Life Time

No Maintenance  
Maintenance

Installation Type

Horizontal  
Vertical

Arcing Distance

Versions



NA1-4000



NA1-6300

NA1-4000

NA1-6300

	NA1-4000	NA1-6300
Rated Current Range	1600 - 4000A	2520 - 6300A
Rated Ultimate short circuit Icu ( Ka )	80 kA	120 kA
	65 kA	85 kA
Number of Poles	3 Pole	3 Pole
Rated Voltage Ue ( V )	400 , 690V	400 , 690V
Rated Insulation Voltage Ui ( V )	1000V	1000V
Tripping Time	23 ~ 32ms	23 ~ 32ms
Electrical Life Time	5000	2500
Mechanical Life Time	10 000	5 000
	20 000	10 000
Installation Type	Yes	Yes
	Yes	Yes
Arcing Distance	0 mm	0 mm
Versions	Fixed / Withdrawable	Fixed / Withdrawable

Refer to Page 77 for Pricing

## AIR CIRCUIT BREAKERS - FIXED AND DRAW-OUT

Description	Rated Current	Short Circuit Icu	Current Range Amps
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### AIR CIRCUIT BREAKER - FIXED TYPE

### PRICE

NA1-2000F 630A	Fixed Air Circuit Breaker	630A	80kA	252 - 630A	24 000.00
NA1-2000F 1000A	Fixed Air Circuit Breaker	1000A	80kA	400 - 1000A	24 500.00
NA1-2000F 1600A	Fixed Air Circuit Breaker	1600A	80kA	640 - 1600A	25 750.00
NA1-2000F 2000A	Fixed Air Circuit Breaker	2000A	80kA	800 - 2000A	30 500.00
NA1-3200F 2500A	Fixed Air Circuit Breaker	2500A	80kA	1000 - 2500A	41 000.00
NA1-3200F 3200A	Fixed Air Circuit Breaker	3200A	100kA	1280 - 3200A	46 675.00
NA1-4000F 4000A	Fixed Air Circuit Breaker	4000A	100kA	1600 - 4000A	59 500.00

### AIR CIRCUIT BREAKER - WITHDRAWABLE TYPE

### PRICE

NA1-2000W 630A	Draw-Out Air Circuit Breaker	630A	80kA	252 - 630A	34 000.00
NA1-2000W 1000A	Draw-Out Air Circuit Breaker	1000A	80kA	400 - 1000A	34 650.00
NA1-2000W 1600A	Draw-Out Air Circuit Breaker	1600A	80kA	640 - 1600A	35 300.00
NA1-2000W 2000A	Draw-Out Air Circuit Breaker	2000A	80kA	800 - 2000A	40 000.00
NA1-3200W 2500A	Draw-Out Air Circuit Breaker	2500A	80kA	1000 - 2500A	54 000.00
NA1-3200W 3200A	Draw-Out Air Circuit Breaker	3200A	100kA	1280 - 3200A	57 500.00
NA1-4000W 4000A	Draw-Out Air Circuit Breaker	4000A	100kA	1600 - 4000A	98 000.00
NA1-6300W 6300A	Draw-Out Air Circuit Breaker	6300A	120kA	2520 - 6300A	165 000.00

### ACCESSORIES

### PRICE

NA1-AST-110V	Shunt Trip	110VAC	NA1-2000 to NA1-6300	960.00
NA1-AST-230V	Shunt Trip	230VAC	NA1-2000 to NA1-6300	960.00
NA1-AST-400V	Shunt Trip	400VAC	NA1-2000 to NA1-6300	960.00
NA1-BUV-110V	Under Voltage Release	110VAC	NA1-2000 to NA1-6300	1 080.00
NA1-BUV-230V	Under Voltage Release	230VAC	NA1-2000 to NA1-6300	1 080.00
NA1-BUV-400V	Under Voltage Release	400VAC	NA1-2000 to NA1-6300	1 080.00
NA1-CAS-44	Auxillary Switch	4NO + 4NC	NA1-2000 to NA1-6300	1 140.00
NA1-DEM-2000	Electric Motor for Automatic closing	230VAC	NA1-2000	3 240.00
NA1-DEQ- 2000	Electric Motor for Automatic closing	400VAC	NA1-2000	3 240.00
NA1-DEM-6300	Electric Motor for Automatic closing	230VAC	NA1-3200/6300	3 600.00
NA1-ECEM-230V	Closing Electromagnet	230V	NA1-2000 to NA1-6300	1 080.00
NA1-ECEM-400V	Closing Electromagnet	400V	NA1-2000 to NA1-6300	1 080.00
NA1-FMI	Mechanical Cable Interlock		NA1-2000 to NA1-6300	4 100.00
NA1-KEY	Key Lock	3 Locks + 2 Keys	NA1-2000 to NA1-6300	5 500.00

*Padlockable devise to lock ON and OFF buttons*



NA1-2000F 1000A



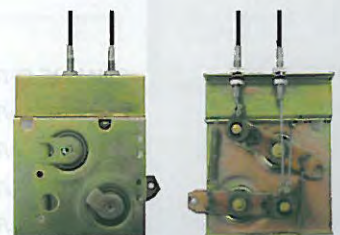
NA1-AST-400V



NA1-BUV-400V



NA1-DEM-2000



NA1-FMI



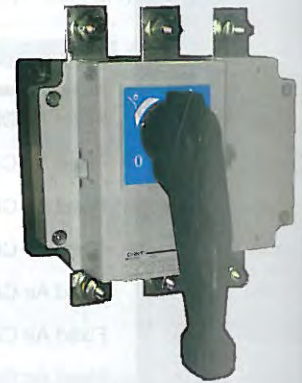
NA1-KEY

Above Prices do not include VAT

## SWITCH DISCONNECTORS AND CHANGE-OVER SWITCHES

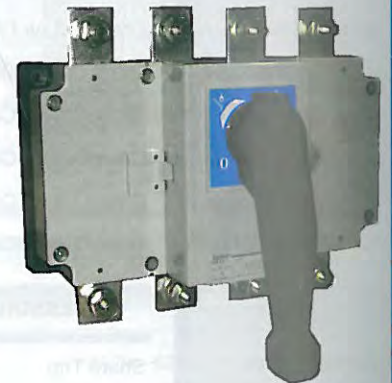
In Accordance to IEC 60947-3

Part Number	Description	AC22			3 POLE	4 POLE
		380V	660V	400V		
<b>3 &amp; 4 POLE ON/OFF ISOLATORS WITH HANDLES</b>						
NH40-125/3	ON / OFF ISOLATOR	125 Amp	100 Amp	63 KW	1 050.00	1 750.00
NH40-160/3	ON / OFF ISOLATOR	160 Amp	100 Amp	80 KW	1 100.00	1 800.00
NH40-200/3	ON / OFF ISOLATOR	200 Amp	160 Amp	100 KW	1 800.00	2 300.00
NH40-250/3	ON / OFF ISOLATOR	250 Amp	160 Amp	132 KW	1 900.00	2 500.00
NH40-315/3	ON / OFF ISOLATOR	315 Amp	200 Amp	160 KW	2 700.00	3 500.00
NH40-400/3	ON / OFF ISOLATOR	400 Amp	250 Amp	220 KW	2 800.00	3 600.00
NH40-630/3	ON / OFF ISOLATOR	630 Amp	315 Amp	315 KW	P.O.A	P.O.A
NH40-1000/3	ON / OFF ISOLATOR	1000 Amp	1000 Amp	450 KW	P.O.A	P.O.A
NH40-1250/3	ON / OFF ISOLATOR	1250 Amp	1250 Amp	450 KW	P.O.A	P.O.A
NH40-1600/3	ON / OFF ISOLATOR	1600 Amp	1600 Amp	450 KW	P.O.A	P.O.A



NH40-400/3

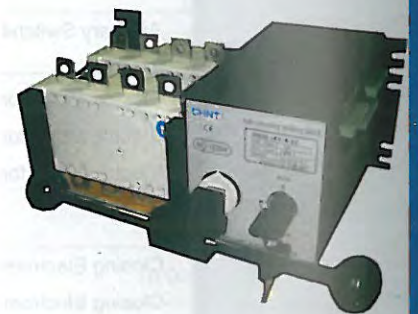
Part Number	Description	AC22			AC23	PRICE
		380V	660V	400V		
<b>4 POLE MANUAL CHANGE-OVER ISOLATORS</b>						
NH40S-125/4	CHANGE-OVER SWITCH	125 Amp	100 Amp	63 KW	2 800.00	
NH40S-160/4	CHANGE-OVER SWITCH	160 Amp	100 Amp	80 KW	2 900.00	
NH40S-200/4	CHANGE-OVER SWITCH	200 Amp	160 Amp	100 KW	3 500.00	
NH40S-250/4	CHANGE-OVER SWITCH	250 Amp	160 Amp	132 KW	3 500.00	
NH40S-315/4	CHANGE-OVER SWITCH	315 Amp	200 Amp	160 KW	6 000.00	
NH40S-400/4	CHANGE-OVER SWITCH	400 Amp	250 Amp	220 KW	6 800.00	
NH40S-630/4	CHANGE-OVER SWITCH	630 Amp	315 Amp	315 KW	P.O.A	
NH40S-1000/4	CHANGE-OVER SWITCH	1000 Amp	800 Amp	450 KW	P.O.A	
NH40S-1250/4	CHANGE-OVER SWITCH	1250 Amp	800 Amp	450 KW	P.O.A	
NH40S-1600/4	CHANGE-OVER SWITCH	1600 Amp	800 Amp	450 KW	P.O.A	



NH40-400/4

**ONLY ABOVE NH40S C/O SWITCHES INCLUDE 260MM SHAFT**

Part Number	Description	Motor Voltage	AC22			AC23	PRICE
			at 380V	at 660V	at 400v		
<b>4 POLE MOTORISED AUTOMATIC CHANGE-OVER SWITCH</b>							
NH40SZ-125/4	CHANGE OVER	230 v	125 Amp	100 Amp	63 KW	12 500.00	
NH40SZ-160/4	CHANGE OVER	230 v	160 Amp	100 Amp	80 KW	14 750.00	
NH40SZ-200/4	CHANGE OVER	230 v	200 Amp	160 Amp	100 KW	15 000.00	
NH40SZ-250/4	CHANGE OVER	230 v	250 Amp	160 Amp	132 KW	17 000.00	
NH40SZ-315/4	CHANGE OVER	230 v	315 Amp	200 Amp	160 KW	19 500.00	
NH40SZ-400/4	CHANGE OVER	230 v	400 Amp	250 Amp	220 KW	25 900.00	
NH40SZ-630/4	CHANGE OVER	230 v	630 Amp	315 Amp	315 KW	P.O.A	
NH40SZ-1000/4	CHANGE OVER	230 v	1000 Amp	800 Amp	450 KW	P.O.A	
NH40SZ-1250/4	CHANGE OVER	230 v	1250 Amp	800 Amp	450 KW	P.O.A	
NH40SZ-1600/4	CHANGE OVER	230 v	1600 Amp	800 Amp	450 KW	P.O.A	



NH40SZ-200/4

Above Prices do not include VAT

## PANEL METERS

**ALL 96MM SQUARE METERS ARE NOW AVAILABLE WITH RED, WHITE OR BLUE BEZELS . PLEASE SPECIFY WHEN ORDERING.**

Part Number	Dimensions	Description	Amperage Voltage	PRICE
<b>AC AMMETERS CT OPERATED 5 AMPERE 90° Movement</b>				
NP72-A5 50A	72 x 72mm	0/ 50A 5A CT Operated with 100% overscale		138.00
NP72-A5 75A	72 x 72mm	0/ 75A 5A CT Operated with 100% overscale		138.00
NP72-A5 100A	72 x 72mm	0/100A 5A CT Operated with 100% overscale		138.00
NP72-A5 150A	72 x 72mm	0/150A 5A CT Operated with 100% overscale		138.00
NP72-A5 200A	72 x 72mm	0/200A 5A CT Operated with 100% overscale		138.00
NP72-A5 250A	72 x 72mm	0/250A 5A CT Operated with 100% overscale		138.00
NP72-A5 300A	72 x 72mm	0/300A 5A CT Operated with 100% overscale		138.00
NP72-A5 400A	72 x 72mm	0/400A 5A CT Operated with 100% overscale		138.00
NP72-A5 500A	72 x 72mm	0/500A 5A CT Operated with 100% overscale		138.00
NP96-A5 250A	96 x 96mm	0/250A 5A CT Operated with 100% overscale		138.00
NP96-A5 500A	96 x 96mm	0/500A 5A CT Operated with 100% overscale		138.00
NP96-A5 750A	96 x 96mm	0/750A 5A CT Operated with 100% overscale		138.00
NP96-A5 800A	96 x 96mm	0/800A 5A CT Operated with 100% overscale		138.00
NP96-A5 1000A	96 x 96mm	0/1000A 5A CT Operated with 100% overscale		138.00
<b>AC AMMETERS DIRECT READING 90° Movement</b>				
NP48-AD10 10/20A	48 x 48mm	Direct Reading AC Ammeter	10 Amp	171.00
NP48-AD20 20/40A	48 x 48mm	Direct Reading AC Ammeter	20 Amp	171.00
NP72-AD10 10/20A	72 x 72mm	Direct Reading AC Ammeter	10 Amp	165.00
NP72-AD20 20/40A	72 x 72mm	Direct Reading AC Ammeter	20 Amp	165.00
NP72-AD25 25/50A	72 x 72mm	Direct Reading AC Ammeter	25 Amp	165.00
NP72-AD30 30/60A	72 x 72mm	Direct Reading AC Ammeter	30 Amp	165.00
NP96-AD10 10/20A	96 x 96mm	Direct Reading AC Ammeter	10 Amp	165.00
NP96-AD20 20/40A	96 x 96mm	Direct Reading AC Ammeter	20 Amp	165.00
NP96-AD25 25/50A	96 x 96mm	Direct Reading AC Ammeter	25 Amp	165.00
NP96-AD30 30/60A	96 x 96mm	Direct Reading AC Ammeter	30 Amp	165.00
<b>AC VOLTMETERS 90° Movement</b>				
NP48-V3 300V	48 x 48mm	AC Voltmeter	300V	191.00
NP48-V5 500V	48 x 48mm	AC Voltmeter	500V	191.00
NP48-V6 600V	48 x 48mm	AC Voltmeter	600V	191.00
NP72-V3 300V	72 x 72mm	AC Voltmeter	300V	158.00
NP72-V5 500V	72 x 72mm	AC Voltmeter	500V	158.00
NP72-V6 600V	72 x 72mm	AC Voltmeter	600V	158.00
NP96-V3 300V	96 x 96mm	AC Voltmeter	300V	158.00
NP96-V5 500V	96 x 96mm	AC Voltmeter	500V	158.00
NP96-V6 600V	96 x 96mm	AC Voltmeter	600V	158.00



NP-72 A



NP72-AD20A



NP72-V3 0-500A

Above Prices do not include VAT

## CURRENT TRANSFORMERS AND PANEL METERS

# CHNT

### Part Number

BH-0.66-3 - 75/5  
 BH-0.66-3 - 100/5  
 BH-0.66-3 - 150/5  
 BH-0.66-3 - 200/5  
 BH-0.66-3 - 250/5  
 BH-0.66-4 - 300/5  
 BH-0.66-5 - 400/5  
 BH-0.66-5 - 500/5  
 BH-0.66-5 - 600/5  
 BH-0.66-8 - 750/5  
 BH-0.66-8 - 800/5  
 BH-0.66-8 - 1000/5  
 BH-0.66-10 - 1000/5  
 BH-0.66-10 - 1500/5  
 BH-0.66-10 - 2000/5

### CURRENT TRANSFORMERS—CLASS 1 ACCURACY

				PRICE
75A / 5Amp	Current Transformer	30mm Ø ID	2,5va	99.00
100A / 5Amp	Current Transformer	30mm Ø ID	5va	99.00
150A / 5Amp	Current Transformer	30mm Ø ID	2,5va	99.00
200A / 5Amp	Current Transformer	30mm Ø ID	5va	99.00
250A / 5Amp	Current Transformer	30mm Ø ID	5va	99.00
300A / 5Amp	Current Transformer	40mm Ø ID	5va	115.00
400A / 5Amp	Current Transformer	50mm Ø ID	5va	125.00
500A / 5Amp	Current Transformer	50mm Ø ID	10va	140.00
600A / 5Amp	Current Transformer	50mm Ø ID	10va	140.00
750A / 5Amp	Current Transformer	80mm Ø ID	10va	180.00
800A / 5Amp	Current Transformer	80mm Ø ID	10va	180.00
1000A / 5Amp	Current Transformer	80mm Ø ID	10va	211.00
1000A / 5Amp	Current Transformer	100mm Ø ID	10va	245.00
1500A / 5Amp	Current Transformer	100mm Ø ID	20va	260.00
2000A / 5Amp	Current Transformer	100mm Ø ID	20va	290.00



BH-0.66-3 250/5



BH-0.66-3 600/5

HM-1-48 12DC  
 HM-1-48 24DC  
 HM-1-48 24AC  
 HM-1-48 110AC  
 HM-1-48 230AC  
 HM-1-48-400AC

### RUNNING HOUR METERS

				PRICE
48 x 48mm	Running Hour Meter	12V DC		160.00
48 x 48mm	Running Hour Meter	24V DC		160.00
48 x 48mm	Running Hour Meter	24V AC		160.00
48 x 48mm	Running Hour Meter	110V AC		160.00
48 x 48mm	Running Hour Meter	230V AC		160.00
48 x 48mm	Running Hour Meter	400V AC		160.00

HM-1-72  
 FRAME

72 x 72mm Plastic frame to convert 48mm to 72mm **39.00**



Counter with 72mm frame

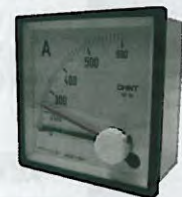


HM-1-48-230AC

### MAXIMUM DEMAND AMMETERS - 15 minute delay

			PRICE
96 x 96mm	5A Maximum Demand Ammeter		565.00
96 x 96mm	5A Maximum Demand Ammeter		565.00
96 x 96mm	5A Maximum Demand Ammeter		565.00
96 x 96mm	5A Maximum Demand Ammeter		565.00
96 x 96mm	5A Maximum Demand Ammeter		565.00

NP96-MD 500:5  
 NP96-MD 800:5  
 NP96-MD 1000:5  
 NP96-MD 1500:5  
 NP96-MD 2000:5



NP96 MAXIMUM DEMAND

### MAXIMUM DEMAND & INSTANT AMMETERS - 15 minute delay

			PRICE
96 x 96mm	5A Maximum Demand Ammeter + Instantaneous		580.00
96 x 96mm	5A Maximum Demand Ammeter + Instantaneous		580.00
96 x 96mm	5A Maximum Demand Ammeter + Instantaneous		580.00
96 x 96mm	5A Maximum Demand Ammeter + Instantaneous		580.00
96 x 96mm	5A Maximum Demand Ammeter + Instantaneous		580.00

NP96-MDI 500:5  
 NP96-MDI 800:5  
 NP96-MDI 1000:5  
 NP96-MDI 1500:5  
 NP96-MDI 2000:5



NP96 MAXIMUM DEMAND & INSTANTANEOUS

### FREQUENCY METERS—POINTER TYPE

			PRICE
72 x 72mm	45 - 55Hz Pointer Type	110V	300.00
72 x 72mm	45 - 55Hz Pointer Type	230V	300.00
72 x 72mm	45 - 55Hz Pointer Type	400V	300.00
96 x 96mm	45 - 55Hz Pointer Type	110V	300.00
96 x 96mm	45 - 55Hz Pointer Type	230V	300.00
96 x 96mm	45 - 55Hz Pointer Type	400V	300.00

FMP72 110V  
 FMP72 230V  
 FMP72 400V

FMP96 110V  
 FMP96 230V  
 FMP96 400V



FMP72 POINTER TYPE

Above Prices do not include VAT



## PRESSURE , FIREMAN & TIME SWITCHES

Part Number

### FIREMAN SWITCH—IP65 NO. OF POLES AC23 AMP PRICE

Part Number	Description	No. of Poles	AC23 AMP	PRICE
FS220	Metal Fireman Switch	2	20 Amp	P.O.A
FS420	Metal Fireman Switch	4	20 Amp	P.O.A
FS232	Metal Fireman Switch	2	32 Amp	P.O.A
FS432	Metal Fireman Switch	4	32 Amp	P.O.A
FS263	Metal Fireman Switch	2	63 Amp	P.O.A
FS463	Metal Fireman Switch	4	63 Amp	P.O.A



FS220

### PRESSURE SWITCH PRICE

Bar Min Max	Phase	Ith	KW AC3	Contact	Pipe Thread	Auto-Off Switch	PRICE
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#### Direct Motor Switching

MDR2/6	1.5 - 7.0	1 Ph	20A	2.2KW	2N/C	1/4"BSP	No	P.O.A
MDR2/11	4.0 - 12.0	1 Ph	20A	2.2KW	2N/C	1/4"BSP	No	P.O.A
MDR2/11EA	4.0 - 12.0	1 Ph	20A	2.2KW	2N/C	1/4"BSP	Yes	P.O.A
MDR4/6	1.5 - 6.0	3 Ph	16A	5.5KW	3N/C	1/2"BSP	No	P.O.A
MDR4/6EA4	1.5 - 6.0	3 Ph	16A	5.5KW	3N/C	1/2"BSP	Yes	P.O.A
MDR4/11	4.0 - 11.0	3 Ph	16A	5.5KW	3N/C	1/2"BSP	No	P.O.A
MDR4/11EA4	4.0 - 11.0	3 Ph	16A	5.5KW	3N/C	1/2"BSP	Yes	P.O.A
MDR5/8	2.0 - 8.0	3 Ph	16A	5.5KW	3N/C	1/2"BSP	No	P.O.A

Unloader Valve NOT Supplied

MDR5/16	2.5 - 16.0	3 Ph	25A	5.5KW	3N/C	1/2"BSP	No	P.O.A
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To Specify if Unloader Valve is Required  
To Specify if Overload Required and Amperage of Overload

#### Control Circuit Switching

MDR43/3	0.5 - 3.0	1NO & 1NC Contact		1/4" BSP	P.O.A
MDR43/6	2.5 - 6.0	1NO & 1NC Contact		1/4" BSP	P.O.A
MDR43/11	5.0 - 11	1NO & 1NC Contact		1/4" BSP	P.O.A
MDR43/16	8.0 - 16	1NO & 1NC Contact		1/4" BSP	P.O.A

### TIME SWITCHES PRICE

Time Range	Minimum Setting	Working Reserve	No of Program	Contact Rating AC1	PRICE
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#### Mechanical Time 230 Volt

AD	1 x 24 Hour	15 Minute	-	-	16 Amp	P.O.A
AQRD	1 x 24 Hour	15 Minute	100 Hours	-	16 Amp	P.O.A
AS	1 x 7 Day	2 Hours	-	-	16 Amp	P.O.A
AQRS	1 x 7 Day	2 Hours	100 Hours	-	16 Amp	P.O.A
SD	1 x 24 Hour	30 Minute	-	-	16 Amp	P.O.A
SQRD	1 x 24 Hour	30 Minute	100 Hours	-	16 Amp	P.O.A
SS	1 x 7 Day	4 Hours	-	-	16 Amp	P.O.A
SQRS	1 x 7 Day	4 Hours	100 Hours	-	16 Amp	P.O.A
UD	1 x 24 Hour	15 Minute	-	-	16 Amp	P.O.A
UQRD	1 x 24 Hour	15 Minute	100 Hours	-	16 Amp	P.O.A

#### Digital Time Switches-230 Volt AC

DATALOG1	1 x 24 Hr / 7 Day	1 Sec	5 Years	50 on / 50 off	16 Amp	P.O.A
DATALOG2	1 x 24 Hr / 7 Day	1 Sec	5 Years	50 on / 50 off	16 Amp	P.O.A
TH-857-2	1 x 24 Hr / 7 Day	1 Min	5 Years	9 on / 9 off	16 Amp	P.O.A



MDR2/6



MDR43/3



UD

Above Prices do not include VAT

Be wise  
Generate  
your own



## SOLAR WATER HEATERS-LOW PRESSURE TYPE



TK-1 Solar Geyser 240lt R 10 000.00  
TK-1A as above no controller R 8 950.00

TK-2 Solar Geyser 180lt R 9 375.00  
TK-2A as above no controller R 8 325.00

TK-3 Solar Geyser 100lt R 6 000.00  
TK-3A as above no controller R 4 950.00








## INTRODUCTION OF THE SOLAR GEYSER

The demand of everyday electricity in South Africa has increased substantially in the last few years. This has created a need for cost effective, reliable methods of power saving. Solar Geysers are the way of the future.

After intense investigations of several manufacturers of solar water heaters we are now in a position to offer high quality solar water heaters at a competitive prices and still maintaining the best high quality standards for these products.

**What We Offer:** The three models are available in 240LT(6 to 10 persons),180LT(4 to 6 persons) and 100LT (1 to 3 persons) tanks. The tubes are made of an advanced super-conductive double-glazed tempered glass. The internal water tanks are made of high-grade stainless steel. The standard diameter and length for the thermal tubes is 80mmx1810mm. The tubes are hail and frost resistant. The digital controller is fully adjustable to meet the clients requirements and include water temperature and tank-capacity read-outs. The solar geyser is supplied in an easy to assemble Kit-form. Save up to 40% on your current electricity bill

## SOLAR GEYSER ACCESSORIES AND SPARES

Item	Part Number	Specifications	Price
	TK-7 Temperature Controller	Digital-Touch Pad - 230Volt	758.00
	TK-8 Solenoid	Cold Water Solenoid Valve	435.00
	TK-9 Heating Element	1 500 watt Element	435.00
	TK-10 Rubber Plug	80mm Plug for Tanks	75.00
	TK-11 Probe and Cable	Heat-Sensor Probe	525.00
	TK-12 Glass Tubes	1810mmx80mm Tubes	180.00
	TK-13 Booster Pump	230Volt 95 Watt Pump	2 700.00

## RATED MOTOR CURRENT CONVERSION TABLE

**RATED POWER**

**3 PHASE 4 POLE MOTORS 50 - 60 Hz**

**STAR DELTA FLC X 0.58**

KW	HP	230V	400V	500V	400V	440V	500V
0.37	0.5	2.9A	0.98A	0.79A	-	-	-
0.55	0.75	4.6A	1.5A	1.2A	-	-	-
0.75	1	5.7A	1.9A	1.5A	-	-	-
1.1	1.5	7.3A	2.4A	2.1A	-	-	-
1.5	2	9.9A	3.3A	2.7A	-	-	-
2.2	3	14.4A	4.7A	4.8A	-	-	-
3	4	19.1A	6.2A	5.1A	-	-	-
4	5.5	24A	8.1A	6.4A	4.6A	4.3A	3.78A
5.5	7.5	33A	10.9A	9.1A	6.4A	6.1A	5.37A
7.5	10	44.7A	14.7A	11.7A	8.5A	7.8A	6.8A
10	13.5	57.3A	19A	15.2A	10.9A	10A	8.8A
11	15	65A	20.9A	17.7A	12.2A	11.7A	10.3A
15	20	86.1A	28.5A	23.3A	16.5A	15.4A	13.5A
18.5	25	106.1A	35.5A	28.8A	20.4A	19A	16.7A
22	30	124.3A	41.8A	34.3A	24.2A	22.6A	19.8A
30	40	170.3A	57A	48.4A	33A	31.9A	28A
37	50	208.5A	68.4A	56.3A	39.5A	37A	32.5A
45	60	242.9A	80.7A	66.8A	46.6A	43.9A	38.6A
55	75	301.3A	99.7A	79.2A	57.6A	52A	45.7A
75	100	396A	131.1A	110A	76A	72.2A	63.5A
90	125	-	161.5A	128.4A	93A	84A	73.9A
110	150	-	194.7A	156.6A	112.1A	102A	89.7A
132	180	-	232.7A	189.2A	134.4A	124A	109.1A
160	220	-	285A	225.2A	164.5A	147.8A	130A
200	270	-	351.5A	282.4A	203A	185A	162.8A
220	300	-	389A	311A	225.6A	204.7A	180.3A
250	340	-	442A	353A	256A	233A	205A
315	430	-	551A	440A	319A	290A	255A
355	480	-	617A	490A	358A	325A	284A
375	500	-	660A	530A	383A	339A	307A
425	580	-	742A	594A	430A	391A	344A

## DEGREE OF PROTECTION - IP RATING

**1st Numeral Digit**  
Protection Against contact + penetration of solid bodies

1	Protection against solid objects more than 50mm
2	Protection against solid objects more than 12mm
3	Protection against solid objects more than 2.5mm
4	Protection against solid objects more than 1.0mm
5	Protection against dust ( limited ingress )
6	Protection against dust ( total protection )
7	
8	

**2nd Numeral Digit**  
Protection Against penetration of liquids

1	Protection against vertically falling drops of water
2	Protection against drops of water falling up to 15°
3	Protection against rain at up to 60° from the vertical
4	Protection against projections of water from all direction
5	Protected against jets of water from all directions
6	Protection against heavy seas
7	Protection against the effects of immersion
8	Protected against continuous immersion

## CIRCUIT BREAKER SELECTION FOR AC MOTORS

### RATED POWER

### 3 PHASE 4 POLE MOTORS 50 - 60 Hz

### CHINT CIRCUIT BREAKER

RATED POWER		3 PHASE 4 POLE MOTORS 50 - 60 Hz			CHINT CIRCUIT BREAKER		
KW	HP	230V	400V	500V	230V	400V	500V
0.37	0.5	2.9A	0.8A	0.79A	NB1-63D 104	NB1-63D 302	NM1-125S 20
0.55	0.75	4.6A	1.2A	1.2A	NB1-63D 106	NB1-63D 302	NM1-125S 20
0.75	1	5.7A	1.7A	1.5A	NB1-63D 110	NB1-63D 303	NM1-125S 20
1.1	1.5	7.3A	2.3A	2.1A	NB1-63D 110	NB1-63D 304	NM1-125S 20
1.5	2	9.9A	3.0A	2.7A	NB1-63D 116	NB1-63D 306	NM1-125S 20
2.2	3	14.4A	4.4A	4.8A	NB1-63D 120	NB1-63D 310	NM1-125S 20
3	4	19.1A	5.7A	5.1A	NB1-63D 132	NB1-63D 310	NM1-125S 20
4	5.5	24A	7.5A	6.4A	NB1-63D 132	NB1-63D 310	NM1-125S 20
5.5	7.5	33A	10.9A	9.1A	NB1-63D 140	NB1-63D 316	NM1-125S 20
7.5	10	44.7A	14.7A	11.7A	NB1-63D 150	NB1-63D 320	NM1-125S 20
10	13.5	57.3A	19A	15.2A	NM1-100S 80A	NB1-63D 325	NM1-125S 20
11	15	65A	20.9A	17.7A	NM1-100S 80A	NB1-63D 325	NM1-125S 25
15	20	86.1A	28.5A	23.3A	NM1-125S 100A	NB1-63D 332	NM1-125S 32
18.5	25	106.1A	35.5A	28.8A	NM1-250S 125A	NB1-63D 340	NM1-125S 40
22	30	124.3A	41.8A	34.3A	NM1-250S 160A	NB1-63D 350	NM1-125S 40
30	40	170.3A	57A	48.4A	NM1-250S 225A	NB1-63D 363	NM1-125S 63
37	50	208.5A	68.4A	56.3A	-	DZ158-100 380	NM1-125S 80
45	60	242.9A	80.7A	66.8A	-	NM1-250S 125	NM1-125S 80
55	75	301.3A	99.7A	79.2A	-	NM1-250S 160	NM1-250S 125
75	100	396A	131.1A	110A	-	NM1-250S 160	NM1-250S 160
90	125	-	161.5A	128.4A	-	NM1-250S 200	NM1-250S 160
110	150	-	194.7A	156.6A	-	NM1-250S 250	NM1-250S 200
132	180	-	232.7A	189.2A	-	NM1-400S 315	NM1-400S 315
160	220	-	285A	225.2A	-	NM1-400S 400	NM1-400S 315
200	270	-	351.5A	282.4A	-	NM1-630S 500	NM1-400S 400
220	300	-	389A	311A	-	NM1-630S 500	NM1-630S 450
250	340	-	442A	353A	-	NM1-630S 630	NM1-630S 500
315	430	-	551A	440A	-	NM1-800H 700	NM1-630S 630
355	480	-	617A	490A	-	NM1-1250A 1000	NM1-800H 700
375	500	-	660A	530A	-	-	NM1-800H 800
425	580	-	742A	594A	-	-	NM1-1250 1000

Information in this table must be used as guidelines only as each motor and installation have their own characteristics which depend on many factors and we cannot be held responsible should there be any discrepancy in these tables

# VOLT DROP MEASUREMENT TABLE

## CABLE - 2 CORE

SIZE	AIR		DUCT		GROUND		WIRE IN CONDUIT	
	Metric mm	Amp	Volt Drop MV/A/M	Amp	Volt Drop MV/A/M	Amp	Volt Drop MV/A/M	Amp
1 mm	13	40	16	40	19	40	13	40
1.5 mm	17	27	20	27	25	27	17	27
2.5 mm	23	16	28	16	34	16	23	16
4 mm	31	10	38	10	45	10	31	10
6 mm	40	6.9	48	6.9	58	6.9	40	6.9
10 mm	55	4.3	66	4.3	78	4.3	55	4.3
16 mm	72	2.6	88	2.6	105	2.6	72	2.6
25 mm	96	1.7	115	1.7	140	1.7	96	1.7
35 mm	120	1.3	140	1.3	170	1.2	120	1.3
50 mm	150	0.88	175	0.88	210	0.83	150	0.93
70 mm	180	0.65	220	0.65	235	0.59	180	0.71
95 mm	220	0.48	265	0.48	285	0.44	220	0.56
120 mm	255	0.40	305	0.40	330	0.35	255	0.48
150 mm	290	0.33	350	0.33	380	0.28	290	0.42
185 mm	335	0.29	400	0.29	430	0.24	335	0.39
240 mm	390	0.25	465	0.25	465	0.19	390	0.35
300 mm	450	0.23	540	0.23	540	0.16	450	0.33

## CABLE - 3 / 4 CORE

SIZE	AIR		DUCT		GROUND		WIRE IN CONDUIT	
	Metric mm	Amp	Volt Drop MV/A/M	Amp	Volt Drop MV/A/M	Amp	Volt Drop MV/A/M	Amp
1 mm	11	35	13	35	17	35	12	35
1.5 mm	14	23	17	23	22	23	16	23
2.5 mm	19	14	23	14	31	14	21	14
4 mm	26	9	31	9	41	9	28	9
6 mm	33	6	40	6	52	6	36	6
10 mm	46	3.5	55	3.5	66	3.5	50	3.5
16 mm	61	2.2	72	2.2	88	2.2	66	2.2
25 mm	81	1.4	96	1.4	115	1.4	87	1.4
35 mm	99	1	120	1	140	1	110	1.1
50 mm	125	0.15	150	0.15	160	0.70	135	0.78
70 mm	155	0.52	180	0.52	200	0.47	165	0.59
95 mm	185	0.40	220	0.40	240	0.34	200	0.47
120 mm	215	0.34	255	0.34	280	0.28	230	0.40
150 mm	250	0.28	290	0.28	320	0.23	265	0.34
185 mm	280	0.25	335	0.25	365	0.19	300	0.30
240 mm	330	0.22	390	0.22	425	0.16	355	0.27
300 mm	380	0.19	450	0.19	450	0.13	410	0.25

Example : Formula required to calculate volt drop in a cable

Cable Size : 25mm x 4 Core in Ground  
 Length of Cable : 80 Meters  
 Full Load of Cable : 100 Amps

$$\frac{(\text{Milli Volt / amps / meter}) \times (\text{Actual Amps used}) \times \text{Length in Meters}}{1000}$$

Calculation =  $\frac{1.4 \times 100 \times 80}{1000}$   
 = 11.2 Volt Drop

## CONTACTOR UTILISATION CATEGORIES ( IEC 947.4 )

<b>Category AC1</b>	Applies to all types of a.c. load with a power factor of less than 0.95 ( Cos p ≥ 0.95 i.e. non-inductive or slightly inductive loads. Application examples : heating, distribution.	<b>Category AC2</b>	This category applies to the starting, plugging, inching and switching off of slip-ring motors. On closing, the contactor makes the starting current, which is approx. 2.5 times the rated current of the motor. On opening, the contactor breaks the starting current at a voltage that is less than or equal to that of the mains supply voltage.
<b>Category AC3</b>	Applies to squirrel cage motors with switching off during normal running. On closing, the contactor makes the starting current which is between 5 and 7 times the rated current of the motor. On opening, the contactor breaks the rated motor current : at this point the voltage at the contactor pole terminals is approx. 20% of the mains supply voltage. Breaking is light. Application examples : all standard squirrel cage motors, lifts, escalators, conveyors, bucket elevators, compressors, pumps, mixers, air conditioning units, etc.	<b>Category AC4</b>	This category applies to with plugging and inching ( jogging ) of squirrel cage motors. On closing, the contactor makes a current which may be as high as 5 or 7 times the rated motor current. On opening, the contactor breaks the same current at a voltage which is higher the lower the motor speed. This voltage can be the same as the mains voltage. Breaking is severe. Examples : printing machines, wire drawing machines, cranes and hoists, metallurgy.

## ELECTRICAL FORMULA

DESIRED DATA	A.C. SINGLE PHASE	A.C. THREE PHASE	DIRECT CURRENT
Kilowatt Output :	$\frac{V \times I \times \%Eff \times P.F}{1000}$	$\frac{V \times I \times 1.73 \times \%Eff \times P.F}{1000}$	$\frac{1 \times V \times \%Eff}{1000}$
kVA :	$\frac{V \times I}{1000}$	$\frac{V \times I \times 1.73}{1000}$	
Horsepower Output :	$\frac{V \times I \times \%Eff \times P.F}{746}$	$\frac{V \times I \times 1.73 \times \%Eff \times P.F}{746}$	$\frac{V \times I \times \%Eff}{746}$
Amperes when horsepower is known :	$\frac{HP \times 746}{V \times \%Eff \times P.F}$	$\frac{HP \times 746}{1.73 \times V \times \%Eff \times P.F}$	$\frac{HP \times 746}{V \times \%Eff}$
Amperes when kilowatts is known :	$\frac{kW \times 1000}{V \times \%Eff \times P.F}$	$\frac{kW \times 1000}{1.73 \times V \times \%Eff \times P.F}$	$\frac{kW \times 1000}{V \times \%Eff}$
Amperes when kVA is known :	$\frac{kVA \times 1000}{V}$	$\frac{kVA \times 1000}{1.73 \times V}$	

V = Volts

I = Amperes

%Eff = Percent Efficiency

P.F = Power Factor

## PRESSURE TABLE

P.S.I.	bar	kPa
1	0.06	6.89
5	0.34	34.48
10	0.68	68.96
20	1.37	137.93
30	2.06	206.89
50	3.44	344.82
75	5.17	517.24
100	6.89	689.65
125	8.62	862
150	10.34	1034
175	12.06	1206
200	13.79	1379
250	17.24	1724
300	20.68	2068
1kPa = 0.01 bar	1MPa = 10.00 bar	1kg/cm <sup>2</sup> = 1.00 atm
1 PSI = 6.895 kPa	1 kPa = 0.145 PSI	1kg/cm <sup>2</sup> = 14.223 PSI

## METRIC CONVERSION TABLE

Length and Distance :	Surface Area :
inches x 25.4 = millimeters	square inches x 6.5 = square centimeters
feet x 30,48 = centimeters	square feet x 0.09 = square meters
yards x 0.9 = meters	square yards x 0.83 = square meters
miles x 1.6 = kilometers	square miles x 2.6 = square kilometers

Volume & Capacity	Weight & Mass
ounces ( fluid ) x 30 = milliliters	ounces x 28 = grams
pints x 0.47 = liters	pounds x 0.45 = kilograms
quarts x 0.95 = liters	tons x 0.9 = metric tons
gallons x 3.8 = liters	

## 400V STAR DELTA STARTER COMPONENT GUIDE

**Riken**

Main Contactor    Delta Contactor    Star Contactor    Overload Relay    Mech Interlock    Timer    Enclosure    Isolator    Ammeter

5.5 KW	RAB-A15T11-Q	RAB-A15T11-Q	RAB-1A5T11-Q	BTH-18TA2E8,0	RK-T352	ESDT1-Q	OK-2	JFD11-25A	AC72 0-20/40A
7.5 KW	RAB-A15T11-Q	RAB-A15T11-Q	RAB-A15T11-Q	BTH-18TA2E11	RK-T352	ESDT1-Q	OK-2	JFD11-25A	AC72 0-20/40A
11 KW	RAB-A15T11-Q	RAB-A15T11-Q	RAB-A15T11-Q	BTH-18TA2E13	RK-T352	ESDT1-Q	OK-2	JFD11-25A	AC72 0-30/60A
15 KW	RAB-A18T11-Q	RAB-1A8T11-Q	RAB-A15T11-Q	BTH-18TA2E18	RK-T352	ESDT1-Q	OK-2	JFD11-40A	AC72 0-40/80A
18.5 KW	RAB-A25T11-Q	RAB-A25T11-Q	RAB-A18T11-Q	BTH-35TA2E26	RK-T352	ESDT1-Q	OK-3	JFD11-63A	AC72 0-60/5A
22 KW	RAB-A25T11-Q	RAB-A25T11-Q	RAB-A18T11-Q	BTH-35TA2E26	RK-T352	ESDT1-Q	OK-3	JFD11-63A	AC72 0-60/5A
30 KW	RAB-A35T11-Q	RAB-A35T11-Q	RAB-A25T11-Q	BTH-35TA2E36	RK-T352	ESDT1-Q	OK-3	JFD11-63A	AC72 0-75/5A
37 KW	RAB-45T11-Q	RAB-45T11-Q	RAB-A25T11-Q	BTH-80T2E49	RK-T352	ESDT1-Q	FTE104	JFD11-100A	AC72 0-100/5A
45 KW	RAB-60T11-Q	RAB-60T11-Q	RAB-A35T11-Q	BTH-80T2E67	RK-T352	ESDT1-Q	FTE104	GGL-125/3J	AC72 0-100/5A
55 KW	RAB-60T11-Q	RAB-60T11-Q	RAB-45T11-Q	BTH-80T2E67	RK-T352	ESDT1-Q	FTE104	GGL-160/3J	AC72 0-150/5A
75 KW	RAB-80T11-Q	RAB-80T11-Q	RAB-60T11-Q	BTH-80T2E80	RL-800	ESDT1-Q	FTE105	GGL-160/3J	AC72 0-200/5A
90 KW	RAB-125T-Q	RAB-125T-Q	RAB-80T11-Q	BTH-125T2E128	RL-800	ESDT1-Q	FTE106	GGL-200/3J	AC72 0-250/5A
110 KW	RAB-150T-Q	RAB-150T-Q	RAB-80T11-Q	BTH-125T2E128	RL-800	ESDT1-Q	FTE106	GGL-250/3J	AC72 0-300/5A
132 KW	RAB-180T-Q	RAB-180T-Q	RAB-100T-Q	BTH-125T2E156	RL-800	ESDT1-Q	FTE106	GGL-250/3J	AC72 0-300/5A
160 KW	RAB-180T-Q	RAB-180T-Q	RAB-125T-Q	BTH-18T2E6,0 3 x 400:5A CT	RL-800	ESDT1-Q	FTE107	GGL-315/3J	AC72 0-400/5A
200 KW	RAB-260T-Q	RAB-260T-Q	RAB-150T-Q	BTH-18T2E6,0 3 x 500:5A CT	RL-800	ESDT1-Q	FTE107	GGL-400/3J	AC72 0-500/5A



Main Contactor    Delta Contactor    Star Contactor    Overload Relay    Mech Interlock    Timer    Enclosure    Isolator    Ammeter

5.5 KW	CE-D1210-Q	CE-D1210-Q	CE-D1210-Q	CE2-D138,0	CA9-D01	CEA-DT2	GW44218	JFD11-25A	AC48 0-20/40A
7.5 KW	CE-D1210-Q	CE-D1210-Q	CE-D1210-Q	CE2-D1311	CA9-D01	CEA-DT2	GW44218	JFD11-25A	AC48 0-20/40A
11 KW	CE-D1210-Q	CE-D1210-Q	CE-D1210-Q	CE2-D1313	CA9-D01	CEA-DT2	GW44218	JFD11-25A	AC48 0-30/60A
15 KW	CE-D1810-Q	CE-D1810-Q	CE-D1210-Q	CE2-D1318	CA9-D01	CEA-DT2	GW44218	JFD11-40A	AC48 0-40/80A
18.5 KW	CE-D2510-Q	CE-D2510-Q	CE-D1810-Q	CE2-D2332	CA9-D01	CEA-DT2	GW44219	JFD11-63A	AC72 0-60/5A
22 KW	CE-D2510-Q	CE-D2510-Q	CE-D1810-Q	CE2-D2332	CA9-D01	CEA-DT2	GW44219	JFD11-63A	AC72 0-60/5A
30 KW	CE-D3210-Q	CE-D3210-Q	CE-D2510-Q	CE2-D2332	CA9-D01	CEA-DT2	GW44219	JFD11-63A	AC72 0-75/5A
37 KW	CE-D4011-Q	CE-D4011-Q	CE-D2510-Q	CE2-D3340	CA9-D02	CEA-DT2	FTE104	JFD11-100A	AC72 0-100/5A
45 KW	CE-D5011-Q	CE-D5011-Q	CE-D3210-Q	CE2-D3350	CA9-D02	CEA-DT2	FTE104	GGL-125/3J	AC72 0-100/5A
55 KW	CE-D6511-Q	CE-D6511-Q	CE-D4011-Q	CE2-D3370	CA9-D02	CEA-DT2	FTE104	GGL-160/3J	AC72 0-150/5A
75 KW	CE-D8011-Q	CE-D8011-Q	CE-D5011-Q	CE2-D3380	CA9-D03	CEA-DT2	FTE105	GGL-160/3J	AC72 0-200/5A
90 KW	CE-F115-Q	CE-F115-Q	CE-D6511-Q	CE2-D62 120	N/A	CEA-DT2	FTE106	GGL-200/3J	AC72 0-250/5A
110 KW	CE-F150-Q	CE-F150-Q	CE-D8011-Q	CE2-D62 120	N/A	CEA-DT2	FTE106	GGL-250/3J	AC72 0-300/5A
132 KW	CE-F185-Q	CE-F185-Q	CE-D9511-Q	CE2-D62 150	N/A	CEA-DT2	FTE106	GGL-250/3J	AC72 0-300/5A
160 KW	CE-F185-Q	CE-F185-Q	CE-F115-Q	CE2-D62 180	N/A	CEA-DT2	FTE107	GGL-315/3J	AC72 0-400/5A
200 KW	CE-F265-Q	CE-F265-Q	CE-F150-Q	CE2-D66 250	N/A	CEA-DT2	FTE107	GGL-400/3J	AC72 0-500/5A



*Riken*

## CONTACTOR CHARACTERISTICS

		RAB-A15	RAB-A18	RAB-A25	RAB-A35	RAB-45T	RAB-60T	RAB-70T	RAB-80T	RAB-100T	RAB-125T	RAB-150T	RAB-180T
Insulation Voltage (IEC)	Volts	600	600	600	600	600	600	600	600	600	600	600	600
Thermal current (AC1)	Amps	25	32	40	50	60	80	80	100	150	160	200	225
AC3 440V	Amps	12	18	25	35	45	60	70 *	80	100	125	150	180
3Ø 230V	KW/HP	3/4	4/5,5	5,5/7,5	7,5/10	11/15	15/20	19/25	19/25	26/35	30/40	40/55	45/60
400V	KW/HP	5,5/7,5	7,5/10	11/15	15/20	19/25	22/30	30/40	37/50	45/60	55/75	75/100	90/1215
440V	KW/HP	5,5/7,5	9/12	11/15	15/20	22/30	25/35	37/50	45/60	45/60	75/100	90/120	100/150
550V	KW/HP	7,5/10	10/13,5	15/20	18,5/25	22/30	30/40	37/50	45/60	45/60	75/100	90/120	100/150
Thermal current (UL)	AC 1	23	32	40	40	60	80	80	100	150	160	200	225
1Ø 230V	KW/HP	0,5/0,37	1/0,75	2/1,5	2/1,5	/	/	/	/	/	/	/	/
3Ø 230V	KW/HP	3/2	5/3,7	7,5/5,5	10/7,5	15/11	20/15	25/18,5	25/18,5	35/25	40/30	55/40	60/45
400V	KW/HP	5/3,7	7,5/5,5	10/7,5	15/11	25/18,5	30/22	40/30	50/37	60/45	75/55	100/75	125/90
460V	KW/HP	7,5/5,5	12/9	15/11	20/15	30/22	40/30	50/37	60/45	60/45	100/75	120/86	150/110
550V	KW/HP	10/7,5	12/9	15/11	20/15	30/22	40/30	50/37	60/45	60/45	100/75	120/86	150/110
Contacts	Main Aux	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1	3P 1+1
Applicable over-load	BTH	18T2E	18T2E	35T2E	35T2E	80T2E	80T2E	80T2E	80T2E	125T2E	125T2E	125T2E	125T2E

*Riken*

## CONTROL CIRCUIT CHARACTERISTICS

		RAB-A15	RAB-A18	RAB-A25	RAB-A35	RAB-45T	RAB-60T	RAB-70T	RAB-80T	RAB-100T	RAB-125T	RAB-150T	RAB-180T
Coil Characteristics													
Pickup	%	75	75	75	75	75	75	75	85/100	85/100	85/100	85/100	85/100
Dropout	%	55	55	60	60	58	58	58	60	60	60	60	60
Coil Consumption													
Inrush	VA	80	80	100	100	220	220	220	348	562	562	840	840
Sealed	VA	8	8	9	9	22	22	22	34	64	64	75	75
Loss	W	4	4	4,5	4,5	10	10	10	20	21	21	25	25
Operation time													
Closing	ms	11-21	11-21	13-24	13-24	16-30	16-30	16-30	14-29	16-35	16-35	20-44	20-44
Opening	ms	8-20	8-20	7-21	7-21	12-25	12-25	12-25	6-14	5-14	5-14	9-20	9-20
Life													
Mechanical	x10 <sup>n</sup>	10	10	10	10	10	10	10	10	10	5	5	5
Electrical	x10 <sup>n</sup>	1	1	1	1	1	1	1	1	1	1	1	1
Frequency	Ops/hr	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Auxillary contacts	Voltage	600	600	600	600	600	600	600	600	600	600	600	600
	AC1	10	10	10	10	10	10	10	10	10	10	10	10

# CE CONTACTOR TECHNICAL SPECIFICATIONS



## CE CONTACTOR SPECIFICATION

		CE-D09	CE-D12	CE-D18	CE-D25	CE-D32	CE-D40	CE-D50	CE-D65	CE-D80	CE-D95	CE-F115	CE-D185
Insulation Voltage (IEC)	Volts	600	600	600	600	600	600	600	600	600	600	600	600
Thermal current (AC1)	Amps	25	25	32	40	50	60	80	80	125	125	200	275
AC3 440V	Amps	9	12	18	25	32	40	50	65	80	95	115	185
3Ø 230V	KW/HP	2,2/3	3/4	4/5,5	6/8	9/11	10,5/14	12,5/17	17/22	21/28	25/34	31/42	50/68
400V	KW/HP	4/5,5	5,5/7,5	7,5/10	11/15	15/20	18,5/25	22/30	30/40	37/50	45/60	55/75	90/120
440V	KW/HP	4,5/6	6/8	8/11	12/17	17/22	20/27,5	24/33	33/44	40/55	50/66	60/82	100/150
550V	KW/HP	5,5/7,5	7,5/10	10/14	14/20	20/27	25/35	30/41	41/55	50/68	61/82	75/100	122/165
Thermal current (UL)	AC 1	23	32	40	40	60	80	80	100	150	160	200	225
1Ø 230V	KW/HP												
3Ø 230V	KW/HP	2,2/3	3/4	4/5,5	6/8	9/11	10,5/14	12,5/17	17/22	21/28	25/34	31/42	50/68
400V	KW/HP	4/5,5	5,5/7,5	7,5/10	11/15	15/20	18,5/25	22/30	30/40	37/50	45/60	55/75	90/120
460V	KW/HP	4,5/6	6/8	8/11	12/17	17/22	20/27,5	24/33	33/44	40/55	50/66	60/82	100/150
550V	KW/HP	5,5/7,5	7,5/10	10/14	14/20	20/27	25/35	30/41	41/55	50/68	61/82	75/100	122/165
Contacts	Main Aux	3P 1 or 1	3P 1 or 1	3P 1 or 1	3P 1 or 1	3P 1 or 1	3P 1 + 1	3P 1 + 1	3P 1 + 1	3P 1 + 1	3P 1 + 1	3P 1 + 1	3P 1 + 1
Applicable over-load	CE2	D13	D13	D13	D23	D33	D33	D33	D33	D33	D33	D62	D62



## CE CONTROL CIRCUIT CHARACTERISTICS

		CE-D09	CE-D12	CE-D18	CE-D25	CE-D32	CE-D40	CE-D50	CE-D65	CE-D80	CE-D95	CE-F115	CE-D185
Coil Characteristics													
Pickup	%	78	78	78	78	78	78	78	78	78	78	75	75
Dropout	%	20/70	20/70	20/70	20/70	20/70	20/70	20/70	20/70	20/70	20/70	20/70	20/70
Coil Consumption													
Inrush	VA	70	70	70	110	110	200	200	200	200	200	550	805
Sealed	VA	8	8	8	9	22	22	22	34	64	64	45	55
Loss	W	3	3	3	4	4	10	10	10	10	10	12	12
Operation time													
Closing	ms	11-21	11-21	13-24	13-24	16-30	16-30	16-30	14-29	16-35	16-35	20-44	20-44
Opening	ms	8-20	8-20	7-21	7-21	12-25	12-25	12-25	6-14	5-14	5-14	9-20	9-20
Life													
Mechanical	x10 <sup>n</sup>	10	10	10	10	10	10	10	10	10	5	5	5
Electrical	x10 <sup>n</sup>	1	1	1	1	1	1	1	1	1	1	1	1
Frequency	Ops/hr	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Auxiliary contacts	Voltage	600	600	600	600	600	600	600	600	600	600	600	600
	AC1	10	10	10	10	10	10	10	10	10	10	10	10



## CE PLUG-IN RELAY CHARACTERISTICS

	CONTACT RATING	COIL CONSUMPTION	PICK-UP	DROP-OUT	CONTACT RATING	COIL CONSUMPTION	PICK-UP	DROP-OUT
RELAY	<b>AC</b>	<b>AC</b>	<b>AC</b>	<b>AC</b>	<b>DC</b>	<b>DC</b>	<b>DC</b>	<b>DC</b>
MK-2P (8 PIN)	10A @ 250V	1,2VA	80%	30%	10A @ 28V	0,9W	75%	10%
MK-3P (11 PIN)	10A @ 250V	0,9W	80%	30%	10A @ 28V	0,9W	75%	10%

# RIKEN CONTACTOR TECHNICAL SPECIFICATIONS



## RIKEN CLIP-ON AUXILLARY CONFIGURATIONS

<b>RA1-T11</b>  <b>1 OPEN / 1 CLOSE</b>	<b>RA1-T20</b>  <b>2 OPEN</b>	<b>RA1-T02</b>  <b>2 CLOSE</b>	<b>RB-110</b>  <b>1 OPEN / 1 CLOSE</b>	<b>RL-T70</b>  <b>2 CLOSE &amp; INTERLOCK</b>	<b>RC-110</b>  <b>1 OPEN / 1 CLOSE</b>
<b>RA1-T40</b>  <b>4 OPEN</b>	<b>RA1-T31</b>  <b>3 OPEN / 1 CLOSE</b>	<b>RA1-T22</b>  <b>2 OPEN / 2 CLOSE</b>	<b>RA1-T13</b>  <b>1 OPEN / 3 CLOSE</b>	<b>RA1-T04</b>  <b>4 CLOSE</b>	<b>RL-800</b>  <b>2 CLOSE &amp; INTERLOCK</b>



## RIKEN THERMAL OVERLOAD CONNECTIONS

<b>BTH-18A2E &amp; BTH-35A2E</b> 	<b>BTH-80T2E &amp; BTH-125T2E</b> 
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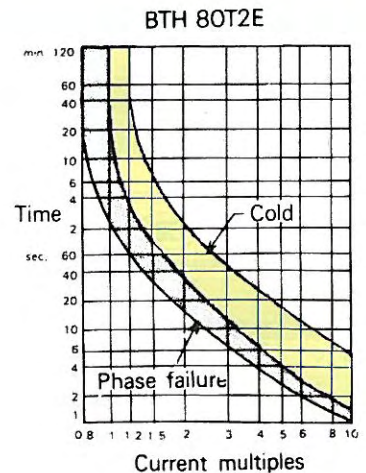
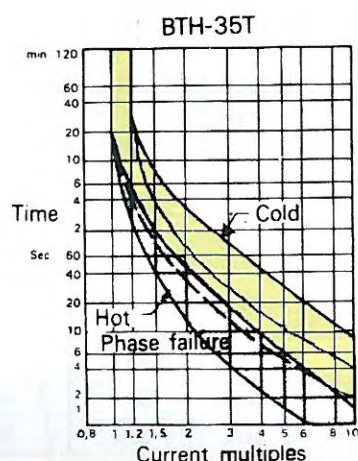
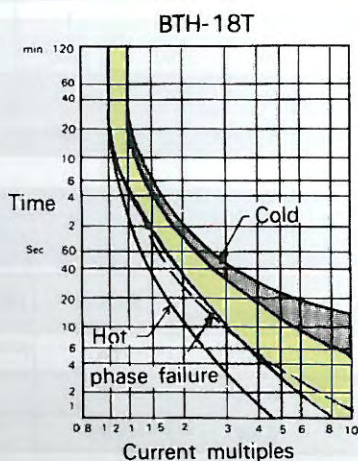


## RIKEN RELAY TERMINATIONS

<b>RCR-10A22</b>  <b>2 OPEN / 2 CLOSE</b>	<b>RCR-10A31</b>  <b>3 OPEN / 1 CLOSE</b>	<b>RCR-10A40</b>  <b>4 OPEN</b>
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## RIKEN OVERLOAD TRIPPING CURVES



# CE CONTACTOR TECHNICAL SPECIFICATIONS



## AUXILLARY CONTACT CONFIGURATIONS

<p><b>CEA-11</b></p> <p>1 OPEN / 1 CLOSE</p>	<p><b>CEA-20</b></p> <p>2 OPEN</p>	<p><b>CEA-02</b></p> <p>2 CLOSE</p>	<p><b>CEA-04</b></p> <p>4 CLOSE</p>
<p><b>CEA-40</b></p> <p>4 OPEN</p>	<p><b>CEA-31</b></p> <p>3 OPEN / 1 CLOSE</p>	<p><b>CEA-22</b></p> <p>2 OPEN / 2 CLOSE</p>	<p><b>CEA-13</b></p> <p>1 OPEN / 3 CLOSE</p>

## CE2 OVERLOAD

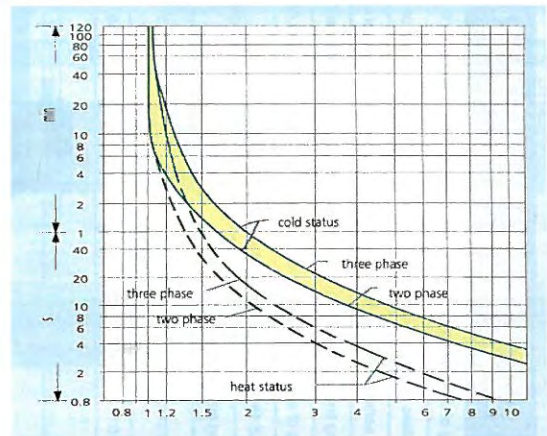


## CE PLUG-IN RELAYS

<p><b>CE2-D13 / CE2-D33</b></p>	<p><b>CE2-D62 / D66 / 68</b></p>	<p><b>MK-2P</b></p>	<p><b>MK-3P</b></p>
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## CE2 OVERLOAD TRIPPING CURVES

1. CURVES BASED ON AMBIENT TEMPERATURE 20° C
2. OVERLOADS INCORPORATE SINGLE PHASE PROTECTION
3. CORRECT SETTING IS IMPORTANT TO ENSURE PROPER PROTECTION



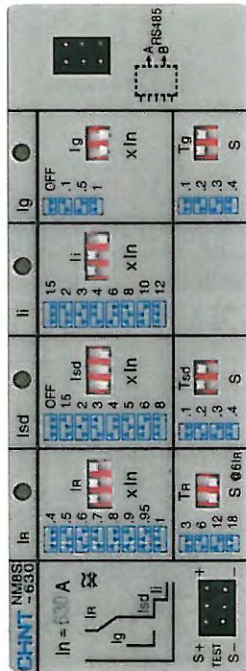
## CE CONTROL SELECTOR SWITCH CONNECTION DETAILS

<p><b>LH3/3-M1 AMMETER</b></p> <p>ENSURE THAT TERMINALS 4, 8 &amp; 12 AND 2, 6 &amp; 10 ARE BRIDGED</p>	<p><b>YH3/3-M1 4 POS VOLT</b></p> <p>ENSURE THAT TERMINALS 4, 8 &amp; 12 AND 2, 6 &amp; 10 ARE BRIDGED</p>	<p><b>YH5/3-M1 7 POS VOLT</b></p> <p>ENSURE THAT TERMINALS 4, 8 &amp; 12 AND 2, 6 &amp; 10 ARE BRIDGED</p>
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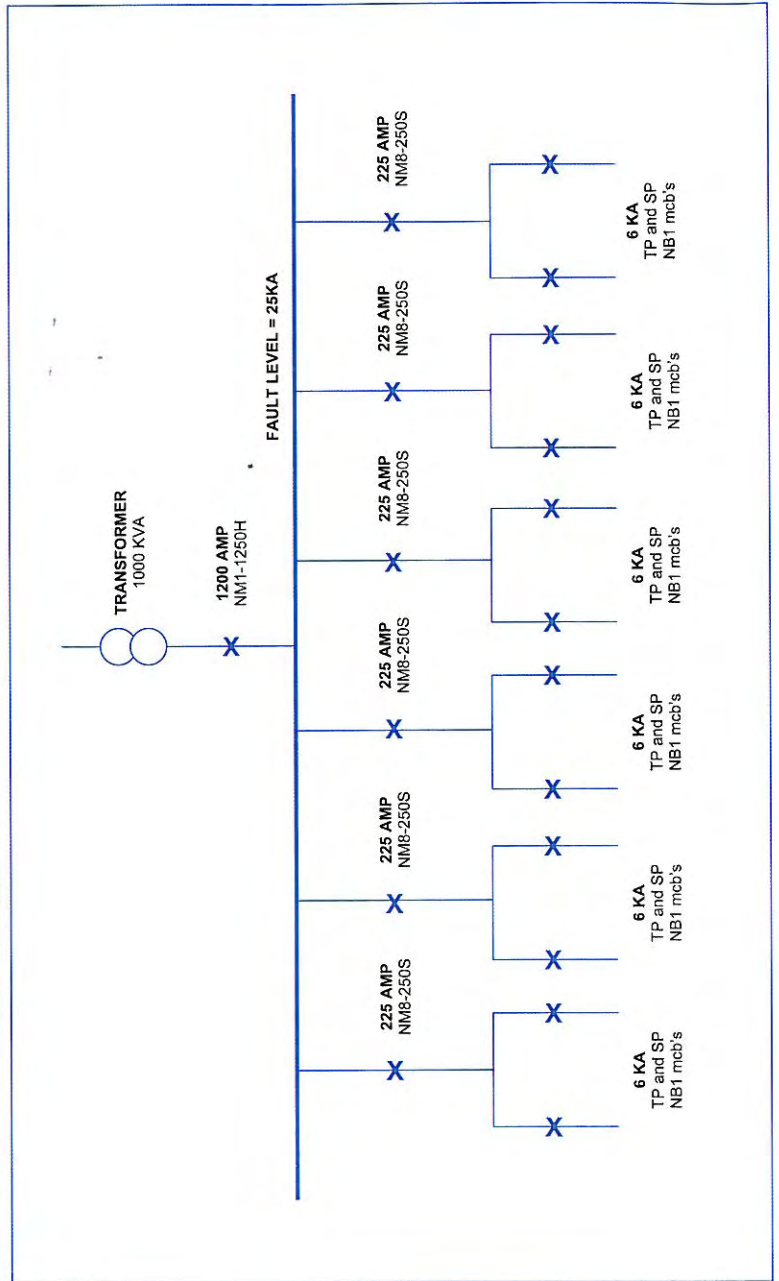
# NM8S MCCB FUNCTION PANEL SETTING DETAILS

SETTING RANGE	FUNCTION	SUGGESTED SETTING
L	Ir	Setting of overload, for example : Any Circuit Breaker can be set from 0.4 to 1 of the ampere rating
	Tr	Time class setting of overload protection (Time for MCCB to trip on overload—t) In Seconds
S	Isd	Times setting of short-circuit short time delay (multiples of current setting)
	tsd	Tripping time setting of short time delay under short circuit (As set for Isd) - In fractions of seconds
I	Ii	Setting of short-circuit protection, for example : A Circuit Breaker can be set to trip from 1.5 to 10 times the ampere rating
G/N	Ig	SINGLE PHASE EARTH FAULT PROTECTION
	Ig	Tripping time setting of earth fault

I	≤ 1.05R(s)	1.30IR	1.50IR(s)	18 x 16	12 x 16	6 x 16	3 x 9	6 x 9	12 x 9	18 x 9	3 x 1	6 x 1	12 x 1	18 x 1
TR	> 2h no action	< 1h action	3 x 16	12 x 16	6 x 16	3 x 9	6 x 9	12 x 9	18 x 9	3 x 1	6 x 1	12 x 1	18 x 1	



## CHINT MCCB CASCADING EXAMPLE



## TEMP COMPENSATION FOR MCB

MCB	AMP	TEMPERATURE				
		20°C	30°C	40°C	50°C	60°C
1	1.1 A	1.1 A	1.0 A	0.9 A	0.9 A	
3	3.5 A	3.2 A	3.0 A	2.7 A	2.5 A	
5	5.6 A	5.3 A	5.0 A	4.6 A	4.2 A	
10	11.5 A	10.8 A	10.0 A	9.0 A	8.1 A	
15	17.0 A	16.0 A	15.0 A	13.8 A	12.6 A	
20	22.5 A	21.4 A	20.0 A	18.4 A	16.8 A	
25	28.2 A	26.6 A	25.0 A	23.1 A	21.0 A	
32	36.8 A	34.5 A	32.0 A	29.2 A	26.5 A	
40	44.5 A	42.5 A	40.0 A	37.0 A	34.0 A	
50	55.0 A	52.6 A	50.0 A	47.3 A	44.4 A	
60	65.4 A	62.7 A	60.0 A	57.1 A	54.1 A	

This Table Applies for the DZ47-60 Range of Circuit Breakers

CHINT CASCADING TABLES - SERIES CONNECTION 380/415V

UPSTREAM ↑	NM1 250S	NM8 125S	NM8 125H	NM8 125R	NM8S 125S	NM8S 125H	NM8S 125R	NM8 250S	NM8 125S	NM8 250R	NM8S 250H	NM8S 250R	NM8 400S	NM8 400H	NM8 400R	NM8 630S	NM8 630H	NM8S 630R	NM8S 630H	NM8S 630R	
Breaking Capacity KA Virtual Value	30/50	50	100	125	50	70	100	50	100	125	50	100	50	100	125	125	100	85	100	125	125
DOWNSTREAM ↓																					
NBH8-40	15	15	20	20	15	20	20	15	20	20	20	20									
NB1-63	15	25	30	30	25	30	30	25	30	30	30	30									
DZ158-100	15	25	30	30	25	30	30	25	30	30	30	30									
NM8-125S NM8-125H			100	125 125	50	70	125 125	50	100	125 125	70	125 125	50	100	125 125	125 125	100				
NM8S-125S NM8S-125H			100	125 125	50	70	125 125	50	100	125 125	70	125 125	50	100	125 125	125 125	100				
NM8-250S NM8-250H									100	125 125	70	125 125	50	100	125 125	125 125	100	100	125 125	100	125 125
NM8S-250S NM8S-250H									100	125 125	70	125 125	50	100	125 125	125 125	100	100	125 125	100	125 125
NM8-400S NM8-400H																					
NM8S-400S NM8S-400H																					
NM8-630S NM8-630H																					
NM8S-630S NM8S-630H																					

# CHINT CASCADING CHART - SERIES CONNECTION 380/415V

UPSTREAM →	10KA	15KA	20KA	25KA	30KA	35KA	40KA	50KA	60KA	65KA	70KA	
↓ DOWNSTREAM	NB1-63H (10KA) 1A-63Amp ONLY	NM1-125H (16A-100Amp) Eb-60 (3ka) 1A-63Amp	NM1-125H (16A-100Amp) NB1-63 (6ka) 1A-63Amp	NM8S-125S (50A-125Amp) NB1-63 (6ka) 1A-63Amp	NM8S-125H (50A-125Amp) NB1-63 (6ka) 1A-63Amp	NM8S-125H (50A-125Amp) NB1-63H (10ka) 1A-63Amp	NM8S-125H (50A-125Amp) NB1-63H (10ka) 1A-63Amp	NM8S-125H (50A-125Amp) NB1-63H (10ka) 1A-63Amp	NM1-400H (250A-400Amp) NM1-100S (25ka) 16A-100Amp	NM1-800H (600A-800Amp) NM1-100S (25ka) 16A-100Amp	NM1-1250H (1000A-1250Amp) NM1-100R (65ka) 16A-100Amp	NM8-800H (700A-800Amp) NM8-125H (100ka) 125A-125Amp
	NM1-125S (16A-100Amp) Eb-60 (3ka) 1A-63Amp	NM1-125H (125A-225Amp) Eb-60 (3ka) 1A-63Amp	NM1-125H (16A-100Amp) NB1-63 (6ka) 1A-63Amp	NM8S-250S (100A-250Amp) NB1-63 (6ka) 1A-63Amp	NM8S-250H (100A-250Amp) NB1-63 (6ka) 1A-63Amp	NM8S-250H (100A-250Amp) NB1-63H (10ka) 1A-63Amp	NM8S-250H (100A-250Amp) NB1-63H (10ka) 1A-63Amp	NM1-400H (250A-400Amp) NM1-225S (25ka) 125A-250Amp	NM1-800H (600A-800Amp) NM1-225S (25ka) 125A-250Amp	NM1-1250H (1000A-1250Amp) NM1-225S (25ka) 125A-250Amp	NM8-800H (700A-800Amp) NM8-250H (100ka) 200A-250Amp	
	NM1-250S (125A-250Amp) Eb-60 (3ka) 1A-63Amp	NM1-125S (16A-100Amp) NB1-63 (6ka) 1A-63Amp	NM1-250H (125A-225Amp) NB1-63 (6ka) 1A-63Amp	NM8S-400S (160A-400Amp) NB1-63 (6ka) 1A-63Amp	NM1-400S (250A-400Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-400S (250A-400Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM8S-400R (160A-400Amp) DZ-158 (6ka) 63A-125Amp	NM1-630H (450A-630Amp) NM1-100S (25ka) 16A-100Amp	NM1-800H (600A-800Amp) NM1-400S (35ka) 250A-400Amp	NM1-1250H (1000A-1250Amp) NM1-400S (35ka) 250A-400Amp	NM8-800H (700A-800Amp) NM8S-250H (70ka) 150A-250Amp	
	NM1-250S (125A-250Amp) NB1-63 (6ka) 1A-63Amp	NM1-250S (125A-250Amp) Eb-60 (3ka) 1A-63Amp	NM1-400S (250A-400Amp) NB1-63 (6ka) 1A-63Amp	NM1-400S (250A-400Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-630S (450A-630Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-630S (450A-630Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM8-400S (252A-400Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-800H (600A-800Amp) NM1-100S (25ka) 16A-100Amp	NM8-800H (700A-800Amp) NM8S-400S (70ka) 320A-400Amp	NM8-800H (700A-800Amp) NM8S-400S (70ka) 320A-400Amp	NM8-800H (700A-800Amp) NM8S-400S (70ka) 320A-400Amp	
	NM8-250S (200A-250Amp) Eb-60 (3ka) 1A-63Amp	NM1-800H (630A-800Amp) NM8S-250S (200A-250A) NB1-63 (6ka) 1A-63Amp	NM1-630S (450A-630Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-800H (630A-800Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-800H (630A-800Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-800H (630A-800Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-630H (450A-630Amp) NM8-250S (100A-250A) NB1-63 (6ka) 1A-63Amp	NM1-1250H (1000A-1250Amp) NM1-100H (50ka) 16A-100Amp	NM1-1250H (1000A-1250Amp) NM1-225S (25ka) 125A-250Amp	NM8-1250H (500A-1250Amp) NM8S-400S (70ka) 320A-400Amp	NM8-1250H (500A-1250Amp) NM8-400S (70ka) 320A-400Amp	
	Cable lengths must be taken into account when calculating downstream fault levels at different switchboards	The effect on fault levels by cables can be obtained from your cable supplier or any Chint distributor										
		Specify type of cable used, size, length, voltage, ampere and transformer size in kva										

