

Motor Protection Circuit Breaker



Index

Description	No
Overview	1
Ordering Code	2
32 A MPCB Technical Specifications	3
SCCR - Short Circuit Current Rating	4
32 A MPCB Technical Specifications	5
MP263 - IEC SCCR	7
Accessories	9
Characteristics Curves	14



Introduction

Started in 1985 to manufacture rotary switches, Salzer has grown into a multi-product entity with a basket of electrical products for domestic and industrial applications. And an acclaimed provider of electrical solutions.

Salzer is today India's leader in rotary switches and wiring ducts. A technology leader in the field, Salzer has footprints in over 40 countries world-wide.

Salzer products are available all over India through high profile strategic associations and in over 40 countries world-wide.

Motor Protection Circuit Breaker (MPCB) is a latest product from the stable of Salzer group. MPCB is a combination of devices to start and stop motors by making and breaking the current. It is UL- certified and complies with IEC 60947-3.

Overview

Salzer offers Motor Protection Circuit Breakers (MPCB) tested and listed for Stringent International Standards. UL & IEC Requirements.

This compact device combine the functions of,

1. Fuseless short circuit protection (Magnetic Tripping)
2. Thermal Overload Protection Class 10
3. Switching & Signaling
4. Rotary Handle With Trip Position

Salient Features

- Universal Ratings and Marking - Listed for UL & CE.
- Wide Range of Accessories Common for both frames.
- Wide Range of Relay Scale .
- UL Certified for Type-E Applications (Equivalent to Type 2 Coordination as per IEC)

Salzer Motor Protection Circuit Breakers upto 63A

MP 132

Motor Protection Circuit Breakers upto 32A with 14 Relay Scales Thermal+Magnetic Tripping or Only Magnetic Tripping

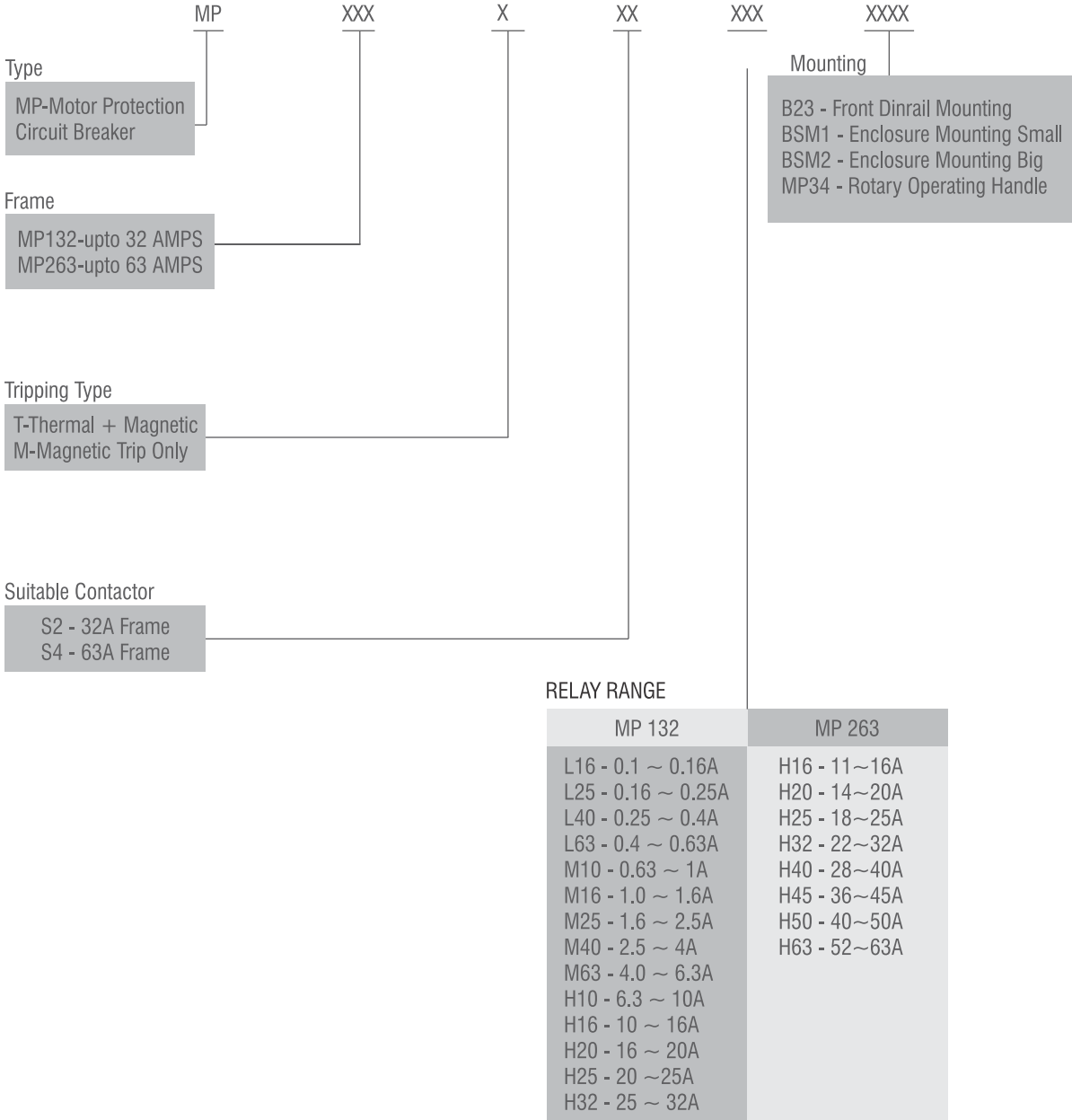


MP 263

Motor Protection Circuit Breakers upto 63A with 8 Relay Scales Thermal+Magnetic Tripping or Only Magnetic Tripping



Ordering Code



Example: MP132TS2M63-32A MPCB Frame-6.3A Relay Range with Thermal + Magnetic Tripping

32 A MPCB Technical Specifications - IEC Ratings

Cat. No: MP132TS and MP132MS

		2L16	2L25	2L40	2L63	2M10	2M16	2M25	2M40	2M63	2H10	2H16	2H20	2H25	2H32
Electrical general	Units														
Rated operational current (In)	A	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10	16	20	25	32
Current setting range*	A	0.1-0.16	0.16-0.25	0.25-0.40	0.40-0.63	0.63-1	1.0-1.6	1.6-2.5	2.4-4.0	4.0-6.3	6.3-10	10-16	16-20	20-25	25-32
Magnetic trip current (13In)	A	2.1	3.3	5.2	8.2	13	21	33	52	82	130	208	260	325	416
Rated operating frequency	Hz	50/60													
Heat dissipation	W	5	5	5	5	6	6	6	6	6	7	8	8	8	8
Electrical life	ops	100000													
Max. operating rate	ops/hr	15													
Compliance standards		IEC 60947-1, IEC60947-2, IEC60947-4-1 & UL60947-4-1													

AC-3 Utilization Category

Relay Rating	KW Ratings							
	230V		400/415V		500V		690V	
	KW	Amps	KW	Amps	KW	Amps	KW	Amps
0.16	-	-	-	-	-	-	0.06	0.12
0.25	-	-	0.06	0.2	0.06	0.16	0.12	0.23
0.4	-	-	0.09	0.3	0.12	0.32	0.18	0.35
0.63	0.06	0.35	0.12	0.44	0.25	0.68	0.25	0.49
1	0.12	0.7	0.25	0.85	0.37	0.88	0.55	0.87
1.6	0.18	1	0.55	1.50	0.75	1.5	1.1	1.6
2.5	0.37	1.9	0.75	1.90	1.1	2.2	1.5	2.1
4	0.75	3.3	1.5	3.60	2.2	3.9	3	3.8
6.3	1.1	4.7	2.2	4.90	3	5.2	4	4.9
10	2.2	8.5	4	8.50	4	6.8	7.5	8.9
16	3.7		9		12.5		15	17
20	3.7		9		12.5		15	17
25	5.5	20	12.5		15	23	22	24
32	7.5	27	15	29	18.5	28	30	32

SCCR - Short Circuit Current Rating

MP132-32A

Rated Current (A)	Short Circuit Breaking Capacity at 230V			Short Circuit Breaking Capacity at 400/415V			Short Circuit Breaking Capacity at 440V			Short Circuit Breaking Capacity at 500/525V		
	ICU(KA)	ICS(KA)	GL/GG Fuse*	ICU(KA)	ICS(KA)	GL/GG Fuse*	ICU(KA)	ICS(KA)	GL/GG Fuse*	ICU(KA)	ICS(KA)	GL/GG Fuse*
0.16	100	100	-	100	100	-	100	100	-	100	100	-
0.25	100	100	-	100	100	-	100	100	-	100	100	-
0.4	100	100	-	100	100	-	100	100	-	100	100	-
0.63	100	100	-	100	100	-	100	100	-	100	100	-
1	100	100	-	100	100	-	100	100	-	100	100	-
1.6	100	100	-	100	100	-	100	100	-	100	100	-
2.5	100	100	-	100	100	-	100	100	-	100	100	-
4	100	100	-	100	100	-	100	100	-	100	100	-
6.3	100	100	-	100	100	-	100	100	-	100	100	-
10	100	100	-	100	100	-	50	38	63	50	38	50
16	100	100	-	50	38	100	35	25	80	10	8	80
20	100	100	-	50	38	125	35	25	80	10	8	80
25	100	100	-	50	38	125	35	25	100	10	8	80
32	100	100	-	50	38	125	35	25	100	10	8	80

*Fuse is used if ICC is greater than ICU

32 A MPCB Technical Specifications - UL Ratings

Cat.No: MP132TS and MP132MS

Electrical general	Units	2L16	2L25	2L40	2L63	2M10	2M16	2M25	2M40	2M63	2H10	2H16	2H20	2H25	2H32
Rated operational current	A	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10	16	20	25	32
Current setting range*	A	0.1-0.16	0.16-0.25	0.25-0.40	0.40-0.63	0.63-1	1.0-1.6	1.6-2.5	2.4-4.0	4.0-6.3	6.3-10	10-16	16-20	20-25	25-32
Magnetic trip current	A	2.1	3.3	5.2	8.2	13	21	33	52	82	130	208	260	325	416
Rated operating frequency	Hz	50/60													
Heat dissipation	W	5	5	5	5	6	6	6	6	6	7	8	8	8	8
Electrical life	ops	100000													
Max.operating rate	ops/hr	15													
Electrical UL/CSA application															
Rated operating voltage	Vac	600													
Rated 1 φ operating power															
115V	HP	-	-	-	-	-	-	-	1/8	1/4	1/2	1	1 1/2	2	-
230V	HP	-	-	-	-	-	1/10	1/6	1/3	3/4	1 1/2	3	3	3	5
Rated 3 φ operating power															
200V	HP	-	-	-	-	-	1/4	1/2	3/4	1 1/2	3	5	5	7 1/2	10
230V	HP	-	-	-	-	-	1/3	1/2	1	1 1/2	3	5	7 1/2	7 1/2	10
480V	HP	-	-	-	-	1/2	3/4	1	2	3	7 1/2	10	15	15	20
600V	HP	-	-	-	1/4	1/2	1	1 1/2	3	5	10	15	20	20	25
Manual motor controller Max SC current**															
•@480V	KA	50													
•@600V	KA	25													

Manual motor controller in group installation Max Short circuit Current**																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Max fuse or CB***	A	450	450	450	450	450	450	450	450	450	450	450	450	450	400	400
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Max fuse or CB***	A	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
Manual motor controller suitable for tap conductor protection in group installation Max Short circuit Current**																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Max fuse or CB***	A	125	125	125	125	125	125	125	125	125	125	125	125	150	250	250
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Max fuse or CB***	A	125	125	125	125	125	125	125	125	125	125	125	125	150	250	250
Manual motor controller suitable for motor disconnect																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Max fuse or CB***	A	125	125	125	125	125	125	125	125	125	125	125	125	150	250	250
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Max fuse or CB***	A	125	125	125	125	125	125	125	125	125	125	125	125	150	250	250
Combination motor controller Type E manual self protected combination motor controller																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	49
Max fuse or CB***										No Fuse						
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25
Max fuse or CB***										No Fuse						
Combination motor controller Type F combination motor controller (MPCB + Contactor)																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Max fuse or CB***										NO FUSE						
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25
Max fuse or CB***										NO FUSE						
Combination motor controller Type E Self Protected combination motor controller (MPCB + Contactor)																
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Max fuse or CB***										NO FUSE						
.@600V	KA	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25
Max fuse or CB***										NO FUSE						
.@480V	KA	50	50	50	50	50	50	50	50	50	50	50	50	50	50*	50*
Max fuse or CB***										NO FUSE						
Test done at 240 volts*																

MP263 - IEC SCCR (Short Circuit Current Rating)

63A - ICU & ICS Ratings

Model no	230V				400/415V				440V				500V				690V			
	ICU		ICS		ICU		ICS		ICU		ICS		ICU		ICS		ICU		ICS	
MP263-16	100	100	100	100	50	50	50	50	50	50	38	38	12	12	12	12	12	12	12	12
MP263-20	100	100	100	100	50	50	50	50	50	50	38	38	12	12	12	12	12	12	12	12
MP263-25	100	100	100	100	50	50	50	50	50	50	25	25	12	12	12	12	12	12	12	12
MP263-32	100	100	100	100	50	50	50	50	50	50	25	25	10	10	10	10	10	10	10	10
MP263-40	100	100	100	100	50	50	50	50	50	50	25	25	10	10	10	10	10	10	10	10
MP263-45	100	100	100	100	50	50	50	50	50	50	25	25	10	10	10	10	10	10	10	10
MP263-50	100	100	100	100	50	50	50	50	50	50	25	25	10	10	10	10	10	10	10	10
MP263-63	100	100	100	100	50	50	50	50	50	50	25	25	10	10	10	10	10	10	10	10

63A MPCB UL Ratings

Model No	Single phase ratings				Three phase ratings						Magnetic trip current 13 x maximum relay setting current A
	Voltage				Voltage						
	115 V AC		230 V AC		200 V AC		230 V AC		480Y/277 V AC		
	HP	FLA	HP	FLA	HP	FLA	HP	FLA	HP	FLA	
MP263-16	1	16	2	12	3	11	5	15.2	10	14	208
MP263-20	1.5	20	3	17	5	17.5	5	15.2	10	14	260
MP263-25	2	24	3	17	5	17.5	7.5	22	15	21	325
MP263-32	2	24	5	28	7.5	25.3	10	28	20	27	416
MP263-40	3	34	5	28	10	32.2	10	28	20	27	520
MP263-45	3	34	7.5	40	10	32.2	15	42	30	40	585
MP263-50	3	34	7.5	40	10	32.2	15	42	30	40	650
MP263-63	5	56	10	50	15	48.3	20	54	40	52	819

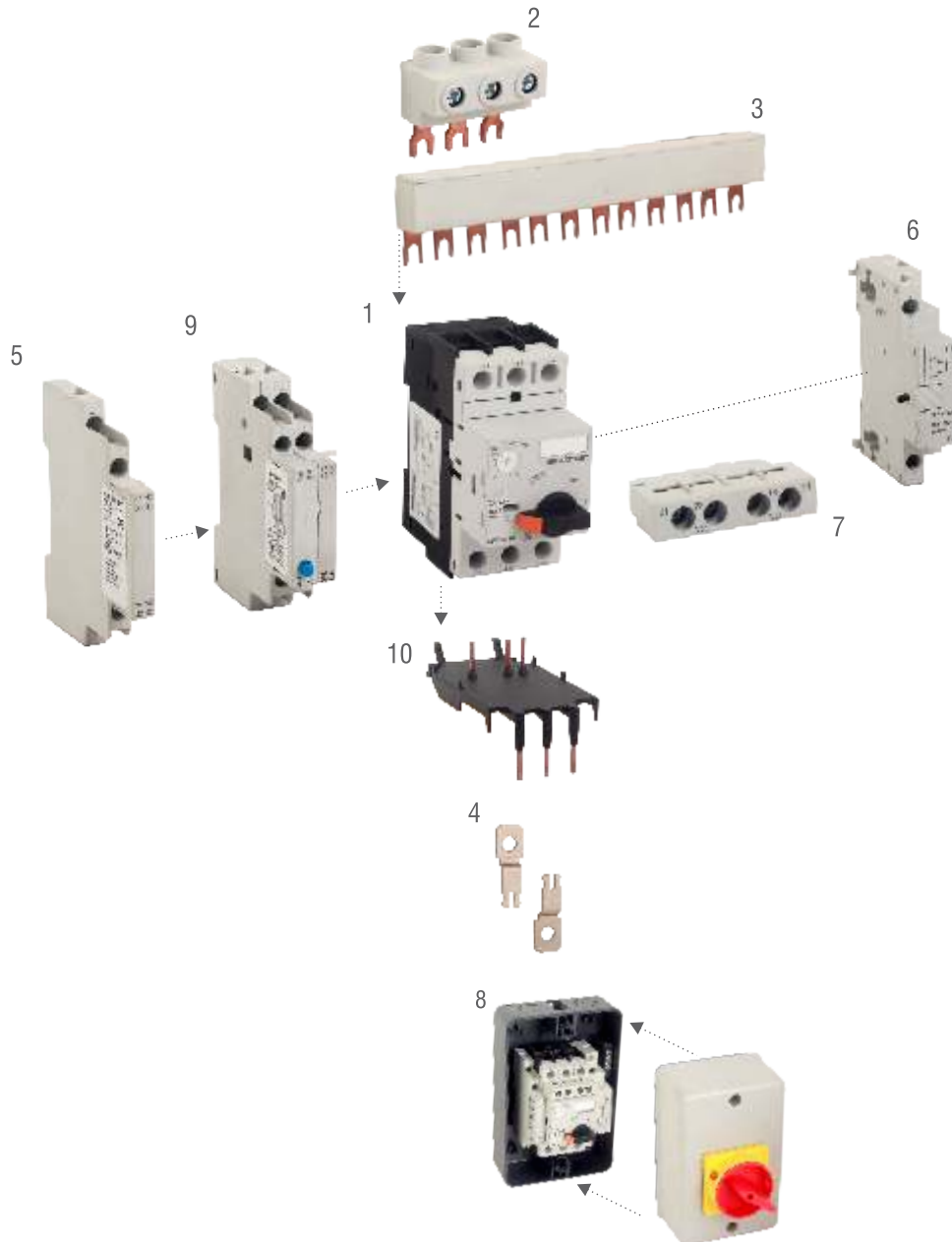
AC-3 Utilization Category

Rated current (In)	KW Ratings 400/415 V AC
16	7.5
20	7.5
25	11
32	15
40	18
45	18
50	22
63	30

UL Short-Circuit Ratings (MPCB Only)

Model number	Dial setting	S/C Rating – High fault (KAIC)	
		230 Vac	480Y/277 Vac
MP263-16	11-16A	40	40
MP263-20	14-20A	40	40
MP263-25	18-25A	40	40
MP263-32	22-32A	40	40
MP263-40	28-40A	40	40
MP263-45	36-45A	40	40
MP263-50	40-50A	40	40
MP263-63	45-63A	40	40

MP132 & MP263 - Accessories Over View



1. MP132 motor protective circuit breaker (screw terminal)
2. Feeder terminal MP132FT
3. Commoning link
4. Mounting foot kit
5. Left side mounted auxiliary (screw terminal)
6. Under voltage release MPUR or shunt release (screw terminal)
7. Front mounted auxiliary MPAF11 (screw terminal)
8. Enclosure SM2
9. Left side mounted Trip indicating auxiliary MPAST11 (screw terminal)
10. MPCB to Contactor link module.

MP - Accessories List

Front Mount Auxiliary 1 NO + 1 NC



For use with	Auxiliary contacts		Catalog
	NO	NC	
MP 132 MP 263	1	1	MPAF11

Left Side Mount Auxiliary



For use with	Auxiliary contacts		Catalog
	NO	NC	
MP 132 MP 263	1	1	MPAF11
	2	-	MPAS20
	-	2	MPAS02

Trip Indication Auxiliary (left Side Mount)



For use with	Description	Catalog
MP 132 MP 263	<ul style="list-style-type: none"> - Equipped with 2 auxiliary contacts (1NO+1NC) for overload trip signalling and 2 other auxiliary contacts (1NO+1NC) for short circuit trip signalling - To reset the circuit breaker after a short circuit the flag must be manually reset after the cause of the failure has been solved - Lateral auxiliary contacts can be assembled together with the trip signalling block - Left side mounting only 	MFAST11

Shunt Release



For use with	Description	voltage and frequency	Catalog
MP 132 MP 263	-Operating voltage $< 0.7 \dots 1.1 \times U_e$ -Right side mounting	20-24V 50/60Hz	MPSR024B
		100-127V 50/60Hz	MPSR127B
		200-240V 50/60Hz	MPSR240B

Undervoltage Release



For use with	Description	voltage and frequency	Catalog
MP 132 MP 263	-Operating voltage $>0.85...1.1 \times U_e$ -Non operating voltage $<0.35...0.7 \times U_e$ -Right side mounting	240V 50Hz/277V 60Hz	MPUR240F
		24V 50Hz/28V 60Hz	MPUR024F
		110V 50Hz/120V 60Hz	MPUR110F
		180V 50Hz/208V 60Hz	MPUR180F
		208V 50Hz/240V 60Hz	MPUR208F
		415V 50Hz/480V 60Hz	MPUR415F

MPCB Contactor Link Module



For use with	Description	Contactors	Catalog
MP 132	- For direct connection (electrical & mechanical) of motor circuit breakers to contactors.	SC 040, 40A AC Coil	MP132SC025LMA
		SC 025, 25A AC Coil	MP132SC040LMA
		SC 025, 25A DC Coil	MP132SC025LMD
		SC 040, 40A DC Coil	MP132SC040LMD
		MC 016, 16A Mini Contactor	MP132MC016LM

Feeder Terminals



For use with	Description	Catalog
MP 132	- For feeding the commoning links - Rated insulation voltage: 690Vac - $I_e = 63A$ - Terminals 6-25mm ² rigid wire & 6-16mm ² flexible wire with terminal	MP132FT

Line Side Terminal Barrier (LSTB)



For use with	Description	Catalog
MP 132	- Block module for type E combination motor controller in accordance with UL - Rated insulation voltage: 690Vac - $I_e = 63A$ - Terminals: 8-20AWG	MP132LSTB

Commoning Link 45mm



For use with	Description	Number of circuit breaker	Catalog
MP 132	<ul style="list-style-type: none"> - For parallel blocking of side by side mounted circuit breakers - Without side auxiliary contacts - Enables the use of front mounted auxiliary - Rated insulation voltage : 690Vac - Ie = 63Amps 	2	MP132CL452
		3	MP132CL453
		4	MP132CL454
		5	MP132CL455

Commoning Link 54mm



For use with	Description	Number of circuit breaker	Catalog
MP 132	<ul style="list-style-type: none"> - For parallel connection of circuit breakers with screw terminals mounted side by side - Enables the use of side auxiliary mounted on each motor protective circuit breaker - Rated insulation voltage : 690Vac - Ie = 63Amps 	2	MP132CL542
		3	MP132CL543
		4	MP132CL544
		5	MP132CL545

Commoning Link Protective Shroud



For use with	Description	Catalog
MP 132	- Protection against direct links contact in energized terminals without the use of commoning links	MP132CLPS

Mounting Foot Kit



For use with	Description	Catalog
MP 132	- For direct assembly of motor protective circuit breaker into any surface using screws	MP132MF

Rotary Operating Handle



For use with	Description	Handle color	Catalog
MP 132	<ul style="list-style-type: none"> - Panel door can be opened in ON position (Thermometry) - Degree of protection: IP65/NEMA 4X - Shows circuit breaker position "I" (ON) or "O" (OFF) - Adjustable shaft length. There are 2 standard shaft sizes 150mm & 300mm - To assemble the handle on the circuit breaker the shaft must have a length of at least 80mm - Up to 3 pad locks can be used in OFF position. This blocks circuit breaker operation & opens panel door - Handle can be mounted on panels with a thickness of 1 to 5mm 	Black & Grey	MP132HND09 MB34FPGB
		Red & Yellow	MP132HND09 MB34FPYR

Enclosure - Small



For use with	Description	Terminals	Handle color	Catalog
MP 132	<ul style="list-style-type: none"> - Empty plastic enclosure - Protection degree IP65 - Two M25 metric cable entry knockouts, top & bottom - Two M20 metric cable entry, back - Rotary handle on the cover connected on MP's handle - Handle can be locked with up to 3 padlocks in the OFF position - Colour : Cover (Grey RAL7035) & base (Black RAL7021) 	Ground & Neutral	Black & Grey	MP132B31 SM1GB
			Red & Yellow	MP132B31 SM1YR

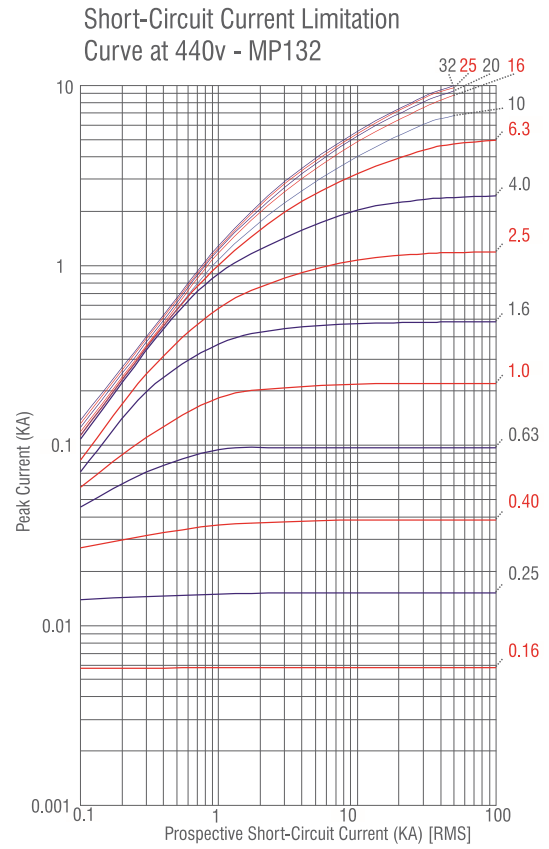
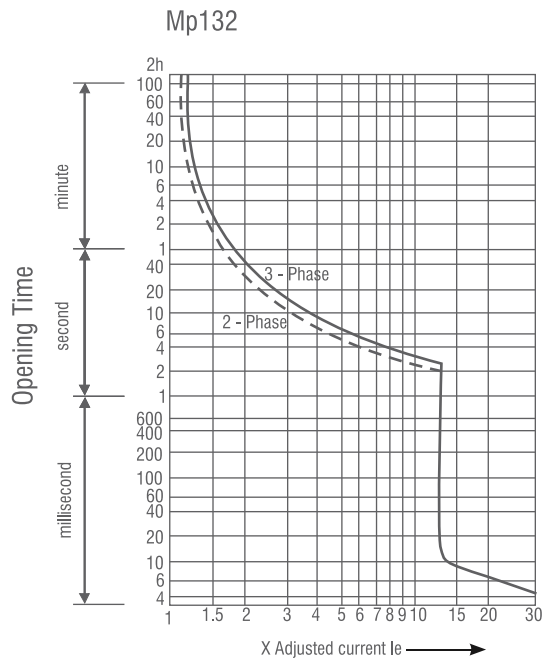
Enclosure - Big



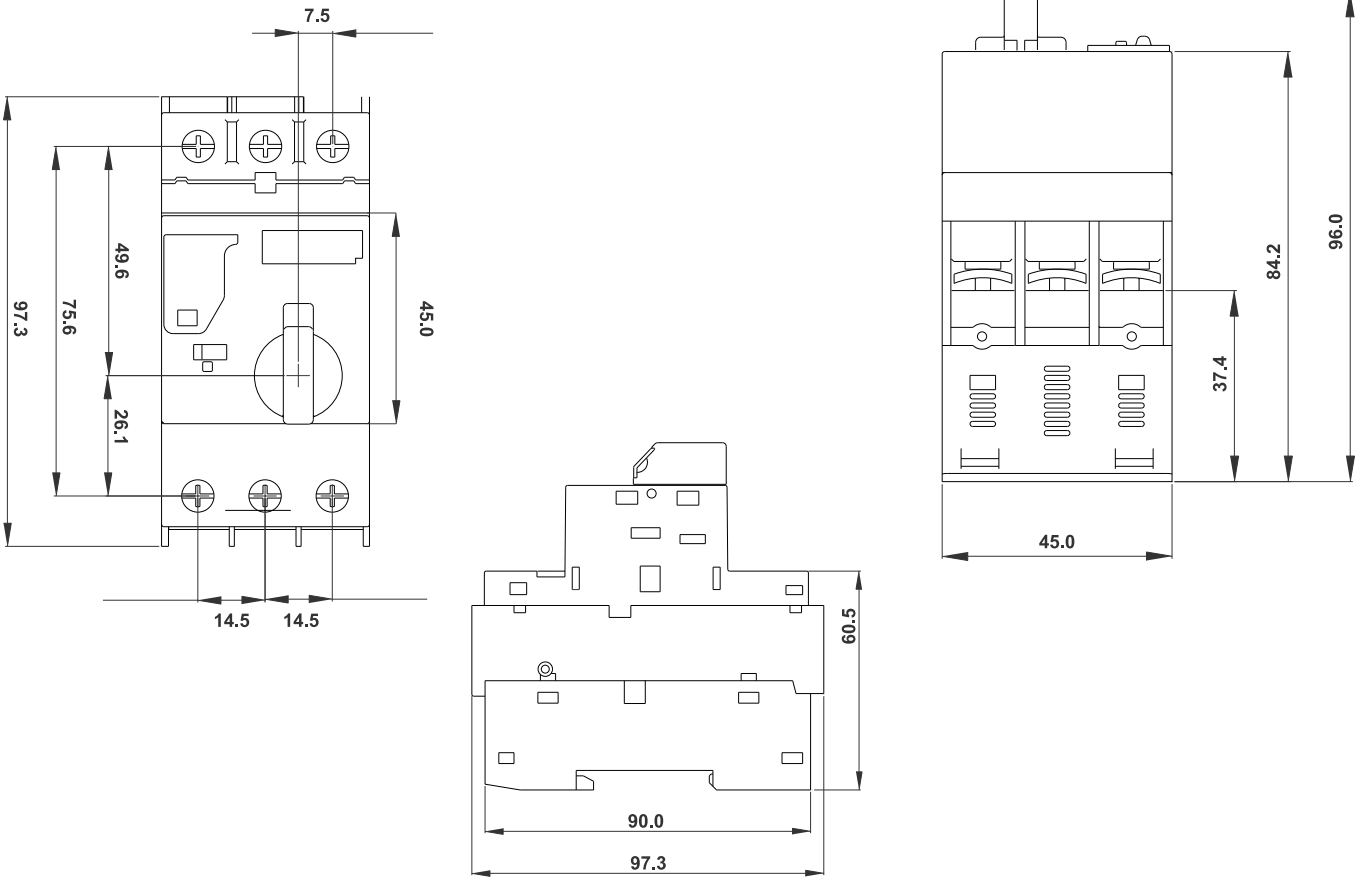
For use with	Description	Terminals	Handle color	Catalog
MP 132	<ul style="list-style-type: none"> - Empty plastic enclosure - Protection degree IP65 - Allows installing : MP132 + Front mounting + Side mounting accessories both left & right - Two M25 metric cable entry knockouts, top & bottom - Two M20 metric cable entry, back - Rotary handle on the cover connected on MP's handle - Handle can be locked with up to 3 padlocks in the OFF position - Colour : Cover (Grey RAL7035) & base (Black RAL7021) 	Ground & Neutral	Black & Grey	MP132B31 SM2GB
			Red & Yellow	MP132B31 SM2YR

MP132- Typical Tripping Characteristics Curves

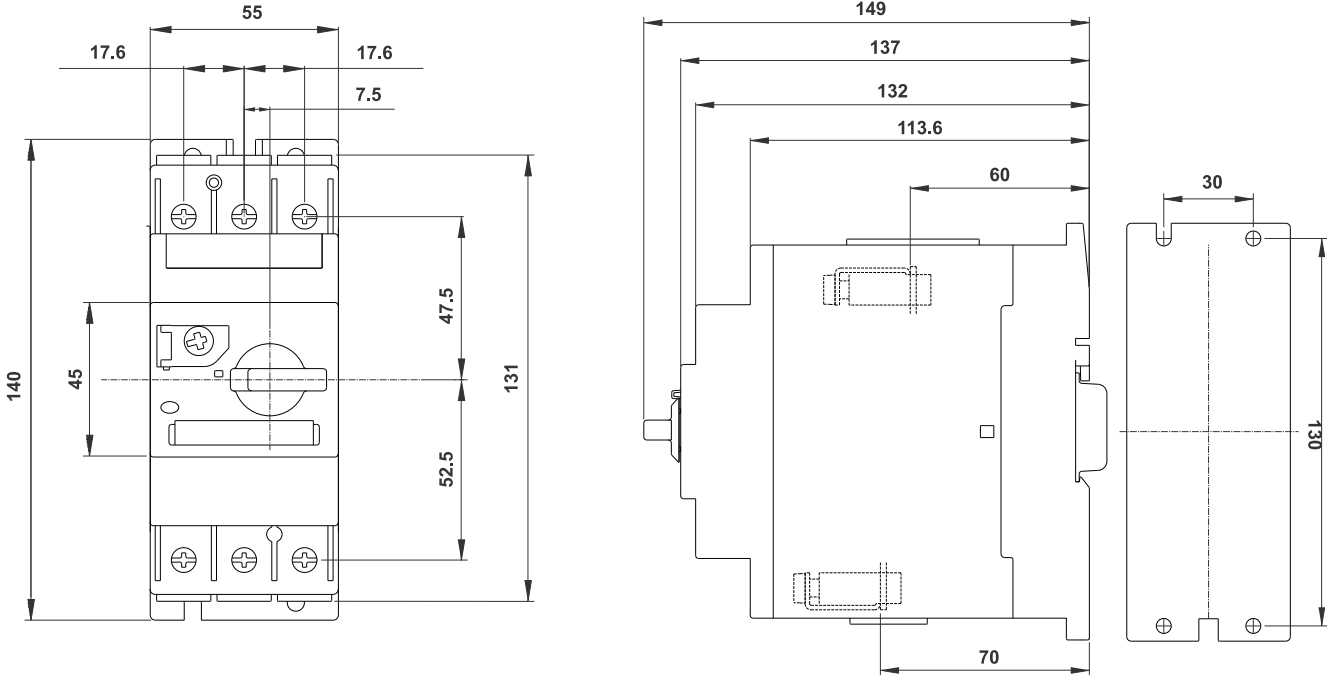
Cold Trip Times are Shown at 20° With Average Tolerance Values to the Rated Current



Dimension Details MP 132

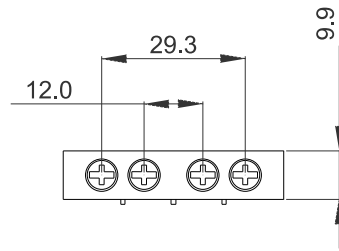
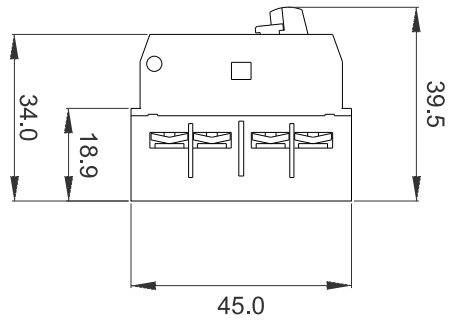


MP 263



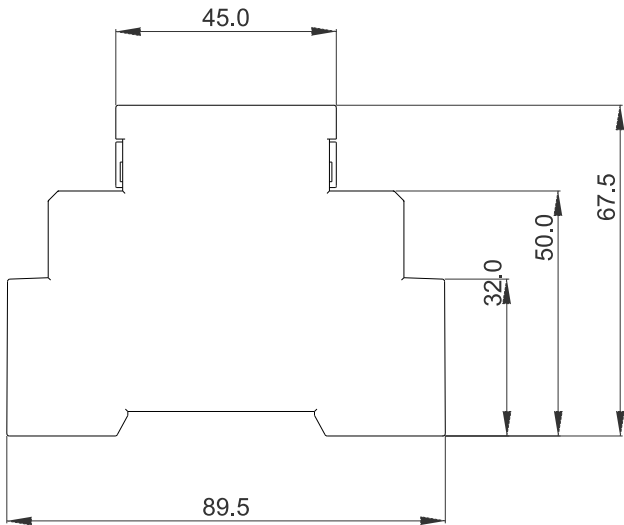
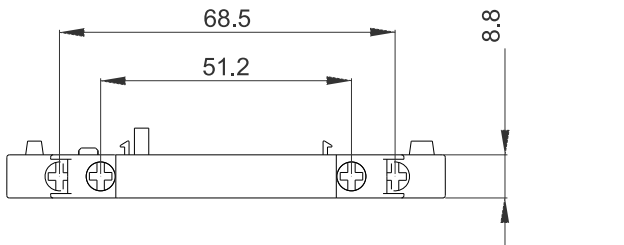
Accessories

Front mount - NONC

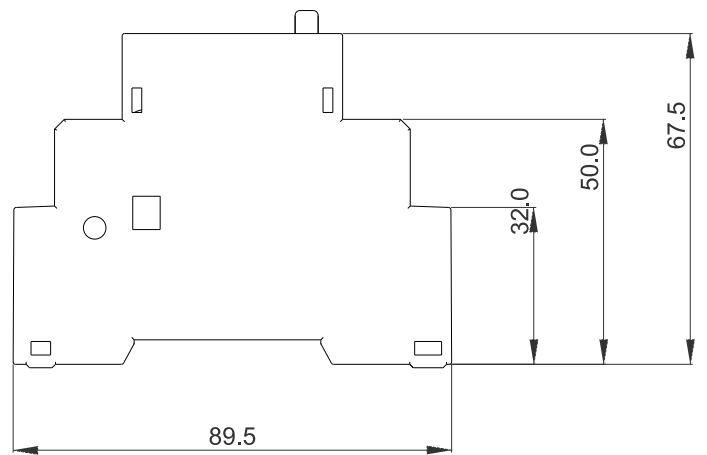
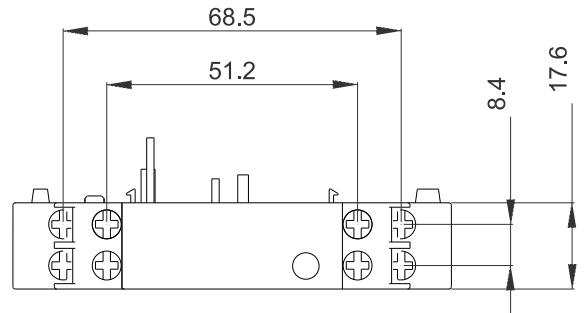


Left side mount

1NO 1NC, 2NO, 2NC



Trip Indicator Contact



Refineries



Textile Mills



General Manufacturing



Automobile Industries

Salzer Electronics Limited, Unit-II

Chinnamaddampalayam, Bilichi Post, Coimbatore 641019. INDIA

Tel : +91-4254-272311 | 302000 | Fax : +91-4254-272012 | e-mail : salzer2@salzergroup.com

www.salzergroup.com