

salzer

Motor Protection Circuit Breaker





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 MPCB in two frame sizes 32 amps & 63 amps with wide range of relay scale 0.1 to 63 amps and has an entire range of accessories to suit the customer requirements.

- 1 NO + 1 NC - Front Mounted
- 2 NO - Side Mounted
- Trip Indicator
- Undervoltage / Shunt Release

Salzer MPCB provides Thermal overload protection and Magnetic short circuit protection in a Single Compact unit. Bimetalic thermal relay offers the following functions / protections.

- Over load protection
- Phase failure protection

Magnetic trip element offers the following function

- Fuse less short circuit protection up to feeder line

Features

- ON / OFF Rotary knob for manual Operation enables individual motor circuit to be isolated without having to disconnect all the other circuits in the control Panel.
- Pad lockable in "OFF" position to prevent the accidental turn "ON" of the motor during servicing.
- Knob comes to "TRIP" position on Short circuit & Over load faulty conditions thus helps to identify the Tripped condition of the MPCB easily.
- Test function to verify the performance of the device & accessories.
- Universal rating & marking: A, KW & HP rating with UL & CE markings.
- Wide range of Relay scales.
- Over load relay function confirms to TRIP clause 10
- Trip indication & visual discrimination between short circuit & over load tripping.
- Wide variety of accessories coupled with modular design helps in easy distribution of power to multiple MPCB's.

UL Listed Applications

- UL listed as Manual self Protected TYPE – E Combination Motor Controller, Short circuit rating - RMS SYS. 50kA @ 480Y/277V, 240V
- UL listed as Manual Self Protected TYPE – F Combination Motor Controller when used with Load side controller marked for use with product SC rating RMS SYS. 50kA @ 480Y/277V, 240V
- UL listed as Manual motor Controller suitable for Motor Disconnect, SC rating RMS SYS. 50kA @ 480Volts, 25kA @ 600 Volts
- UL listed as Manual Motor Controller suitable for Group Motor Installation at 240V, 480Y/277V, and 600Y/347V. SC Rating RMS SYS. 50kA @ 480 Volts, 25kA @ 600 Volts.

Selection Table

Type	Rated Current	Suitable for 3 phase Motors at 480V	Short circuit Breaking Capacity at 480 volts	Trip Current		
				Current Range - 15 In	Short Circuit Trip Current	Cat No
MP232 (32 Amps)		HP	kAIC			
	0.016		50	0.1-0.16 A	2.4	MP232309001
	0.25		50	0.16-.25 A	3.75	MP232309002
	0.4		50	0.25-.40 A	6	MP232309004
	0.63		50	0.40-.63 A	9.45	MP232309006
	1	0.5	50	0.63-1.0 A	15	MP232309010
	1.6	0.75	50	1.0-1.6 A	24	MP232309016
	2.5	1.5	50	1.6-2.5 A	37.5	MP232309025
	4	2	50	2.5-4.0 A	60	MP232309040
	6.3	3	50	4.0-6.3 A	94.5	MP232309063
	10	7.5	50	6.3-10 A	150	MP232309100
	16	10	50	10-16 A	240	MP232309160
	20	15	50	16-20 A	300	MP232309200
	25	15	50	20-25 A	375	MP232309250
	32	20	42	25-32 A	480	MP232309320
MP263 (63Amps)	16	10	50	11-16 A	240	MP263309160
	20	10	50	14-20 A	300	MP263309200
	25	15	50	18-25 A	375	MP263309250
	32	20	50	22-32 A	480	MP263309320
	40	20	50	28-40 A	600	MP263309400
	45	30	50	36-45 A	675	MP263309450
	50	30	50	40-50 A	750	MP263309500
63	40	50	45-63 A	945	MP263309630	

HP Rating

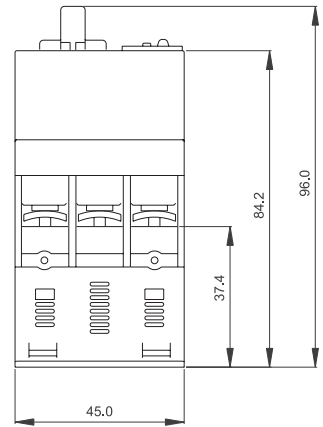
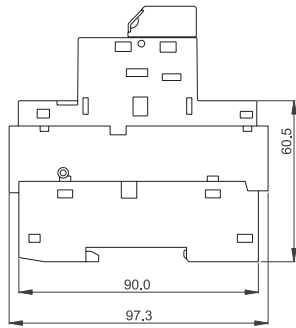
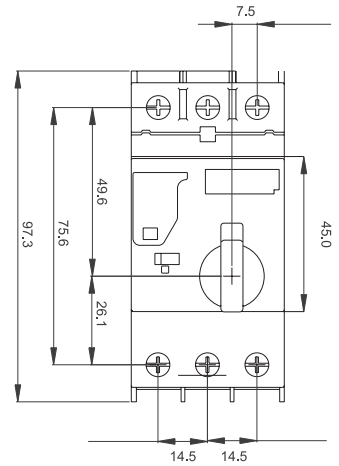
Type	Relay Range	HP Rating											
		Single phase				Three phase							
		115 V		230 V		200V		230 V		460 V		575 V	
		HP	FLA	HP	FLA	HP	FLA	HP	FLA	HP	FLA	HP	FLA
MP232 (32 Amps)	(0.1-0.16)A	–	–	–	–	–	–	–	–	–	–	–	–
	(0.16-.25)A	–	–	–	–	–	–	–	–	–	–	–	–
	(0.25-.40)A	–	–	–	–	–	–	–	–	–	–	–	–
	(0.40-.63)A	–	–	–	–	–	–	–	–	–	–	1/4	–
	(0.63-1.0)A	–	–	–	–	–	–	–	–	1/2	1.1	1/2	0.9
	(1.0-1.6)A	–	–	1/10	1.5	1/4	–	1/3	–	3/4	1.6	1	1.7
	(1.6-2.5)A	–	–	1/6	2.2	1/2	2.5	1/2	2.2	1-1/2	3	1-1/2	2.4
	(2.5-4.0)A	1/8	3.8	1/3	3.6	3/4	3.7	1	4.2	2	3.4	3	3.9
	(4.0-6.3)A	1/4	5.8	3/4	6.9	1-1/2	6.9	1-1/2	6	3	4.8	5	6.1
	(6.3-10)A	1/2	9.8	1-1/2	10	3	11	3	9.6	7-1/2	11	10	11
	(10-16)A	1.0	16	3	17	5	17.5	5	15.2	10	14	15	17
	(16-20)A	1-1/2	20	3	17	5	17.5	7-1/2	22	15	21	20	22
	(20-25)A	2.0	24	3	17	7-1/2	25.3	7-1/2	22	15	21	20	22
(25-32)A	–	–	5	28	10	32.2	10	28	20	27	25	27	
MP263 (63Amps)	11-16 A	1	16	2	12	3	11	5	15.2	10	14	15	17
	14-20 A	1.5	20	3	17	5	17.5	5	15.2	10	14	20	22
	18-25 A	2	24	3	17	5	17.5	7.5	22	15	21	25	27
	22-32 A	2	24	5	28	7.5	25.3	10	28	20	27	30	32
	28-40 A	3	34	5	28	10	32.2	10	28	20	27	40	41
	36-45 A	3	34	7.5	40	10	32.2	15	42	30	40	40	41
	40-50 A	3	34	7.5	40	10	32.2	15	42	30	40	50	52
	45-63 A	5	56	10	50	15	48.3	20	54	40	52	60	62

Technical Data

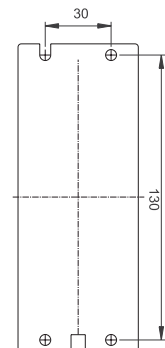
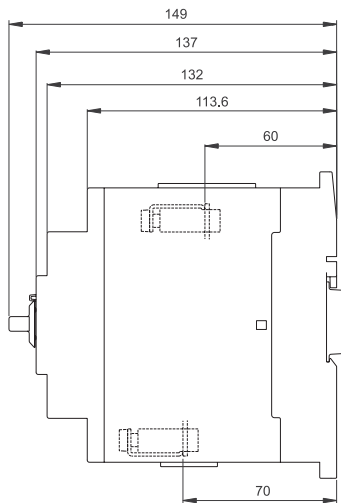
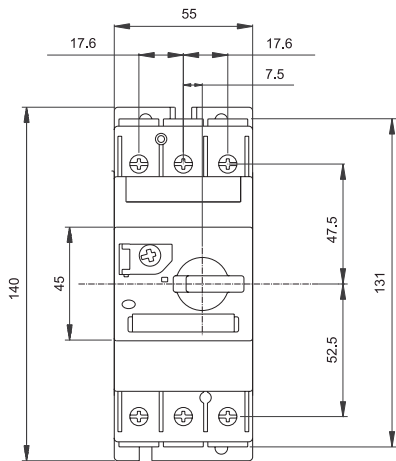
S.NO	PARAMETER	MP232		MP263	
		Relay ranges	Rated Oper. current	Relay ranges	Rated Oper. current
1	Relay ranges & Rated operational current	0.1 – 0.16	0.16	11 – 16	16
		0.16 - 0.25	0.25	14 – 20	20
		0.25 – 0.4	0.4	18 – 25	25
		0.4 – 0.63	0.63	22 – 32	32
		0.63 – 1.0	1.0	28 – 40	40
		1- 1.6	1.6	36 – 45	45
		1.6 – 2.5	2.5	40 – 50	50
		2.5 – 4	4.0	45 – 63	63
		4 – 6.3	6.3		
		6.3 – 10	10		
		10 – 16	16		
		16 – 20	20		
		20 – 25	25		
		25 – 32	32		
2	Magnetic release operating current	15 In		15 In	
3	Trip class	10		10	
4	Operating frequency	50 – 60Hz		50-60Hz	
5	Degree of protection	IP20		IP20	
6	Certifications				
7	Rated Insulation voltage	690 v		690 v	
8	Rated Impulse withstand voltage	6 kv		6 kv	
9	Utilisation category (i) IEC947-2 (Circuit breaker) (ii) IEC947-4-1 (Motor starter)	CAT A		CAT A	
		AC3		AC3	
10	Rated Thermal current			11 – 63	
11	Ambient temperature compensation	Available		Available	
12	Permissible altitude w/o de rating	2000m		2000m	
13	Suitability for group motor protection	Yes		Yes	
14	Self protected type E manual combination starter	Yes		Yes	
15	Max. kAIC (max.short circuit current)	50KA at 480v 25KA at 600v		50KA at 480v	
16	Mechanical life	1,00,000		50,000	
17	Electrical life Max switching frequency per hour	1,00,000		50,000	
		15		15	
18	Frame size (L x B x H)	96 x 45 x 97 (in mm)		140 x 55 x 148.5 (in mm)	

Rear Mounting

B23

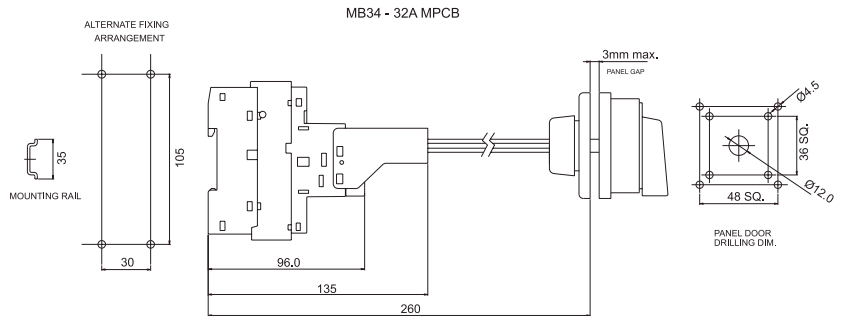
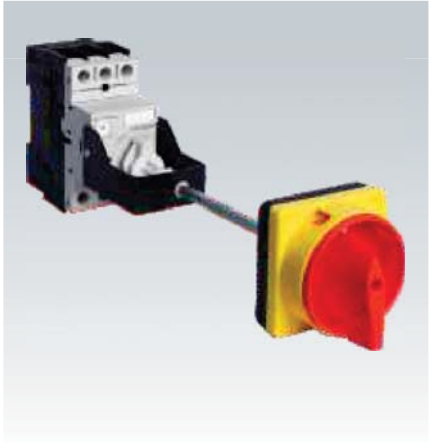


MP 263



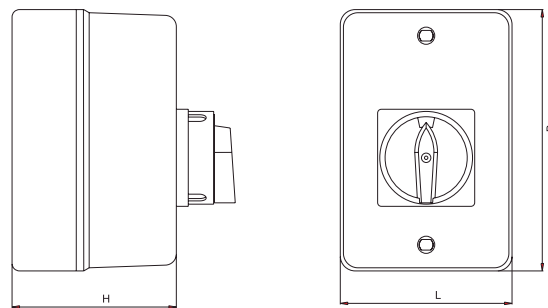
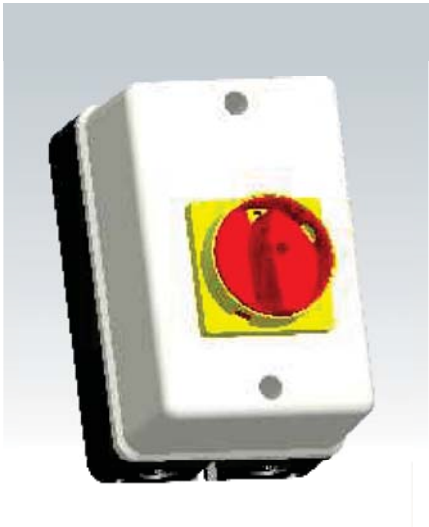
Rear Mounting

MB34



Plastic Enclosure

B31 SM A1





- Mounted in ABS Enclosure
- Round Padlocking Device (Max. 3 Padlocks) to Prevent the MPCB from being Made to ON by unauthorised persons
- Door Interlock-Cover Cannot Open in ON Condition

Model	L	B	H
B31 SMA1	115	175	110
B31 MA1	125	210	170

Accessories

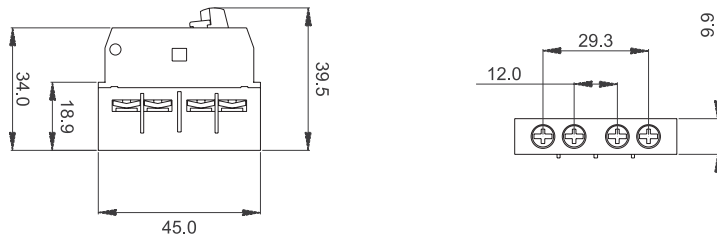
Type	Name	Description	Suitability	CAT No.
Front Mount				
	Front auxiliary contact. One No per MPCB	1NO + 1NC	MP232 MP263	ACF16
Left side mount				
	Side auxiliary contact One No per MPCB	1NO+1NC, 2NO 2NC	MP232 & MP263	ACS16
	Trip indicating contact One per MPCB Can also be fitted in addition to auxiliary contact	Two sets of 1NO + 1NC are available with trip indication. One set is for short circuit and another set is for thermal tripping	MP232 & MP263	TPS16
Under Voltage / Shunt Release				
	Under voltage release one number per MPCB	110 V 230 V 400 V	MP232 & MP263	UVS110 UVS230 UVS400
	Shunt trip one per MPCB	24 V AC/DC 110 V AC/DC 230 V AC / 220 V DC	MP232 & MP263	STS024 STS110 STS230
	3-Phase in feed terminals	Conductor cross-section solid; 25 mm ²	MP232 & MP263	TPS

Accessories

Type	Name	Description	Suitability	CAT No.
Insulated 3-Phase bus bar system				
	Modular spacing 45mm	for 2 MPCB w/o side accessories for 3 MPCB w/o side accessories for 4 MPCB w/o side accessories for 5 MPCB w/o side accessories	MP232 & MP263	
	3-Phase Busbars Modular Spacing 55m	for 2 MPCB w/o side accessories for 4 MPCB w/o side accessories		
	3-Phase Busbars Modular spacing 63mm	for 2 MPCB with side accessories for 4 MPCB with side accessories		
	3-Phase Busbars Modular spacing 75mm	for 2 MPCB with side accessories for 4 MPCB with side accessories		
	Door operating Mechanism with door interlock defeat facility, padlocking facility Extension shaft 300mm	Front Operated	MP232 & MP263	

Dimension Details

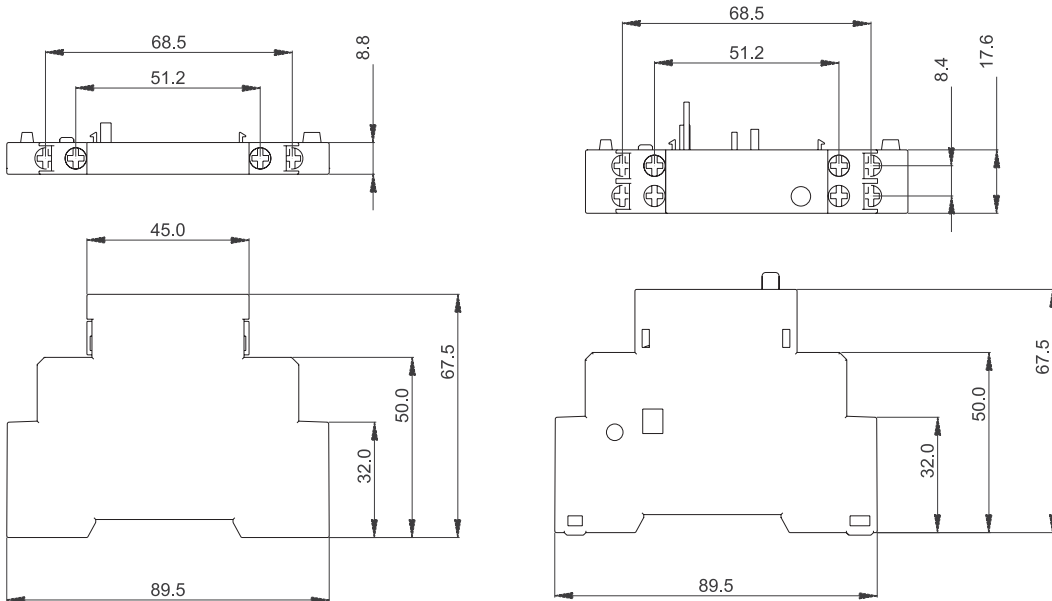
Front mount - NONC



Left side mount

1NO 1NC, 2NO,2NC

Trip indicator contact





Refineries



Textile Mills



General Manufacturing



Automobile Industries

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