



MOTOR PROTECTION CIRCUIT BREAKER

MPH Series



**BCH
ELECTRIC
LIMITED**

BCH MPH series of MPCB is a compact range for motor protection up to 30 kW (415V)/ 63 A in two frame sizes i.e. 45mm & 55mm. It offers Thermal overload protection and Short circuit protection in a single compact unit with features like trip-free mechanism, temperature compensation and a rotary handle with a clear switch position indication.

- Over load protection
- Phase failure protection
- Fuse less short circuit protection up to feeder line

Add on accessories

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

Salient features

- ON / OFF Rotary knob with manual operation enables individual motor circuit to be isolated without having to disconnect all other circuits in control panel.
- Pad locking in "OFF" position to prevent accidental turn "ON" of motor during servicing.
- Clear trip indication. The Rotary Knob comes to "TRIP" position on Short circuit & Over load faulty conditions which help 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 scale.
- Over load relay function confirms to TRIP class 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.

Selection Table

Cat reference	Relay ratings (A)	Magnetic trip current (13 x I _n)	Motor KW (3-Phase)			Motor KW (1-Phase)
			400/415V	500V	690V	220 -240V
			KW	KW	KW	KW
MPH32-0.16	0.1-0.16	2.1	-	-	0.06	-
MPH32-0.25	0.16-0.25	3.3	0.06	0.06	0.12	-
MPH32-0.4	0.25-0.4	5.2	0.09	0.12	0.18	-
MPH32-0.63	0.40-0.63	8.2	0.12	0.25	0.25	-
MPH32-1.0	0.63-1.0	13	0.25	0.37	0.55	0.06
MPH32-1.6	1.0-1.6	21	0.55	0.75	1.1	0.12
MPH32-2.5	1.6-2.5	33	0.75	1.1	1.5	0.18
MPH32-4.0	2.4-4.0	52	1.5	2.2	3	0.37
MPH32-6.3	4.0-6.3	82	2.2	3	4	0.55
MPH32-10	6.3-10	130	4	4	7.5	1.1
MPH32-16	10-16	208	9	12.5	15	2.2
MPH32-20	16-20	260	9	12.5	15	3.0
MPH32-25	20-25	325	12.5	15	22	-
MPH32-32	25-32	416	15	18.5	30	-
MPH63-16	11-16	208	7.5	3.7	7.5	1.5
MPH63-20	14-20	260	7.5	3.7	7.5	2.2
MPH63-25	18-25	325	11	5.5	11	2.2
MPH63-32	22-32	416	15	7.5	15	3.7
MPH63-40	28-40	520	18.5	7.5	15	3.7
MPH63-45	36-45	585	18.5	11	22	5.5
MPH63-50	40-50	650	22	11	22	5.5
MPH63-63	45-63	819	30	15	30	7.5

Note: Mag only version is also available

Short Circuit Current Rating

Cat reference	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			Short Circuit Breaking Capacity at 690V		
		Icu (kA)	Ics (kA)		Icu (kA)	Ics (kA)	gl/gG fuse ①	Icu (kA)	Ics (kA)	gl/gG fuse ①	Icu (kA)	Ics (kA)	gl/gG fuse ①	Icu (kA)	Ics (kA)	gl/gG fuse ①
MPH32-0.16	0.16	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-0.25	0.25	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-0.4	0.4	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-0.63	0.63	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-1.0	1	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-1.6	1.6	100	100		100	100	-	100	100	-	100	100	-	100	100	-
MPH32-2.5	2.5	100	100		100	100	-	100	100	-	100	100	-	8	6	25
MPH32-4.0	4	100	100		100	100	-	100	100	-	100	100	-	8	6	40
MPH32-6.3	6.3	100	100		100	100	-	100	100	-	100	100	-	6	5	50
MPH32-10	10	100	100		100	100	-	50	38	63	50	38	50	6	5	50
MPH32-16	16	100	100		50	38	100	35	25	80	10	8	80	4	3	63
MPH32-20	20	100	100		50	38	125	35	25	80	10	8	80	4	3	63
MPH32-25	25	100	100		50	38	125	35	25	100	10	8	80	4	3	63
MPH32-32	32	100	100		50	38	125	35	25	100	10	8	80	-	3	63
MPH63-16	16	100	100		50	38	125	35	25	100	12	12	80	12	12	-
MPH63-20	20	100	100		50	38	125	35	25	100	12	12	80	12	12	-
MPH63-25	25	100	100		50	25	125	35	25	100	12	12	80	12	12	-
MPH63-32	32	100	100		50	25	125	35	25	100	10	10	80	10	10	-
MPH63-40	40	100	100		50	25	125	35	25	100	10	10	80	10	10	-
MPH63-45	45	100	100		50	25	125	35	25	100	10	10	80	10	10	-
MPH63-50	50	100	100		50	25	125	35	25	100	10	10	80	10	10	-
MPH63-63	63	100	100		50	25	125	35	25	100	10	10	80	10	10	-

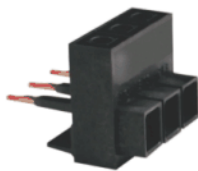
① Fuse is used if I_{cc} is greater than I_{cu}

Technical Data

S.NO	PARAMETER	MPH32		MPH63	
		Relay ranges (A)	Rated Oper. current (A)	Relay ranges (A)	Rated Oper. current (A)
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	13 In		13 In	
3	Trip class	10		10	
4	Operating frequency	50-60Hz		50-60Hz	
5	Degree of protection	IP20		IP20	
6	Certifications	UL, CE		UL	
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	0.1 - 32		11 – 63	
11	Ambient temperature compensation	Available		Available	
12	Permissible altitude w/o Derating	2000m		2000m	
13	Suitability for group motor protection	Yes		Yes	
14	Self protected type E manual combination starter	Yes		Yes	
16	Mechanical life	1,00,000		50,000	
17	Electrical life Max switching frequency / 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)	

Notes:

Accessories

Type	Name	Description	Suitability	CAT No.
Front Mount 	Front auxiliary contact. One No per MPCB	1NO + 1NC	MPH32 MPH63	MPHF11
Left side mount				
	Side auxiliary contact One No per MPCB	1NO+1NC, 2NO 2NC	MPH32 & MPH63	MPHS11
	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	MPH32	MPHT11
			MPH63	MPHT11F2
Under Voltage / Shunt Release				
	Under voltage release one number per MPCB	110 V 230 V 400 V	MPH32 & MPH63	MPH***UR
	Shunt trip one per MPCB	24 V AC/DC 110 V AC/DC 230 V AC / 220 V DC	MPH32 & MPH63	MPH***SR
	3-Phase in feed terminals	Conductor cross-section solid; 25 mm ²	MPH32 & MPH63	Offer on Request

For UV Release

*** (V)	Description
024	24V 50Hz
024	110 - 115V 50Hz
024	230 - 240V 50Hz
024	400 - 415V 50Hz

For Shunt Release

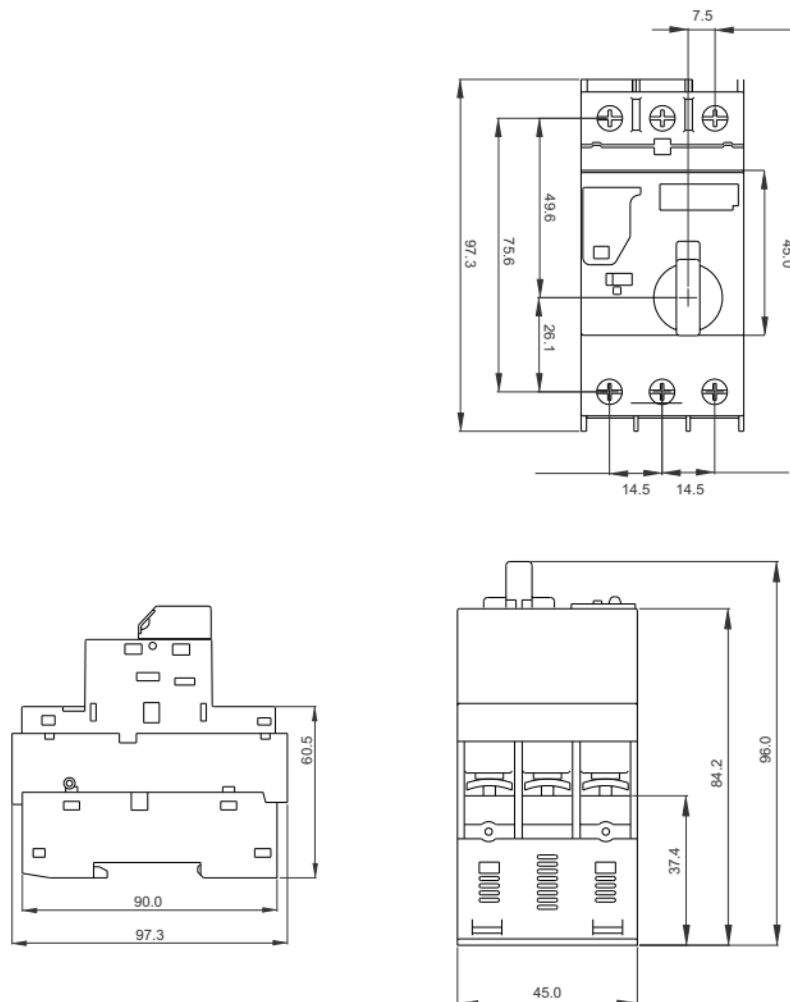
*** (V)	Description
024	20 - 24V, 50/60Hz
048	40 - 48V, 50/60Hz
440	365 - 440V, 50/60Hz
127	100 - 127V, 50/60Hz

Accessories

Type	Name	Description	Suitability	CAT No.
Insulated 3-Phase bus bar system				
	Modular spacing 45mm 3-Phase Busbars Modular Spacing 55m 3-Phase Busbars Modular spacing 63mm 3-Phase Busbars Modular spacing 75mm	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 for 2 MPCB w/o side accessories for 4 MPCB w/o side accessories for 2 MPCB with side accessories for 4 MPCB with side accessories for 2 MPCB with side accessories for 4 MPCB with side accessories	MPH32 & MPH63	Offer on Request
	Door operating Mechanism with door interlock defeat facility, padlocking facility Extension shaft 300mm	Front Operated	MPH32 MPH63	MPH34 MPH64F2

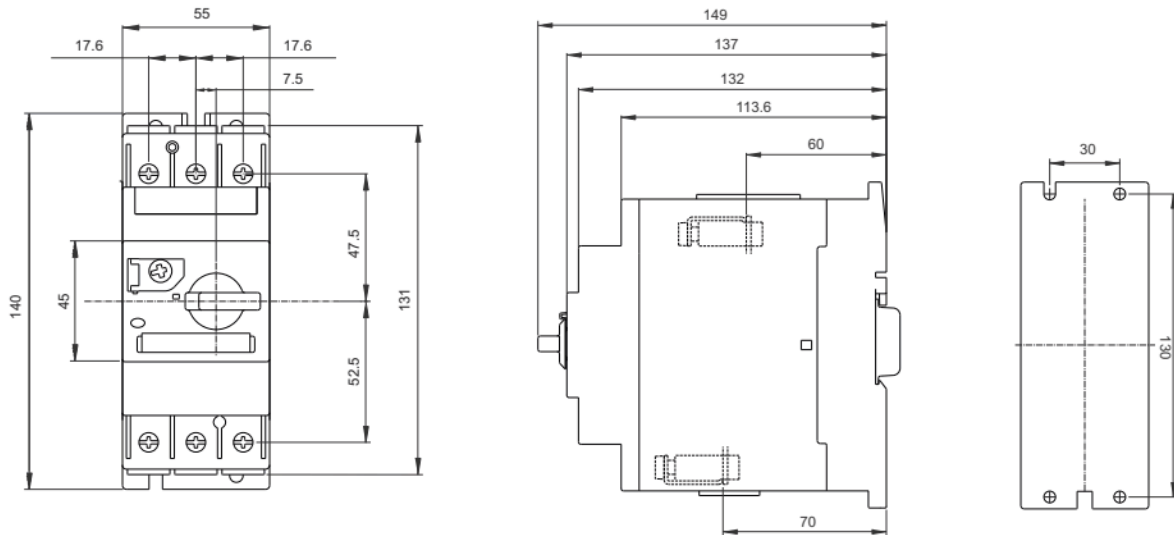
Dimensional Details

MPH32

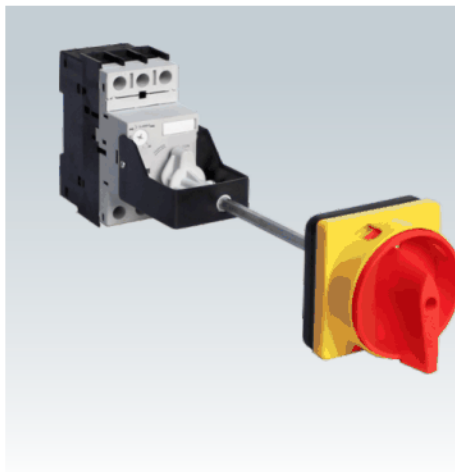
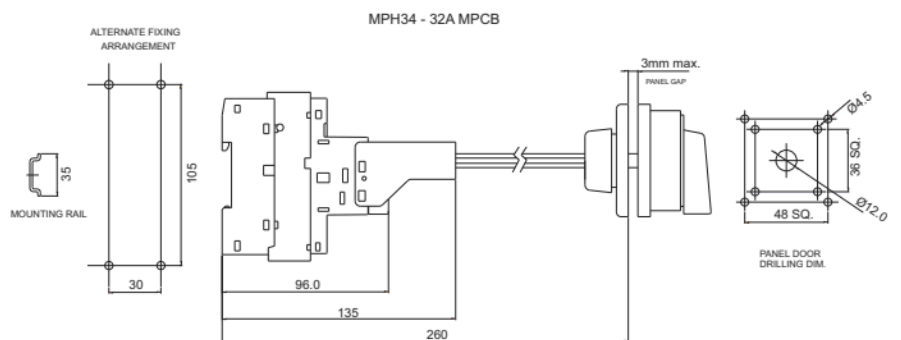
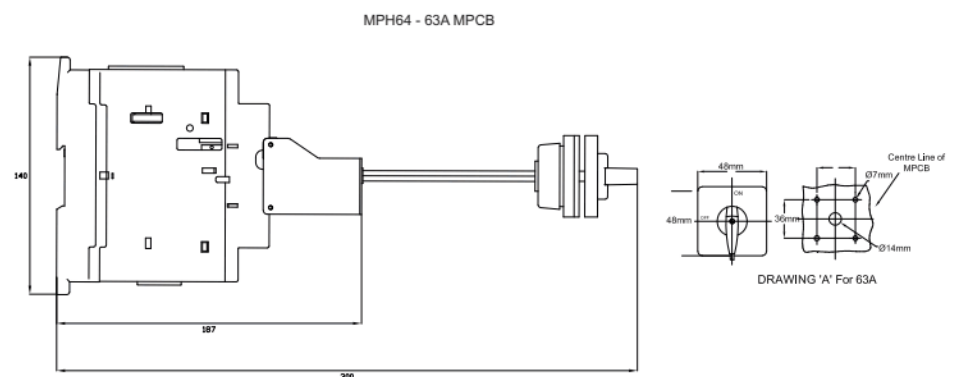


Dimensional Details

MPH63

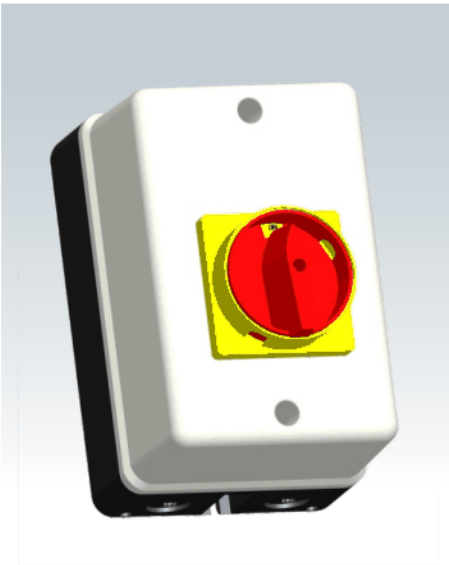
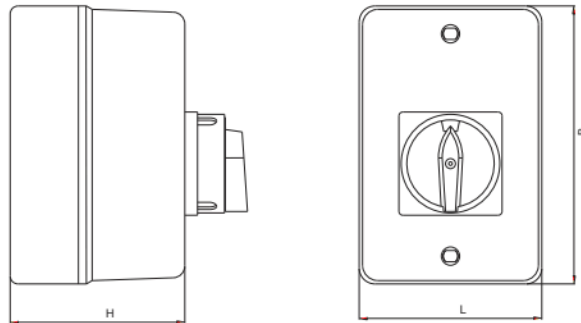


MPH34 & MPH64



B31SMA1

Plastic Enclosure

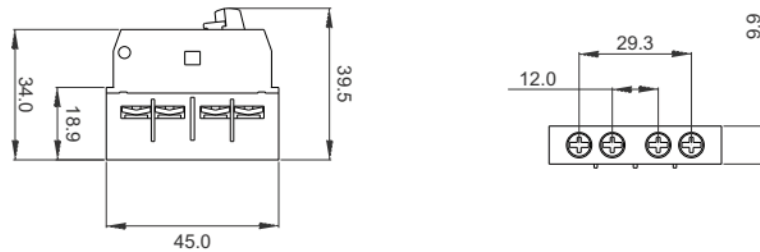


- Mounted in ABS Enclosure
- Round Padlocking Device (Max. 3 Padlocks)
to Prevent the MPCB from being Made to
ON by unauthorised persons
- Door Interlock-Cover Cannot Open in ON Condition

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

Dimension Details

Front mount - NONC



Left side mount

1NO 1NC, 2NO, 2NC

Trip indicator contact

