



MPD.4

3*400 VAC motor protection breaker

For variable speed controlled three-phase motors, total motor protection is only possible through direct monitoring of the working conditions: current and temperature. Our motor protection devices MPDS4 and MPDT4 offer optimal protection for motors and other loads up to 25 A, due to its high breaking capacity with strongly limited current. They are equipped with phase failure sensitivity, isolating and main switch functions (MPDS4 series), due to overload and short circuit tripping, and additional thermal contact analysis (MPDT4 series).

Both series are standard fitted with one out of five possible combinations of auxiliary contacts for remote signalling, electrical interlocking and control applications. The motor protection units are self-protected up to 6.3 A at 400 V. Ranges >6.3 A provide a short circuit withstand rating of 6 kA. The MPDS4 range is temperature compensated and the actual

ing current of the short circuit trip is 12 x I_u.

FEATURES

- Current range 0.4...25 A
- UL listed for motor loads
 - overload protection
 - short circuit protection
- Phase failure sensitivity
- High current limiting
- High switching capacity
- Different combinations of auxiliary contact
- Thermal contact analysis (only MPDT4 series)
- Enclosure: IP55
- Standards IEC 60947, DIN EN 60947, VDE 0660
- Mechanical endurance = Electrical endurance: 0.1 x 10⁶ switching cycles
- Max. operating frequency 30 switching cycles / h
- Ambient temperature
 - not enclosed, min/max -20/+55 °C
 - enclosed, min/max -20/+40 °C
- Resistance to mechanical shocks 15 g / 10 ms
- Cross section (1 or 2 conductors)
 - 1.0 – 6 r; 0.75 – 4 f (with ferrule)
 - / 2 conductors differing by not more than 2 sizes
- Torque for terminal screws
 - Main conductor: 1.2 Nm
 - Auxiliary conductor 1.0 Nm
 - Auxiliary contact for front mounting 0.5 Nm
- Rated impulse withstand voltage U_{imp} 6 000 V
- Overvoltage category / Pollution level III / 3
- Rated operating voltage U_e 230 VAC
- Rated operating current I_e 0.4 – 25 A according to setting range
- Frequency 40...60 Hz (At higher frequencies, the electromagnetic tripping values rise by a factor of about 1.1 at 100 Hz; 1.2 at 200 Hz; 1.4 at 400 Hz; 1.5 at 500 Hz)
- Utilization category (IEC 60947-4-1, DIN EN 60947-4-1, VDE 0660-102) AC max. 230 V
- Temperature compensation (reference values to VDE / IEC) -5 °C / +40 °C
- Temperature compensation operating range -20 °C...+55 °C
- Power loss in watt per path of current by min. setting range 0.6 – 1.05 W / by max. setting range 1.5 – 2.6 W

	Rated current	Max. rated operating power (kW/AC 3)			Operating current short circuit trip
		400/415 V	500 V	690 V	
MPD.4-06xxVS	0.4 – 0.63 A	0.12	0.18	0.25	7.6 A
MPD.4-10xxVS	0.63 – 1 A	0.25	0.37	0.55	12 A
MPD.4-16xxVS	1 – 1.6 A	0.55	0.75	1.1	19.2 A
MPD.4-25xxVS	1.6 – 2.5 A	0.75	1.1	1.5	30 A
MPD.4-40xxVS	2.5 – 4 A	1.5	2.2	3	48 A
MPD.4-63xxVS	4 – 6.3 A	2.2	3	4	75.6 A
MPD.4100xxVS	6.3 – 10 A	4	5.5	7.5	120 A
MPD.4160xxVS	10 – 16 A	7.5	9	12.5	192 A
MPD.4200xxVS	16 – 20 A	9	12.5	15	240 A
MPD.4250xxVS	20 – 25 A	12.5	15	22	300 A

Article encoding

example: MPDS4-63OCVS

MPDS	overload current and short circuit tripping
MPDT	features MPDS + thermal contact analysis
OC	1 NO + 1 NC contact
OO	2 NO contacts
CC	2 NC contacts
-C	1 NC contact
-O	1 NO contact
VS	variable speed

Rated short circuit withstand rating I_{cu}, IEC 60947-2, DIN EN 60947-2, VDE 0660-101

Upper setting thermal tripping	I _{cu} (kA)			Current limiter SBMS32 I _{cu} (kA)	
	400 V	500 V	690 V	230 V	400 V
0.4 – 1.6 A	No additional protective devices needed, inherently stable for any selected short circuit currents			No additional protective devices needed, inherently stable for any selected short circuit currents	
2.5 – 6.3 A		3	2.5		
10 A	6	3	2.5		50
16 – 25 A	6	2.5	2	100	50

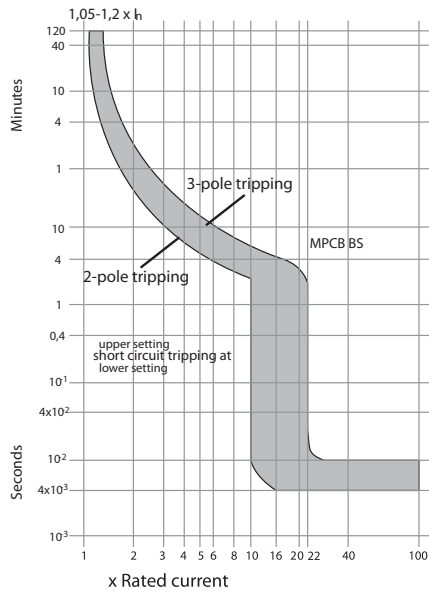
Back-up-protection (if the short circuit current is higher than the short circuit withstand rating)

Rated current	Back-up fuse (gL, aM) (A)		
	400 V	500 V	690 V
0.4 – 0.63 A	No back-up fuse necessary inherently stable for any selected short circuit currents		
0.63 – 1 A			
1 – 1.6 A			
1.6 – 2.5 A		25	20
2.5 – 4 A		35	25
4 – 6.3 A		50	35
6.3 – 10 A	80	50	35
10 – 16 A	80	63	35
16 – 25 A	80	63	50

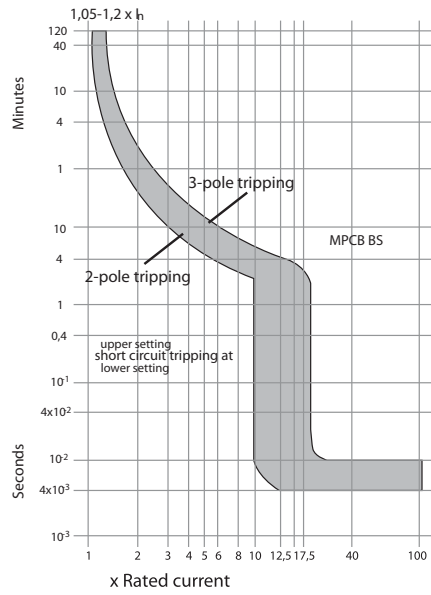


OPERATION

0.4-16 A

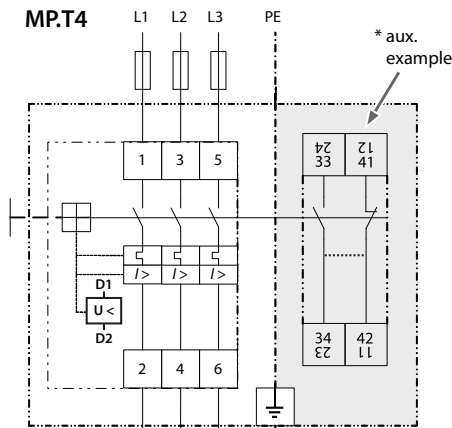


20-25 A

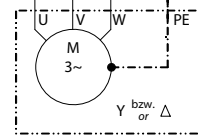
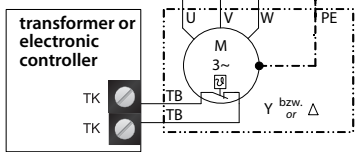
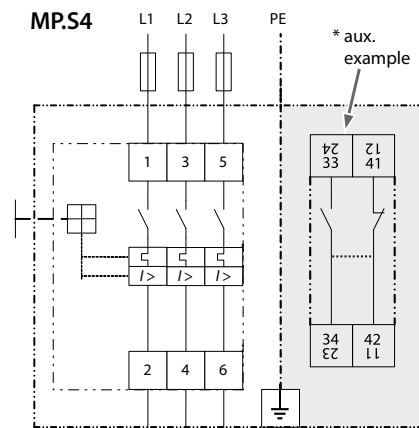


WIRING DIAGRAM

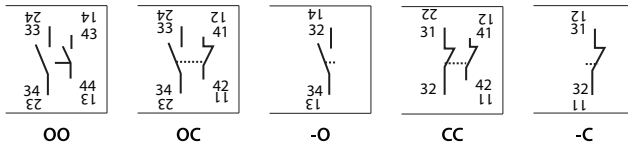
MP.T4



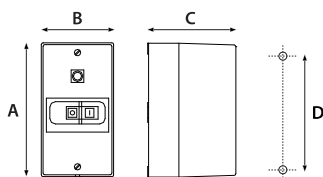
MPS.4



* Different types of auxiliary contacts available:



DIMENSIONS & FIXING



	A	B	C	D	net weight
MPDS-....	150	80	97.5	140	530 g
MPDT-....	150	80	97.5	140	605 g