

Manual Motor Starters

MANUAL MOTOR STARTERS

- **Overload, phase loss and short-circuit protection.**
- **Overload range adjustable from 0,1 to 32A.**
- **Wide range of accessories.**
- Suitable for small size motors in machine-tools, conveyor systems, etc.
- Modular size 45 mm. DIN rail mounting (EN 50022-35).
- Isolating and main switch function (IEC 204-1).

M

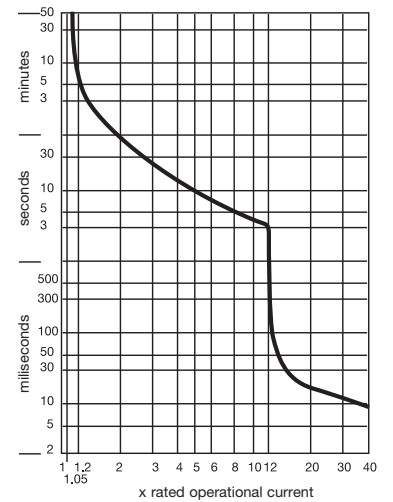


CHARACTERISTICS

Rated operational voltage U _e	690 V
Rated impulse withstand voltage V _{imp}	6 kV
Frequency	40/60 Hz
Mechanical or electrical operations	100.000
Max. operating frequency	30 m/h
Current heat losses (3-phases)	5,8 W
Opening time	7 ms
Terminal section	2 x 6 mm ²
Screw torque	1,2 Nm
Protection degree	IP20
Fixed magnetic trip (A)	12 x I ±20%

Code	Model	Range A	Motor 3F, AC3 kW - 400 V
35016	M-0,16	0,1 - 0,16	-
35000	M-0,25	0,16 - 0,25	0,06
35001	M-0,4	0,25 - 0,4	0,09
35002	M-0,63	0,4 - 0,63	0,12
35003	M-1	0,63 - 1	0,25
35004	M-1,6	1 - 1,6	0,55
35005	M-2,5	1,6 - 2,5	0,75
35006	M-4	2,5 - 4	1,5
35007	M-6,3	4 - 6,3	2,2
35008	M-10	6,3 - 10	4
35009	M-16	10 - 16	7,5
35010	M-20	16 - 20	9
35011	M-25	20 - 25	12,5
35012	M-32	25 - 32	15

Cold state curve.
For warm state multiply t x 0,25



AUXILIARY CONTACTS

Rated operational voltage	500 V
Rated impulse withstand voltage	4 kV
Maximum current I _m	6 A
Rated current AC-15:230/400 V	3,5 / 2 A
Terminal section	2 x 2,5 mm ²
Screw torque	1 Nm



Rated short circuit breaking capacity I_{cu} (DIN VDE 0660 part 101; IEC 947-2)

Manual motor starter models	Switching capacity I _{cu} [kA]						Back-up fuse			
	Switching capacity I _{cu} [kA]				With limiter M-SB		Fuses gL, aM (A)			
V	230	400	500	690	230	400	230	400	500	690
M-0,16 a M-1,6	Not required				Not required		Not required			
M - 2,5	3				2,5		25			
M - 4	3				2,5		35			
M - 6,3	3				2,5		50			
M - 10	6	3	2,5	50		80				
M - 16	10	6	2,5	2	100	50	80	80	63	35
M-20 a M-32	10	6	2,5	2	100	50	80	80	63	50

ACCESSORIES

- Current limiter M-SB (IN=32A), increases the short circuit capacity up to 50kA/400V. Assembly: under the manual motor starter or remotely.
- Undervoltage trip and remote trip.
- Enclosures, auxiliary contacts, emergency push-button and indicator lights.



DESCRIPTION / MODEL / CODE

- Current limiter **M-SB** **03990**
- Auxiliary contacts (*NO early make)

Contact	Side mounting	Inside mounting	Front mounting
2 NA	M-HS20 03901		
NO + NC	M-HS11 03900		FHMS11 03931
NO	M-HS10 39011	M-SHS10 03906	FHMS10 03932
2 NC	M-HS02 03903		
NC	M-HS01 39031	M-SHS01 03907	FHMS01 03933
NO*+ NC	M-VHS11 03902		

- Remote trip and undervoltage trip (Inside mounting)

V / Hz	Remote	Undervoltage
24 / 50-60	M-AS-05 03923	M-UN-05 03913
110 / 50 120 / 60	M-AS-15 03920	M-UN-15 03910
220-240 / 50 240 / 60	M-AS-25 03921	M-UN-25 03911
380-415 / 50 440 / 60	M-AS-45 03922	M-UN-45 03912
500 / 50		M-UN-55 03915

- Enclosures

Surface mounting IP41	M-GE 03950
Flush mounting IP41	M-FP 03940
IP55 Kit (M-GE and M-FP)	M-BS 03948
IP 54 Enclosure, 5 poles CEE-17	M-GC 04055
Idem with phase inverter	M-GC1 04056

- Emergency stop-operation for M-GE and M-FP

Push-button type IP55	M-PT 03980
Self-locking type IP55	M-PV 03981
Self-locking with key IP55	M-PS 39822

- Busbar

Busbar-2	M-SBD-12 03991
Busbar-3	M-SBD-13 03992
Busbar-4	M-SBD-14 03993
Busbar-5	M-SBD-15 03994
Input terminals	M-SBDE1 03995

- Others for enclosures M-GE and M-FP

Padlocking feature (max. 3)	M-VSL 03988
N-terminal	M-N 03949
Pilot light, white, 220-240V	M-LM 39701
Pilot light, white, 380-440V	M-LM1 39702
Pilot light, green, 220-240V	M-LM-G 39711
Pilot light, green, 380-440V	M-LM1-G 39712
Pilot light, red, 220-240V	M-LM-R 39721
Pilot light, red, 380-440V	M-LM1-R 39722



DIMENSIONS (mm)

