

# MS25

## motor protection circuit breakers

Motor protection circuit breakers are special type of circuit breakers designed for protection of wide range of single-phase and three-phase ac motors against overload and short circuit. They are used in industry, small machines, agricultural machines, compressors etc.



### For motor protection

- ▶ All kind of AC induction motors
- ▶ For three-phase motors up to 22 kW

### Protection of other loads

- ▶ Various low-inductive loads
- ▶ Version with a thermal overload release for single-phase consumers MST20
- ▶ Version with thermal and magnetic release for single-phase consumers MS20
- ▶ Version for short-circuit protection MSZ25
- ▶ Version for transformer protection MS25TR

### Other Benefits

- ▶ Manual control:
  - START, STOP, push-buttons - Test of release function (TEST)
- ▶ Automatic switch-off at over-current with thermal or magnetic release
- ▶ Control with under-voltage release or shunt release
- ▶ An auxiliary switch for side mounting or flush mounting used for indication of the switching state
- ▶ Indication of release with trip indicating auxiliary switch
- ▶ ON/OFF buttons positions unequivocally indicates switching position of main contacts
- ▶ Contact material :
  - resistant to contact welding
  - enables low contact heating
- ▶ Isolating distance between contacts: 4.5 mm per contact place
- ▶ Connection of a rigid or flexible conductor
- ▶ Assembly to 35 mm wide mounting rail in compliance with EN 60715
- ▶ Vertical or horizontal operational position
- ▶ As required by IEC 60947-1, the manual motor starter features a trip-free mechanism. This means that the manual motor starter trips even if the handle is locked in the "ON" position or held by hand.

**Motor protection circuit breakers with overload and short-circuit release  
AC-3 acc. to IEC/EN 60947-4-1**

Type	Setting range (A)	Motor power (3-phase, 400 V) (kW)	Ordering No.	Weight (g)	Quantity / Box
MS25-0.16	0.1 ... 0.16	0.02	30.107.955	252	1
MS25-0.25	0.16 ... 0.25	0.06	30.107.956	252	1
MS25-0.4	0.25 ... 0.4	0.09	30.107.957	252	1
MS25-0.63	0.4 ... 0.63	0.12	30.107.958	252	1
MS25-1	0.63 ... 1	0.18 ... 0.25	30.107.959	252	1
MS25-1.6	1 ... 1.6	0.37 ... 0.55	30.107.960	252	1
MS25-2.5	1.6 ... 2.5	0.75 ... 1.1	30.107.961	252	1
MS25-4	2.5 ... 4	1.1 ... 1.5	30.107.962	252	1
MS25-6.3	4 ... 6.3	2.2 ... 2.5	30.107.963	252	1
MS25-10	6.3 ... 10	3 ... 4	30.107.964	252	1
MS25-16	10 ... 16	5 ... 7.5	30.107.965	252	1
MS25-20	16 ... 20	9	30.107.966	252	1
MS25-25	20 ... 25	11 ... 12.5	30.107.967	252	1
MS25-32	25 ... 32	15	30.109.475	252	1







**Motor protection circuit breakers for single-phase consumers MS20 with overload and short-circuit release AC-3 acc. to IEC/EN 60947-4-1**

Type	Setting range (A)	Motor power (single-phase, 220-240 V) (kW)	Ordering No.	Weight (g)	Quantity / Box
MS20-0.16	0.1 ... 0.16	-	30.108.523	252	1
MS20-0.25	0.16 ... 0.25	-	30.108.524	252	1
MS20-0.4	0.25 ... 0.4	-	30.108.525	252	1
MS20-0.63	0.4 ... 0.63	-	30.108.526	252	1
MS20-1	0.63 ... 1	0.06 ... 0.09	30.108.527	252	1
MS20-1.6	1 ... 1.6	0.12	30.108.528	252	1
MS20-2.5	1.6 ... 2.5	0.18 ... 0.25	30.108.529	252	1
MS20-4	2.5 ... 4	0.37	30.108.513	252	1
MS20-6.3	4 ... 6.3	0.55 ... 0.75	30.108.514	252	1
MS20-10	6.3 ... 10	1.1 ... 1.5	30.108.515	252	1
MS20-16	10 ... 16	2.2	30.108.516	252	1
MS20-20	16 ... 20	3	30.108.517	252	1



## Accessories for MS25

### Auxiliary contact block for lateral mounting PS

Type	Number of contacts		Wiring diagram	Ordering No.	Weight (g)	Quantity / Box
	NO	NC				
PS01	0	1		38.901.670	35	1
PS10	1	0		38.901.669	35	1
PS11	1	1		38.901.501	35	1
PS20	2	0		38.901.500	35	1



### Under-voltage release U

Voltage (V)*	Frequency (Hz)	Ordering No.	Weight (g)	Quantity / Box
24	50/60	38.901.502	62	1
24	60	38.901.952	62	1
48	50	38.901.904	62	1
48	60	38.902.956	62	1
60	50	38.901.504	62	1
110	50	38.901.505	62	1
120	60			
120	50	38.903.035	62	1
220 - 240	50			
240	60	38.901.506	62	1
380 - 415	50			
440	60	38.901.508	62	1
415	60	38.902.964	62	1
480	50	38.902.966	62	1
480	60	38.901.863	62	1
500	50	38.902.968	62	1
500	60	38.902.970	62	1
600	50	38.902.972	62	1
600	60	38.901.870	62	1



\* U release for other control voltage/frequencies are on request.

**Shunt release A**

Voltage (V)*	Frequency (Hz)	Ordering No.	Weight (g)	Quantity / Box
24	50/60	38.901.510	62	1
24	60	38.901.953	62	1
48	50	38.901.905	62	1
48	60	38.902.957	62	1
60	50	38.901.504	62	1
110	50	38.901.513	62	1
120	60	38.901.727	62	1
220 - 240	50	38.901.514	62	1
240	60	38.901.516	62	1
380 - 415	50	38.901.516	62	1
440	60	38.902.965	62	1
415	60	38.902.967	62	1
480	50	38.901.864	62	1
480	60	38.902.969	62	1
500	50	38.902.971	62	1
500	60	38.902.973	62	1
600	50	38.901.872	62	1
600	60	38.901.872	62	1



\* A releases for other control voltage/frequencies are on request.

**Trip-indicating auxiliary contact block RS**

Type	Number of contacts		Wiring diagram	Ordering No.	Weight (g)	Quantity / Box
	NO	NC				
RS01	0	1		38.902.149	35	1
RS10	1	0		38.902.150	35	1



**Note** RS contact changes position from its normal state when the MS25 MPCB trips due to overload, short-circuit or the manual depression of the TEST lever.

**Adapters for connection of MS25 with a contactor**

Type	Conductor length (mm)	Conductor cross-section (mm <sup>2</sup> )	Thermal current (A)	Ordering No.	Weight (g)	Quantity / Box
DST-U-2.5	40	2.5	20	665.200.020	12	10
DST-U-4	40	4	35	665.200.021	16	10
DST-U-2.5 L	70	2.5	20	665.200.022	14	10



**Enclosures for MS25**

Type	Degree of protection	Ordering No.	Weight (g)	Quantity / Box
<b>Enclosures</b>				
O-41	IP41	38.422.509	222	1
O-55	IP55	38.422.510	222	1
<b>Front Plates</b>				
CP-41	IP41	38.422.035	150	1
CP-55	IP55	38.421.994	150	1



**Accessories for enclosures O-41/55 and CP-41/55**

Type	Voltage	Ordering No.	Weight (g)	Quantity / Box
Emergency stop push-button <b>NAT</b>	/	38.901.665	40	1
Emergency stop push-button with keylock <b>NAT-K</b>	/	38.902.488	40	1
Padlocking feature <b>Z</b>	/	38.901.632	95	1
Push-button diaphragm <b>IP55</b>	/	38.422.130	12	1
Neutral link <b>NL</b>	/	38.552.076	525	25
Signal lamp <b>SSr (Red)</b>	250 V	623.000.131	175	25
	400 V	623.009.261		
Signal lamp <b>SSr (Green)</b>	250 V	623.009.257	175	25
	400 V	623.009.262		
Signal lamp <b>SSb (Transparent)</b>	250 V	623.009.256	175	25
	400 V	623.009.263		
Cable inlet <b>M25 x 1.5</b>	/	315.609.520	15	100

