

Manual Motor Starters OKE2 / MKE2



Manual Motor Starter OKE2, 3-pole

Thermal trip
 Setting range 1.0 – 25.0 A; 500 V AC
 Switching capacity 11 kW
 Switching operations 60/h
 Including PE/N bar (left side)

Type overview OKE2

Order reference	Description Rated current setting range (A)	Packing (units)	Weight in g	Part No.
OKE2 016	1.00 – 1.60 A	1	280	202721
OKE2 025	1.60 – 2.50 A	1	280	202738
OKE2 040	2.50 – 4.00 A	1	280	202745
OKE2 063	4.00 – 6.30 A	1	280	202752
OKE2 100	6.30 – 10.00 A	1	280	202769
OKE2 160	10.00 – 16.00 A	1	280	202776
OKE2 250	16.00 – 25.00 A	1	280	202783



Manual Motor Starter MKE2, 3-pole

Thermal/magnetic trip
 Setting range 0.10 – 25.0 A; 500 V AC
 Switching capacity 11 kW
 Switching operations 60/h
 Including PE/N bar (left side)

Type overview MKE2

Order reference	Description Rated current setting range (A)	Packing (units)	Weight in g	Part No.
MKE2 001	0.10 – 0.16 A	1	300	202158
MKE2 002	0.16 – 0.25 A	1	300	202165
MKE2 004	0.25 – 0.40 A	1	300	202172
MKE2 006	0.40 – 0.63 A	1	300	202189
MKE2 010	0.63 – 1.0 A	1	300	202196
MKE2 016	1.0 – 1.6 A	1	300	202202
MKE2 025	1.6 – 2.5 A	1	300	202219
MKE2 040	2.5 – 4.0 A	1	300	202226
MKE2 063	4.0 – 6.3 A	1	300	202233
MKE2 100	6.3 – 10.0 A	1	300	202240
MKE2 160	10.0 – 16.0 A	1	300	202257
MKE2 250	16.0 – 25.0 A	1	300	202264

Manual Motor Starters OKE2 / MKE2



Technical Data OKE2 / MKE2

Technical Data (OKE2 / MKE2)	
Rated insulation voltage U_i acc. to IEC 947-4-2 / VDE 0110	500 V AC
Permissible ambient temperature	
Storage temperature	-25...+ 70 °C
open	-25...+ 60 °C
enclosed type	-25...+ 40 °C
Temperature compensation	no
Climatic resistance	IEC 68 T2-3, 2-30
Glow wire resistance acc. to IEC 695-2-1	Intensity 850°C
Working position	preferably vertical
any position	
Permissible altitude	3000 m
Permissible vibration resistance IEC 68-2-6	25 Hz b.+/- 1 mm Amplitude (2,5 g)
Permissible impact direction sine impact (critical direction IEC 68-2-27)	5 g (11 ms)
Surface mounting screws DIN-rail	2 x M4** integrated
Mechanical life in cycles	100.000
Maximum switching operations Cycles/hour	60

**not included in the scope of delivery

Conductor cross-section (OKE 2/MKE 2)		
Manual motor starters	rigid cable 1 x	1 ... 6.0 mm ²
	rigid cable 2 x	1 ... 4.0 mm ²
	flexible cable* 1 x	1 ... 6.0 mm ²
	flexible cable* 2 x	1 ... 2.5 mm ²
Auxiliary contact	rigid cable 1 x	1 ... 2.5 mm ²
	rigid cable 2 x	1 ... 2.5 mm ²
	flexible cable* 1 x	1 ... 2.5 mm ²
	flexible cable* 2 x	1 ... 2.5 mm ²
Undervoltage/ shunt release	rigid cable 1 x	1 ... 2.5 mm ²
	rigid cable 2 x	1 ... 2.5 mm ²
	flexible cable* 1 x	1 ... 2.5 mm ²
	flexible cable* 2 x	1 ... 2.5 mm ²
Enclosure/ PE/N terminal	rigid cable 1 x	1 ... 4.0 mm ²
	rigid cable 2 x	1 ... 4.0 mm ²
	flexible cable* 1 x	1 ... 2.5 mm ²
	flexible cable* 2 x	1 ... 2.5 mm ²
Degree of Protection acc. to DIN 40050 open type enclosed type		IP 20 IP 55...65

* with cable end sleeve

Undervoltage release (OKE 2/MKE 2)	
Energizing voltage % von U_c	≥ 85
De-energizing voltage % von U_c	35 .. 70
Relative Duty factor % von U_c	100
Power consumption	
Closing	6.0 VA
Holding	3.0 VA

Technical Data (OKE2 / MKE2)	
Main current paths Number	3
Rated operational voltage U_e up to	16 A 550 V AC 25 A 500 V AC
Rated operational current I_e	25 A
Permissible frequency only for magnetic short-circuit release	40...60 Hz
Current setting ranges I_e OKE2 / MKE2 Acc. to VDE 0660 Part 102 A, IEC 947-4-1	1-25 / 0.1-25
Numbers of ranges OKE2 / MKE2	7 / 12
Current dissipation loss Main current paths at I_e max./Phase	1.9...3.7 W 2.6...4.2 W
Tripping curves	10A
Electro-magnetic trip	8 - 13 x I_n

Auxiliary contact (OKE2 / MKE2)	
Auxiliary current paths	230 V
Rated insulation voltage IEC 947	
Thermal current	6 A
I_{th2}	
Short-circuit protection back-up fuse gL MCB B 6 A	10 A B 6 A

Max. switching capacity (OKE 2/MKE 2)		
Auxiliary contact I_e at AC 15 up to	24 V AC	6 A
	230 V AC	4 A
	400 V AC	3 A
	500 V AC	1 A
may be used for low voltage and PLC inputs acc. to DIN 19240		

Standards (OKE 2/MKE 2)	
The devices comply with the requirements of major international, European and national specifications	VDE, IEC, BS, CEI, NBN, NEN SEV, UTE, D, N, S

Shunt release (OKE 2/MKE 2)	
Energizing voltage % von U_c	approx. 70
Power consumption	
Closing	6.0 VA
Holding	3.0 VA

Technical Data OKE2 / MKE2

Short circuit switching capacity (OKE 2/MKE 2)	
40 ... 60 Hz P1 / I _{cn} acc. to VDE 0660 / IEC 155-1 Taking the mains back-up fuse into consideration	
230 V	6 kA
400 V	3 kA
440 V	3 kA
500 V	1 kA

Correction factor (OKE 2/MKE 2)	
Ambient temperature	Correction factor
- 5° C	1.12
+ 20° C	1.00
+ 40° C	0.89

Setting ranges, intrinsic safety and max. back-up fuse OKE2

Order reference	Setting ranges A	Max. back-up fuse gI (A)	
		440 / 500 V	
OKE2 016	1.0 – 1.6	16	
OKE2 025	1.6 – 2.5	25	
OKE2 040	2.5 – 4.0	35	
OKE2 063	4.0 – 6.3	50	
OKE2 100	6.3 – 10.0	63	
OKE2 160	10.0 – 16.0	63	
OKE2 250	16.0 – 25.0	50	

Setting ranges, intrinsic safety and max. back-up fuse MKE2

Order reference	Setting ranges A	Actuating current of the magn. short-circuit release (A)	max. back-up fuse gI (A)		
			230 V	400 V	500 V
MKE2 001	0.10 – 0.16	1.3	No back-up fuse required		
MKE2 002	0.16 – 0.25	2.0			
MKE2 004	0.25 – 0.40	3.5			
MKE2 006	0.40 – 0.63	5			
MKE2 010	0.63 – 1.0	8			
MKE2 016	1.0 – 1.6	13			
MKE2 025	1.6 – 2.5	20			
MKE2 040	2.5 – 4.0	32	35	25	
MKE2 063	4.0 – 6.3	50	63	50	50
MKE2 100	6.3 – 10.0	80	63	63	50
MKE2 160	10.0 – 16.0	128	63	63	50
MKE2 250	16.0 – 25.0	200	63	63	50

Permissible wire protection

Order reference	Min. protected cross-section at 400 / 500 V AC, Cu mm ²				
	4	2,5	1,5	1,0	0,75
MKE2 I _n (A)					
0.16 bis 6.3	X	X	X	X	X
10	X	X	X	X	
16	X	X	X		
25	X	X			

Protection of PVC-insulated cables against thermal overload due to short-circuit:

According to VDE 0100 Parts 430 and 523, cables and wires have to be protected against overload and short-circuit. The table shows which cable cross-sections are protected against short circuit by the MKE 2.

Manual Motor Starters OKE2 / MKE2



Accessories OKE2 / MKE2

Order reference	Description	Packing (units)	Weight in g	Part No.
Auxiliary contacts *				
Hi 10	Auxiliary contact 1 N.O., right	1	7.5	202288
Hi 01	Auxiliary contact 1 N.C., right	1	7.5	202301
Hi 11	Auxiliary contact 1 N.O./1 N.C.	1	7.5	202325
Shunt release *				
AS 230-50	Shunt release 230 V / 50 Hz	1	60	202479
AS 400-50	Shunt release 400 V / 50 Hz	1	60	202486
Undervoltage release *				
US 110-50	Undervoltage release 110 V / 50 Hz	1	60	202370
US 230-50	Undervoltage release 230 V / 50 Hz	1	60	202387
US 400-50	Undervoltage release 400 V / 50 Hz	1	60	202400
Enclosure/Special accessories				
A IP 55	Enclosure, protection IP 55, up to 16 A	1	125	202554
B IP 55	Enclosure with large terminal box, protection IP 55	1	450	202561
C IP 54	Enclosure, protection IP 54, 5-pole, CEE-plug 16 A	1	375	202585
G IP 65	Die-cast aluminum enclosure, protection IP 65	1	800	202578
E IP 54	Front plate, protection IP 54	1	125	202622
Enclosure-accessories				
NAK	Emergency-OFF-device IP 55	1	55	202653
V	Padlock blockade device IP 55	1	40	202660
AZ	Supplementary set for enclosure, protection IP 41 to IP 55	1	25	216742

*Auxiliary contacts, shunt and undervoltage releases must be factory installed.



Manual motor starter
MKE2 + AS



Manual motor starter
MKE2 + US



Enclosure **A**



Enclosure **A** +
Emergency-OFF-device
NAK



Enclosure **B** + Padlock
blockade device **V**

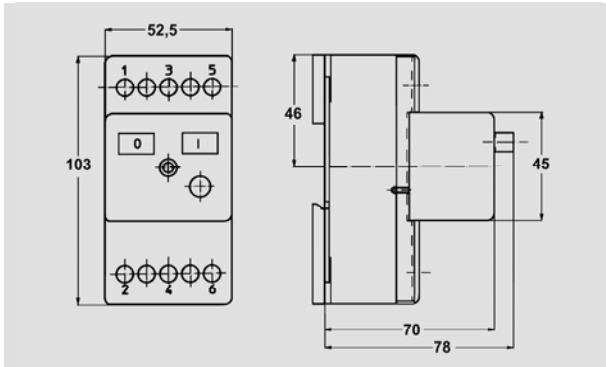


Enclosure **G** + **MKE2**

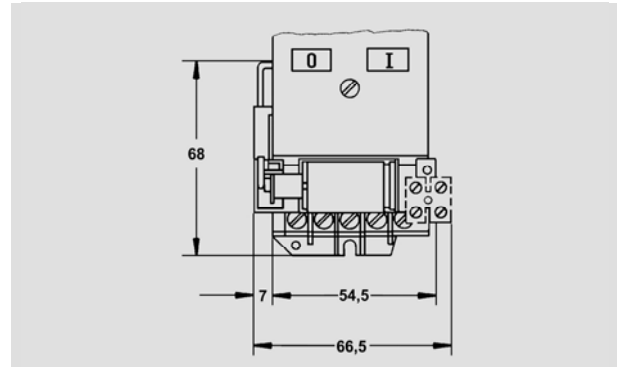
Manual Motor Starters OKE2 / MKE2



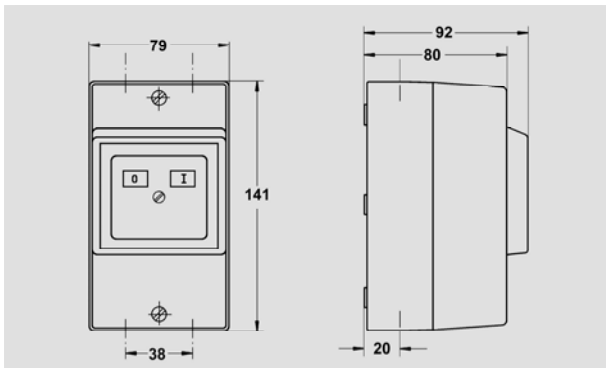
Dimensions OKE2 / MKE2



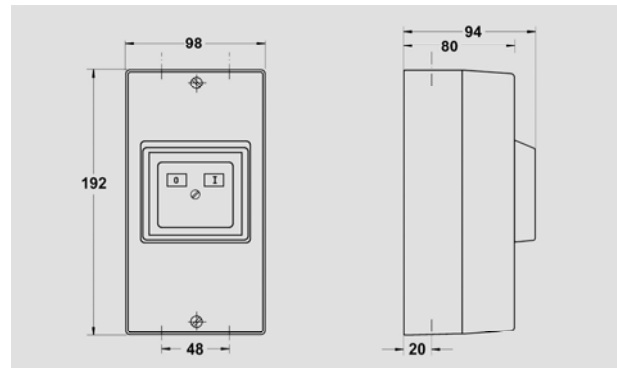
Manual motor starter
OKE2 / MKE2



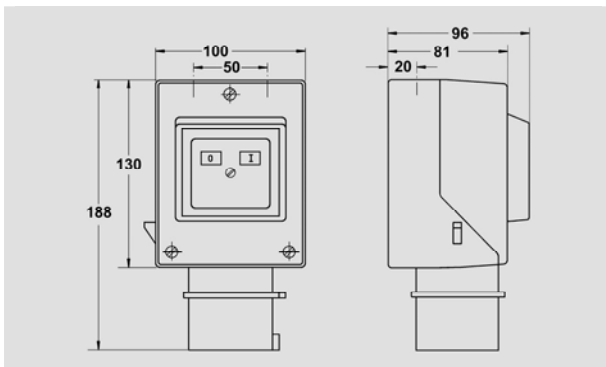
Undervoltage release **US**
Shunt release **AS**



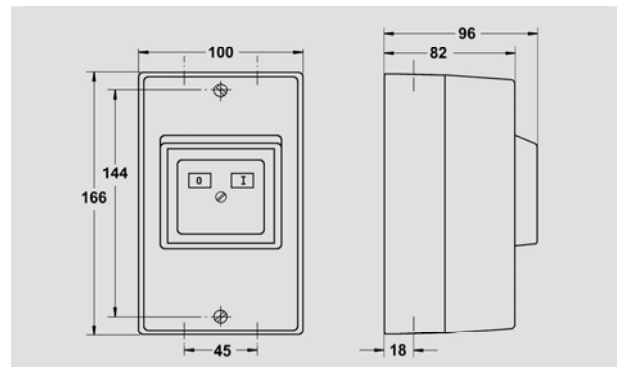
Enclosure **A**



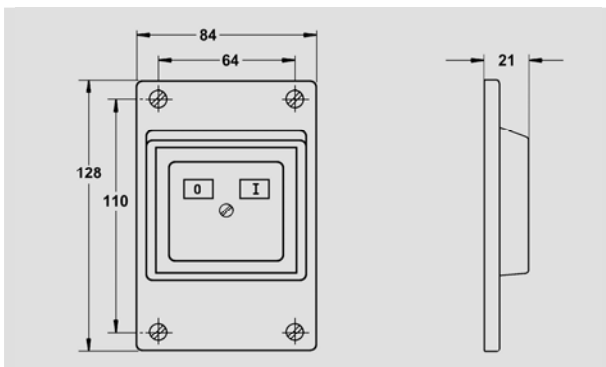
Enclosure **B**



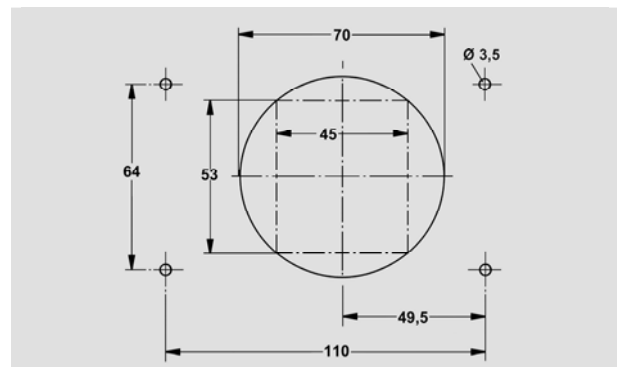
Enclosure **C**



Enclosure **G**



Front plate, protection **E**

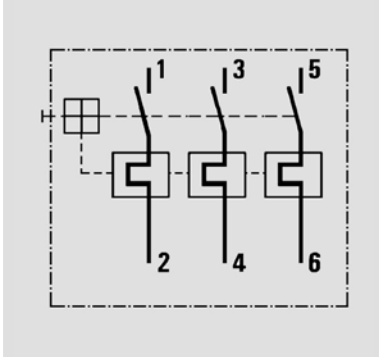


Mounting template for Front plate **E**

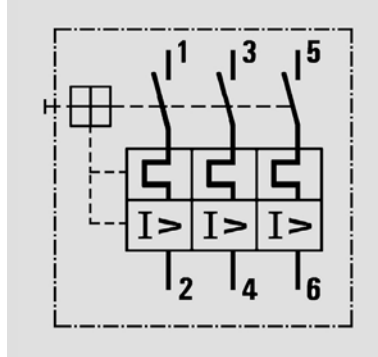
Manual Motor Starters OKE2 / MKE2



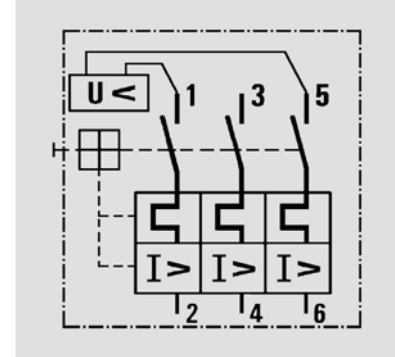
Circuit Diagrams OKE2 / MKE2



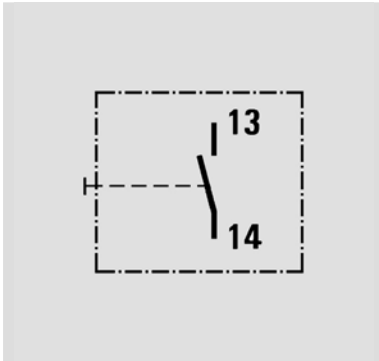
Manual motor starter
OKE2



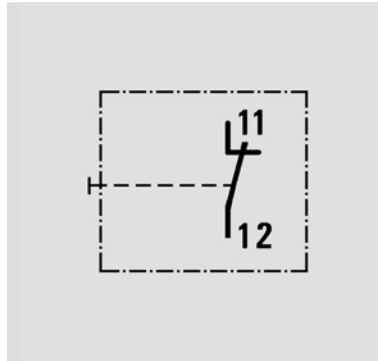
Manual motor starter
MKE2



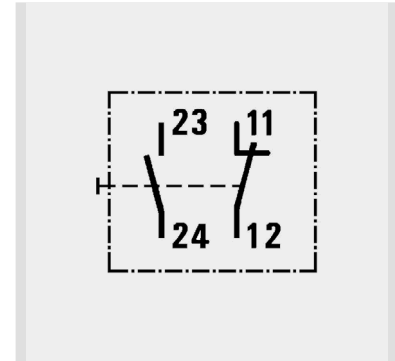
Manual motor starter
MKE2
with undervoltage release



Auxiliary contact **Hi 10**
(1 N.O.)



Auxiliary contact **Hi 01**
(1 N.C.)



Auxiliary contact **Hi 11**
(1 N.O. / 1 N.C.)

Tripping curves OKE2 / MKE2

