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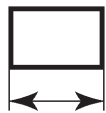
Push Buttons



Technical Data

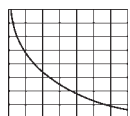
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Manual Motor Starters



Thermal Overload Release Setting Range A	Ratings AC3 at		Magnetic short circuit trip A	Type	Pack pcs.	Weight kg/pc.
	400V kW	690V kW				
0,1 - 0,16	0,02	0,06	1,92	MU25A-0,16 MU25A-0,25 MU25A-0,4	1	0,25
0,16 - 0,25	0,06	0,12	3,0		1	0,25
0,25 - 0,4	0,09	0,18	4,8		1	0,25
0,4 - 0,63	0,12	0,25	7,6	MU25A-0,63 MU25A-1 MU25A-1,6	1	0,25
0,63 - 1	0,25	0,55	12,0		1	0,25
1 - 1,6	0,55	1,1	19,2		1	0,25
1,6 - 2,5	0,75	1,5	30	MU25A-2,5 MU25A-4 MU25A-6,3	1	0,25
2,5 - 4	1,5	3	48		1	0,25
4 - 6,3	2,5	4	75,6		1	0,25
6,3 - 10	4	7,5	120	MU25A-10 MU25A-16 MU25A-20	1	0,25
10 - 16	7,5	11	192		1	0,25
16 - 20	9	12	240		1	0,25
20 - 25	12,5	22	300	MU25A-25 MU25A-32	1	0,25
25 - 32	15		384		1	0,25

Auxiliary Contact Blocks, for side mounting, max. 2 pieces



Contacts				Rated Operational Current AC15 230V A	Rated Operational Current		Type	Pack pcs.	Weight kg/pc.
NO	NC	EM ¹⁾	400V A		AC1 500V A				
1	-	-	-	3,5	2	6	MU25A-PS10 MU25A-PS01 MU25A-PS20 MU25A-PS11	10	0,03
-	1	-	-	3,5	2	6		10	0,03
2	-	-	-	3,5	2	6		10	0,03
1	1	-	-	3,5	2	6		10	0,03
-	2	-	-	3,5	2	6	MU25A-PS02 MU25A-PV11 MU25A-PV20	10	0,03
-	1	1	-	3,5	2	6		10	0,03
-	-	2	-	3,5	2	6		10	0,03

Transverse Auxiliary Contact Block, max. 1 piece



Contacts				Rated Operational Current AC15 230V A	Rated Operational Current		Type	Pack pcs.	Weight kg/pc.
NO	NC	EM ¹⁾	400V A		AC1 230V A				
1	1	-	-	1		5	MU25A-PA11	10	0,02

Auxiliary Contact Blocks for mounting under the cover, max. 1 piece



Contacts				Rated Operational Current AC15 230V A	Rated Operational Current		Type	Pack pcs.	Weight kg/pc.
NO	NC	EM ¹⁾	400V A		AC1 500V A				
1	1	-	-	3,5	2	6	MU25A-PE11	10	0,02

Trip Alarm Auxiliary Switch for mounting under the cover, max. 1 piece



Contacts				Rated Operational Current AC15 230V A	Rated Operational Current		Type	Pack pcs.	Weight kg/pc.
NO	NC	EM ¹⁾	400V A		AC1 500V A				
1	-	-	-	3,5	2	6	MU25A-PM10 MU25A-PM01	10	0,02
-	1	-	-	3,5	2	6		10	0,02

1) early make

Shunt Release for mounting under the cover



Rated Control Voltage and Frequency V	Power Consumption		Type	Pack pcs.	Weight kg/pc.
	VA	W			
24V 50/60Hz	2,7	1,8	MU25A-A24	10	0,06
110V 50Hz, 110-120V 60Hz	2,7	1,8	MU25A-A110	10	0,06
220-230V 50Hz, 240V 60Hz	2,7	1,8	MU25A-A230	10	0,06
380-415V 50Hz, 440V 60Hz	2,7	1,8	MU25A-A400	10	0,06

Under-voltage Release for mounting under the cover



Rated Control Voltage and Frequency V	Power Consumption		Type	Pack pcs.	Weight kg/pc.
	VA	W			
24V 50/60Hz	2,7	1,8	MU25A-U24	10	0,06
110V 50Hz, 110-120V 60Hz	2,7	1,8	MU25A-U110	10	0,06
220-230V 50Hz, 240V 60Hz	2,7	1,8	MU25A-U230	10	0,06
380-415V 50Hz, 440V 60Hz	2,7	1,8	MU25A-U400	10	0,06

Accessories



Description	Specification	Type	Pack pcs.	Weight kg/pc.
Busbar Connector Fully Isolated, U _i 690V, I _u 63A				
Busbar	For 2 units 3-pole, 99mm long	MU25A-D99	10	0,036
Busbar	For 3 units 3-pole, 154mm long	MU25A-D154	10	0,060
Busbar	For 4 units 3-pole, 208mm long	MU25A-D208	10	0,084
Busbar	For 5 units 3-pole, 262mm long	MU25A-D262	10	0,107
Supply Block	solid or stranded: max. 25mm ² flexible: max. 16mm ²	MU25A-DB	10	0,034
Spacing piece ½TE	for ambient temperature >40°C	P730	10	0,013



Enclosures				
Moulded Enclosure	Protection to IP55	MU25A-O55	1	0,24
Moulded Front Plate	Protection to IP55	MU25A-C55	1	0,16
Locking Bracket	Suitable for 3 padlocks in "OFF"-position, stirrup diameter of the padlock max. 8 mm	MU25A-Z	1	0,10
Stop Button	Mushroom head	MU25A-NAT	1	0,04
Emergency Stop Button	latch, release by turning	MU25A-NAV	1	0,04
Emergency Stop Button	latch, release by key	MU25A-NAS	1	0,04
Neutral Conductor Block	for mounting in enclosure and front plate Wiring cross section 0,75 - 2,5mm ²	MU25A-NL	10	0,01
Moulded Enclosure for 5-pole CEE-plug	Protection to IP54 with phase changing	MU25A-GC1	1	0,40

Manual Motor Starters

Data according to IEC 947, IEC 204, EN 60947, EN 60204, VDE 0660, VDE 0113

Type			MU25A			
Main Contacts						
Rated insulation voltage U_i	V~ ¹⁾		690			
Rated operational current I_e ($=I_{th}$) open, at 50°C	A		25			
Mechanical life			S x 10 ⁶			
Contact life at I_e /AC3	S x 10 ⁶		0,1			
Tripping class according to IEC 60947-4-1			10A			
Rated ultimate short-circuit breaking capacity I_{cu}			220-240V AC	380-415V AC	500V AC	660-690V AC
Values for open unit, when incoming supply on upper terminals						
Setting range						
	to 1A	kA	100	100	100	100
	1 - 1,6A	kA	100	100	100	100
	1,6 - 2,5A	kA	100	100	3	2,5
	2,5 - 4A	kA	100	100	3	2,5
	4 - 6,3A	kA	100	100	3	2,5
	6,3 - 10A	kA	100	6/50 ²⁾	3	2,5
	10 - 16A	kA	10/100 ²⁾	6/50 ²⁾	2,5	2
	16 - 20A	kA	10/100 ²⁾	6/50 ²⁾	2,5	2
	20 - 25A	kA	10/100 ²⁾	6/50 ²⁾	2,5	2
	25 - 32A	kA	10/100 ²⁾	6/50 ²⁾	2,5	2
Short circuit protection			220-240V AC	380-415V AC	500V AC	660-690V AC
Setting range						
	to 1A	A	-	-	-	-
	1 - 1,6A	A	-	-	-	-
Fuse gL(gG) only necessary if the short circuit current could be greater than the rated ultimate short-circuit breaking capacity						
	1,6 - 2,5A	A	-	-	25	20
	2,5 - 4A	A	-	-	35	25
	4 - 6,3A	A	-	-	50	35
	6,3 - 10A	A	-	80	50	35
	10 - 16A	A	80	80	63	35
	16 - 20A	A	80	80	63	50
	20 - 25A	A	80	80	63	50
	25 - 32A	A	80	80	63	50
Maximum ambient temperature						
Operation						
	open	°C	-25 to +55			
	enclosed	°C	-25 to +40			
Temperature compensation			°C			
			-20 to +55			
Power loss						
at rated current, warm condition			W			
			6 - 8			
Auxiliary Contacts						
Rated insulation voltage U_i			V~			
			500			
Thermal rated current I_{th}			A			
	Ambient temperature max. 50°C		6			
Utilization category AC15						
Rated operational current I_e						
	220-240V	A	3,5			
	380-415V	A	2			
	500V	A	1			
Short circuit protection						
max. fuse size			gL (gG) A			
			6			
Cable cross-section						
Main connector						
	solid or stranded	mm ²	0,75 - 4			
	flexible	mm ²	0,75 - 2,5			
	flexible with multicore cable end	mm ²	0,75 - 2,5			
Cables per clamp			2			
Auxiliary connector						
	solid or stranded	mm ²	0,75 - 2,5			
	flexible	mm ²	0,75 - 1,5			
	flexible with multicore cable end	mm ²	0,75 - 1,5			
Cables per clamp			2			
Resistance to shock according to IEC 68-2-27						
Operation			g / ms			
			4 / 11			
Solidity			g / ms			
			30 / 18			

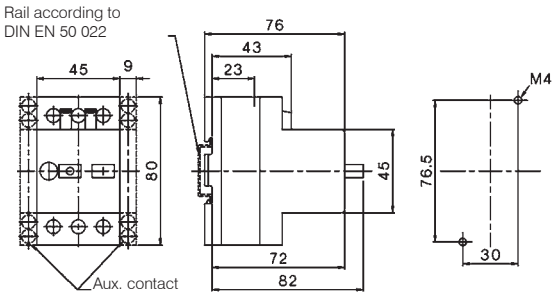
1) Suitable for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry): $U_{imp} = 6kV$.

2) with current limiter MBS25-ID50 up to 415V AC

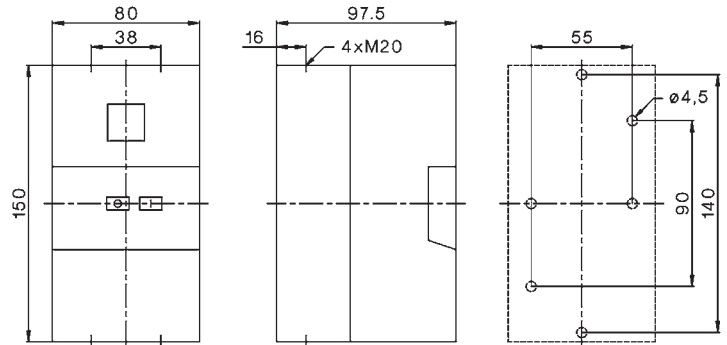
Manual Motor Starters

Dimensions

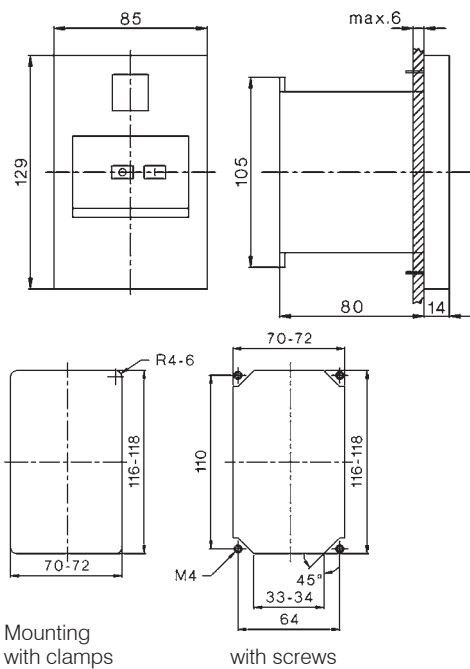
Manual Motor Starter MU25A



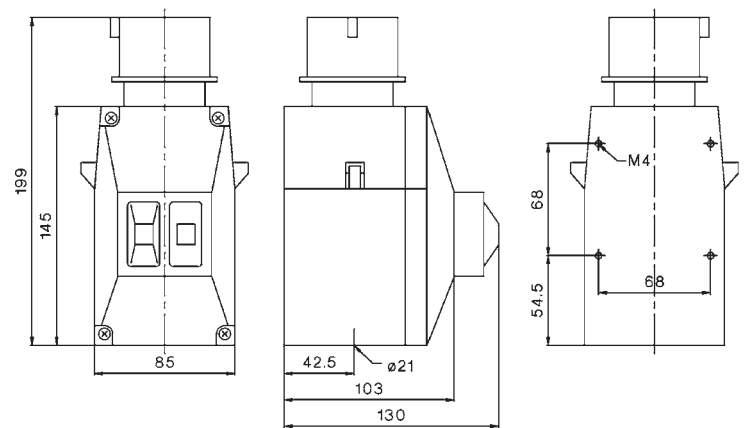
Moulded Enclosure MU25A-O55



Moulded Front Plate MU25A-C55



Moulded Enclosure for 5-pole CEE-plug MU25A-GC1



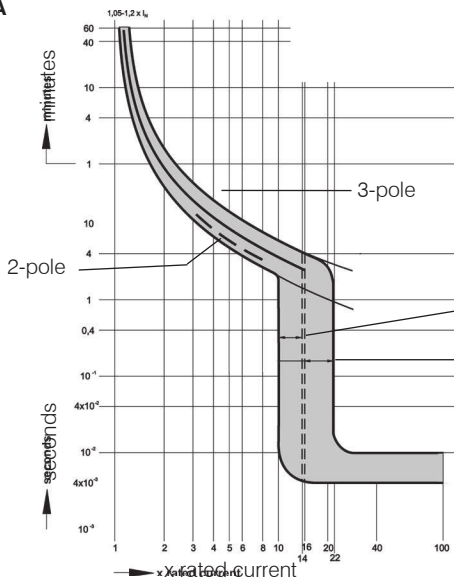
Temperature Compensation

In case of higher ambient temperature use the following formula:
(Ambient temperature - 20) x 0,3 = correction factor in % of the full load motor current

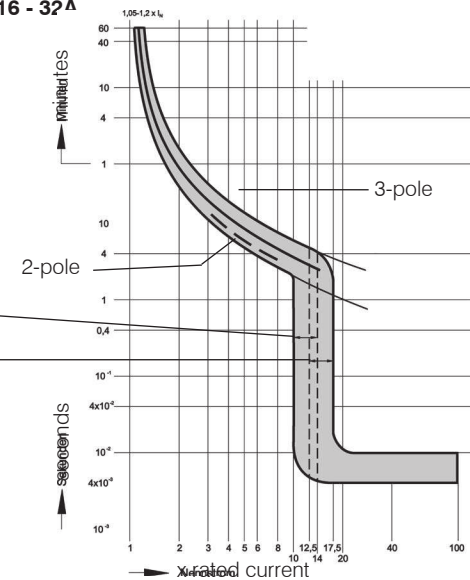
Example: Ambient temperature 60°C, full load motor current 5A
 $(60 - 20) \times 0,3 = 12\%$
Setting value: 5A + 12% = 5,6A

Tripping Characteristic

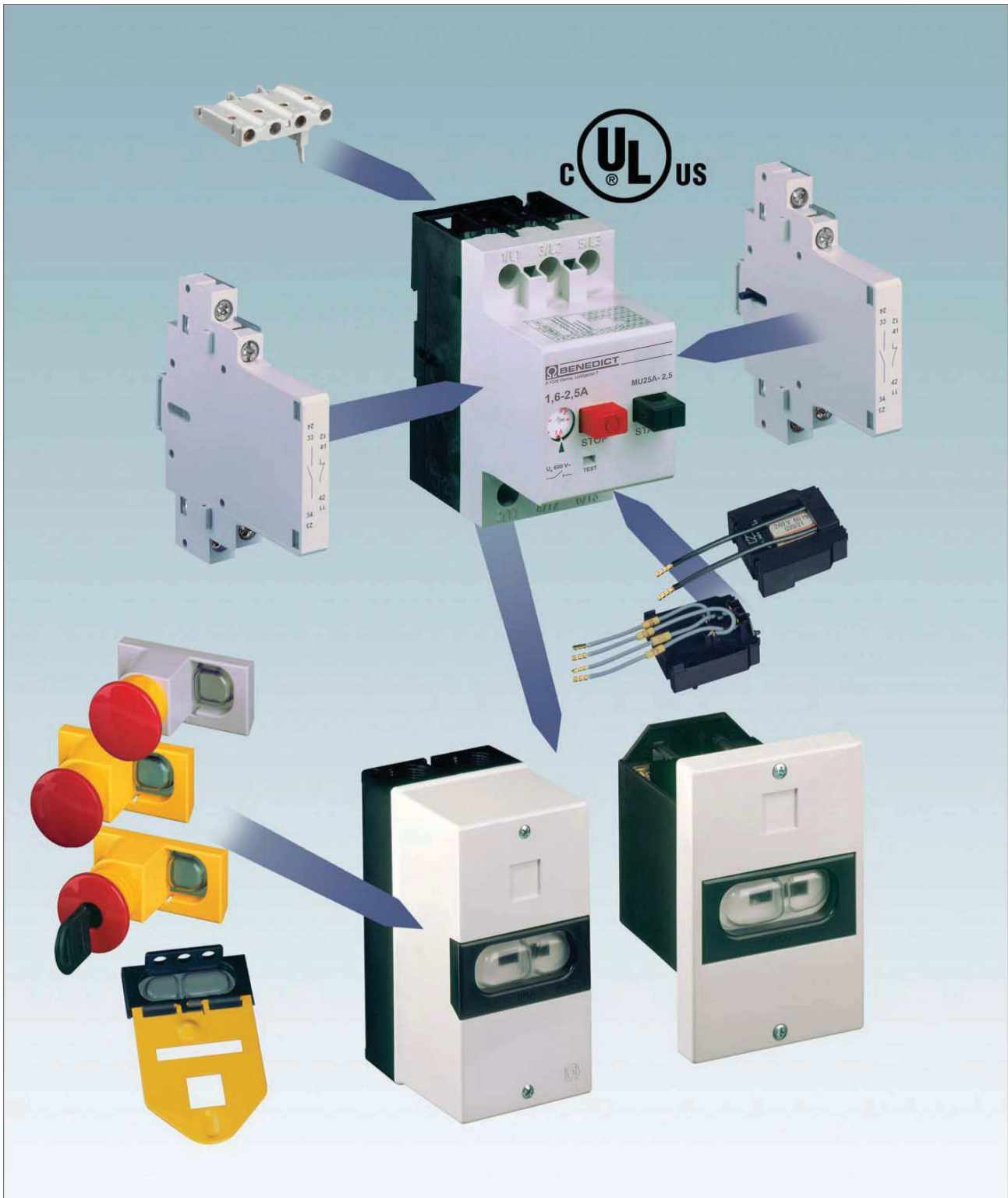
0,16 - 16A



16 - 32A



System MU25A



Approvals

Country	USA, Canada UL cUL US LISTED	Switzerland SEV S	Europe CE	CB/CCA- Certificates
Type				
MU25A	o	o	/	-

o In standard version approved / No testing required CE x In test - Not provided for test till now