

Type: **DILEM-10-G(24VDC)**

Article No.: **010213**



Ordering information

Description			3-pole, with auxiliary contacts
Connection technique			Screw terminals
Rated operational current AC-3 380 V 400 V	I_e	A	9
Max. rating for three-phase motors, 50 – 60 Hz AC-3 220 V 230 V	P	kW	2.2
Max. rating for three-phase motors, 50 – 60 Hz AC-3 380 V 400 V	P	kW	4
Max. rating for three-phase motors, 50 – 60 Hz AC-3 660 V 690 V	P	kW	4
Max. rating for three-phase motors, 50 – 60 Hz AC-4 220 V 230 V	P	kW	1.5
Max. rating for three-phase motors, 50 – 60 Hz AC-4 380 V 400 V	P	kW	3
Max. rating for three-phase motors, 50 – 60 Hz AC-4 660 V 690 V	P	kW	3
Conventional thermal current $I_{th} = I_e$ AC-1 Open	$I_{th} = I_e$	A	20
Conventional thermal current $I_{th} = I_e$ AC-1 Enclosed	$I_{th} = I_e$	A	16
Contacts M = Make			1 M
Contacts B = Break			1 B
Can be combined with auxiliary contact			...DILEM ...DILE

Contact sequence



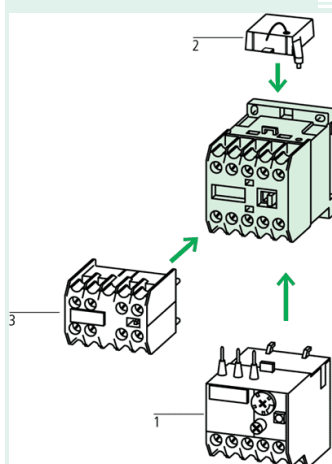
Note concerning the product

With DC operation:

integrated diode–resistor combination, coil rating 2.6 W

Notes concerning the product group

With screw terminals:



Accessories

1 Overload relay → 014263

2 Suppressor → 044264

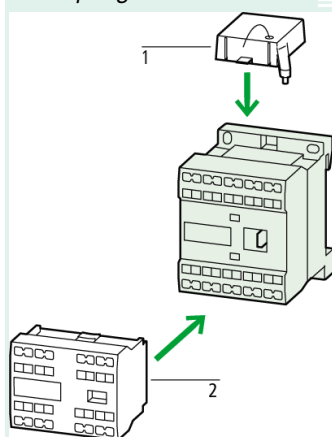
3 Auxiliary contact modules → 010064

Enclosure totally insulated

Other actuating voltages → 068294

Accessories → 044264

With springloaded terminal:



Accessories

1 Suppressor → 044264

2 Auxiliary contact modules → 010064

Enclosure totally insulated

Other actuating voltages → 230031

Accessories → 044264

Mini contactor relays with interlocked opposing contacts.

General			
Standards			IEC/EN 60947, VDE 0660, CSA, UL
Lifespan, mechanical	Operations	$\times 10^6$	> 20
Maximum operating frequency			
Mechanical		Ops./h	9000
Climatic proofing			Damp heat, constant, to IEC 60068–2–78 Damp heat cyclic to IEC 60068–2–30
Ambient temperature			
Open		°C	–25/50
Enclosed		°C	–25/40
Mechanical shock resistance (IEC/EN 60068–2–27)			
Half-sinusoidal shock, 10 ms			
Basic unit without auxiliary contact module			
Main contacts, make contacts		g	10
Main contacts Make/break contacts		g	10/8
Basic unit with auxiliary contact module			
Main contacts make contact		g	10
Auxiliary contacts Make/break contacts		g	20/20
Protection type			IP20
Protection against direct contact when actuated from front (IEC 536)			Finger and back-of-hand proof
Terminal capacity of auxiliary and main contacts			
Solid		mm ²	1 $\times$ (0.75 – 2.5) 2 $\times$ (0.75 – 2.5)
Flexible with ferrule		mm ²	1 $\times$ (0.75 – 1.5) 2 $\times$ (0.75 – 1.5)
Solid or stranded		AWG	18 – 14
Terminal screw			M3.5
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 $\times$ 5.5 1 $\times$ 6
max. tightening torque		Nm	1,2
Anschlussquerschnitte Federzugklemmen Hauptleiter und Hilfsleiter			
Solid		mm ²	1 $\times$ (1 – 2.5) 2 $\times$ (1 – 2.5)
Flexible with ferrule		mm ²	1 $\times$ (1 – 2.5) 2 $\times$ (1 – 2.5)
Standard screwdriver		mm	0.6 $\times$ 3.5
Main conducting paths			
Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage			
AC	U_i	V AC	690
Rated operational voltage			

Rated operational voltage	U_e	V AC	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1			
between coil and contacts		V AC	300
between the contacts		V AC	300
Making capacity (cos ϕ to IEC/EN 60947)		A	110
Breaking capacity			
220/230 V		A	90
380/400 V		A	90
500 V		A	64
660/690 V		A	54
Component lifespan			
Short-circuit protection Maximum fuse			
Type "2" coordination	gL/gG	A	10
Type "1" coordination	gL/gG	A	20

AC

AC-1 duty			
conv. therm. current 3-pole 50 – 60 Hz			
open			
at 40 °C	I_{th}	A	22
at 50 °C	I_{th}	A	20
at 55 °C	I_{th}	A	19
Enclosed	I_{th}	A	16
Conventional free air thermal current, 1-pole			
open			
1-pole open	I_{th}	A	50
Enclosed			
conv. therm. current three/four main contacts in parallel, enclosed	I_{th}	A	40
AC-3 duty			
Rated operational current AC-3 open, 50 – 60 Hz, 3-pole			
220/230 V	I_e	A	9
240 V	I_e	A	9
380/400 V	I_e	A	9
415 V	I_e	A	9
440V	I_e	A	9
500 V	I_e	A	6,4
660/690 V	I_e	A	4,8
Rating, AC-3 motor load switch			
220/230 V	P	kW	2,2
240V	P	kW	2,5
380/400 V	P	kW	4
415 V	P	kW	4,3
440 V	P	kW	4

500 V	P	kW	4
660/690 V	P	kW	4
AC–4 duty			
Rated operational current AC–4 open, 50 – 60 Hz, 3–pole			
220/230 V	I_e	A	6,6
240 V	I_e	A	6,6
380/400 V	I_e	A	6,6
415 V	I_e	A	6,6
440 V	I_e	A	6,6
500 V	I_e	A	5
660/690 V	I_e	A	3,4
AC–4			
220/230 V	P	kW	1,5
240 V	P	kW	1,8
380/400 V	P	kW	3
415 V	P	kW	3,1
440 V	P	kW	3
500 V	P	kW	3
660/690 V	P	kW	3
DC			
Operations			
DC–1			
12 V	I_e	A	20
24 V	I_e	A	20
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	20
DC–3			
12 V	I_e	A	8
24 V	I_e	A	8
60 V	I_e	A	4
110 V	I_e	A	3
DC–5			
12 V	I_e	A	2,5
24 V	I_e	A	2,5
60 V	I_e	A	2,5
110 V	I_e	A	1,5
220 V	I_e	A	0,3
Current heat losses (3– or 4–pole)			
to I_{th}		W	3,5
at I_e to AC–3/400 V		W	0,7
Magnet systems			
Voltage tolerance			
Pick-up voltage	Anzug	$\times U_s$	0,8 – 1,1
Power consumption			

DC operation			
Power consumption Pick-up = Sealing		VA/W	2,6
Duty factor		% DF	100
Switching times at 100 % U_c			
Make contact			
Closing delay			
Closing delay min.		ms	26
Closing delay max.		ms	35
Opening delay			
Opening delay min.		ms	15
Opening delay max.		ms	25
Closing delay with top mounting auxiliary contact		ms	max. 70
Reversing contactors			
Changeover time at 110 % U_c			
Changeover time min.		ms	40
Changeover time max.		ms	50
Arcing time at 690 V AC		ms	max. 12
Auxiliary contacts			
Interlocked opposing contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V AC	690
Rated operational voltage			
Rated operational voltage	U_e	V AC	600
Safe isolation to VDE 0106 Part 101 and Part 101/A1			
between coil and auxiliary contacts		V AC	300
between the auxiliary contacts		V AC	300
Rated operational current			
AC-15			
220/240 V	I_e	A	6
380/415 V	I_e	A	3
500 V	I_e	A	1,5
DV-13			
Contacts in series:			
1	24 V	A	2,5
2	60 V	A	2,5
3	100 V	A	1,5
3	220 V	A	0,5
Conventional thermal current	I_{th}	A	10
Control circuit reliability (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)	Failure rate	»	-8, < one failure at 100 million operations
Component lifespan at $U_e = 240$ V			
AC-15	Operations	$\times 10^6$	0,2
DC-13			

L/R = 50 ms: 2 contacts in series at $I_{\theta} = 0.5 \text{ A}$	Operations	$\times 10^6$	0,15
Short-circuit rating without welding			
Maximum overcurrent protective device			PKZM0-4
Short-circuit protection Maximum fuse			
500 V		A gG/gL	6
500 V		A fast	10
Current heat loss at I_{th}			
Per contact		W	0,3

Notes

			At maximum permissible ambient temperature. Smoothed DC or three-phase bridge rectifier Making and breaking conditions to DC-13, time L/R constant as stated
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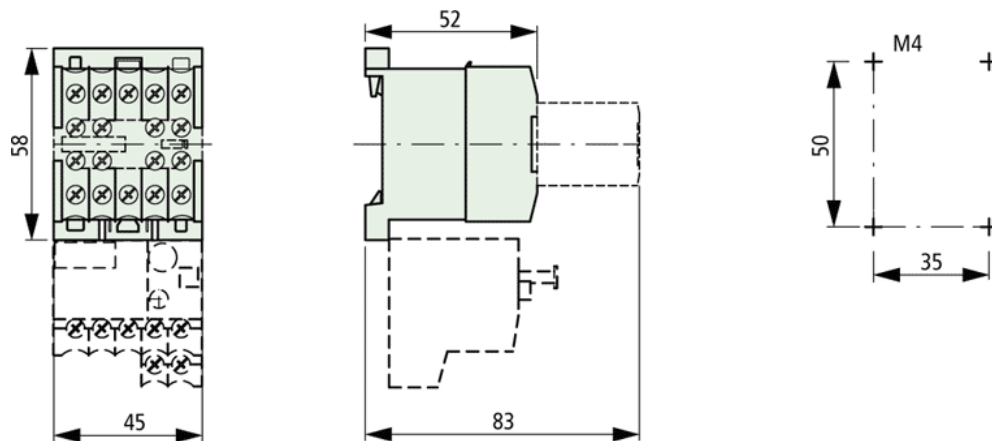
Dimensions

Mounting position

As required except vertical with terminals A1/A2 at the bottom



Dimensions



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