



Contactor relay, 3N/O+1N/C, AC

Part no. DILA-31(110V50HZ,120V60HZ)
Catalog No. 276361
Eaton Catalog No. XTRE10B31A
EL-Nummer 0004110159
(Norway)



Powering Business Worldwide™

Delivery program

Product range	DILA relays		
Application	Contactor relays		
Description	Basic devices with positive operation contacts		
Connection technique	Screw terminals		
Rated operational current			
AC-15			
220 V 230 V 240 V	I_e	A	4
380 V 400 V 415 V	I_e	A	4
Contacts			
N/O = Normally open	3 N/O		
N/C = Normally closed	1 NC		
Contact sequence			
Code number and version of combination			
Distinctive number	31E		
Can be combined with auxiliary contact module	DILA-XHI(V)...		
Actuating voltage	110 V 50 Hz, 120 V 60 Hz		
Voltage AC/DC	AC operation		
Connection to SmartWire-DT	no		
Instructions	Contact numbers to EN 50011 Coil terminal markings to EN 50005		

Technical data

General					
Standards	IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA				
Lifespan, mechanical					
AC operated	Operations	$\times 10^6$	20		
Maximum operating frequency	Operations/h				
Climatic proofing	9000				
Ambient temperature					
Open	$^{\circ}\text{C}$	-25 - +60			
Enclosed	$^{\circ}\text{C}$	-25 - 40			
Ambient temperature, storage	$^{\circ}\text{C}$	-40 - 80			
Mounting position					
Mounting position					
Mechanical shock resistance (IEC/EN 60068-2-27)					
Half-sinusoidal shock, 10 ms					
Basic unit with auxiliary contact module	g				
N/O contact	g				

N/C contact	g	5
Degree of Protection		IP20
Protection against direct contact when actuated from front (EN 50274)		Finger and back-of-hand proof
Weight		
AC operated	kg	0.24
Terminal capacities	mm ²	
Screw terminals		
Solid	mm ²	1 x (0,75 - 4) 2 x (0,75 - 2,5)
Flexible with ferrule	mm ²	1 x (0,75 - 2,5) 2 x (0,75 - 2,5)
Solid or stranded	AWG	18 - 14
Stripping length	mm	10
Terminal screw		M3.5
Pozidriv screwdriver	Size	2
Standard screwdriver	mm	0.8 x 5.5 1 x 6
Max. tightening torque	Nm	1.2

Contacts

Positive operating contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	U _{imp}	V AC	8000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U _i	V AC	690
Rated operational voltage	U _e	V AC	690
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	400
between the auxiliary contacts		V AC	400
Rated operational current		A	
Conventional free air thermal current, 1 pole			
Open			
at 60 °C	I _{th} = I _e	A	16
AC-15			
220 V 230 V 240 V	I _e	A	4
380 V 400 V 415 V	I _e	A	4
500 V	I _e	A	1.5
DC current			
Notes			Switch-on and switch-off conditions based on DC-13, time constant as specified.
DC L/R ≤ 15 ms			
Contacts in series:		A	
1	24 V	A	10
1	60 V	A	6
2	60 V	A	10
1	110 V	A	3
3	110 V	A	6
1	220 V	A	1
3	220 V	A	5
DC L/R ≤ 50 ms			
Contacts in series:		A	
3	24 V	A	4
3	60 V	A	4
3	110 V	A	2
3	220 V	A	1
Control circuit reliability	Failure rate	λ	<10 ⁻⁸ , < one failure at 100 million operations (at U _e = 24 V DC, U _{min} = 17 V, I _{min} = 5.4 mA)
Short-circuit rating without welding			
Maximum overcurrent protective device			

220 V 230 V 240 V	PKZM0	4
380 V 400 V 415 V	PKZM0	4
Short-circuit protection maximum fuse		
500 V	A gG/gL	10
Current heat loss at I_{th}		
AC operated	W	0.53

Magnet systems

Voltage tolerance			
AC operated			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	$\times U_c$	0.8 - 1.1
Power consumption			
AC operation			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	VA	24
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	VA	3.4
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	W	1.4
duty factor		% DF	100
Changeover time at 100 % U_S (recommended value)			
AC operated closing delay		ms	15 - 21
AC operated N/O contact opening delay		ms	9 - 18

Rating data for approved types

Auxiliary contacts			
Pilot Duty			
AC operated			A600
DC operated			P300
General Use			
AC		V	600
AC		A	15
DC		V	250
DC		A	1

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	15.5
Heat dissipation per pole, current-dependent	P_{vid}	W	0.5
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	1.4
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.

10.8 Connections for external conductors	Is the panel builder's responsibility.	
10.9 Insulation properties		
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.	
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.	
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.	
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.	
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.	
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.	
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.	

Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Contactor relay (EC000196)

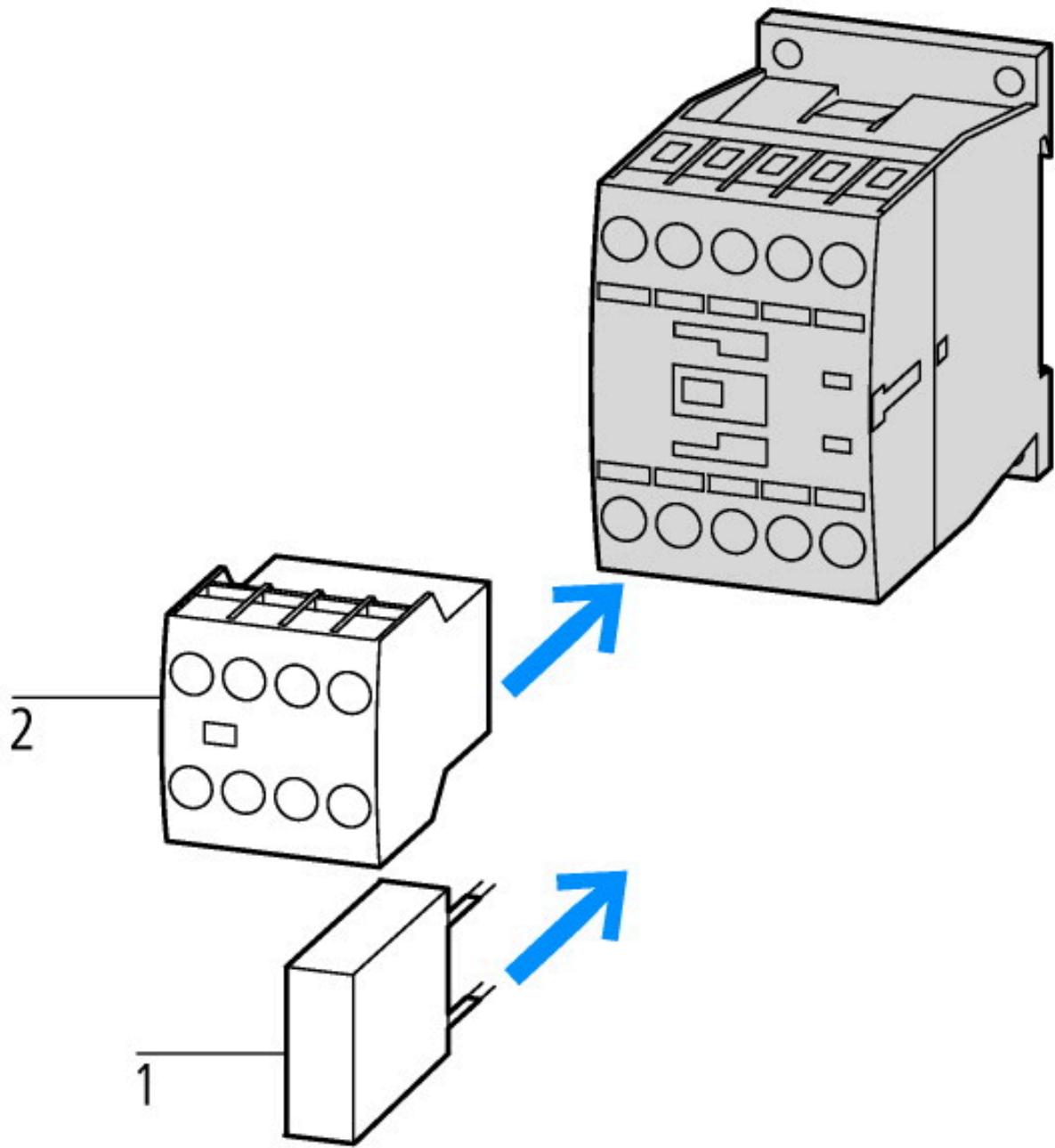
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014])

Rated control supply voltage Us at AC 50HZ	V	110 - 110
Rated control supply voltage Us at AC 60HZ	V	120 - 120
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current Ie, 400 V	A	4
Connection type auxiliary circuit		Screw connection
Mounting method		DIN-rail/screw
Interface		No
Number of auxiliary contacts as normally closed contact		2
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact, delayed switching		0
Number of auxiliary contacts as normally open contact, leading		0
With LED indication		No
Number of auxiliary contacts as change-over contact		0
Manual operation possible		No

Approvals

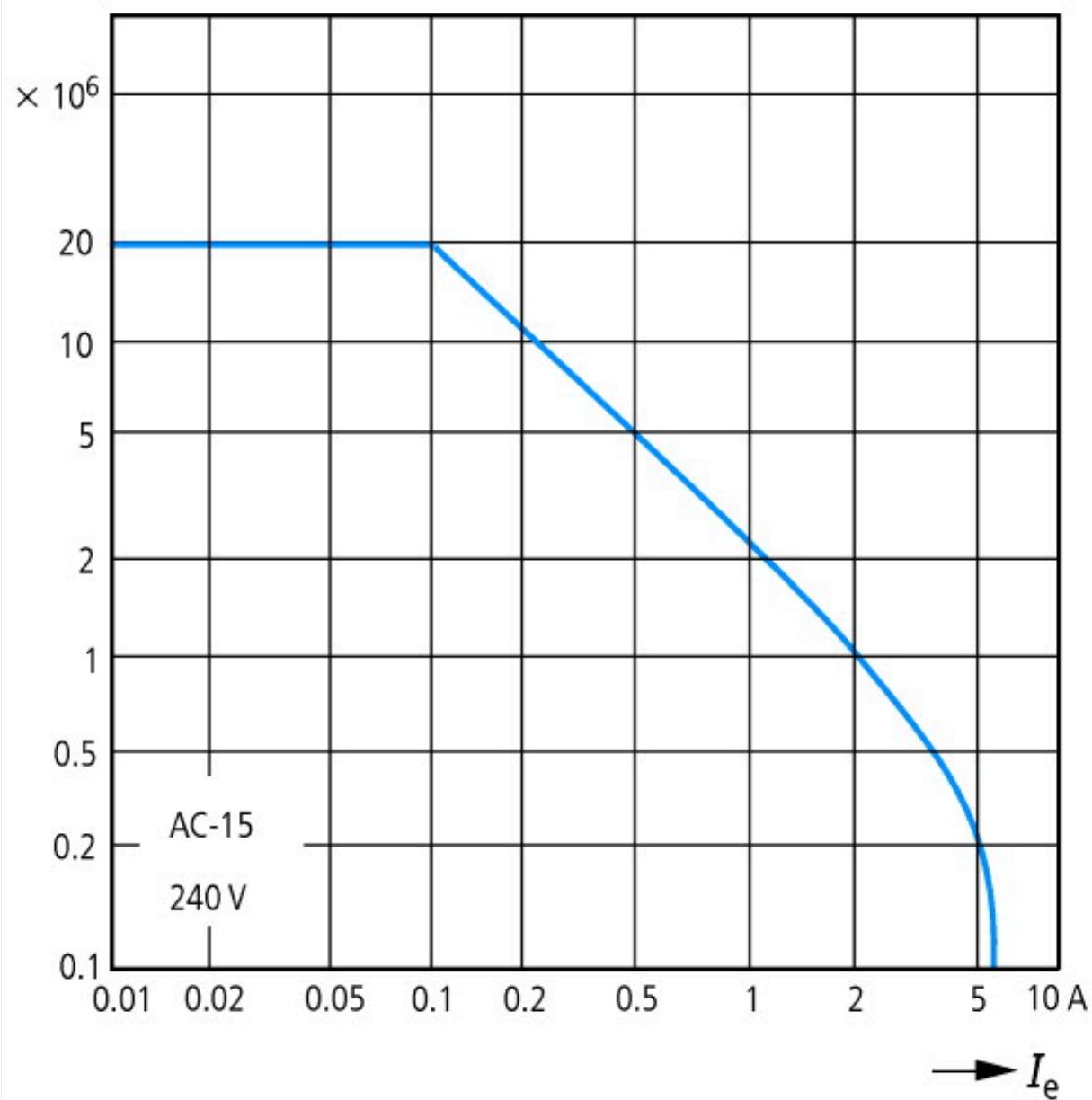
Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking	
UL File No.	E29184	
UL Category Control No.	NKCR	
CSA File No.	012528	
CSA Class No.	3211-03	
North America Certification	UL listed, CSA certified	
Specially designed for North America	No	

Characteristics



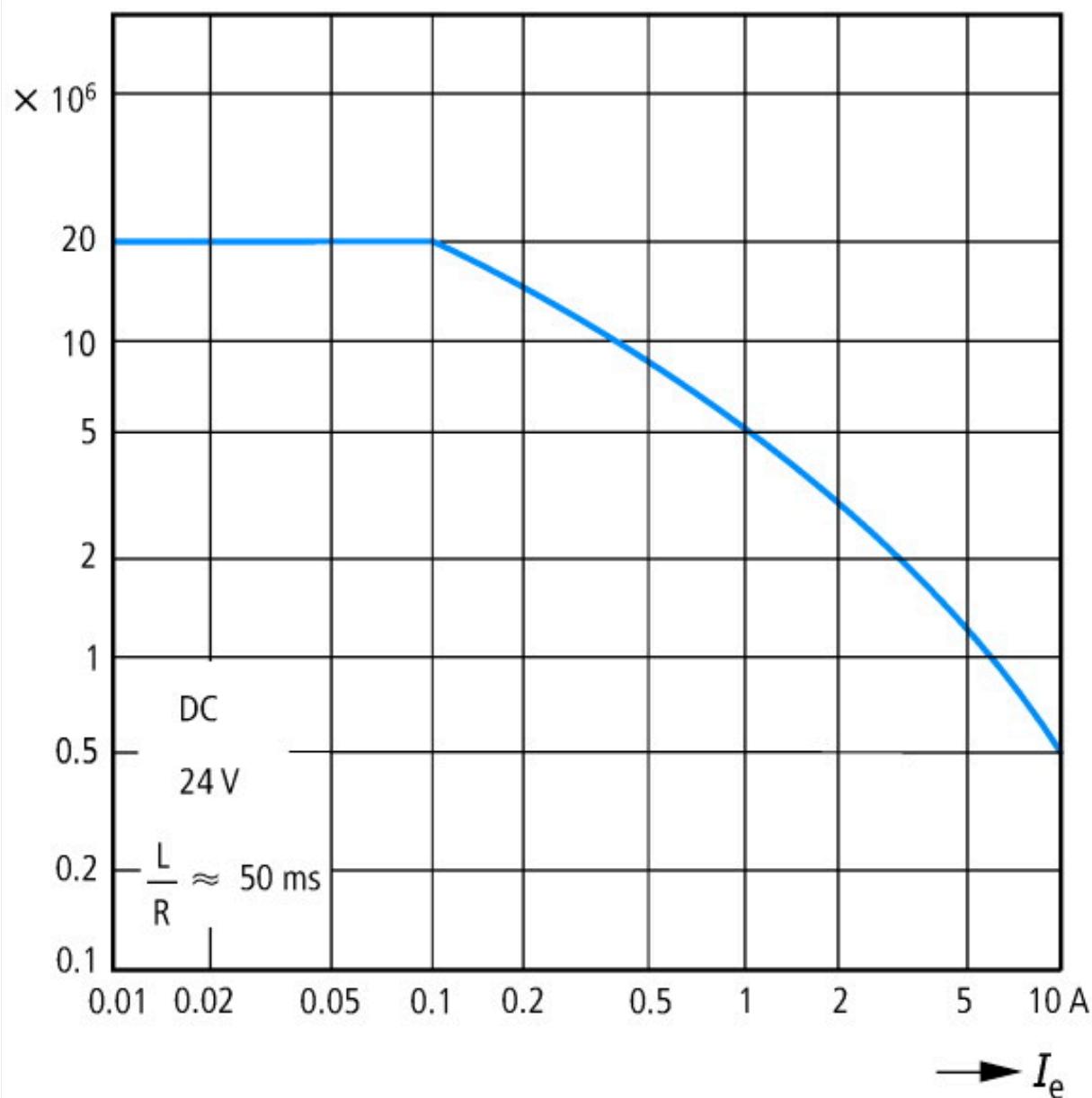
1: Suppressor

2: Auxiliary contact module



Component lifespan (operations)

I_e = rated operational current

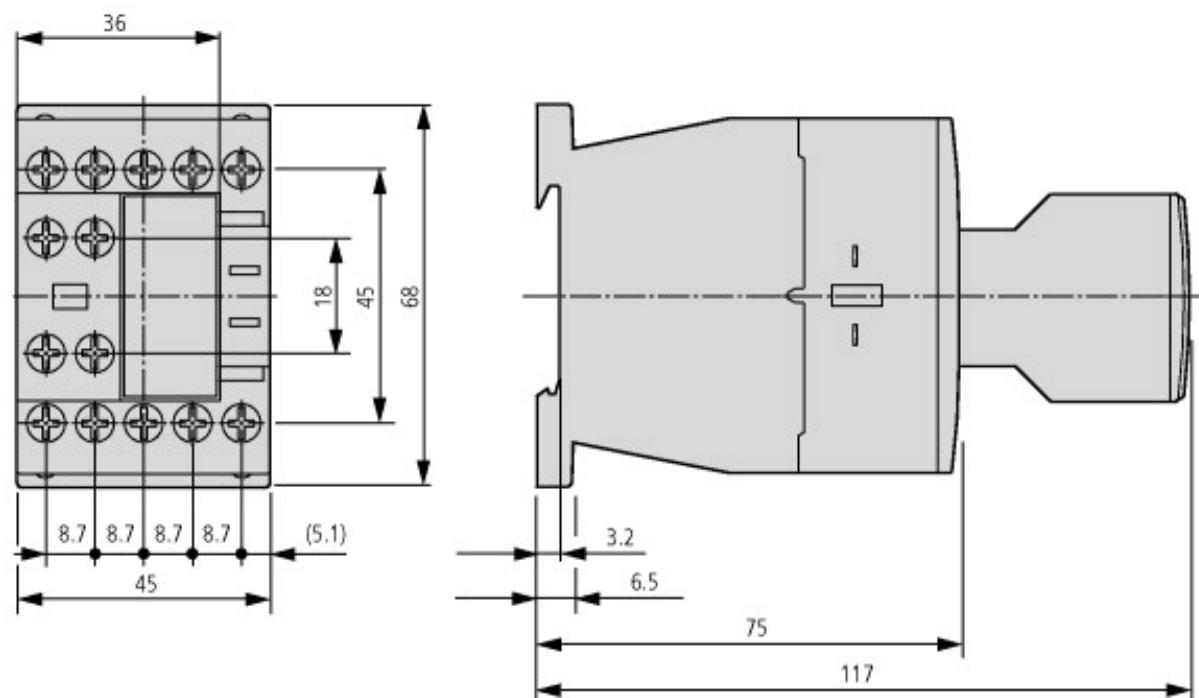


Component lifespan (operations)

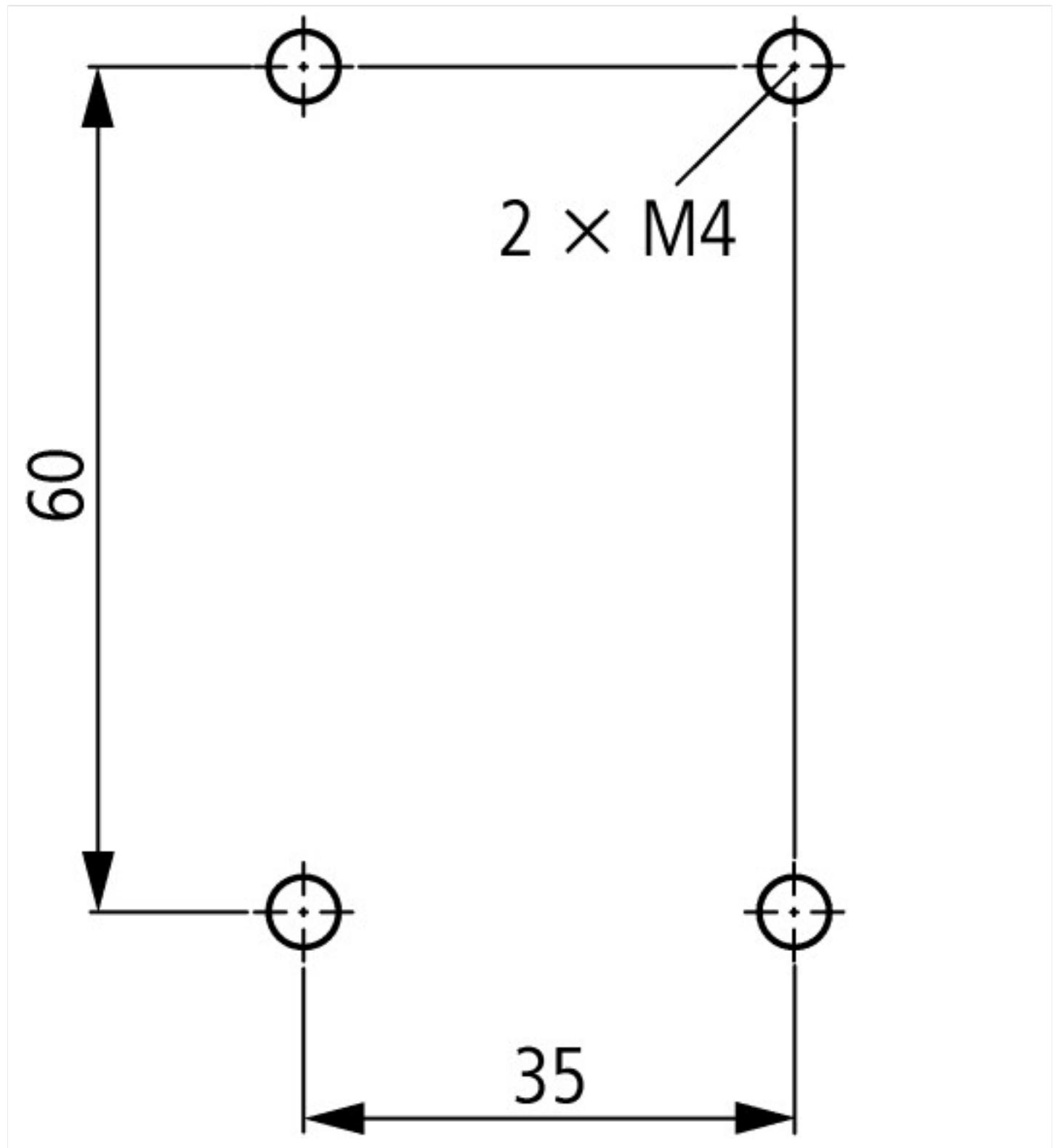
I_e = rated operational current

Three contacts in series

Dimensions



Contactor with auxiliary contact module



Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407013Z2018_07.pdf