DATASHEET - DILA-31(220V50/60HZ)



Contactor relay, 220 V 50/60 Hz, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Screw terminals, AC operation



Part no. DILA-31(220V50/60HZ)
Catalog No. 276371

Alternate Catalog XTRE10B31A0

No

Similar to illustration

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	Α	4
380 V 400 V 415 V	I _e	Α	4
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Contact sequence			A1 1 1 3 2 1 3 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4
Code number and version of combination			
Distinctive number			31E
Can be combined with auxiliary contact module			DILA-XHI(V)
Actuating voltage			220 V 50/60 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	x 10 ⁶	20
Maximum operating frequency	Operations/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 - +60
Enclosed		°C	- 25 - 40
Ambient temperature, storage		°C	- 40 - 80
Mounting position			
Mounting position			30°
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			

N/C contact	Decis with with a william and the duly			
Notice contained 100 10	Basic unit with auxiliary contact module		g	,
Page of Protection Protecti	·			
Properties against direct content when exturind from from (EM S0074) Figure and back of hand proof			g	
AC counted Name Control AC counted max 1 (2013) - 41 Scriet writinates max 1 (2013) - 41 Building to warded max 1 (2013) - 41 Subject with furnice MAD 1 (2013) - 41 Subject with furnice MAD 10 (2013) - 41 Possible with furnice MAD 10 (2013) - 41 Possible with furnice MAD 10 (2013) - 41 Possible with furnice MAD 10 (2013) - 41 State definition for with furnice MAD 10 (2013) - 41 State definition for with furnice MAD 10 (2013) - 41 State definition for with furnice MAD 10 (2014) - 41 State definition for with furnice MAD 10 (2014) - 41 State definition for with furnice MAD 10 (2014) - 41 State definition for with furnice MAD 10 (2014) - 41 <				
AC operated semantic contents on the manufact operated semantic contents on the manufact operated semantic contents on the manufact of the man	-			ringer and back-ot-hand proof
	-		L.	0.04
Series S				0.24
Solid or strander			mm ²	
Flexible with firmule				
Solid art stranded	Solid		mm ²	1 x (0,75 - 4) 2 x (0,75 - 2,5)
Stripping length Imm 10 Terminal server MSD 2 Paradity screwdriver Soc 2 Standard screwdriver Nm 12 Interest Standard screwdriver V V Voc Contracts V V Contracts Contracts V V Contracts Service spearing contexts to ZM 1457, including auxiliary cartact modules U V Contracts V Contracts V Contracts V Contracts V Contracts Contracts V Contracts Contracts Contracts V Contracts	Flexible with ferrule		mm ²	
Ferninal screw Fern	Solid or stranded		AWG	18 - 14
Pozidin's screwdriver Sale did screwdriver Sale Sale Sale Sale Sale Sale Sale Sale	Stripping length		mm	10
Sandard screwdriver Name 12 12 12 13 13 13 13 13	Terminal screw			M3.5
Max tighteening torque Max tighteening torque to 22 May 1457, including auxiliary contact module All of the control of the 24 May 1457, including auxiliary contact module All of the control of the 24 May 1457, including auxiliary contact module No vac to 20 May 147 May 1457, including auxiliary contact module No vac to 20 May 147 May 147 May 1457, including auxiliary contact module No vac to 20 May 147 Ma	Pozidriv screwdriver		Size	2
Para	Standard screwdriver		mm	
Positive operating contacts to 2H 1/457, including auxiliary contact module Ves Ves Positive operating contacts to 2H 1/457, including auxiliary contacts on Voltage U _{imp} V AC 6000 Rated insulation voltage U _i V AC 690 Rated operational voltage U _i V AC 690 Between the auxiliary contacts V AC 400 Between the auxiliary contacts V AC 400 Between the auxiliary contacts V AC 400 Retween the auxiliary contacts V AC 400 Popen at 80 °C A 40 AC-15 V AC 40 4 20 V 200 V 40 V V Iq A 4 500 V Iq A 1.5 DC current Iq A 4 1 Q A 1.5 2 Q	Max. tightening torque		Nm	1.2
Name of proposition of progress with stand voltage or stopony/sollution degree U	Contacts			
				Yes
Aster insulation voltage U _i V AC 89 Part operational voltage U _e V AC 89 Sale isolation to ENSI140 V AC 40 Between the auxiliary contacts V AC 40 Action operational current V AC 40 Conventional fere air thermal current, 1 pole V AC 4 Open Immage: Market operational current Immage: Market operational current Immage: Market operational current AC-15 V B Immage: Market operational current Immage: Market operational current AC-15 V B Immage: Market operational current Immage: Market operational current Immage: Market operational current AC-15 Immage: Market operational current Immage: Market operational current Immage: Market operational current Immage: Market operational current AC-15 Immage: Market operational current Immage: Market operational current Immage: Market operational current Immage: Market operational current AC-15 Immage: Market operational current Immage: Market operational current Immage: Market operational current Immage: Market operational current <t< td=""><td>Rated impulse withstand voltage</td><td>U_{imp}</td><td>V AC</td><td>6000</td></t<>	Rated impulse withstand voltage	U_{imp}	V AC	6000
V V V V V V V V V V V V V V V V V V V	Overvoltage category/pollution degree			III/3
Set sislation to EN 61140 between coil and auxiliary contacts between the auxiliary contacts conventional free in themal current, 1 pole Open at 60 °C AC-15 200 V20 V20 V20 V40 V 300 V20 V20 V40 V 300 V 500 V 600 V	Rated insulation voltage	Ui	V AC	690
between coil and auxiliary contacts VAC 400 between the auxiliary contacts VAC 400 Correctional current A 4 Correctional free air themal current, 1 pole between the auxiliary contacts A 4 Open Im=lex A 16 AC-15 The contact of	Rated operational voltage	Ue	V AC	690
between the auxiliary contacts V AC 400 Rated operational current A A Conventional free air thermal current, 1 pole A B Open In I	Safe isolation to EN 61140			
Rated operational current A Conventional free air thermal current, 1 pole A Open In = Ie A act 60 °C In = Ie A AC-15 V 380 V 400 V 415 V Ie A 4 500 V Ie A 4 500 V Ie A 1.5 DC current B F Y Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≤ 15 ms A 10 A 10 Contacts in series: A 10 A 10 1 60 V A 6 A 10 2 60 V A 10 A 10 A 10 3 110 V A 6 A 5 A 10 A 10 A 10 A 10 A 10 A 5 A 10 A 5 A 10 A 5 A	between coil and auxiliary contacts		V AC	400
Conventional free air thermal current, 1 pole In all a to 0°C In all a to	between the auxiliary contacts		V AC	400
Open In ale A 16 AC-15 S S 220 V 230 V 240 V Ie A 4 380 V 400 V 415 V Ie A 4 500 V Ie A 1.5 DC current F Switch-on and switch-off conditions based on DC-13, time constant as specified. DC LIR ± 15 ms Switch-on and switch-off conditions based on DC-13, time constant as specified. 1 24 V A 10 1 60 V A 6 2 60 V A 10 1 110 V A 6 3 110 V A 6 3 110 V A 6 3 220 V A 1 3 220 V A 5 DC LIR ± 50 ms A 4 3 24 V A 4 3 60 V A 4 3 20 V A 4 3 20 V <td>Rated operational current</td> <td></td> <td>Α</td> <td></td>	Rated operational current		Α	
at 60 °C In algo A 16 AC-15 Io A 4 380 V 400 V 415 V Io A 4 500 V Io A 15 DC current Fall A 15 Notes A Whith-on and switch-off conditions based on DC-13, time constant as specified. DC LR ≤ 15 ms A 10 1 24 V A 16 1 60 V A 6 2 60 V A 10 1 110 V A 6 3 110 V A 5 DC LR ≤ 50 ms 220 V A 1 Contacts in series: A 4 4 3 20 V A 5 Contacts in series: A 4 4 3 40 V A 4	Conventional free air thermal current, 1 pole			
AC-15 Ie A 4 220 V 230 V 240 V Ie A 4 380 V 400 V 415 V Ie A 4 500 V Ie A 15 DC current Feet to the conditions based on DC-13, time constant as specified. Notes Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≤ 15 ms A 10 1 24 V A 10 1 60 V A 6 2 60 V A 10 3 110 V A 6 1 220 V A 1 3 220 V A 5 DC L/R ≤ 50 ms A 4 3 24 V A 4 3 24 V A 4 3 60 V A 4 3 110 V A 4 4 4 4 3 110 V A 4 3 <td>Open</td> <td></td> <td></td> <td></td>	Open			
220 V 230 V 240 V I ₀ A 4 380 V 400 V 415 V I _e A 4 500 V I _e A 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≤ 15 ms A Switch-on and switch-off conditions based on DC-13, time constant as specified. 1 1 24 V A 10 1 1 60 V A 6 2 60 V A 10 3 110 V A 6 1 220 V A 6 3 220 V A 5 DC L/R ≤ 50 ms A 4 4 3 24 V A 4 3 24 V A 4 3 110 V A 4 3 20 V A 4 3 4 4 4 3 110 V A 4 3 20 V A	at 60 °C	$I_{th} = I_e$	Α	16
Salv	AC-15			
DC current DC current Notes Notes Switch-on and switch-off conditions based on DC-13, time constant as specified. DC LUR ≤ 15 ms	220 V 230 V 240 V	I _e	Α	4
DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≦ 15 ms A Switch-on and switch-off conditions based on DC-13, time constant as specified. Contacts in series: A 10 1 60 V A 6 2 60 V A 10 1 110 V A 3 3 110 V A 6 3 220 V A 1 3 220 V A 5 DC L/R ≦ 50 ms A 4 3 24 V A 4 3 60 V A 4 3 110 V A 2 3 110 V A 2 3 20 V A 4 3 110 V A 2 3 20 V A 4 3 110 V A 2 3 110 V A 2 3 110	380 V 400 V 415 V	I _e	Α	4
DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≦ 15 ms A Switch-on and switch-off conditions based on DC-13, time constant as specified. Contacts in series: A 10 1 60 V A 6 2 60 V A 10 1 110 V A 3 3 110 V A 6 3 220 V A 1 3 220 V A 5 DC L/R ≦ 50 ms A 4 3 24 V A 4 3 60 V A 4 3 110 V A 2 3 110 V A 2 3 20 V A 4 3 110 V A 2 3 20 V A 4 3 110 V A 2 3 110 V A 2 3 110	500 V	l _e	Α	1.5
Notes Switch-on and switch-off conditions based on DC-13, time constant as specified. DC L/R ≦ 15 ms A Contacts in series: A 10 1 60 V A 6 2 60 V A 10 1 110 V A 3 3 110 V A 6 3 110 V A 6 3 220 V A 1 BC L/R ≦ 50 ms A 5 Contacts in series: A 4 3 24 V A 4 3 60 V A 4 3 60 V A 4 3 110 V A 2 3 40 V A 4 3 40 V A <t< td=""><td>DC current</td><td>•</td><td></td><td></td></t<>	DC current	•		
DC L/R ≦ 15 ms A 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 A A Contacts in series: A 4 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 < one failure at 100 million operations				Switch-on and switch-off conditions based on DC-13, time constant as specified.
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 A A Contacts in series: A 4 3 24 V A 4 3 60 V A 4 3 110 V A 2 3 220 V A 1 Control circuit reliability Failure at 100 million operations				, , , , , , , , , , , , , , , , , , , ,
1 1 60 V A 6 2 60 V A 10 1 110 V A 3 3 3 110 V A 6 1 1 220 V A 1 3 3 5 Contacts in series: Contacts in series: A 1 4 3 3 4 4 4 3 3 4 5 5 Control circuit reliability Failure rate λ			Α	
1 60 V A 10 2 60 V A 3 1 110 V A 3 3 3 110 V A 6 1 1 220 V A 1 3 3 220 V A 5 Contacts in series: A 24 V A 4 3 3 3 4 4 3 3 4 10 V A 5 Control circuit reliability Failure rate λ		24 V		10
2 60 V A 10 1 110 V A 3 3 110 V A 6 1 1 220 V A 1 3 3 220 V A 5 DC L/R ≤ 50 ms Contacts in series: A 4 3 3 4 V A 4 3 3 3 00 V A 4 3 3 3 00 V A 4 3 3 4 V A 4 5 00 V A 4 3 3 4 V A 4 5 00 V A 4 5 00 V A 4 6 V A 4				
1 110 V A 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				
1 10 V A 1 1 220 V A 1 3 220 V A 5 DC L/R ≤ 50 ms Contacts in series: A 4 3 24 V A 4 3 60 V A 4 3 110 V A 2 3 110 V A 2 Control circuit reliability Failure rate λ <10 million operations				
1 220 V A 5 5 Contacts in series: A 4 5 Contacts in series: A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4				
3 220 V A 5 DC L/R ≦ 50 ms Contacts in series: A 4 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 < 100 million operations				
DC L/R ≤ 50 ms A 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				
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				
3			Α	
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		24 V		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				
3 220 V A 1 Control circuit reliability Failure rate λ $<10^{-8}$, $<$ one failure at 100 million operations				
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)				<10 ⁻⁸ , < one failure at 100 million operations
				(at $U_e = 24 \text{ V DC}$, $U_{min} = 17 \text{ V}$, $I_{min} = 5.4 \text{ mA}$)

	PKZM0	4
	PKZM0	4
	A gG/gL	10
	W	0.53
Pick-up	$x U_c$	0.8 - 1.1
Pick-up	VA	27 25
Hold	VA	4.2 3.3
Sealing	W	1.4 1.4
	% DF	100
	ms	15 - 21
	ms	9 - 18
		A600
		P300
	Pick-up Hold	PKZMO A gG/gL W Pick-up

600

15

250

1

Α

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Α

Design verification as per IEC/EN 61439

 AC

AC

DC

DC

Fechnical data for design verification			
Rated operational current for specified heat dissipation	In	Α	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
EC/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 $ \frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left($			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.

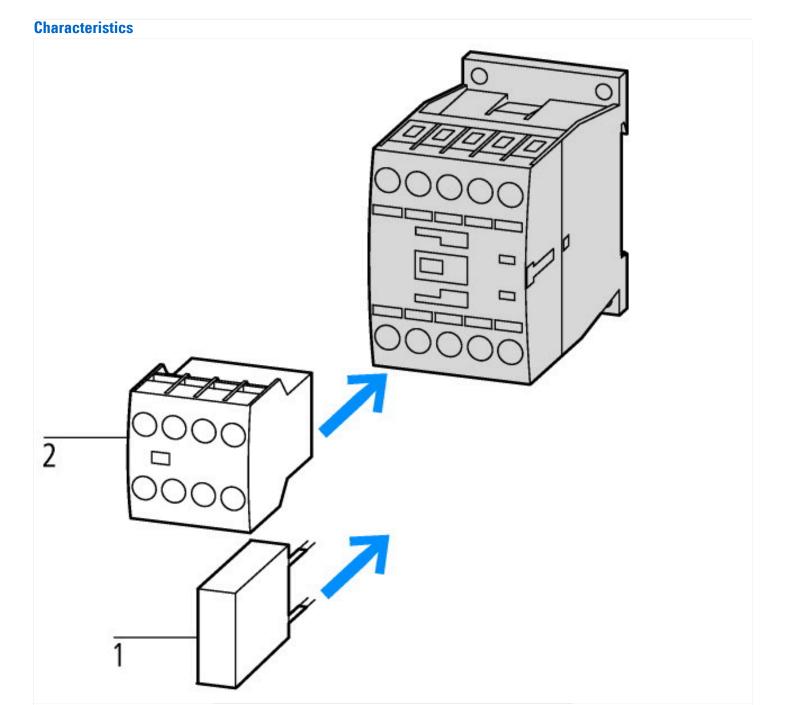
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's 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

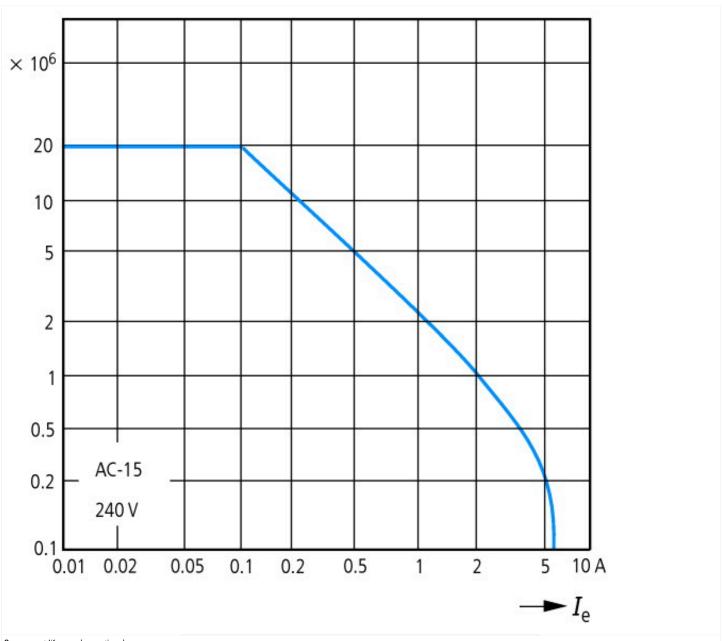
Low-voltage industrial components (EG000017) / Contactor relay (EC000196)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014])			
Rated control supply voltage Us at AC 50HZ	,	V	220 - 220
Rated control supply voltage Us at AC 60HZ	,	V	220 - 220
Rated control supply voltage Us at DC	,	V	0 - 0
Voltage type for actuating			AC
Rated operation current le, 400 V	,	Α	4
Connection type auxiliary circuit			Screw connection
Mounting method			DIN-rail/screw
Interface			No
Number of auxiliary contacts as normally closed contact			1
Number of auxiliary contacts as normally open contact			3
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

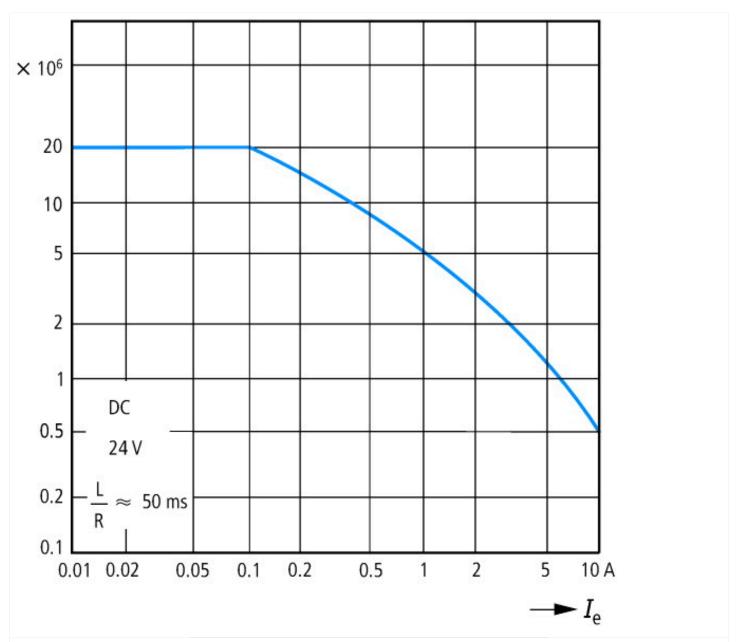
Approvals

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



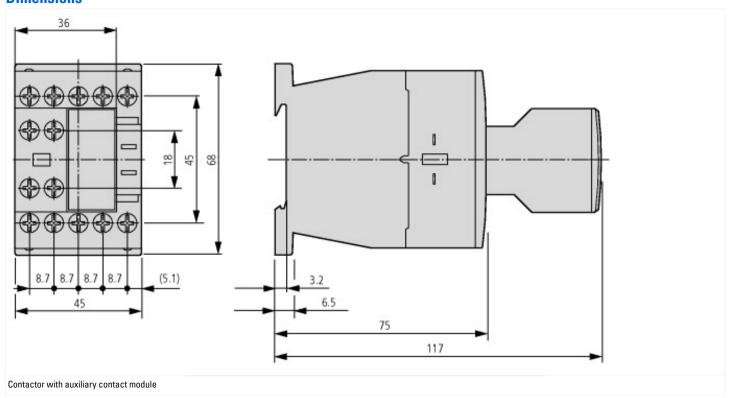
1: Suppressor 2: Auxiliary contact module

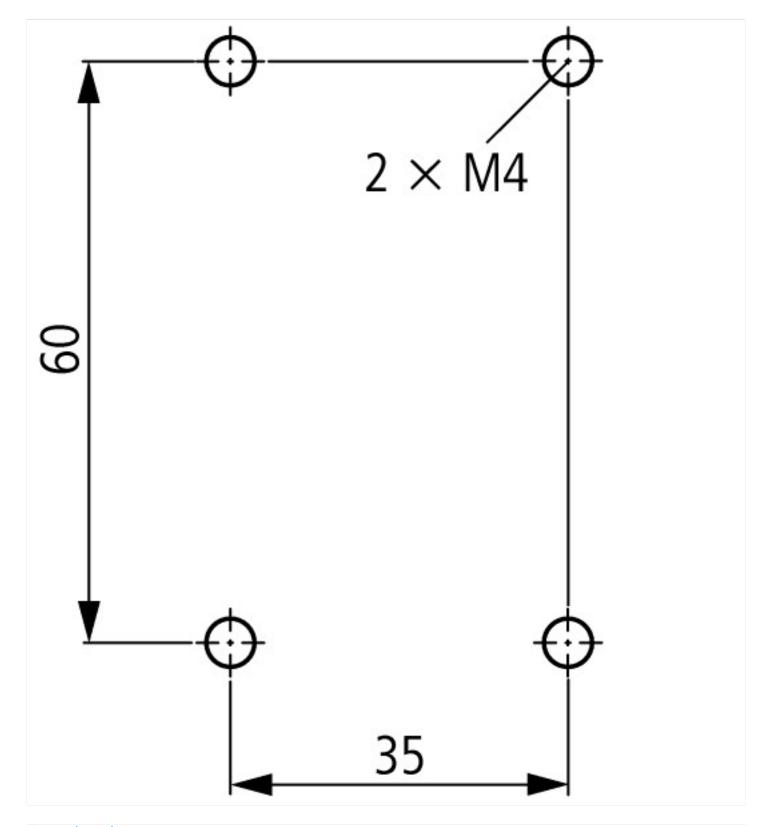




Component lifespan (operations)
I_e = rated operational current
Three contacts in series

Dimensions





Assets (links)

Declaration of CE Conformity

00002875

Instruction Leaflets

IL03407013Z2018_07

Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors

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