DATASHEET - DILA-31(48V50HZ)

Part no.

No.

Catalog No.



Contactor relay, 48 V 50 Hz, 3 N/O, 1 NC, Screw terminals, AC operation

DILA-31(48V50HZ) 276352 Alternate Catalog XTRE10B31Y



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	le	А	4
380 V 400 V 415 V	le	А	4
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Contact sequence			$\begin{array}{c} A^{1} \\ A^{1} \\ A^{2} \\$
Instructions			Contact numbers to EN 50011 Coil terminal markings to EN 50005
Code number and version of combination			
Distinctive number			31E
Can be combined with auxiliary contact module			DILA-XHI(V)
Actuating voltage			48 V 50 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			
Mechanical shock resistance (IEC/EN 60068-2-27)			

Half-sinusoidal shock, 10 ms			
Basic unit with auxiliary contact module		g	
N/O contact			7
N/C contact		g	5
		g	
Degree of Protection			
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Altitude		m	Max. 2000
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 Contacts		Nm	1.2
Positive operating contacts to ZH 1/457, including auxiliary contact module			Yes
Rated impulse withstand voltage	U _{imp}	V AC	6000
Overvoltage category/pollution degree			111/3
Rated insulation voltage	Ui	V AC	690
Rated operational voltage	U _e	V AC	690
Safe isolation to EN 61140	οų		
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	'th -'e	~	
		•	
220 V 230 V 240 V	l _e	A	4
380 V 400 V 415 V	le	A	4
500 V	le	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:		Α	
1	24 V	Α	10
1	60 V	Α	6
2	60 V	А	10
1	110 V	Α	3
3	110 V	Α	6
1	220 V	А	1
3	220 V	Α	5
DC L/R \leq 50 ms			
Contacts in series:		А	
3	24 V	А	4
3	60 V	Α	4
3	110 V	А	2
3	220 V	А	1

Short-circuit ratio without woldingImage: state	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)
Maximu overurent protective devicePKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZMPKZM <t< td=""><td>Short-circuit rating without welding</td><td></td><td></td><td></td></t<>	Short-circuit rating without welding			
200 Y200 Y200 Y200 Y200 Y200 Y200 Y200				
380 400 V15VPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2MPK2M <td></td> <td></td> <td>PK7M0</td> <td>4</td>			PK7M0	4
Short-circuit protection maximum fuseImage: space spa				
50VAg6qu aAg6qu aAg6qu aAg6qu 			r kziviu	
Current heat loss at l _m Mu Scale AC operated W 3 AC operated Mu 3 AC operated Mu 8 AC operated Mu 8 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Mu 8 Norte consumption Mu 8 1 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 2 1 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 3 3 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 3 3 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 3 3 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 3 3 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Nu 3 3 Single-voltage coll 50 Hz and dual-voltage coll 50 Hz, 60 Hz Su 3 3 Actoreated MD contact opening delay Su 9 3 3 Actoreated M2 contact opening delay Su 9 <			A #C/#L	10
AC operated W 03 AC operated M N AC operated M N AC operated N N Single-voltage coll50 Hz and dual-voltage coll 50 Hz, 60 Hz N N Power consumption N N N AC operation N N N Single-voltage coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Single-voltage coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Single-voltage coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Single-voltage coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Single-voltage coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Charge coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Charge coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N Charge coll50 Hz and dual-voltage coll50 Hz, 60 Hz N N N AC operated losing delay N N N N Pilot Dury N N N N N			A go/gL	
Magnet systems Notage tolerance Magnet systems AC operated Magnet systems Magnet systems AC operated Magnet systems Magnet systems Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Pick-up Magnet systems AC operation Pick-up Vice Magnet systems Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Pick-up Vice Magnet systems Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing Wa Adomets Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing Wa Adomets Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing Wa Adomets Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing Wa Adomets Gingle-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing Wa Adomets AC operated Soaling Sealing Wa Adomets AC operated losing delay Soaling Soaling Soaling Soaling Pilot Dury Acoperated Acomets Acom				
Voltage tolerance Mage			W	0.53
AC operated Pick-up X Uc 8-11 Power consumption NU X Uc 8-11 AC operation NU X X Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 50 Hz Pick-up XA 4 Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Seling VA 4 Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Seling VA 4 duty factor Seling VA 4 AC operated losing delay Seling VA 4 AC operated losing delay Seling VA 5 AC operated losing delay Seling ND 5 5 AC operated losing delay Seling Selin				
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz 60 Hz Pickup k Uc B - 1 Power consumption AC operation No A Single-voltage coil 50 Hz and dual-voltage coil 50 Hz 60 Hz Pickup Va 34 Single-voltage coil 50 Hz and dual-voltage coil 50 Hz 60 Hz Sealing Va 34 Single-voltage coil 50 Hz and dual-voltage coil 50 Hz 60 Hz Sealing Va 34 duty factor Sealing Va 34 duty factor Sealing Va 34 AC operated losing delay Sealing Va 34 AC operated for approved types Max 5 - 21 36 Plot Dury ms 9 18 36 36 AC operated Max Max 36 36 Plot Dury Ac Operated Max 36 36 AC operated Max Max 36 36 General Use Max Max 36 36 AC Operated Max 36 36 36 <tr< td=""><td>-</td><td></td><td></td><td></td></tr<>	-			
Power consumption Image: Power consumption Power consumption <td></td> <td></td> <td></td> <td></td>				
AC operation Image: Constraint of the second o		Pick-up	x U _c	0.8 - 1.1
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Yick-up VA 4 Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing VA 4.4 duty factor Sealing VA 4.0 duty factor Sealing VA 4.0 Actoperated closing delay Sealing VA 1.0 A Coperated closing delay Sealing Sealing Sealing A Coperated ND contact opening delay Sealing Sealing Sealing Pilot Duty Sealing Sealing Sealing Sealing A Coperated Sealing Sealing Sealing Sealing General Use Sealing Sealing Sealing Sealing Sealing A C Sealing Sealing Sealing Sealing Sealing A C	Power consumption			
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 % DE 10 10 Changeover time at 100 % Us (recommended value) ms 5.21 10 AC operated closing delay ms 5.21 10 AC operated N/O contact opening delay ms 5.21 10 Rating data for approved types ms 5.21 10 AC operated N/O contact opening delay ms 5.21 10 Rating data for approved types ms 5.21 10 10 AC operated N/O contact opening delay ms 5.21 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10	AC operation			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Sealing W 14 duty factor % DF 10 Changeover time at 100 % Ug (recommended value) ms 15 - 21 AC operated closing delay ms 9 - 18 AC operated N/0 contact opening delay ms 9 - 18 Rating data for approved types ms 9 - 18 AL operated N/0 contact opening delay ms 9 - 18 Pilot Duty M M Mono AC operated M M Mono D Coperated M M Mono AC operated M M Mono AC operated M M Mono D Coperated M Mono Mono Maximum Company M Mono Mono Maximum Company M Mono Mono Max Max Max Max Max Mano Max Max Max Mano Mono<	Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	VA	24
duty factor % DF 100 Changeover time at 100 % U _S (recommended value) ms 15 - 21 AC operated closing delay ms 9 - 18 AC operated N/O contact opening delay ms 9 - 18 Rating data for approved types s S Auxiliary contacts S S Pilot Duty S A600 Coperated Use S S AC operated S S AC AC S AC S S AC S S </td <td>Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz</td> <td>Sealing</td> <td>VA</td> <td>3.4</td>	Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	VA	3.4
Changeover time at 100 % U _S (recommended value) Image: Change of the set of th	Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	W	1.4
AC operated closing delay ms 5-21 AC operated N/O contact opening delay ms 9-18 Rating data for approved types Akuliary contacts Ms	duty factor		% DF	100
AC operated N/O contact opening delay ms 9 - 18 Rating data for approved types Rating contacts Rating contacts Auxiliary contacts Image: Second contact opening contacts Image: Second contact opening contacts Pilot Duty Image: Second contact opening contacts Image: Second contact opening contacts AC operated Image: Second contact opening contacts A600 Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening contacts Image: Second contact opening cont	Changeover time at 100 % ${\rm U}_{\rm S}$ (recommended value)			
Atting data for approved types Auxiliary contacts Image: Sector Secto	AC operated closing delay		ms	15 - 21
Auxiliary contactsImage: Second S	AC operated N/O contact opening delay		ms	9 - 18
Pilot Duty Filot Duty AC operated A600 DC operated P300 General Use General Use AC C AC C DC operated V DC operated S DC operated V S S AC C AC S AC S DC S	Rating data for approved types			
AC operatedA600DC operated9300General UseCACCACCACACDCVDCVDCV	Auxiliary contacts			
DC operated P300 General Use F AC C AC C AC AC DC operated C AC C <td>Pilot Duty</td> <td></td> <td></td> <td></td>	Pilot Duty			
General Use V 600 AC AC AC DC V 50	AC operated			A600
ACV600ACA15DCV250	DC operated			P300
AC A 15 DC 250	General Use			
DC V 250	AC		V	600
	AC		A	15
DC A 1	DC		V	250
	DC		A	1

Design verification as per IEC/EN 61439

besign vermeation as per indy into the			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	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)

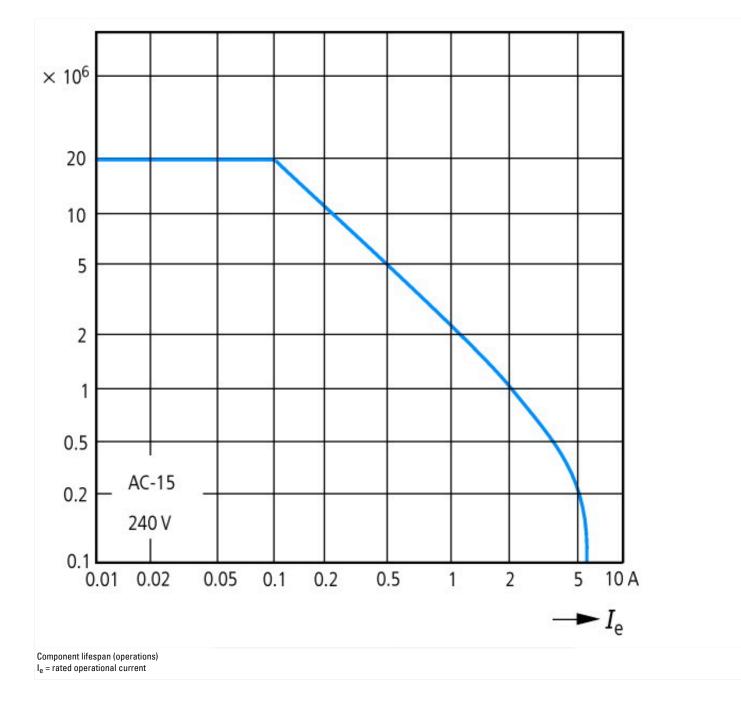
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014])

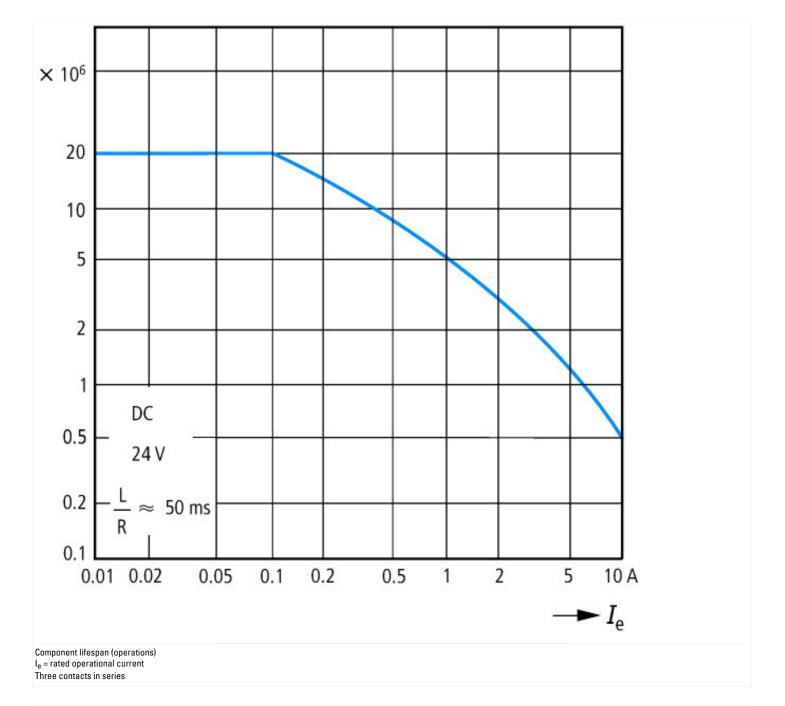
Rated control supply voltage Us at AC 50HZ	V	48 - 48
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current le, 400 V	А	4
Connection type auxiliary circuit		Screw connection
Mounting method		DIN-rail/screw
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

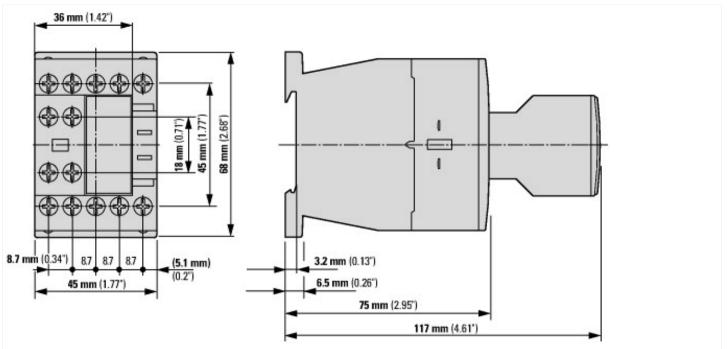
Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	012528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Specially designed for North America	No

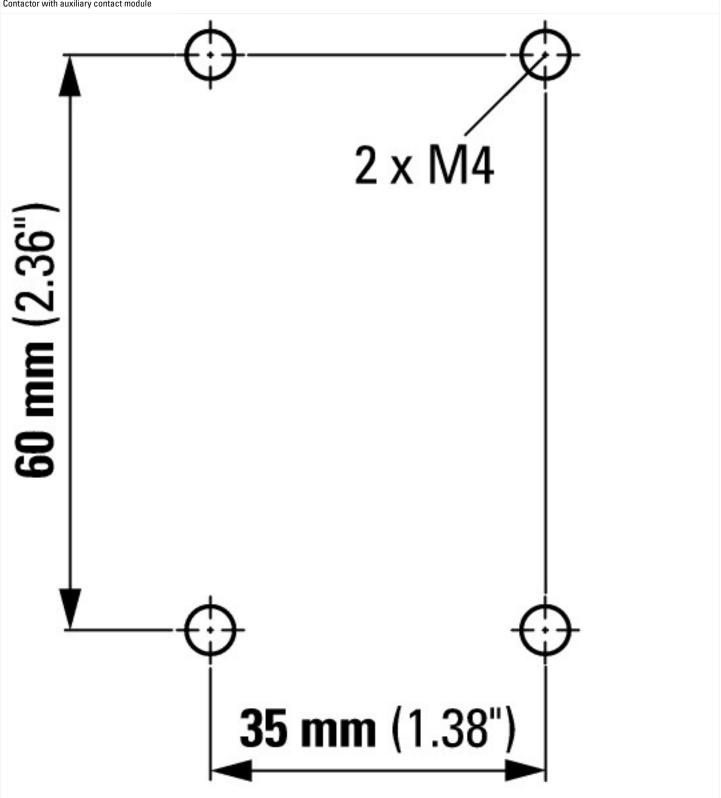






Dimensions





Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors

https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407013Z2020_05.pdf