DATASHEET - DILA-40(600V60HZ)



Contactor relay, 600 V 60 Hz, 4 N/O, Screw terminals, AC operation

Powering Business Worldwide*

Part no. DILA-40(600V60HZ)
Catalog No. 276324
Alternate Catalog XTRE10B40K6
No.

Similar to illustration

Del	livery	program
		DIUGIGII

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	l _e	Α	4
380 V 400 V 415 V	le	Α	4
Contacts			
N/O = Normally open			4 N/O
Contact sequence			A1 13 23 33 43 T A2 14 24 34 44
Instructions			Contact numbers to EN 50011 Coil terminal markings to EN 50005
Code number and version of combination			
Distinctive number			40E
Can be combined with auxiliary contact module			DILA-XHI(V)
Actuating voltage			600 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

Lifespan, mechanical AC operated AC operated Maximum operating frequency Climatic proofing Ambient temperature Open Open Enclosed Ambient temperature, storage Mounting position Mounting position Ambuent temperature, storage Ambuent temperature, to all storage Ambuent temperature, storage Ambuent temperature, storag	General			
AC operated Operations	Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
Maximum operating frequency Operations/h Ambient temperature Open Enclosed Ambient temperature, storage Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) Operations/h Ambient temperature, storage Mechanical shock resistance (IEC/EN 60068-2-27) Operations/h Oper	Lifespan, mechanical			
Climatic proofing Ambient temperature Open Enclosed Ambient temperature, storage Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-78 Damp heat, constant, to IEC 60068-2-78 Damp heat, constant, to IEC 60068-2-78 Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-78 Damp heat, cyclic for IEC 60068-2-7	AC operated	Operations	x 10 ⁶	20
Damp heat, cyclic, to IEC 60068-2-30 Ambient temperature Open Enclosed Ambient temperature, storage Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) Damp heat, cyclic, to IEC 60068-2-30 - 25 - 40 - 25 - 40 - 40 - 80 - 4	Maximum operating frequency	Operations/h		9000
Open Enclosed CC -25 - 40 Ambient temperature, storage CC -40 - 80 Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) CC -40 - 80 Ambient temperature, storage CD -40 - 80 Ambient temperature, storage Ambient temperature, storage CD -40 - 80 Ambient temperature, storage Ambient t	Climatic proofing			
Enclosed Ambient temperature, storage CC - 25 - 40 Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) CC - 40 - 80 TO T	Ambient temperature			
Ambient temperature, storage Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) -40 - 80	Open		°C	-25 - +60
Mounting position Mounting position Mechanical shock resistance (IEC/EN 60068-2-27)	Enclosed		°C	- 25 - 40
Mounting position Mechanical shock resistance (IEC/EN 60068-2-27) Mechanical shock resistance (IEC/EN 60068-2-27)	Ambient temperature, storage		°C	- 40 - 80
Mechanical shock resistance (IEC/EN 60068-2-27)	Mounting position			
	Mounting position			
Half-sinusoidal shock, 10 ms	Mechanical shock resistance (IEC/EN 60068-2-27)			
	Half-sinusoidal shock, 10 ms			

Note				
Notice contact Properties	Basic unit with auxiliary contact module			
Page of Protection Protection against direct contact whan actuated from from IEN 90274 Protection against direct contact whan actuated from from IEN 90274 Protection against direct contact whan actuated from from IEN 90274 Protection Protection against direct contact whan actuated from from IEN 90274 Protection				
Persistent significant direct contract when a clusted from front (EN 50274) m Max 2000			g	
Abilitation Name Mac 2000 Weight 8 0 24 Exercised accesses 8m 0 24 Scow terminals 8m 1 x 10.75 - 41 2 x 10.75 - 20) Flexible with formule 2x 10.75 - 20) 2x 10.75 - 20) Solid or stranded 2x 10.75 - 20) 2x 10.75 - 20) Solid or stranded 2x 10.75 - 20) 2x 10.75 - 20) I formula screw 2x 10.75 - 20) 2x 10.75 - 20) I formula screw 2x 10.75 - 20) 2x 10.75 - 20) Balandial screwdriver 2mm 10 Balandial screwdriver 2mm 12 Max sightening torque 2mm 12 Certain screwdriver 2mm 12 Max sightening torque 2mm 12 Certain screwdriver 2mm 12 Read dissulation voltage 2mm 12 Certain screwdriver 2mm 12 Read dissulation voltage 2mm 2mm Debate in suital screwdriver 2mm 2mm <t< td=""><td></td><td></td><td></td><td></td></t<>				
March Marc				
AC appreted			m	Max. 2000
Section seraminals				
Screw terminals				0.24
Solid mm² 1 x 0,73 - 4 2 x 0,73 - 2 5) Floobile with female mm² 1 x 0,73 - 2 5) Solid or stranded mm² 1 x 0,73 - 2 5) Solid or stranded mm² 1 x 0,73 - 2 5) 2 x 0,73 - 2 5) 3 x 0,73 - 2 5 3 x 0,73 -	Terminal capacities		mm ²	
Flexible with ferrule	Screw terminals			
Solid or stranded Stripping langth MVG 18-14	Solid		mm ²	1 x (0,75 - 4) 2 x (0,75 - 2,5)
Stripping length length 15 minute screw M3.5 Pozidir's screwdriver 5 ize 3 ize 2 ize	Flexible with ferrule		mm ²	
Terminel scrow	Solid or stranded		AWG	18 - 14
Pozidiris screwdriver Size Size 2 Standard screwdriver mm 0,8 ± 5.5 Max: tightening torque mm 1,2 Contacts Fositive operating contacts to ZH 1/457, including auxiliary contact module Mmy V AC 6000 Rated insulation voltage Ump V AC 6000 Rated perational voltage Uj V AC 600 Rated perational voltage Uj V AC 600 Safe isolation to EN8140 V AC 600 between chauxiliary contacts V AC 400 Safe isolation to EN8140 V AC 400 between chauxiliary contacts V AC 400 Rated operational current I I I I I I I I I I I I I I I I I I I	Stripping length		mm	10
Standard screwdriver mm 08x 5.5 Max. tightening torque nm 1x 6 Contacts Nm 1x 6 Positive operating contacts to 2H 1V457, including auxiliary contact module vome of the positive operating contacts to 2H 1V457, including auxiliary contact module vome of the positive operating contacts to 2H 1V457, including auxiliary contact module vome of the positive operating contacts to 2H 1V457, including auxiliary contact module vome of the positive operating contacts vome of the positive operating contacts degree Rated operational voltage Up VAC 600 Safe isolation to EN 61140 VAC 400 between the auxiliary contacts VAC 400 Rated operational current Ip VAC 400 Conventional free air themal current, 1 pole Ip A 40 Act 1 Ip A 4 ACT 200 V 230 V 240 V Ip A 4 380 V 400 V 415 V Ip A 4 DC current Ip A 5 Notes A 5 Contacts is series: A <td>Terminal screw</td> <td></td> <td></td> <td>M3.5</td>	Terminal screw			M3.5
Name 1	Pozidriv screwdriver		Size	2
Contacts Positive operating contacts to ZH 1/457, including auxiliary contact module Very Personance operating contacts to ZH 1/457, including auxiliary contact module Very Contact contacts to ZH 1/457, including auxiliary contact module Very Contact contacts and contacts to ZH 1/457, including auxiliary contact module Very Contact contacts VAC Personance of SH 200	Standard screwdriver		mm	
Positive operating contacts to ZH 1/457, including auxiliary contact module Uning V AC 600 0 Rated impulse withstand voltage Uning V AC 600 0 Overotage category/pollution degree Ui V AC 800 0 Rated insulation voltage Ui V AC 800 0 Rated operational voltage Ui V AC 800 0 Safe isolation to EN 61140 V AC 400 0 Between coil and auxiliary contacts V AC 400 0 between the auxiliary contacts V AC 400 0 Conventional free air thermal current, 1 pole open AC AC at 80 °C In Image: AC Image: AC <td>Max. tightening torque</td> <td></td> <td>Nm</td> <td>1.2</td>	Max. tightening torque		Nm	1.2
Rated inpulse withstand voltage Umm V AC 6000 Overvoltage category/pollution degree Ui V AC 800 Rated insulation voltage Ui V AC 800 Rated operational voltage Ui V AC 800 Sale isolation to EN 61140 V AC 800 between coil and auxiliary contacts V AC 400 Rated operational current V AC V AC Conventional free air themal current, 1 pole V AC P Open In 18 °C A P AC-15 In 200 V AC A P 220 V 230 V 240 V	Contacts			
Overvoltage category/pollution degree Ui V AC 690 Rated insulation voltage Ue V AC 690 Safe isolation to EN 61140 VAC 690 between coil and auxiliary contacts VAC 400 between the auxiliary contacts A 400 Rated operational current A A Conventional free air thermal current, 1 pole B A Open Immage: AC-15 B 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 Immage: AC-15 First States A Immage: AC-15 First States OC Cutrent Immage: AC-15 First States A Immage: AC-15 First States Contacts in series: A A Immage: AC-15 First States Contacts in series: A A Immage: AC-15 First States Contacts in series: AC-15 First States AC-15 First States AC-15 First States 1 1 AC-15 First	Positive operating contacts to ZH 1/457, including auxiliary contact module			Yes
Rated insulation voltage Ui V AC 690 Rated operational voltage Ue V AC 690 Safe isolation to EN 61140 V AC 400 between the auxiliary contacts V AC 400 Rated operational current A 400 Conventional free air thermal current, 1 pole A 150 Open Image: Property of the policy of the	Rated impulse withstand voltage	U_{imp}	V AC	6000
Rated operational voltage Ue V AC 690 Safe isolation to EN 61140 V AC 400 between coil and auxiliary contacts V AC 400 between the auxiliary contacts V AC 400 Rated operational current A 4 Conventional free air thermal current, 1 pole B A 16 Open at 60 °C Image Im	Overvoltage category/pollution degree			III/3
Safe isolation to EN 61140 V AC 400 between coil and auxiliary contacts V AC 400 Rated operational current A 400 Conventional free air thermal current, 1 pole A 400 Open Ib = Ie A 16 AC-15 A 16 220 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 Switch-on and switch-off conditions based on DC-13, time constant as specific in series: A 10 Contacts in series: A 10 60 V A 6 1 24 V A 10 6 6 2 60 V A 6 6 6 1 11 V A 6 6 6 2 60 V A 10 6 6 6 6 6 6 6 6 6 6 6 6 6<	Rated insulation voltage	Ui	V AC	690
between coil and auxiliary contacts V AC 400 Rated operational current A V AC 400 Rated operational current A A Conventional free air thermal current, 1 pole AC Ith = Ie A 16 AC-15 B AC 16 AC	Rated operational voltage	U _e	V AC	690
between the auxiliary contacts V AC 400 Rated operational current A A Conventional free air thermal current, 1 pole A Ith = Ie A 16 Open at 60 °C Ith = Ie A 16 AC-15 220 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 Switch-on and switch-off conditions based on DC-13, time constant as sp 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 1 10 V A 6 2 60 V A 10 3 110 V A 6 1 220 V A 1 3 110 V A 6 1 220 V A </td <td>Safe isolation to EN 61140</td> <td></td> <td></td> <td></td>	Safe isolation to EN 61140			
Rated operational current Conventional free air thermal current, 1 pole Open Total at 60 °C Ith = Ie A 16 AC-15 Total A 4 380 V 400 V 240 V Ie A 4 500 V Ie A 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as sp DC L/R ≤ 15 ms Switch-on and switch-off conditions based on DC-13, time constant as sp 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 1 3 220 V A 5	between coil and auxiliary contacts		V AC	400
Conventional free air thermal current, 1 pole Open at 60 °C Ith = Ie A 16 AC-15 Te A 4 220 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 Switch-on and switch-off conditions based on DC-13, time constant as sp. DC L/R ≤ 15 ms A 10 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 1 3 220 V A 5	between the auxiliary contacts		V AC	400
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 sp DC U/R ≤ 15 ms A 1 Contacts in series: A 1 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	Rated operational current		Α	
at 60 °C Ith = Ie A 16 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 1.5 DC current Switch-on and switch-off conditions based on DC-13, time constant as sp DC L/R ≤ 15 ms A 10 1 24 V A 10	Conventional free air thermal current, 1 pole			
AC-15 220 V 230 V 240 V 1e A 4 380 V 400 V 415 V 1e A 1.5 DC current Notes Contacts in series: A 1 24 V A 10 11 60 V A 6 2 60 V A 10 11 110 V A 3 3 110 V A 6 11 220 V A 5 11 220 V A 5 11 220 V A 5 5 6 7 7 8 7 8 7 8 7 8 7 8 8 8 8 8 8 8 8 8	Open			
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 sp 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	at 60 °C	I _{th} =I _e	Α	16
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 sp 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	AC-15			
500 V I _e A 1.5 DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as sp DC L/R ≤ 15 ms 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	220 V 230 V 240 V	I _e	Α	4
500 V I _e A 1.5 DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as sp DC L/R ≤ 15 ms 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	380 V 400 V 415 V	l _e	Α	4
DC current Notes Switch-on and switch-off conditions based on DC-13, time constant as sp DC L/R ≤ 15 ms 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			Α	1.5
Notes Switch-on and switch-off conditions based on DC-13, time constant as sp 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		-6		
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				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				omen on and switch on conducting pased on po-10, time constant as specified.
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			Δ	
1 60 V A 6 2 60 V A 10 1 110 V A 3 3 110 V A 6 1 1 220 V A 1 3 220 V A 5		24 V		10
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				
1 110 V A 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				
3 110 V A 6 1 220 V A 1 3 220 V A 5				
1 220 V A 1 3 220 V A 5				
3 220 V A 5				
DO 4/1 = 30 III/3		220 V	^	
Contacts in soring:			۸	
Contacts in series:		24.1/		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 <10 ⁻⁸ , < one failure at 100 million operations	Control circuit reliability	railure rate	٨	<10 ⁻⁰ , < one failure at 100 million operations

			(at $U_e = 24 \text{ V DC}$, $U_{min} = 17 \text{ V}$, $I_{min} = 5.4 \text{ mA}$)
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	x U _c	0.8 - 1.1
Power consumption			
AC operation			
Single-voltage coil 60 Hz	Pick-up	VA	30
Single-voltage coil 60 Hz	Sealing	VA	4.4
Single-voltage coil 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

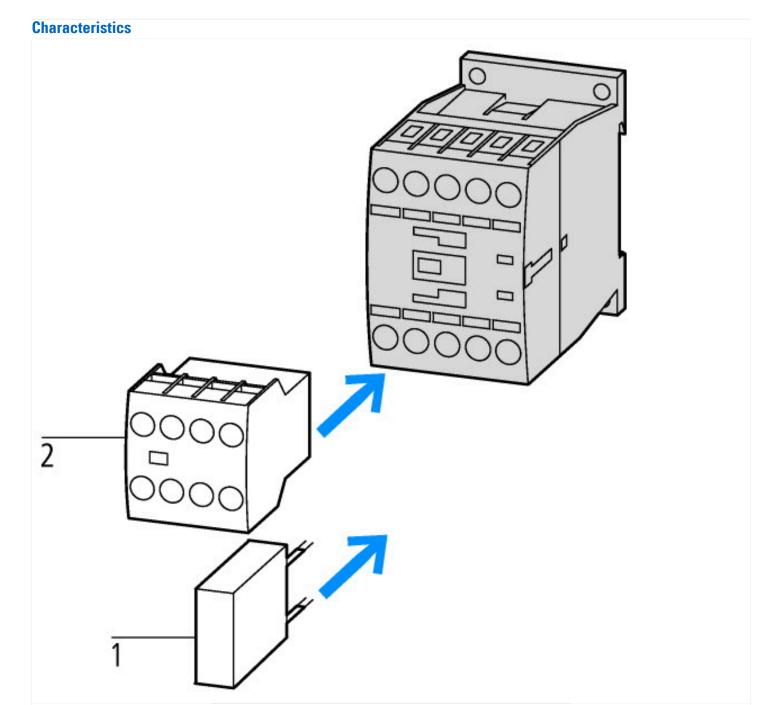
Design verification as per IEC/EN 61439

boolgh vormoution as por 120, 214 or 100			
Technical 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 $$			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.

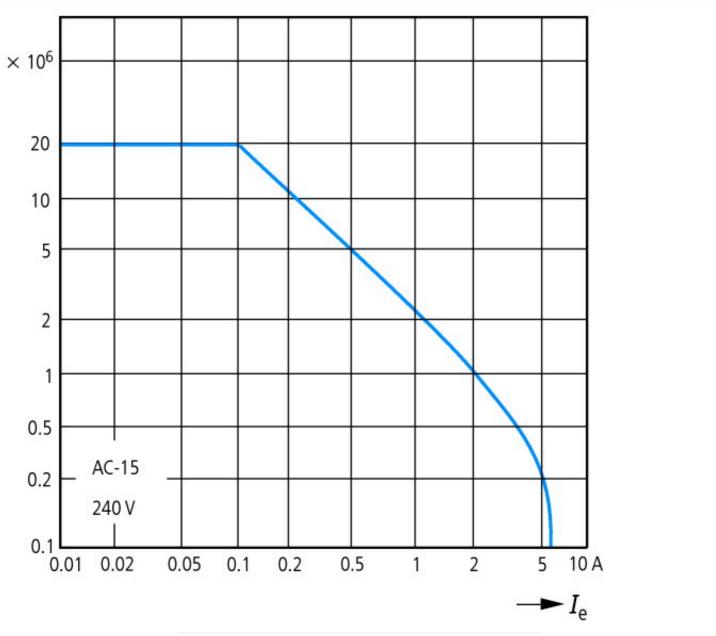
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

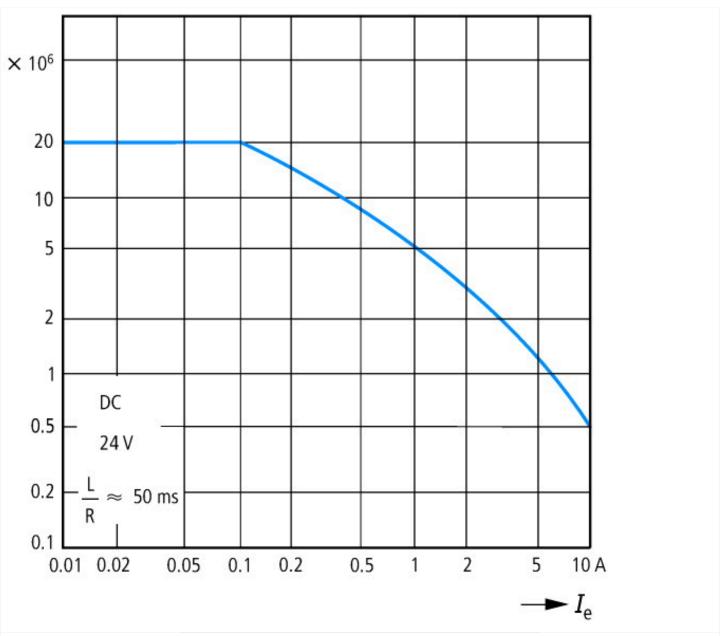
Technical data ETIM 7.0

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	0 - 0		
Rated control supply voltage Us at AC 60HZ	V	600 - 600		
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		0		
Number of auxiliary contacts as normally open contact		4		
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		



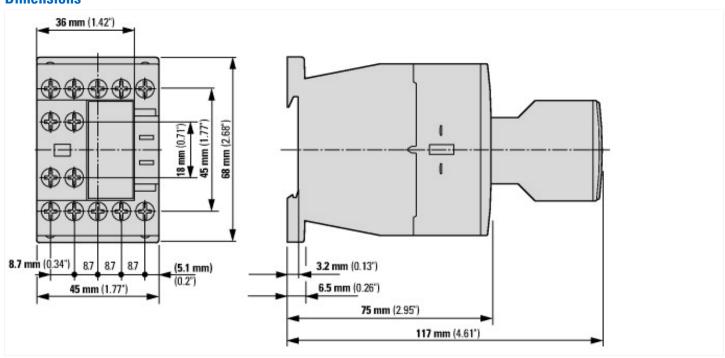
1: Suppressor 2: Auxiliary contact module

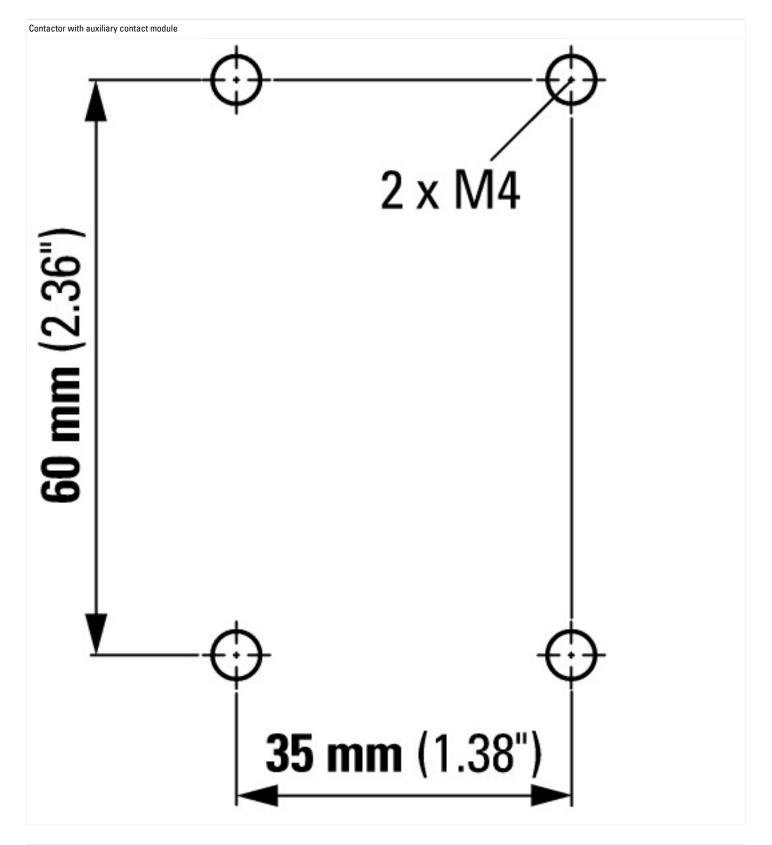




$$\label{eq:component lifespan (operations)} \begin{split} & l_e = \text{rated operational current} \\ & \text{Three contacts in series} \end{split}$$

Dimensions





Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors

IL03407013Z (AWA2100-2126) Contactors

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