

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

Powering Business Worldwide*

 Part no.
 DILER-31(230V50HZ,240V60HZ)

 Catalog No.
 051768

 Eaton Catalog No.
 XTRM10A31F

 EL-Nummer
 4130362

(Norway)

Delivery program

Delivery program			
Product range			DILER Mini-contactors
Application			Contactor relays
Description			with interlocked opposing contacts
Connection technique			Screw terminals
Rated operational current			
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	$I_{th} = I_e$	Α	10
AC-15			
220 V 230 V 240 V	I _e	Α	6
380 V 400 V 415 V	I _e	Α	3
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Contact sequence			A1 13 21 33 43 A2 14 22 34 44
Code number and version of combination			
Distinctive number			31E
For use with			DILE
Actuating voltage			230 V 50 Hz, 240 V 60 Hz
Voltage AC/DC			AC operation
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	10
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 - +50
Enclosed		°C	- 25 - 40
Mounting position			
Mounting position			As required, except vertical with terminals A1/A2 at the bottom
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	10
N/C contact		g	8
Degree of Protection			IP20
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Weight			
AC operated		kg	0.17
Terminal capacities		mm ²	
Screw terminals			
Solid		mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with ferrule		mm ²	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)
Solid or stranded		AWG	18 - 14 1 x (18 - 14) 2 x (18 - 14)
Stripping length		mm	8
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			
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			111/3
Rated insulation voltage	Ui	V AC	690
Rated operational voltage	U _e	V AC	600
Safe isolation to EN 61140			
between coil and auxiliary contacts		V AC	300
between the auxiliary contacts		V AC	300
Rated operational current		Α	
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	$I_{th} = I_e$	Α	10
AC-15			
220 V 230 V 240 V	le	Α	6
380 V 400 V 415 V	l _e	Α	3
500 V	l _e	Α	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	2.5
2	60 V	Α	2.5
3	110 V	Α	1.5
3	220 V	Α	0.5
Control circuit reliability	Failure rate	λ	$<10^{-8}, <$ one failure at 100 million operations (at Ue = 24 V DC, Umin = 17 V, Imin = 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	6

500 V		A fast	10
Current heat loss at I _{th}			
AC operated		W	1.1
Magnet systems			
Voltage tolerance			
AC operated			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	x U _c	
Voltage tolerance Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Pick-up voltage, min.		x U _c	0.8
Voltage tolerance Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz Pick-up voltage, max.		x U _c	1.1
Dual-frequency coil 50/60 Hz	Pick-up	x U _c	
Voltage tolerance Dual-frequency coil 50/60 Hz Pick-up voltage, min.		x U _c	0.85
Voltage tolerance Dual-frequency coil 50/60 Hz, max. pick-up voltage		x U _c	1.1
Power consumption			
AC operation			
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Pick-up	VA	25
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	VA	4.6
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz	Sealing	W	1.3
duty factor		% DF	100
Changeover time at 100 % U_S (recommended value)			
AC operated closing delay		ms	14 - 21
AC operated N/O contact opening delay		ms	8 - 18
AC operated With auxiliary contact module Max. closing delay		ms	45
Rating data for approved types			
Auxiliary contacts			

		A600
		P300
V	1	600
А	4	10
V	1	250
A	4	0.5
	<i>A</i>	V A V

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	6
Heat dissipation per pole, current-dependent	P _{vid}	W	0.4
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	1.8
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature max.		°C	-25
Operating ambient temperature max.		°C	50
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.

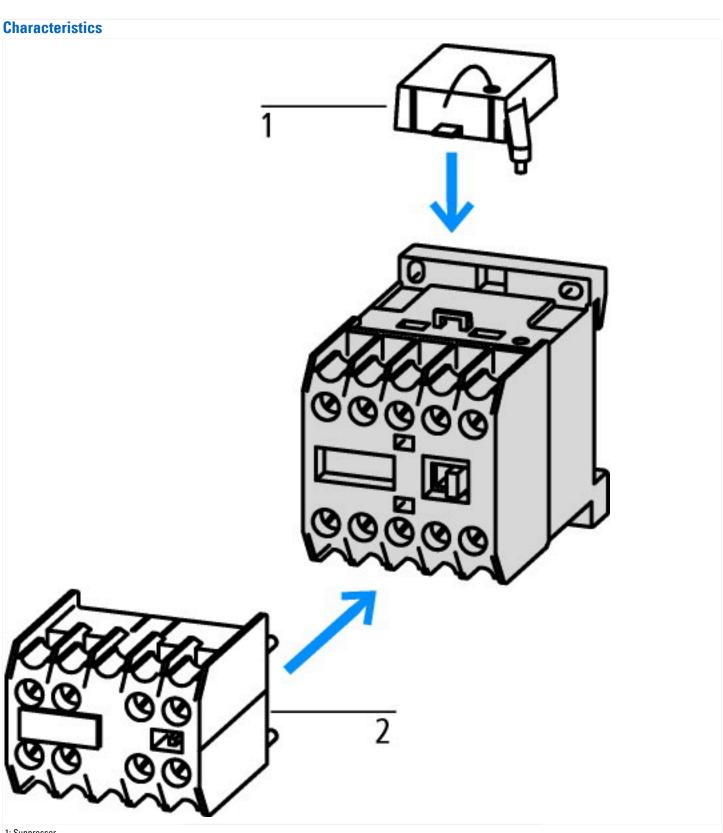
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
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 6.0

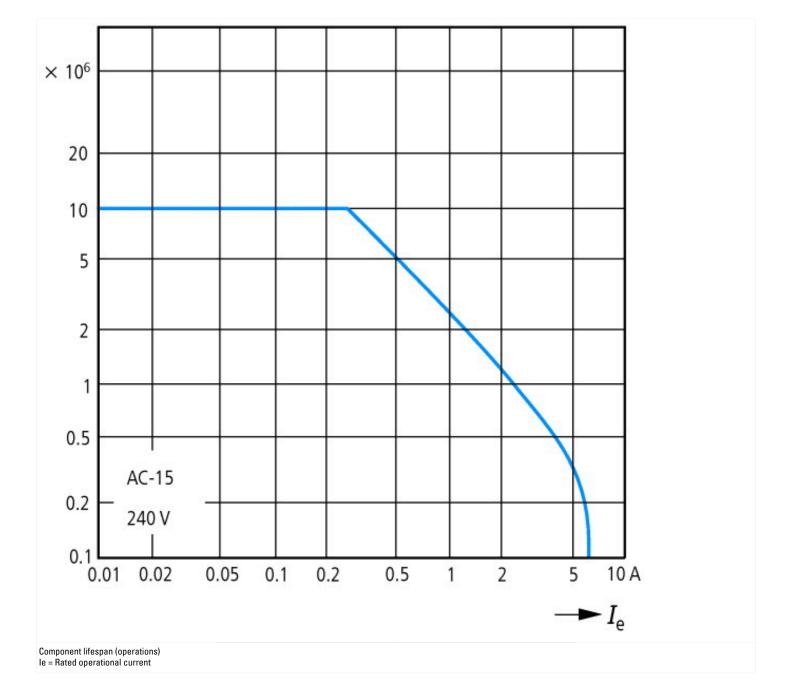
Low-voltage industrial components (EG000017) / Contactor relay (EC000196)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss8.1-27-37-10-01 [AAB716011])			
Rated control supply voltage Us at AC 50HZ V 230 - 230			
Rated control supply voltage Us at AC 60HZ	V	240 - 240	
Rated control supply voltage Us at DC	V	0 - 0	
Voltage type for actuating		AC	
Rated operation current le , 400 V	А	3	
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

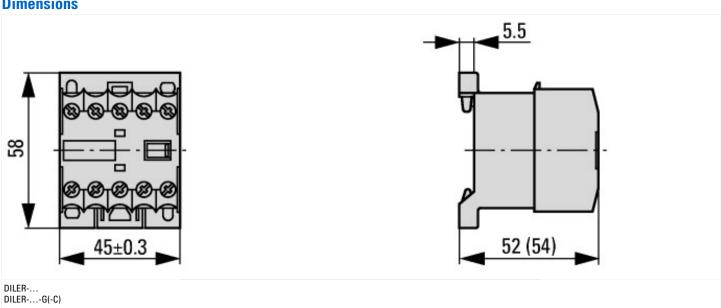
Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	012528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Specially designed for North America	No

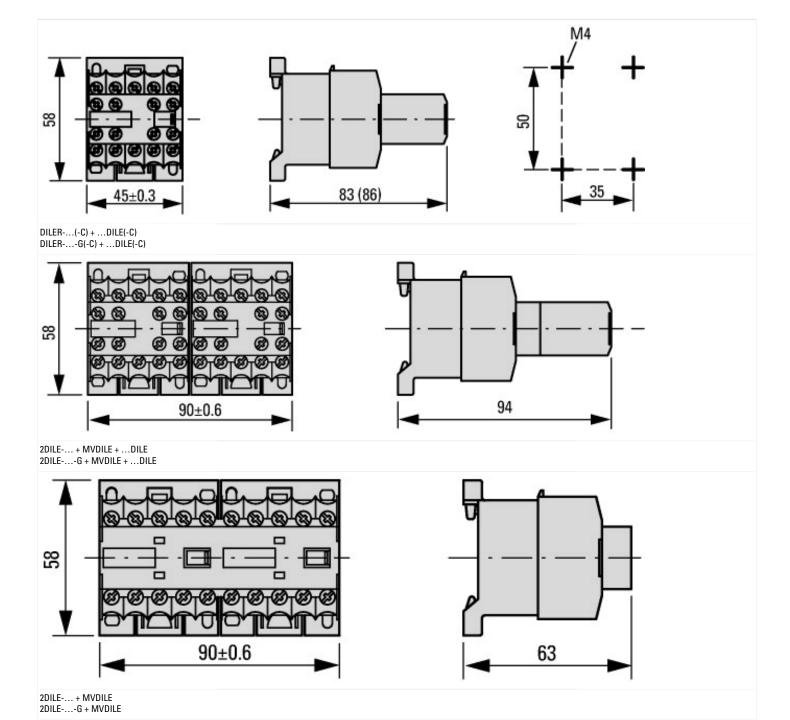


1: Suppressor 2: Auxiliary contact module



Dimensions





Assets (Links)

Declaration of Conformity

00002475

Instruction Leaflets

IL03407009Z2016_03

Additional product information (links)

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IL03407009Z (AWA2100-0882) Mini contactor relay				
IL03407009Z (AWA2100-0882) Mini contactor relay	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407009Z2016_03.pdf			
UL/CSA: Approved rating data	http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.84			