



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



Powering Business Worldwide™

Part no. **DILER-31(230V50HZ,240V60HZ)**
 Article no. **051768**
 Catalog No. **XTRM10A31F**

Delivery programme

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, 3 pole, 50 - 60 Hz			
Open			
at 50 °C	$I_{th} = I_e$	A	10
AC-15			
220 V 230 V 240 V	I_e	A	6
380 V 400 V 415 V	I_e	A	3
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
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, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	$\times 10^6$	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			
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
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 EN 60947-5-1 appendix L, including auxiliary contact module			Yes
Rated impulse withstand voltage	U _{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U _i	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			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 50 °C	I _{th} = I _e	A	10
AC-15			
220 V 230 V 240 V	I _e	A	6
380 V 400 V 415 V	I _e	A	3
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-13 L/R - 15 ms			
Contacts in series:		A	
1	24 V	A	2.5
2	60 V	A	2.5
3	110 V	A	1.5
3	220 V	A	0.5
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	6
500 V		A fast	10

Current heat loss at I_{th}				
AC operated		W		0.2
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
Dual-frequency coil 50/60 Hz	Pick-up	$x U_c$		0.85 - 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
Dual-frequency coil 50/60 Hz at 50 Hz	Pick-up	VA		25
Dual-frequency coil 50/60 Hz at 50 Hz	Sealing	VA		4.6
Dual-frequency coil 50/60 Hz at 50 Hz	Sealing	W		1.3
Dual-frequency coil 50/60 Hz at 60 Hz	Pick-up	VA		30 29
Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	VA		5.4 3.9
Dual-frequency coil 50/60 Hz at 60 Hz	Sealing	W		1.6 1.1
duty factor		% DF		100
Switching times at 100 % U_c (approximate values)				
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

Design verification as per IEC/EN 61439

Technical data for design verification				
Rated operational current for specified heat dissipation	I_n	A		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 min.		°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.				

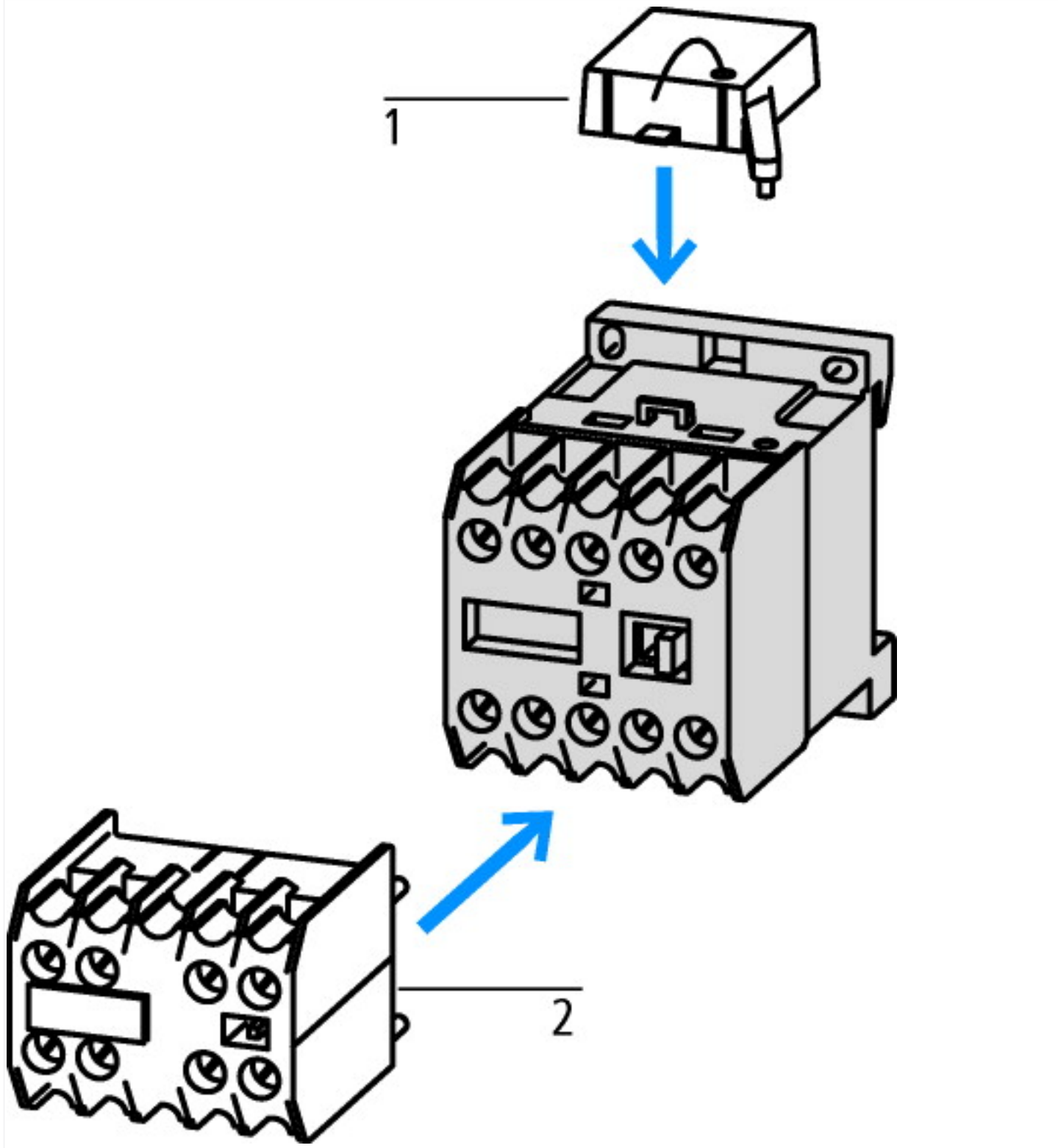
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's 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

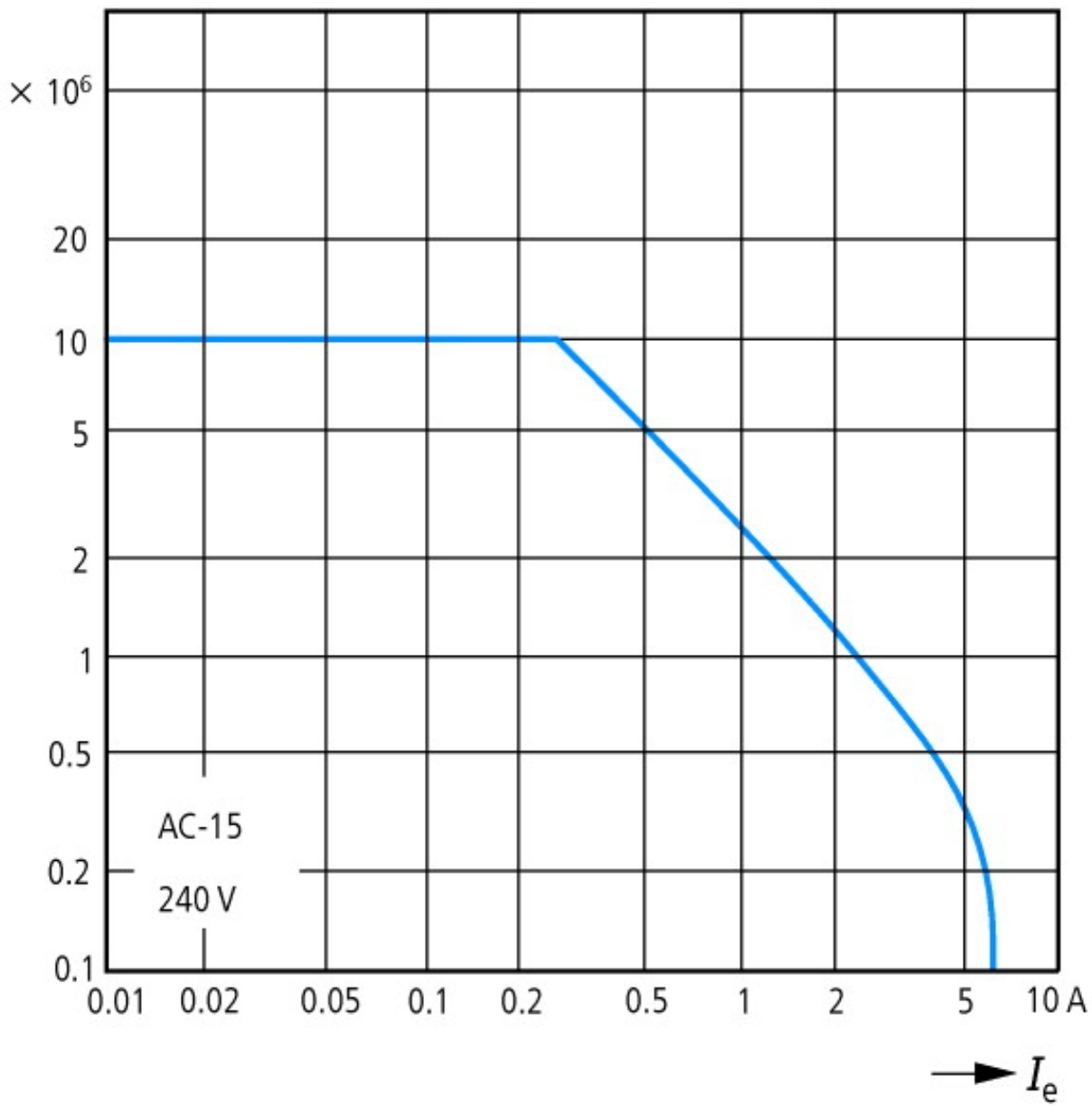
Low-voltage industrial components (EG000017) / Contactor relay (EC000196)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss8.1-27-37-10-01 [AAB716011])		
Rated control supply voltage Us at AC 50HZ	V	230 - 230
Rated 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 Ie , 400 V	A	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

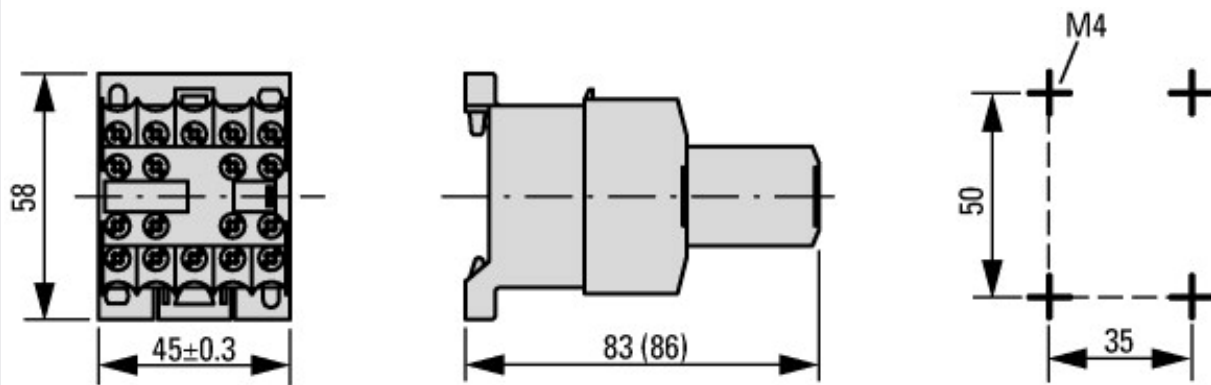


Component lifespan (operations)
 I_e = Rated operational current

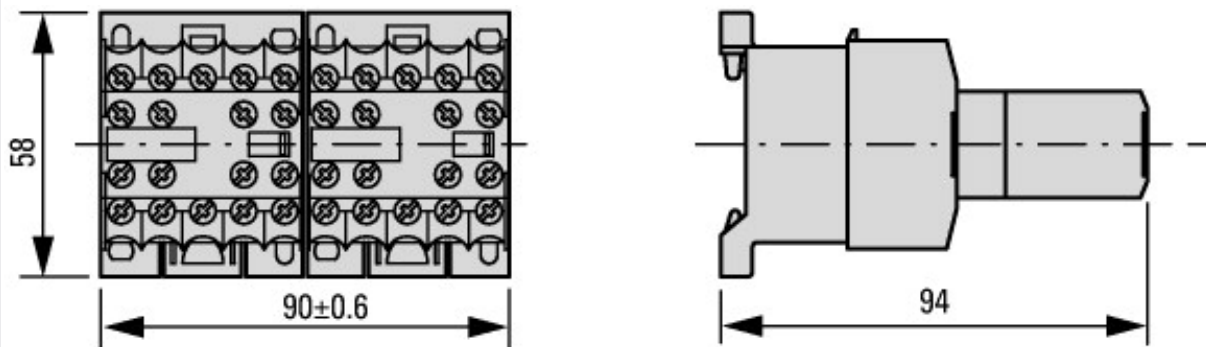
Dimensions



DILER...
 DILER...-G(-C)



DILER-...(-C) + ...DILE(-C)
 DILER-...-G(-C) + ...DILE(-C)



2DILE-... + MVDILE + ...DILE
 2DILE-...-G + MVDILE + ...DILE

Additional product information (links)

IL03407009Z (AWA2100-0882) Mini contactor relay

IL03407009Z (AWA2100-0882) Mini contactor relay

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407009Z2010_10.pdf

UL/CSA: Approved rating data

<http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.84>