DATASHEET - DILER-31-G(24VDC)



Contactor relay, 24 V DC, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Screw terminals, DC operation



Part no. Catalog No. Alternate Catalog No. EL-Nummer (Norway)

DILER-31-G(24VDC) 010157 llog XTRM10A31TD 4130355

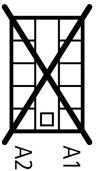
Similar to illustration

Delivery program

Due due tore and			DILED Mini sentestare
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	$I_{th} = I_e$	А	10
AC-15			
220 V 230 V 240 V	l _e	А	6
380 V 400 V 415 V	le	А	3
Contacts			
N/O = Normally open			3 N/O
N/C = Normally closed			1 NC
Contact sequence			$\begin{array}{c} A1 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $
Code number and version of combination			
Distinctive number			31E
For use with			DILE
Actuating voltage			24 V DC
Voltage AC/DC			DC operation
Instructions			Contact numbers to EN 50011 Coil terminal markings to EN 50005 Integrated diode-resistor combination Coil rating 2.6 W

Technical data

General			
Standards			IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA
Lifespan, mechanical			
DC 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 - +50
Enclosed		°C	- 25 - 40
Mounting position			
Mounting position			As required, except vertical with terminals A1/A2 at the bottom



			A1 A2
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			
DC operated		kg	0.211
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		A	
Conventional free air thermal current, 1 pole			
Open			
at 50 °C	I _{th} =I _e	A	10
AC-15			
220 V 230 V 240 V	l _e	A	6
380 V 400 V 415 V	le	A	3
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:		А	
1	24 V	A	2.5
2	60 V	A	2.5

3 18 V A 15 3 28 V A 0.5 Chard (crish reliability) Falue rate A A Short-circuit reliability Falue rate A A Maximum ovecurrent protective device PK2M0 4 A Maximum ovecurrent protection maximum fuse PK2M0 4 A Short-circuit protection maximum fuse PK2M0 4 A Short-circuit protection maximum fuse PK2M0 A A Short-circuit protection maximum fuse A A A Source A A A A District A A A A	-			
Control circuit reliability Failure at 0 A <				
Short-circui rating without velding iat up 24 V DC, Umm = 17 V, Imm = 5.4 mA ² Short-circui rating without velding iat up 24 V DC, Umm = 17 V, Imm = 5.4 mA ² Maximum overcurrent protective device imm 24 V, imm = 17 V, Imm = 5.4 mA ² 220 V 200 V 200 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² 230 V 200 V 200 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² 300 V 400 V 15 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² Short-circuit protection maximum fuse imm 24 V, imm = 17 V, Imm = 5.4 mA ² 500 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² Short-circuit protection maximum fuse imm 24 V, imm = 17 V, Imm = 5.4 mA ² 500 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² 500 V imm 24 V, imm = 17 V, Imm = 5.4 mA ² Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 24 V, imm = 17 V, Imm = 5.4 mA ² 0 Corporate imm 2			A	
Maximum overcurrent protective device Image: state of the state of th	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)
220 V 230 V 240 V Image: Status of the section maximum fuse PKZM0 4 380 V 400 V 415 V Agg/d 4 Agg/d 5 Short-circuit protection maximum fuse Agg/d 5	Short-circuit rating without welding			
380 V400 V415V PKZm0 4 Short-circuit protection maximum fuse F F S00 V A Gd /GL 6 S00 V A Gd /GL 6 S00 V A Gd /GL 10 Currenthet loss at Im Image: Comparised Image: Comparised Compa	Maximum overcurrent protective device			
Short-circuit protection maximum fuseImage: statusImage: status500 VA g6/g6500 VA g6/g0Current heat loss at ly0Image: status© CoperatedImage: statusImage: statusDo operatedImage: statusImage: statusDo operatedImage: statusImage: statusDo operatedImage: statusImage: statusNotesImage: statusImage: statusPoke-up voltageImage: statusImage: statusPoke-up voltageImage: statusImage: statusImage: statusImage: statusImage: statusDo operatedImage: statusImage: statusPoke-up voltageImage: statusImage: statusImage	220 V 230 V 240 V		PKZM0	4
500 V A g6/A 6 500 V A fast 1 Current heat loss at Im V N DC operated V N Magnet systems V N Votage tolerance V N DC operated V N Notes N Southed DC, three-phase bridge rectifiers or smoothed double-wave rectifier Power consumption Pick-up NU Nothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier DC operated Pick-up NU Nothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier Power consumption Pick-up NU Nothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier DC operated Pick-up NU NU NU duty factor Pick-up NU NU DC operated losing delay Pick-up NU NU DC operated losing delay NU Soft-Singence NU Notinger	380 V 400 V 415 V		PKZM0	4
500 V A fast 0 Current heat loss at l _{th} W 1 DC operated W 1 Magnet systems W 1 Votage tolerance Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier Notes 0.85 1.3 Notes 0.85 1.3 Power consumption Pick-up x U _c DC operated V 0.7 1.3 duty factor Poll-in = % DF DC operated N/D contact component (40 °C) Pick-up x U _c DC operated Poll-in = % DF DC operated Poll-in = % DF DC operated Poll-in = % DF DC operated N/D contact opening delay ms 23-3 DC operated N/D contact opening delay ms 26-35 DC operated N/D contact opening delay ms 70-3 Rating data for approved types M 400 Auditary contacts M 400 Pilot Duty A60 400 Actionated DC operated M 400 <td>Short-circuit protection maximum fuse</td> <td></td> <td></td> <td></td>	Short-circuit protection maximum fuse			
Current heat loss at Igh Image: Systems Voltage tolerance Image: Systems Voltage tolerance Image: Systems DC operated Image: Systems Notes Image: Systems Power consumption Image: Systems DC operated Image: Systems Power consumption Image: Systems DC operated Systems DC operated (bsing delay Image: Systems DC operated N/O contact opening delay Image: Systems DC operated N/O contact module Max. closing delay Image: Systems Priot Duty Image: Systems Autiliary contacts Image: Systems Plot Duty Image: Systems Autil	500 V		A gG/gL	6
DC operated W 1.1 Magnet systems Voltage tolerance Voltage tolerance DC operated Voltage tolerance Voltage tolerance Notes Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier Pick-up voltage Voltage tolerance Notes Prover consumption Pick-up Voltage tolerance Notes DC operated Pick-up Voltage tolerance Notes Notes DC operated Pick-up Voltage tolerance Notes	500 V		A fast	10
Magnet systems Voltage tolerance	Current heat loss at I _{th}			
Voltage tolerance Prode perated Second perated DC operated Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectific Pick-up voltage 0.85 1.3 at 24 V: without auxiliary contact component (40 °C) Pick-up Power consumption V DC operated Pick-up DC operated Pull-in = scaling DC operated Pull-in = scaling DC operated losing delay % DF DC operated N/O contact copping delay ms DC operated With auxiliary contact cosing delay ms DC operated With auxiliary contact cosing delay ms DC operated With auxiliary contact cosing delay ms Pilot Duty Filot Duty AC operated Max Pilot Duty Filot Duty AC operated Max DC operated Filot Duty AC operated Filot Duty	DC operated		W	1.1
DC operated Motes Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectifier Pick-up voltage 65 1.3 at 24 V: without auxiliary contact component (40 °C) Pick-up X Ue Power consumption V 07 - 1.3 DC operated Participa Parti Participa Particip	Magnet systems			
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Pick-up voltage 0.85 1.3 at 24 V: without auxiliary contact component (40 °C) Pick-up x U _c 0.7 - 1.3 Power consumption Power consumption Power consumption Power consumption DC operation Power consumption Power consumption Power consumption DC operated Power consumption Power consumption Power consumption DC operated Power consumption Power consumption Power consumption DC operated closing delay Power consumption Power consumption Power consumption DC operated closing delay Power consumption Power consumption Power consumption DC operated N/D contact opening delay Power consumption Power consumption Power consumption Rating data for approved types Power consumption Power consumption Power consumption AC operated Power consumption Power consumption Power consumption AC operat	DC operated			
at 24 V: without auxiliary contact component (40 °C) Pick-up x U _c 7 - 1.3 Power consumption Power consumption Fick-up	Notes			Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification $\label{eq:smoothed}$
Power consumption Partial	Pick-up voltage			0.85 1.3
DC operation V I DC operated Pull-in= sealing V 3 duty factor % DF 100 Changeover time at 100 % U _S (recommended value) % DF 10 DC operated closing delay M 8 6 DC operated N/O contact opening delay M 8 5 DC operated With auxiliary contact module Max. closing delay ms 15 25 Rating data for approved types M M 10 Auxiliary contacts M M 10 Pilot Duty AC operated M M 10 AC operated M M 600 10 General Use M M M 10 10	at 24 V: without auxiliary contact component (40 °C)	Pick-up	x U _c	0.7 - 1.3
DC operated Pull-in = sealing W 3 duty factor % DF 00 Changeover time at 100 % Uş (recommended value) % DF 0 DC operated closing delay ms 26-35 DC operated N/O contact opening delay ms 3-25 DC operated With auxiliary contact module Max. closing delay ms 70 Rating data for approved types	Power consumption			
sealing sealing duty factor % DF 100 Changeover time at 100 % U _S (recommended value) M M M DC operated closing delay ms 26 - 35 DC operated N/O contact opening delay ms 15 - 25 DC operated With auxiliary contact module Max. closing delay ms 70 Ratire data for approved types Actignerated M M Pilot Duty M M AC operated M M DC operated Ng M M Pilot Duty M M M General Use M M M	DC operation			
Changeover time at 100 % U _S (recommended value) Image: Changeover time at 100 % U _S (recommended value) DC operated closing delay ms 26-35 DC operated N/O contact opening delay ms 15-25 DC operated With auxiliary contact module Max. closing delay ms 70 Rating data for approved types Auxiliary contacts Image: Changeover type (Changeover type (Change	DC operated		W	2.3
DC operated closing delayms26 - 35DC operated N/O contact opening delayms15 - 25DC operated With auxiliary contact module Max. closing delayms70Rating data for approved typesAuxiliary contactsImage: Second Seco	duty factor		% DF	100
DC operated N/O contact opening delayms15 - 25DC operated With auxiliary contact module Max. closing delayms70Rating data for approved typesAuxiliary contactsPilot DutyAC operatedDC operatedDC operatedBeneral Use	Changeover time at 100 $\%~\text{U}_{S}$ (recommended value)			
DC operated With auxiliary contact module Max. closing delay ms 70 Rating data for approved types For any proved types Auxiliary contacts Image: Control of the second seco	DC operated closing delay		ms	26 - 35
Rating data for approved types Auxiliary contacts Pilot Duty AC operated DC operated General Use	DC operated N/O contact opening delay		ms	15 - 25
Auxiliary contacts Image: Contact Sector S	DC operated With auxiliary contact module Max. closing delay		ms	70
Pilot Duty Image: Compare teal AC operated A600 DC operated P300 General Use Image: Compare teal	Rating data for approved types			
AC operated A600 DC operated P300 General Use	Auxiliary contacts			
DC operated P300 General Use	Pilot Duty			
General Use	AC operated			A600
	DC operated			P300
AC V 600	General Use			
	AC		V	600
AC A 10	AC		А	10
DC V 250	DC		V	250
DC A 0.5	DC		А	0.5

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	А	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	2.3
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.

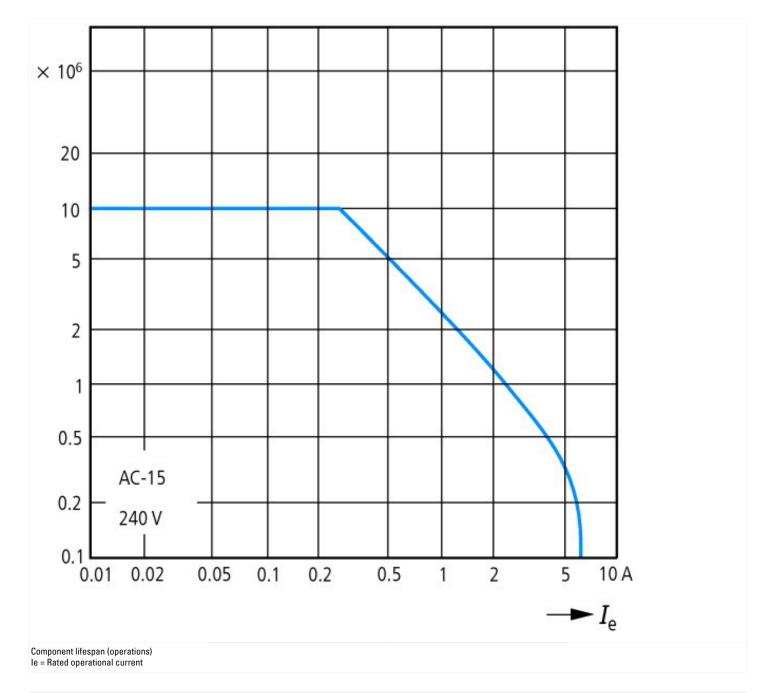
Technical data ETIM 7.0

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	١	V	0 - 0	
Rated control supply voltage Us at AC 60HZ	١	V	0 - 0	
Rated control supply voltage Us at DC	N N	V	24 - 24	
Voltage type for actuating			DC	
Rated operation current le, 400 V	1	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	

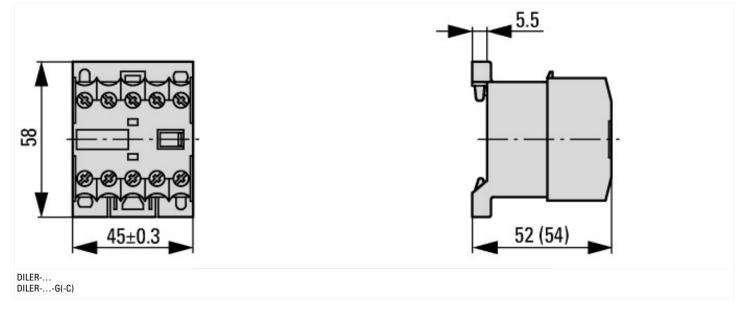
Approvals

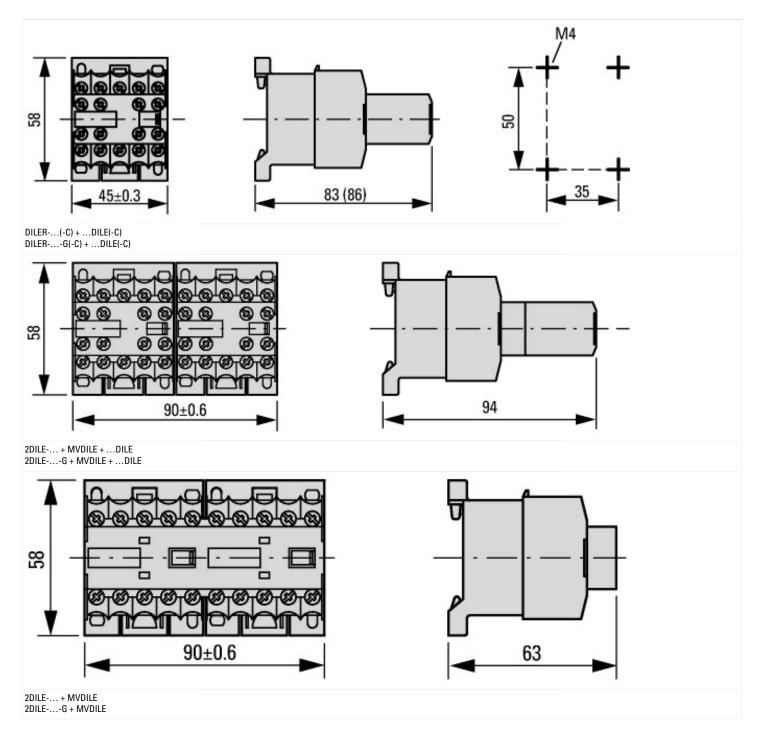
Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29184
UL Category Control No.	NKCR
CSA File No.	012528
CSA Class No.	3211-03
North America Certification	UL listed, CSA certified
Specially designed for North America	No





Dimensions





Assets (links)

Declaration of CE Conformity 00003110 Instruction Leaflets IL03407009Z2018_04

Additional product information (links)

IL03407009Z (AWA2100-0882) Mini contactor relay

IL03407009Z (AWA2100-0882) Mini contactor ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407009Z2018_04.pdf relay