



Contactor relay, 12 V DC, N/O = Normally open: 3 N/O, N/C = Normally closed: 1 NC, Screw terminals, DC operation



Part no. DILER-31-G(12VDC)
079761

General specifications

Product name	Eaton Moeller® series DILER Control relay
Part no.	DILER-31-G(12VDC)
EAN	4015080797616
Product Length/Depth	54 millimetre
Product height	58 millimetre
Product width	45 millimetre
Product weight	0.206 kilogram
Certifications	EN 60947-5-1 UL CSA Class No.: 3211-03 CSA File No.: 012528 CE UL 508 CSA-C22.2 No. 14-05 IEC/EN 60947-4-1 IEC/EN 60947 VDE 0660 UL Category Control No.: NKCR CSA UL File No.: E29184
Product Tradename	DILER
Product Type	Control relay
Product Sub Type	None
Catalog Notes	Coil terminal markings according to EN 50005 Contact numbers according to EN 50011 Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.

Features & Functions

Features	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
Fitted with:	Interlocked opposing contacts

General information

Application	Contactor relays
Degree of protection	IP20
Lifespan, mechanical	20,000,000 Operations (DC operated)
Mounting method	DIN-rail/screw
Mounting position	As required (except vertical with terminals A1/A2 at the bottom)
Operating frequency	9000 Operations/h
Overvoltage category	III
Pollution degree	3
Product category	DILER Mini-contactors
Protection	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)	6000 V AC
Shock resistance	10 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 8 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
Voltage type	DC

Climatic environmental conditions

Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	50 °C
Ambient operating temperature (enclosed) - min	25 °C
Ambient operating temperature (enclosed) - max	40 °C
Climatic proofing	Damp heat, constant, to IEC 60068-2-78

			Damp heat, cyclic, to IEC 60068-2-30
Terminal capacities			
Terminal capacity (flexible with ferrule)			1 x (0.75 - 1.5) mm ² 2 x (0.75 - 1.5) mm ²
Terminal capacity (solid)			2 x (0.75 - 2.5) mm ² 1 x (0.75 - 2.5) mm ²
Terminal capacity (solid/stranded AWG)			1 x (18 - 14) 18 - 14 2 x (18 - 14)
Stripping length (main cable)			8 mm
Screw size			M3.5, Terminal screw
Screwdriver size			0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
Tightening torque			1.2 Nm, Screw terminals
Electrical rating			
Rated operational voltage (Ue) at AC - max			600 V
Rated insulation voltage (Ui)			690 V
Rated operational current (Ie)			2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 1.5 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 10 A
Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V			6 A
Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V			3 A
Rated operational current (Ie) at AC-15, 500 V			1.5 A
Safe isolation			300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140
Short-circuit rating			
Short-circuit protection rating			10 A fast, 500V, Maximum fuse, Short-circuit rating without welding, Contacts
Short-circuit protection rating without welding			6 A gG/gL, 500 V, Max. Fuse, Contacts
Switching capacity			
Switching capacity (auxiliary contacts, general use)			10 A, 600 V AC, (UL/CSA) 0.5 A, 250 V DC, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)			A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
Magnet system			
Duty factor			100 %
Pick-up voltage			0.85 - 1.3 V DC x Uc 0.7 - 1.3 V DC x Uc (at 24 V: without auxiliary contact module and at ambient air temperature + 40 °C)
Power consumption (pick-up) at DC			2.3 W
Power consumption (sealing) at DC			2.3 W
Rated control supply voltage (Us) at AC, 50 Hz - min			0 V
Rated control supply voltage (Us) at AC, 50 Hz - max			0 V
Rated control supply voltage (Us) at AC, 60 Hz - min			0 V
Rated control supply voltage (Us) at AC, 60 Hz - max			0 V
Rated control supply voltage (Us) at DC - min			12 V
Voltage tolerance			Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification
Rated control supply voltage (Us) at DC - max			12 V
Switching time (DC operated, make contacts, closing delay) - min			26 ms
Switching time (DC operated, make contacts, closing delay) - max			35 ms
Switching time (DC operated, make contacts, opening delay) - min			15 ms
Switching time (DC operated, make contacts, opening delay) - max			25 ms
Switching time (DC operated, N/O, with auxiliary contact module, closing delay)			70 ms
Contacts			
Code number			31E
Control circuit reliability			< 2 λ, < 1 failure at 100,000,000 Operations (at U# = 24 V DC, Umin = 17 V, Imin = 5.4 mA)
Number of auxiliary contacts (change-over contacts)			0
Number of auxiliary contacts (normally closed contacts)			1

Number of auxiliary contacts (normally open contacts)			3
Number of contacts (normally closed contacts)			1
Number of contacts (normally open contacts)			3
Design verification			
Equipment heat dissipation, current-dependent Pvid			0 W
Heat dissipation capacity Pdis			0 W
Heat dissipation per pole, current-dependent Pvid			0.4 W
Rated operational current for specified heat dissipation (In)			6 A
Static heat dissipation, non-current-dependent Pvs			2.3 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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 Incriptions			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.
10.9.2 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 9.0

Low-voltage industrial components (EG000017) / Contactor relay (EC000196)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss13-27-37-10-01 [AAB716019])			
Rated control supply voltage AC 50 Hz		V	0 - 0
Rated control supply voltage AC 60 Hz		V	0 - 0
Rated control supply voltage DC		V	12 - 12
Voltage type for actuating			DC
Rated operation current		A	10
Rated operation current Ie, 400 V		A	3
Mounting method			DIN-rail/screw
With LED indication			No
Suitable for manual operation			No
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
Number of auxiliary contacts as change-over contact			0
Operating voltage AC 50 Hz		V	17 - 500
Operating voltage AC 60 Hz		V	17 - 500
Operating voltage DC		V	24 - 220
Voltage type (operating voltage)			AC/DC

Rated switch current		A	10
Connection type auxiliary circuit			Screw connection
Width		mm	45
Height		mm	58
Depth		mm	54