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.	**DILER-31-G(24VDC)**
	010157
EL Number (Norway)	**4130355**

General specifications

Product name	Eaton Moeller® series DILER Control relay
Part no.	DILER-31-G(24VDC)
EAN	4015080101574
Product Length/Depth	54 millimetre
Product height	58 millimetre
Product width	45 millimetre
Product weight	0.206 kilogram
Certifications	EN 60947-5-1 CE UL File No.: E29184 CSA UL Category Control No.: NKCR IEC/EN 60947 CSA-C22.2 No. 14-05 VDE 0660 IEC/EN 60947-4-1 UL CSA File No.: 012528 CSA Class No.: 3211-03 UL 508
Product Tradename	DILER
Product Type	Control relay
Product Sub Type	None

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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78

Terminal capacities

Terminal capacity (flexible with ferrule)	2 x (0.75 - 1.5) mm^2 1 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)	18 - 14 2 x (18 - 14) 1 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)	10 A 2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 0.5 A at 220 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) 1.5 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)
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 auxiliary contacts, According to EN 61140 300 V AC, Between coil and 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)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)

Magnet system

Duty factor	100 %
Pick-up voltage	0.7 - 1.3 V DC x Uc (at 24 V: without auxiliary contact module and at ambient air temperature + 40 °C) 0.85 - 1.3 V DC x Uc
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	24 V
Voltage tolerance	Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification
Rated control supply voltage (Us) at DC - max	24 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

Design verification

Equipment heat dissipation, current-dependent Pvid		0 W
Heat dissipation capacity Pdiss		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 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.
10.9.2 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	24 - 24
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