Contactor relay, 24 V 50 Hz, 3 N/O, 1 NC, Screw terminals, AC operation



Part no. DILA-31(24V50HZ)

276351

4130204 **EL Number**

(Norway)

Powering Business Worldwide

(Norway)	
General specifications	
Product name	Eaton Moeller® series DILA Control Relay
Part no.	DILA-31(24V50HZ)
EAN	4015082763510
Product Length/Depth	75 millimetre
Product height	68 millimetre
Product width	45 millimetre
Product weight	0.24 kilogram
Compliances	CE Marked
Certifications	CSA Std. C22.2 No. 14-05 IEC 60947-4-1 UL 508 EN 60947-4-1 VDE CSA-C22.2 No. 14-05 UL CSA File No.: 012528 EN 60947-5-1 CSA CSA Class No.: 3211-03 UL Category Control No.: NKCR VDE 0660 IEC/EN 60947-4-1 UL File No.: E29184 CE IEC/EN 60947
Product Tradename	DILA
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:	Positive operation contacts
General information	
Application	Contactor relays
Degree of protection Shock resistance	IP20 7 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
Lifespan, mechanical	20,000,000 Operations (AC operated)
Mounting method	Screw
Operating frequency	9000 Operations/h
Overvoltage category	
Pollution degree	3
Product category	DILA relays
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
Voltage type	AC
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	60 °C

Ambient operating temperature (enclosed) - min	25 °C
Ambient operating temperature (enclosed) - max	40 °C
Ambient storage temperature - min	40 °C
Ambient storage temperature - max	80 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
Ferminal capacities	
Terminal capacity (flexible with ferrule)	$2 \times (0.75 - 2.5)$ mm ² , Screw terminals $1 \times (0.75 - 2.5)$ mm ² , Screw terminals
Terminal capacity (solid)	$1 \times (0.75 - 4) \text{ mm}^2$, Screw terminals $2 \times (0.75 - 2.5) \text{ mm}^2$, Screw terminals
Terminal capacity (solid/stranded AWG)	18 - 14, Screw terminals
Stripping length (main cable)	10 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
lectrical rating	
Conventional thermal current ith at 60°C (3-pole, open)	16 A
Rated operational current (Ie)	6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series) 6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 10 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series) 10 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series) 3 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact in series) 4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series)
Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V	4 A
Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V	4 A
Rated operational current (Ie) at AC-15, 500 V	1.5 A
Rated insulation voltage (Ui)	690 V
Rated operational voltage (Ue) at AC - max	690 V
Short-circuit protection rating without welding	10 A gG/gL, 500 V, Max. Fuse, Contacts
Safe isolation	400 V AC, Between auxiliary contacts, According to EN 61140 400 V AC, Between coil and auxiliary contacts, According to EN 61140
Switching capacity (auxiliary contacts, general use)	1 A, 250 V DC, (UL/CSA) 15 A, 600 V AC, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
lagnet system	100 %
Duty factor Disk was a base	100 %
Power consumption, pick-up, 50 Hz	0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) 24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, pick-up, 30 Hz	24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 50 Hz	1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 3.4 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 60 Hz	1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Rated control supply voltage (Us) at AC, 50 Hz - min	24 V
Rated control supply voltage (Us) at AC, 50 Hz - max	24 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	0 V
Rated control supply voltage (Us) at DC - max	0 V
Switching time (AC operated, make contacts, closing delay) - min	15 ms
Switching time (AC operated, make contacts, closing delay) - max	21 ms
Switching time (AC operated, make contacts, opening delay) - min	9 ms
Switching time (AC operated, make contacts, opening delay) - max	18 ms
Communication	

Connection	Screw terminals
Connection to SmartWire-DT	No
Contacts	
Code number	31E
Control circuit reliability	λ < 5 x 10-7 (1 failure at 2,000,000 operations for U# = 24 V DC, Umin = 17 V, Imin = 5 mA)
Number of auxiliary contacts (change-over contacts)	0
Number of contacts (normally closed contacts)	1
Number of contacts (normally open contacts)	3
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	0.5 W
Rated operational current for specified heat dissipation (In)	15.5 A
Static heat dissipation, non-current-dependent Pvs	1.4 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	24 - 24			
Rated control supply voltage AC 60 Hz	V	0 - 0			
Rated control supply voltage DC	V	0 - 0			
Voltage type for actuating		AC			
Rated operation current	А	16			
Rated operation current le, 400 V	А	4			
Mounting method		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	Α	16
Connection type auxiliary circuit		Screw connection
Width	mm	45
Height	mm	68
Depth	mm	75