## Contactor relay, 110 V DC, 2 N/O, 2 NC, Screw terminals, DC operation



Part no. DILA-22(110VDC) 276417

General specifications	
Product name	Eaton Moeller® series DILA Control Relay
Part no.	DILA-22(110VDC)
EAN	4015082764173
Product Length/Depth	75 millimetre
Product height	68 millimetre
Product width	45 millimetre
Product weight	0.296 kilogram
Certifications	EN 60947-5-1 CSA File No.: 012528 VDE 0660 UL 508 UL File No.: E29184 CSA UL UL UL Category Control No.: NKCR CSA Class No.: 3211-03 CE IEC/EN 60947 CSA-C22.2 No. 14-05 IEC/EN 60947-4-1
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:	Suppressor circuit Positive operation contacts Built-in suppressor circuit
General information	
Application	Contactor relays
Degree of protection	IP20
Shock resistance	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 (DC operated)
Mounting method	DIN-rail/screw
Operating frequency	9000 Operations/h
Overvoltage category	III
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	DC
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	0° 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
Terminal capacities	
Terminal capacity (flexible with ferrule)	2 x (0.75 - 2.5) mm², Screw terminals 1 x (0.75 - 2.5) mm², Screw terminals
Terminal capacity (solid)	2 x (0.75 - 2.5) mm², Screw terminals 1 x (0.75 - 4) mm², 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	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
Tightening torque	1.2 Nm, Screw terminals
Electrical rating	
Conventional thermal current ith at 60°C (3-pole, open)	16 A
Rated operational current (le)	4 A at 60 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R $\leq$ 15 ms (with 1 contact in series) 10 A at 60 V, DC L/R $\leq$ 15 ms (with 2 contacts in series) 2 A at 110 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 10 A at 24 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 6 A at 110 V, DC L/R $\leq$ 15 ms (with 1 contact in series) 6 A at 24 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 4 A at 24 V, DC L/R $\leq$ 50 ms (with 3 contacts in series) 6 A at 60 V, DC L/R $\leq$ 15 ms (with 1 contact in series) 3 A at 110 V, DC L/R $\leq$ 15 ms (with 1 contact in series) 5 A at 220 V, DC L/R $\leq$ 15 ms (with 3 contacts in series) 16 A
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)
Magnet system	
Duty factor	100 %
Pick-up voltage	0.8 - 1.1 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 $^{\circ}$ C)
Power consumption (pick-up) at DC	2.6 W
Power consumption (sealing) at DC	2.6 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	110 V
Rated control supply voltage (Us) at DC - max	110 V
Switching time (DC operated, make contacts, closing delay) - max	31 ms
Switching time (DC operated, make contacts, opening delay) - max	12 ms
Voltage tolerance	Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectificati
Communication	
Connection to SmartWire-DT	No
Contacts	
Code number	22D
Control circuit reliability	$\lambda < 5 \times 107$ (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 copen contacts)  Number of contacts (normally copen contacts)  Number of auxiliary contacts (normally copen contacts)  Number of auxiliary contacts (normally copen contacts)  Pesign verification  Equipment hat dissipation, current-dependent Pvid  Heat dissipation paragety Pdiss  Heat dissipation per pole, current-dependent Pvid  Rated operational current for specified heat dissipation (n)  Rated operat		
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10.4 Clearances and creepage distances  10.5 Protection against electric shock  10.6 Incorporation of switching devices and components  10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9 Power-frequency electric strength  10.9.1 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.12 Electromagnetic compatibility  10.13 Mechanical function  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  10 Does not apply, since the entire switchgear needs to be evaluated.  Is the panel builder's responsibility.  The panel builder's responsibility.  Is the panel builder's responsibility.  Is the panel builder's responsibility.  Is the panel builder's responsibility.  The panel builder's responsibility. The specifications for the switchgear must be observed.  Is the panel builder's responsibility. The specifications for the switchgear must be observed.  Is the panel builder's responsibility. The specifications for the switchgear must be observed.	10.2.7 Inscriptions	Meets the product standard's requirements.
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10.8 Connections for external conductors  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  Is the panel builder's responsibility.  Is the panel builder's responsibility.  The panel builder is responsibility is responsibility.  Is the panel builder is responsibility.  Is the panel builder is responsibility.  Is the panel builder is responsibility. The specifications for the switchgear must be observed.  Is the panel builder's responsibility. The specifications for the switchgear must be observed.  The device meets the requirements, provided the information in the instruction	10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
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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	10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
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	10.12 Electromagnetic compatibility	
	10.13 Mechanical function	

## **Technical data ETIM 9.0**

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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	110 - 110	
Voltage type for actuating			DC	
Rated operation current		Α	16	
Rated operation current le, 400 V		Α	4	
Mounting method			DIN-rail/screw	
With LED indication			No	
Suitable for manual operation			No	
Interface			No	
Number of auxiliary contacts as normally closed contact			2	
Number of auxiliary contacts as normally open contact			2	
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