DATASHEET - DILA-31(230V50HZ,240V60HZ)

Contactor relay, 230 V 50 Hz, 240 V 60 Hz, 3 N/O, 1 NC, Screw terminals, AC operation

Part no.	**DILA-31(230V50HZ,240V60HZ)**
	276364
EL Number (Norway)	**4130205**

General specifications

Product name	Eaton Moeller® series DILA Control relay
Part no.	DILA-31(230V50HZ,240V60HZ)
EAN	4015082763640
Product Length/Depth	75 millimetre
Product height	68 millimetre
Product width	45 millimetre
Product weight	0.24 kilogram
Certifications	UL Category Control No.: NKCR CSA-C22.2 No. 14-05 UL EN 60947-5-1 IEC/EN 60947 CSA File No.: 012528 CSA Class No.: 3211-03 CE VDE 0660 IEC/EN 60947-4-1 UL 508 CSA UL File No.: E29184
Product Tradename	DILA
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:	Positive operation contacts

General information

Application	Contactor relays
Connection	Screw terminals
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 (AC 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	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
Terminal capacities	
Terminal capacity (flexible with ferrule)	2 x (0.75 - 2.5) mm^2, Screw terminals 1 x (0.75 - 2.5) mm^2, Screw terminals
Terminal capacity (solid)	2 x (0.75 - 2.5) mm^2, Screw terminals 1 x (0.75 - 4) 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
Electrical rating	
Conventional thermal current ith at 60°C (3-pole, open)	16 A
Rated operational current (Ie)	16 A 4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series) 10 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series) 2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series) 5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 4 A at 60 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) 1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series) 3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series) 1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact 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 coil and auxiliary contacts, According to EN 61140 400 V AC, Between auxiliary contacts, According to EN 61140
Switching capacity (auxiliary contacts, general use)	15 A, 600 V AC, (UL/CSA) 1 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	0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)
Power consumption, pick-up, 50 Hz	24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, pick-up, 60 Hz	24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 50 Hz	3.4 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 1.4 W, 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	230 V
Rated control supply voltage (Us) at AC, 50 Hz - max	230 V
Rated control supply voltage (Us) at AC, 60 Hz - min	240 V
Rated control supply voltage (Us) at AC, 60 Hz - max	240 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 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 = 5.4 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	230 - 230
Rated control supply voltage AC 60 Hz	V	240 - 240
Rated control supply voltage DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current	A	16
Rated operation current Ie, 400 V	A	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		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	16
Connection type auxiliary circuit			Screw connection
Width		mm	45
Height		mm	68
Depth		mm	75