Specifications

Photo is representative

Eaton 276371

Eaton Moeller® series DILA Contactor relay, 220 V 50/60 Hz, 3 N/O, 1 NC, Screw terminals, AC operation

General specifications

PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	276371
MODEL CODE	DILA-31(220V50/60HZ)
EAN	4015082763718
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.237 kg
COMPLIANCES	CE Marked
CERTIFICATIONS	IEC 60947-4-1 UL 508 EN 60947-4-1 CSA Std. C22.2 No. 14-05 VDE CSA Class No.: 3211-03 UL File No.: E29184 CSA IEC/EN 60947 IEC/EN 60947-4-1 UL CE CSA-C22.2 No. 14-05 EN 60947-5-1 UL Category Control No.: NKCR CSA File No.: 012528 VDE 0660

Powering Business Worldwide

Features & Functions

FEATURES	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
FITTED WITH:	Positive operation contacts

General

APPLICATION	Contactor relays
DEGREE OF PROTECTION	IP20
SHOCK RESISTANCE	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 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
LIFESPAN, MECHANICAL	20,000,000 Operations (AC operated)
MOUNTING METHOD	DIN rail
CONNECTION	Screw terminals
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)	1 x (0.75 - 2.5) mm^2, Screw terminals 2 x (0.75 - 2.5) mm^2, Screw terminals
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm^2, Screw terminals 2 x (0.75 - 2.5) 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

Electrical rating

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) 4 A at 24 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 ≤ 15 ms (with 1 contact in series) 5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts 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) 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) 4 A at 60 V, DC L/R ≤ 50 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 coil and auxiliary contacts, According to EN 61140 400 V AC, Between

Magnet system

DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x Uc (voltage tolerance - dual frequency coil 50/60 Hz)
POWER CONSUMPTION, PICK-UP, 60 HZ	27 VA, AC, Dual-frequency coil at 60 Hz 25 VA, AC, Dual-frequency coil at 60 Hz
POWER CONSUMPTION, SEALING, 50 HZ	1.4 W, Dual-frequency coil in a cold state and 1.0 x Us 3.3 VA, Dual-frequency coil in a cold state and 1.0 x Us 4.2 VA, Dual-frequency coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	1.4 W, Dual-frequency coil in a cold state and 1.0 x Us 4.2 VA, Dual-frequency coil in a cold state and 1.0 x Us 3.3 VA, Dual-frequency coil in a cold state and 1.0 x Us
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	220 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	21 ms

	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)

DELAY) - MAX	
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	$\lambda < 5 \times 10\text{-}7$ (1 failure at 2,000,000 operations for U_e = 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.

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf Product Range Catalog Switching and protecting motors
CHARACTERISTIC CURVE	eaton-contactors-component-dila-relay-characteristic-curve.eps eaton-contactors-dila-relay-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	DA-DC-00004792.pdf DA-DC-00004810.pdf
DRAWINGS	eaton-contactors-module-dilm-dimensions.eps eaton-contactors-frame-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-dilm-3d-drawing-007.eps
ECAD MODEL	ETN.276371.edz
INSTALLATION INSTRUCTIONS	eaton-contactors-dila-dilm7-15-dilmp20-instruction-leaflet-il03407013z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CD-dil_m7_15 DA-CS-dil_m7_15
SYSTEM OVERVIEW	eaton-contactors-dila-system-overview.eps
WIRING DIAGRAMS	2100SWI-110

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.

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

Follow us on social media to get the latest product and support information.