Specifications



Photo is representative



Eaton 276414

Eaton Moeller® series DILA Contactor relay, 24 V DC, 2 N/O, 2 NC, Screw terminals, DC operation

General specifications	
PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	276414
MODEL CODE	DILA-22(24VDC)
EAN	4015082764142
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.294 kg
CERTIFICATIONS	IEC/EN 60947 IEC/EN 60947-4-1 UL Category Control No.: NKCR CSA Class No.: 3211-03 UL 508 CE UL UL File No.: E29184 CSA CSA-C22.2 No. 14-05 CSA File No.: 012528 EN 60947-5-1 VDE 0660

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Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

Communication

CONNECTION TO SMARTWIRE-DT	In conjunction with DIL-SWD SmartWire DT contactor module Yes

Contacts

CODE NUMBER	22E
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) $\lambda < 5 \times 1/10^7$ (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 AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	2

Design verification

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.
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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	15.5 A
STATIC HEAT	3 W

DISSIPATION, NON-CURRENT-DEPENDENT PVS

Electrical rating

CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	16 A
RATED INSULATION VOLTAGE (UI)	690 V
RATED OPERATIONAL CURRENT (IE)	2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series) 6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact 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 ≤ 50 ms (with 3 contacts in series) 10 A at 24 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) 5 A at 220 V, DC L/R ≤ 15 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) 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 OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
SAFE ISOLATION	400 V AC, Between auxiliary contacts, According to EN 61140 400 V AC, Between coil and auxiliary contacts, According to EN 61140
SHORT-CIRCUIT	10 A gG/gL, 500 V, Max.

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

PROTECTION RATING WITHOUT WELDING	Fuse, Contacts
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)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)

General information

APPLICATION	Contactor relays
CONNECTION	Screw terminals
DEGREE OF PROTECTION	IP20
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
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
VOLTAGE TYPE	DC

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) 0.8 - 1.1 V DC x Uc
POWER CONSUMPTION (PICK-UP) AT DC	2.6 W
POWER CONSUMPTION (SEALING) AT DC	2.6 W
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	24 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 rectification

Terminal capacities

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
STRIPPING LENGTH (MAIN CABLE)	10 mm
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)	1 x (0.75 - 4) mm², Screw terminals 2 x (0.75 - 2.5) mm², Screw terminals
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Screw terminals
TIGHTENING TORQUE	1.2 Nm, Screw terminals

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-dila-relay-characteristic-curve.eps eaton-contactors-component-dila-relay-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	eaton-control-relay-declaration-of-conformity-uk251205en.pdf eaton-control-relay-declaration-of-conformity-eu250722en.pdf
DRAWINGS	eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-frame-dilm-dimensions.eps eaton-contactors-module-dilm-dimensions.eps eaton-contactors-dilm-3d-drawing-007.eps
ECAD MODEL	ETN.276414.edz
INSTALLATION INSTRUCTIONS	eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	eaton-iec-contactors-mcad-drawings-dil-m7-15.dwg DA-CS-dil_m7_15
PEP ECO-PASSPORT	eaton-iec-contactors-pep-eato-00024-v0101-en.pdf
SYSTEM OVERVIEW	eaton-contactors-dila-system-overview.eps
WIRING DIAGRAMS	eaton-contactors-wiring-diagram-2100swi-109.eps

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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