Specifications





Eaton 276520

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

General specifications	
PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	276520
MODEL CODE	DILAC-22(24VDC)
EAN	4015082765200
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.286 kg
CERTIFICATIONS	CSA-C22.2 No. 14-05 IEC/EN 60947 CE VDE 0660 CSA CSA Class No.: 3211-03 CSA File No.: 012528 EN 60947-5-1 UL Category Control No.: NKCR IEC/EN 60947-4-1 UL 508 UL File No.: E29184 UL
CATALOG NOTES	This item can only be ordered until December 31, 2023 with a maximum delivery date of May 31, 2024.
GLOBAL CATALOG	276520
PRODUCT TYPE	Control relay

Product specifications

FEATURES	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
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	Is the panel builder's responsibility.

Resources

CATALOGS	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-component-dila-relay-characteristic-curve.eps eaton-contactors-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-frame-dilm-dimensions.eps eaton-contactors-contact-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-dilm-3d-drawing-008.eps
ECAD MODEL	ETN.276520.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-mc7-15.dwg DA-CS-dil_mc7_15
SYSTEM OVERVIEW	eaton-contactors-dila-system-overview.eps
WIRING DIAGRAMS	eaton-contactors-contact-diler-relay-wiring-diagram-006.eps eaton-contactors-wiring-diagram-2100swi-109.eps

AND CONNECTIONS	
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.
FITTED WITH:	Positive operation contacts Suppressor circuit Built-in suppressor circuit
OPERATING FREQUENCY	9000 Operations/h
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.8 W
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS, DELAYED SWITCHING)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	2
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS,	0

LEADING)	
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	2
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 - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
CONNECTION TO SMARTWIRE-DT	In conjunction with DIL-SWD SmartWire DT contactor module Yes
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC
CONNECTION	Spring-loaded terminals
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	12 ms
APPLICATION	Contactor relays
PRODUCT CATEGORY	DILA relays
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	16 A
VOLTAGE TYPE OF OPERATING VOLTAGE	AC/DC
RATED SWITCH CURRENT	16 A
OPERATING VOLTAGE AT AC, 50 HZ - MIN	17 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	500 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	17 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	500 V
OPERATING VOLTAGE AT DC - MIN	24 VDC
OPERATING VOLTAGE AT DC - MAX	220 VDC
SCREWDRIVER SIZE	0.6 x 3.5 mm, Spring-loaded terminals
VOLTAGE TYPE	DC
CODE NUMBER	22E

DEGREE OF PROTECTION	IP20
OVERVOLTAGE CATEGORY	III
CONTROL CIRCUIT RELIABILITY	λ < 5 x 10-7 (1 failure at 2,000,000 operations for U_e = 24 V DC, Umin = 17 V, Imin = 5.4 mA)
CONNECTION TYPE (AUXILIARY CIRCUIT)	Spring clamp connection
DUTY FACTOR	100 %
LIFESPAN, MECHANICAL	20,000,000 Operations (DC operated)
MOUNTING METHOD	DIN-rail/screw
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
VOLTAGE TOLERANCE	Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification
SAFE ISOLATION	400 V AC, Between coil and auxiliary contacts, According to EN 61140 400 V AC, Between auxiliary contacts, According to EN 61140
RATED OPERATIONAL CURRENT (IE)	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) 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) 3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series) 6 A at 60 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) 6 A at 110 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) 1 A at 220 V, DC L/R ≤ 50

	ms (with 3 contacts in series) 16 A
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)
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	24 V
RATED INSULATION VOLTAGE (UI)	690 V
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 CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	15.5 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	3 W
STRIPPING LENGTH (MAIN CABLE)	10 mm
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	31 ms
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 1.5) mm², Spring-loaded terminals with or without ferrule DIN 46228 1 x (0.75 - 1.5) mm², Spring-loaded terminals with or without ferrule DIN 46228
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
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Spring-loaded terminals
SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING	10 A gG/gL, 500 V, Max. Fuse, Contacts
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 2.5) mm², Spring-loaded terminals 2 x (0.75 - 2.5) mm², Spring-loaded terminals
ACTUATING VOLTAGE	24 V DC

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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

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