

Specifications



Photo is representative



Eaton 276351

Eaton Moeller® series DILA Contactor relay, 24 V 50 Hz, 3 N/O, 1 NC, Screw terminals, AC operation

General specifications

PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	276351
MODEL CODE	DILA-31(24V50HZ)
EAN	4015082763510
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.24 kg
COMPLIANCES	CE Marked
CERTIFICATIONS	UL 508 EN 60947-4-1 IEC 60947-4-1 CSA Std. C22.2 No. 14-05 VDE CSA Class No.: 3211-03 CSA-C22.2 No. 14-05 IEC/EN 60947 UL File No.: E29184 CE CSA CSA File No.: 012528 IEC/EN 60947-4-1 UL EN 60947-5-1 UL Category Control No.: NKCR VDE 0660



Powering Business Worldwide

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, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Contacts

CODE NUMBER 31E

CONTROL CIRCUIT RELIABILITY
 $\lambda < 5 \times 10^{-7}$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)
 $\lambda < 5 \times 1/10^7$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)

NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS) 0

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) 1

NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) 3

NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) 1

NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) 3

Communication

CONNECTION TO SMARTWIRE-DT No

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	0.5 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	15.5 A
STATIC HEAT	1.4 W

Electrical rating

CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)

16 A

RATED INSULATION VOLTAGE (UI)

690 V

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)
5 A at 220 V, DC L/R ≤ 15
ms (with 3 contacts 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)
10 A at 24 V, DC L/R ≤ 15
ms (with 1 contact in
series)
4 A at 60 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)
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

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:

Positive operation
contacts

PROTECTION RATING WITHOUT WELDING	Fuse, Contacts
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)

General information	
APPLICATION	Contact relays
CONNECTION	Screw terminals
DEGREE OF PROTECTION	IP20
LIFESPAN, MECHANICAL	20,000,000 Operations (AC operated)
MOUNTING METHOD	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	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
VOLTAGE TYPE	AC

Magnet system	
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c (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	1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 3.4 VA, 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 - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	24 V
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	15 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING)	18 ms

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) mm ² , Screw terminals 1 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
TIGHTENING TORQUE	1.2 Nm, Screw terminals

DELAY) - MAX

SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN

9 ms

Resources

CATALOGUES

[Product Range Catalog Switching and protecting motors](#)

[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-module-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.276351.edz](#)

INSTALLATION INSTRUCTIONS

[eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf](#)

INSTALLATION VIDEOS

[WIN-WIN with push-in technology](#)

MCAD MODEL

[DA-CS-dil m7 15](#)

[eaton-iec-contactors-mcad-drawings-dil-m7-15.dwg](#)

SYSTEM OVERVIEW

[eaton-contactors-dila-
system-overview.eps](#)

WIRING DIAGRAMS

[2100SWI-110](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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