

Specifications



Eaton 199639

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

General specifications

PRODUCT NAME	Eaton Moeller® series DILA Control relay
CATALOG NUMBER	199639
MODEL CODE	DILA-31(220V50/60HZ)-PI
EAN	4015081983407
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.227 kg
CERTIFICATIONS	IEC/EN 60947 EN 60947-5-1 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

Electrical rating

RATED INSULATION VOLTAGE (UI) 690 V

RATED OPERATIONAL CURRENT (IE) 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)
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)
5 A at 220 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)
10 A at 60 V, DC L/R ≤ 15 ms (with 2 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)
4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series)
2 A at 110 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 coil and auxiliary contacts, According to EN 61140 400 V AC, Between auxiliary contacts, According to EN 61140
SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING	10 A gG/gL, 500 V, Max. Fuse, Contacts

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	Contactors relays
CONNECTION	Push in terminals
DEGREE OF PROTECTION	IP20
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
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 Uc (voltage tolerance - dual frequency coil 50/60 Hz) 0.85 - 1.1 V AC x Uc
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 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
POWER CONSUMPTION, SEALING, 60 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
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	220 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 DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	9 ms

Terminal capacities

SCREWDRIVER SIZE	3.0 x 0.5 mm, Terminal screw
STRIPPING LENGTH (MAIN CABLE)	10 mm
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.5 - 1.5) mm ² 1 x (0.5 - 2.5) mm ²
TERMINAL CAPACITY (SOLID)	1 x (0.5 - 2.5) mm ² 2 x (0.5 - 2.5) mm ²
TERMINAL CAPACITY (SOLID/STRANDED AWG)	20 - 14
TERMINAL CAPACITY (FLEXIBLE)	1 x (0.5 - 2.5) mm ² 2 x (0.5 - 2.5) mm ²

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-control-relay-declaration-of-conformity-eu250722en.pdf eaton-control-relay-declaration-of-conformity-uk251205en.pdf
DRAWINGS	eaton-contactors-dimensions-007.eps
ECAD MODEL	ETN.199639.edz
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	eaton-iec-contactors-mcad-3d-models-dil-m7-15-pi.stp eaton-iec-contactors-mcad-drawings-dil-m7-15-pi.dwg
WIRING DIAGRAMS	eaton-contactors-wiring-diagram-2100swi-110.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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

© 2026 Eaton. All Rights Reserved.

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

