

Specifications



Photo is representative



Eaton 199296

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 18.5 kW, 1 N/O, 1 NC, 24 V 50/60 Hz, AC operation, Push in terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	199296
MODEL CODE	DILM38-11(24V50/60HZ)-PI
EAN	4015081973804
PRODUCT LENGTH/DEPTH	115 mm
PRODUCT HEIGHT	85 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.441 kg
CERTIFICATIONS	IEC/EN 60947 VDE 0660 UL Listed CSA certified UL Category Control No.: NLDX CE marking UL File No.: E29096 CSA Class No.: 2411-03, 3211-04 CSA File No.: 012528

Ambient conditions, mechanical

SHOCK RESISTANCE

10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
6.5 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
8 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
2 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms

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

Communication

CONNECTION TO SMARTWIRE-DT No

Contacts

NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT) 3

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) 1

NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) 1

NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) 1

NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) 1

NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT 0

Conventional thermal current I_{th}

**CONVENTIONAL
THERMAL CURRENT I_{TH}
(1-POLE, ENCLOSED)** 90 A

**CONVENTIONAL
THERMAL CURRENT I_{TH}
(3-POLE, ENCLOSED)** 36 A

**CONVENTIONAL
THERMAL CURRENT I_{TH}
AT 55°C (3-POLE, OPEN)** 42 A

**CONVENTIONAL
THERMAL CURRENT I_{TH}
OF MAIN CONTACTS (1-
POLE, OPEN)** 100 A

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

Does not apply, since the

AGAINST ELECTRIC SHOCK	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.
HEAT DISSIPATION CAPACITY PDISS	0 W

Electrical rating

RATED BREAKING CAPACITY AT 220/230 V	320 A
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RATED BREAKING CAPACITY AT 380/400 V	320 A
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RATED BREAKING CAPACITY AT 500 V	320 A
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RATED BREAKING CAPACITY AT 660/690 V	180 A
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RATED INSULATION VOLTAGE (UI)	690 V
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RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	384 A
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RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	45 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	38 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	38 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	38 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	38 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	22.5 A
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RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	15 A
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RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	15 A
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RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	15 A
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RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	12 A
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RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	40 A
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RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	40 A
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Electro magnetic compatibility

EMITTED INTERFERENCE	According to EN 60947-1
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INTERFERENCE IMMUNITY	According to EN 60947-1
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RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	40 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	12 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	18.5 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	20 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	4.5 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	7.5 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	8 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	9 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	10 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V

Features & functions

FITTED WITH:	Mirror contact
NUMBER OF POLES	Three-pole

General information

APPLICATION	Contactors for Motors
CONNECTION	Push in terminals
DEGREE OF PROTECTION	IP20
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
OPERATING FREQUENCY	5000 mechanical Operations/h (AC operated)
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when

	actuated from front (EN 50274)
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-3: Normal AC induction motors: starting, switch off during running
VOLTAGE TYPE	AC
FRAME SIZE	FS2

Magnet system

ARCING TIME	10 ms
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c
POWER CONSUMPTION, PICK-UP, 50 HZ	58 VA, Dual-frequency coil in a cold state and 1.0 x U _s 62 VA, Dual-frequency coil in a cold state and 1.0 x U _s
POWER CONSUMPTION, PICK-UP, 60 HZ	58 VA, Dual-frequency coil in a cold state and 1.0 x U _s 62 VA, Dual-frequency coil in a cold state and 1.0 x U _s
POWER CONSUMPTION, SEALING, 50 HZ	2.1 W, Dual-frequency coil in a cold state and 1.0 x U _s
	2.1 W, Dual-frequency coil in a cold state and 1.0 x U _s
POWER CONSUMPTION, SEALING, 60 HZ	6.5 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 60 Hz 9.1 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 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
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	24 V
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	22 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	16 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	14 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms

Motor rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	3 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	10 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	10 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	20 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	30 HP

Safety

SAFE ISOLATION

400 V AC, Between the contacts, According to EN 61140
400 V AC, Between coil and contacts, According to EN 61140

Short-circuit rating

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)

5 kA, 125 A max. fuse CLASS RK5, SCCR (UL/CSA)
5 kA, 125 A max. CB, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)

100 kA, 70 A CLASS J max. fuse, SCCR (UL/CSA)
30 kA, 30 A CLASS RK5, SCCR (UL/CSA)
65 kA, 32 A max. CB, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)

100 kA, 70 A CLASS J max. fuse, SCCR (UL/CSA)
30 kA, 30 A CLASS RK5, SCCR (UL/CSA)

SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V

125 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V

63 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V

63 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V

35 A gG/gL

Terminal capacities

SCREWDRIVER SIZE	3 x 0.5 mm, Terminal screw 3.0 x 0.5 mm, Terminal screw
TERMINAL CAPACITY (FLEXIBLE WITH UNISOLATED FERRULE)	1 x (0.75 - 2.5) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Main cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.5 - 2.5) mm ² , Control circuit cables 2 x (0.5 - 2.5) mm ² , Control circuit cables 1 x (1 - 6) mm ² , Main cables 2 x (1 - 6) mm ² , Main cables
TERMINAL CAPACITY (FLEXIBLE)	2 x (0.5 - 2.5) mm ² 2 x (1-6) mm ² 1 x (0.5 - 2.5) mm ² 1 x (1 - 10) mm ²
TERMINAL CAPACITY (FLEXIBLE WITH ULTRASONIC WELDED CABLE END)	1 x (0.75 - 2.5) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Main cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.5 - 2.5) mm ² , Control circuit cables 2 x (0.5 - 2.5) mm ² , Control circuit cables 1 x (1 - 10) mm ² , Main cables 2 x (1 - 6) mm ² , Main cables
TERMINAL CAPACITY (SOLID)	2 x (0.5 - 2.5) mm ² , Control circuit cables 2 x (1 - 6) mm ² 1 x (1 - 6) mm ² 1 x (0.5 - 0.25) mm ²
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.5 - 1.5) mm ² , Control circuit cables 2 x (0.5 - 1.5) mm ² , Main cables 1 x (1 - 6) mm ² 2 x (1 - 4) mm ²
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 8, Main cables 20 - 14

Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	eaton-contactor-declaration-of-conformity-eu250735en.pdf eaton-contactor-declaration-of-conformity-uk251218en.pdf
DRAWINGS	eaton-contactors-dimensions-008.eps
ECAD MODEL	ETN.199296.edz
INSTALLATION INSTRUCTIONS	IL034094ZU
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	eaton-iec-contactors-mcad-3d-models-dil-m8-38-pi.stp eaton-iec-contactors-mcad-drawings-dil-m8-38-pi.dwg
WIRING DIAGRAMS	eaton-contactors-wiring-diagram-2100swi-123.eps

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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