

Specifications



Eaton 277242

Eaton Moeller® series DILM Contactor, 380 V 400 V 11 kW, 3 N/O, 2 NC, RDC 24: 24 - 27 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
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CATALOG NUMBER	277242
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MODEL CODE	DILM25-32(RDC24)
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EAN	4015082772420
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PRODUCT LENGTH/DEPTH	138 mm
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PRODUCT HEIGHT	85 mm
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PRODUCT WIDTH	45 mm
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PRODUCT WEIGHT	0.613 kg
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CERTIFICATIONS	CSA File No.: 012528 UL Category Control No.: NLDX CSA-C22.2 No. 60947-4-1-14 CSA Class No.: 2411-03, 3211-04 UL IEC/EN 60947 IEC/EN 60947-4-1 UL File No.: E29096 CSA UL 60947-4-1 CE VDE 0660
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CATALOG NOTES	Contacts according to EN 50012
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Ambient conditions, mechanical

SHOCK RESISTANCE

10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
 3.5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, 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
 6.9 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
 5.3 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms

Climatic environmental conditions

ALTITUDE	Max. 2000 m
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

Contacts

NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT) 3

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) 2

NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) 3

NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) 2

NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS) 3

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} AT 60°C (3-POLE, OPEN) 40 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

Electrical rating

RATED BREAKING CAPACITY AT 220/230 V	250 A
RATED BREAKING CAPACITY AT 380/400 V	250 A
RATED BREAKING CAPACITY AT 500 V	250 A
RATED BREAKING CAPACITY AT 660/690 V	150 A
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	350 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	45 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	25 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	25 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	25 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	25 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	15 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	13 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	13 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	13 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	40 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	40 A

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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	4.2 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1.4 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	25 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0.9 W

RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	40 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	8.5 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	11 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	14.5 kW
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	15.5 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	17.5 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	14 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	3.5 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	6.5 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	7 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	8 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	8.5 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V

Electro magnetic compatibility

EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1

Features & functions

FITTED WITH:	Suppressor circuit in actuating electronics Mirror contact
NUMBER OF POLES	Three-pole

General information

APPLICATION	Contactors for Motors
CONNECTION	Screw terminals
DEGREE OF PROTECTION	IP00
LIFESPAN, MECHANICAL	7,000,000 Operations (Coil 50/60 Hz) 10,000,000 Operations (DC operated)
OPERATING FREQUENCY	5000 mechanical Operations/h (DC 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
RESISTANCE PER POLE	2.7 mΩ
SUITABLE FOR	Also motors with efficiency class IE3
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
VOLTAGE TYPE	DC

Magnet system

ARCING TIME	10 ms
DROP-OUT VOLTAGE	0.6 - 0.15 x UC, DC operated At least smoothed two-phase bridge rectifier or three-phase rectifier
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.7 - 1.2 V DC x Uc 24 - 27 V DC (RDC 24)
POWER CONSUMPTION (PICK-UP) AT DC	12 W
POWER CONSUMPTION (SEALING) AT DC	0.9 W
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	27 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	24 V
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	47 ms
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	30 ms

Motor rating

ASSIGNED MOTOR

POWER AT 115/120 V, 60
HZ, 1-PHASE 2 HP

ASSIGNED MOTOR

POWER AT 200/208 V, 60
HZ, 3-PHASE 7.5 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 15 HP

ASSIGNED MOTOR

POWER AT 575/600 V, 60
HZ, 3-PHASE 20 HP

Safety

SAFE ISOLATION

440 V AC, Between the
contacts, According to EN
61140

440 V AC, Between coil
and contacts, According to
EN 61140

Short-circuit rating

SHORT-CIRCUIT CURRENT RATING (BASIC RATING) 125 A, max. Fuse, SCCR (UL/CSA)
5 kA, SCCR (UL/CSA)
125 A, max. CB, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V) 10/65 kA, CB, SCCR (UL/CSA)
10/100 kA, Fuse, SCCR (UL/CSA)
125/70 A, Class J, max. Fuse, SCCR (UL/CSA)
50/32 A, max. CB, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) 10/22 kA, CB, SCCR (UL/CSA)
50/32 A, max. CB, SCCR (UL/CSA)
10/100 kA, Fuse, SCCR (UL/CSA)
125/100 A, Class J, max. Fuse, SCCR (UL/CSA)

SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V 100 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V 50 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V 35 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V 35 A gG/gL

Special purpose ratings

SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING 25 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
150 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

SPECIAL PURPOSE RATING OF ELEVATOR CONTROL 14 A, 480 V 60 Hz 3-ph, (UL/CSA)
3 HP, 200 V 60 Hz 3-ph, (UL/CSA)
11 A, 200 V 60 Hz 3-ph, (UL/CSA)
15 HP, 600 V 60 Hz 3-ph, (UL/CSA)
15.2 A, 240 V 60 Hz 3-ph, (UL/CSA)
17 A, 600 V 60 Hz 3-ph, (UL/CSA)
5 HP, 240 V 60 Hz 3-ph, (UL/CSA)
10 HP, 480 V 60 Hz 3-ph, (UL/CSA)

SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY) 40 A, FLA 480 V 60 Hz 3phase; (CSA)
30 A, FLA 600 V 60 Hz 3phase; (CSA)
240 A, LRA 480 V 60 Hz 3phase; (CSA)
180 A, LRA 600 V 60 Hz 3phase; (CSA)

SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS 40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS 40 A (480V 60Hz 3phase, 277V 60Hz 1phase)
40 A (600V 60Hz 3phase, 347V 60Hz 1phase)

Switching capacity

SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	10 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
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SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
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SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	40 A, Maximum motor rating (UL/CSA)
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Terminal capacities

SCREW SIZE	M3.5, Terminal screw, Control circuit cables M5, Terminal screw, Main cables
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SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
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STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
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STRIPPING LENGTH (MAIN CABLE)	10 mm
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TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 10) mm ² , Main cables 1 x (0.75 - 16) mm ² , Main cables
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TERMINAL CAPACITY (STRANDED)	1 x 16 mm ² , Main cables
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TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 3.2 Nm, Screw terminals, Main cables
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TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 10) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 16) mm ² , Main cables 1 x (0.75 - 2.5) mm ² , Control circuit cables
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TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Control circuit cables Single 18 - 6, double 18 - 8, Main cables
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Resources

CATALOGUES	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-switch-dilm-characteristic-curve.eps eaton-contactors-switch-dilm-characteristic-curve-002.eps eaton-contactors-short-time-loading-dilm-characteristic-curve.eps eaton-contactors-component-dilm-characteristic-curve-003.eps
DECLARATIONS OF CONFORMITY	eaton-contactor-declaration-of-conformity-uk251219en.pdf eaton-contactor-declaration-of-conformity-eu250736en.pdf
DRAWINGS	eaton-contactors-contact-dimensions-210x202.eps eaton-contactors-dimensions-210t014.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-general-ie-ready-dilm-contactor-standards.eps eaton-contactors-contact-dilm-3d-drawing-002.eps
ECAD MODEL	ETN.277242.edz
INSTALLATION INSTRUCTIONS	IL03407044Z
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	eaton-iec-contactors-mcad-drawings-dil-m17-38-a-xhi.dwg DA-CS-dil_m17_38_a_xhi

PEP ECO-PASSPORT	eaton-iec-contactors-pep-eato-00134-v0101-en.pdf
WIRING DIAGRAMS	eaton-contactors-wiring-diagram-2100swi-128.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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