

Specifications

Eaton 277307

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 15 kW, 1 NC, RDC 60: 48 - 60 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	277307
MODEL CODE	DILM32-01(RDC60)
EAN	4015082773076
PRODUCT LENGTH/DEPTH	97 mm
PRODUCT HEIGHT	85 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.534 kg
CERTIFICATIONS	CSA File No.: 012528 UL Category Control No.: NLDX IEC/EN 60947 IEC/EN 60947-4-1 VDE 0660 CSA-C22.2 No. 60947-4-1- 14 UL UL 60947-4-1 CSA UL File No.: E29096 CE CSA Class No.: 2411-03, 3211-04
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	277307



Powering Business Worldwide

Product specifications

ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT

Screw connection

NUMBER OF POLES

Three-pole

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.

Resources

CATALOGS

[SmartWire-DT Catalog](#)

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

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

CHARACTERISTIC CURVE

[eaton-contactors-component-dilm-characteristic-curve-003.eps](#)

[eaton-contactors-switch-dilm-characteristic-curve-002.eps](#)

[eaton-contactors-short-time-loading-dilm-characteristic-curve.eps](#)

[eaton-contactors-switch-dilm-characteristic-curve.eps](#)

DECLARATIONS OF CONFORMITY

[DA-DC-00004816.pdf](#)

[DA-DC-00004783.pdf](#)

DRAWINGS

[eaton-contactors-contact-dimensions-210x202.eps](#)

[eaton-contactors-mounting-dilm-dimensions-002.eps](#)

[eaton-contactors-mounting-dilm-dimensions.eps](#)

[eaton-contactors-dimensions-210t014.eps](#)

[eaton-general-ie-ready-dilm-contactor-standards.eps](#)

[eaton-contactors-dilm-3d-drawing-009.eps](#)

ECAD MODEL

[ETN.277307.edz](#)

INSTALLATION INSTRUCTIONS

[IL03407014Z2021_09.pdf](#)

INSTALLATION VIDEOS

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

MCAD MODEL

[DA-CD-dil m17 38](#)

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.
FITTED WITH:	Suppressor circuit in actuating electronics Mirror contact
OPERATING FREQUENCY	5000 mechanical Operations/h (DC operated)
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
CONNECTION TO SMARTWIRE-DT	No
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
UTILIZATION CATEGORY	AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off

	DA-CS-dil_m17_38
SYSTEM OVERVIEW	eaton-contactors-dilm-contactor-system-overview.eps
WIRING DIAGRAMS	2100SWI-117

	during running
CONNECTION	Screw terminals
FRAME SIZE	FS2
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
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	2 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	25 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	90 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	36 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	42 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	100 A
EQUIPMENT HEAT	6.6 W

DISSIPATION, CURRENT-DEPENDENT PVID	
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	2.2 W
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	47 ms
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	30 ms
APPLICATION	Contactors for Motors
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
ARCING TIME	10 ms
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
VOLTAGE TYPE	DC
DEGREE OF PROTECTION	IP00
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
POWER CONSUMPTION	12 W

(PICK-UP) AT DC	
POWER CONSUMPTION (SEALING) AT DC	0.9 W
RATED BREAKING CAPACITY AT 220/230 V	320 A
RATED BREAKING CAPACITY AT 380/400 V	320 A
RATED BREAKING CAPACITY AT 500 V	320 A
RATED BREAKING CAPACITY AT 660/690 V	180 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
DROP-OUT VOLTAGE	0.6 - 0.15 x UC, DC operated At least smoothed two-phase bridge rectifier or three-phase rectifier
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %
EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1
LIFESPAN, MECHANICAL	10,000,000 Operations (DC operated)
PICK-UP VOLTAGE	0.7 - 1.2 V DC x Uc 48 - 60 V DC (RDC 60)
SAFE ISOLATION	440 V AC, Between the contacts, According to EN 61140 440 V AC, Between coil and contacts, According to EN 61140
SCREW SIZE	M5, Terminal screw, Main cables M3.5, Terminal screw, Control circuit cables
TERMINAL CAPACITY	1 x 16 mm ² , Main cables

(STRANDED)	
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 16) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 10) mm ² , Main cables
SHOCK RESISTANCE	5.3 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop- mounted, 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 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 10) mm ² , Main cables 1 x (0.75 - 4) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 16) mm ² , Main cables
TERMINAL CAPACITY	18 - 14, Control circuit

(SOLID/STRANDED AWG)	cables Single 18 - 6, double 18 - 8, Main cables
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	40 A, Maximum motor rating (UL/CSA)
TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 3.2 Nm, Screw terminals, Main cables
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	60 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	48 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	384 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	32 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	32 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	32 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	32 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	18 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	15 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	15 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	15 A
RATED OPERATIONAL	15 A

CURRENT (IE) AT AC-4, 500 V	
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	12 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	40 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	40 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	40 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	32 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	11 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	15 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	19 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, 380/400 V, 50 HZ	7 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 POWER (NEMA)	14.9 kW
RATED OPERATIONAL	690 V

VOLTAGE (UE) AT AC - MAX	
RESISTANCE PER POLE	2.7 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0.9 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	10 mm
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)	10/100 kA, Fuse, SCCR (UL/CSA) 125/70 A, Class J, max. Fuse, SCCR (UL/CSA) 10/65 kA, CB, SCCR (UL/CSA) 50/32 A, max. CB, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	50/32 A, max. CB, SCCR (UL/CSA) 10/100 kA, Fuse, SCCR (UL/CSA) 125/125 A, Class J, max. Fuse, SCCR (UL/CSA) 10/22 kA, CB, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	125 A gG/gL
SUITABLE FOR	Also motors with efficiency class IE3
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

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	40 A (600V 60Hz 3phase, 347V 60Hz 1phase) 40 A (480V 60Hz 3phase, 277V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	192 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 32 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	25.3 A, 200 V 60 Hz 3-ph, (UL/CSA) 22 A, 240 V 60 Hz 3-ph, (UL/CSA) 20 HP, 600 V 60 Hz 3-ph, (UL/CSA) 22 A, 600 V 60 Hz 3-ph, (UL/CSA) 27 A, 480 V 60 Hz 3-ph, (UL/CSA) 20 HP, 480 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 200 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 240 V 60 Hz 3-ph, (UL/CSA)
SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	240 A, LRA 480 V 60 Hz 3phase; (CSA) 180 A, LRA 600 V 60 Hz 3phase; (CSA) 40 A, FLA 480 V 60 Hz 3phase; (CSA) 30 A, FLA 600 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	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 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)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	45 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	43 A
CONVENTIONAL	40 A

THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	20 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	23 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	17 kW
ACTUATING VOLTAGE	RDC 60: 48 - 60 V DC
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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