

Specifications

Photo is representative

Eaton 290072

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 7.5 kW, 1 N/O, 12 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	290072
MODEL CODE	DILM15-10(12VDC)
EAN	4015082900724
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.296 kg
CERTIFICATIONS	CSA File No.: 012528 UL CE CSA-C22.2 No. 14-05 UL File No.: E29096 VDE 0660 CSA UL 508 IEC/EN 60947-4-1 UL Category Control No.: NLDX IEC/EN 60947 CSA Class No.: 2411-03, 3211-04
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	290072

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

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

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

[SmartWire-DT Catalog](#)

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

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

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

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

DECLARATIONS OF CONFORMITY

[DA-DC-00004810.pdf](#)

[DA-DC-00004792.pdf](#)

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

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

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

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

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

[eaton-contactors-dilm-3d-drawing-007.eps](#)

DRAWINGS

ECAD MODEL

[ETN.290072.edz](#)

INSTALLATION INSTRUCTIONS

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

INSTALLATION VIDEOS

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

MCAD MODEL

[DA-CD-dil m7_15](#)

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:	Varistor suppressor circuit
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-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces
CONNECTION	Screw terminals

SYSTEM OVERVIEW	DA-CS-dil_m7_15 eaton-contactors-dilm-contactor-system-overview.eps
WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram.eps

FRAME SIZE	FS1
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	1 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	3 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	5 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	10 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	10 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	45 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	18 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	21 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	50 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	2.4 W

HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.8 W
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	31 ms
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	12 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	IP20
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
POWER CONSUMPTION (PICK-UP) AT DC	4.5 W
POWER CONSUMPTION	4.5 W

(SEALING) AT DC	
RATED BREAKING CAPACITY AT 220/230 V	124 A
RATED BREAKING CAPACITY AT 380/400 V	124 A
RATED BREAKING CAPACITY AT 500 V	100 A
RATED BREAKING CAPACITY AT 660/690 V	70 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50	0 V
HZ - MAX	
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50	0 V
HZ - MIN	
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60	0 V
HZ - MAX	
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60	0 V
HZ - MIN	
DROP-OUT VOLTAGE	At least smoothed two-phase bridge rectifier or three-phase rectifier 0.6 - 0.15 x Uc, DC operated
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	0.85 - 1.1 V DC x Uc (only with auxiliary contact module with 3 or more N/C contacts) 0.8 - 1.1 V DC x Uc
SAFE ISOLATION	400 V AC, Between the contacts, According to EN 61140 400 V AC, Between coil and contacts, According to EN 61140
SCREW SIZE	M3.5, Terminal screw
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	10 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)

SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ²
SHOCK RESISTANCE	5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half- sinusoidal shock 10 ms 3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop- mounted, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 3.4 g, N/C auxiliary 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 7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm ² 1 x (0.75 - 4) mm ²
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 18 - 10, double 18 - 14
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	20 A, Maximum motor rating (UL/CSA)
TIGHTENING TORQUE	1.2 Nm, Screw terminals
RATED CONTROL SUPPLY	
VOLTAGE (US) AT DC - MAX	12 V
RATED CONTROL SUPPLY	
VOLTAGE (US) AT DC - MIN	12 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING	155 A

CAPACITY UP TO 690 V

(COS PHI TO IEC/EN

60947)

RATED OPERATIONAL

CURRENT (IE) AT AC-1, 22 A
380 V, 400 V, 415 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 15.5 A
220 V, 230 V, 240 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 15.5 A
380 V, 400 V, 415 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 15.5 A
440 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 12.5 A
500 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 9 A
660 V, 690 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 7 A
220 V, 230 V, 240 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 7 A
400 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 7 A
440 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 6 A
500 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 5 A
660 V, 690 V

RATED OPERATIONAL

CURRENT (IE) AT DC-1, 20 A
110 V

RATED OPERATIONAL

CURRENT (IE) AT DC-1, 15 A
220 V

RATED OPERATIONAL

CURRENT (IE) AT DC-1, 20 A
V

RATED OPERATIONAL

CURRENT FOR SPECIFIED 15.5 A
HEAT DISSIPATION (IN)

RATED OPERATIONAL

POWER AT AC-3, 240 V, 50 4.6 kW

Hz

RATED OPERATIONAL

POWER AT AC-3, 380/400 V, 50 Hz 7.5 kW

RATED OPERATIONAL

POWER AT AC-3, 415 V, 50 Hz 8 kW

Hz

RATED OPERATIONAL

POWER AT AC-4, 220/230 V, 50 Hz 2 kW

RATED OPERATIONAL

POWER AT AC-4, 240 V, 50 Hz 2.2 kW

Hz

RATED OPERATIONAL

POWER AT AC-4, 380/400 V, 50 Hz 3 kW

RATED OPERATIONAL

POWER AT AC-4, 415 V, 50 Hz 3.4 kW

RATED OPERATIONAL

POWER AT AC-4, 440 V, 50 Hz 3.6 kW

RATED OPERATIONAL

POWER AT AC-4, 500 V, 50 Hz 3.5 kW

RATED OPERATIONAL

POWER AT AC-4, 660/690 V, 50 Hz 4.4 kW

RATED OPERATIONAL

POWER (NEMA) 7.4 kW

RATED OPERATIONAL

VOLTAGE (UE) AT AC - MAX 690 V

RESISTANCE PER POLE

4.6 mΩ

STATIC HEAT

DISSIPATION, NON-CURRENT-DEPENDENT PVS 4.5 W

STRIPPING LENGTH

(CONTROL CIRCUIT CABLE) 10 mm

STRIPPING LENGTH

(MAIN CABLE) 10 mm

45 A, max. Fuse, SCCR
(UL/CSA)

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)

60 A, max. CB, SCCR
(UL/CSA)

5 kA, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT)

30/100 kA, Fuse, SCCR
(UL/CSA)

480 V	25 A, Class RK5/ 60 A Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	30/100 kA, Fuse, SCCR (UL/CSA)
25 A, Class RK5/60 A, Class J, max. Fuse, SCCR (UL/CSA)	
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	63 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	20 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	20 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST	20 A (600V 60Hz 3phase, 347V 60Hz 1phase)
ELECTRICAL DISCHARGE LAMPS	20 A (480V 60Hz 3phase, 277V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	90 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 15 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA) 11 A, 480 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 600 V 60 Hz 3-ph, (UL/CSA) 9 A, 600 V 60 Hz 3-ph, (UL/CSA) 9.6 A, 240 V 60 Hz 3-ph, (UL/CSA) 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 3 HP, 240 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA)
SPECIAL PURPOSE RATING OF REFRIGERATION	10 A, FLA 600 V 60 Hz 3phase; (CSA) 60 A, LRA 600 V 60 Hz

CONTROL (CSA ONLY)	3phase; (CSA) 60 A, LRA 480 V 60 Hz 3phase; (CSA) 10 A, FLA 480 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	20 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 20 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	22 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	21 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	20 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	8.4 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	7.5 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	7 kW
ACTUATING VOLTAGE	12 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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