

Specifications

Photo is representative

Eaton 276568

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 3 kW, 1 N/O, 110 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	276568
MODEL CODE	DILM7-10(110VDC)
EAN	4015082765682
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.296 kg
CERTIFICATIONS	CSA-C22.2 No. 60947-4-1-14 CSA Class No.: 2411-03, 3211-04 UL CSA File No.: 012528 IEC/EN 60947 CSA UL Category Control No.: NLDX IEC/EN 60947-4-1 UL File No.: E29096 VDE 0660 CE UL 508 VDE
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	276568

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

[SmartWire-DT Catalog](#)

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

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

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

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

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

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

CHARACTERISTIC CURVE

DECLARATIONS OF CONFORMITY

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

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

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

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

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

DRAWINGS

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

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

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

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

ECAD MODEL

[ETN.276568.edz](#)

INSTALLATION INSTRUCTIONS

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

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	9000 mechanical Operations/h (DC operated)
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching
CONNECTION	Screw terminals

INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CD-dil_m7_15 DA-CS-dil_m7_15
SYSTEM OVERVIEW	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	0.25 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	1.5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	1 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	2 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	3 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	5 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	0.3 W

HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.1 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	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard 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	3 W
POWER CONSUMPTION	3 W

(SEALING) AT DC	
RATED BREAKING CAPACITY AT 220/230 V	70 A
RATED BREAKING CAPACITY AT 380/400 V	70 A
RATED BREAKING CAPACITY AT 500 V	50 A
RATED BREAKING CAPACITY AT 660/690 V	40 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	0.6 - 0.15 x UC, DC operated
OVERVOLTAGE CATEGORY	
DUTY FACTOR	At least smoothed two-phase bridge rectifier or three-phase rectifier
EMITTED INTERFERENCE	III
INTERFERENCE IMMUNITY	100 %
LIFESPAN, MECHANICAL	According to EN 60947-1
PICK-UP VOLTAGE	10,000,000 Operations (DC operated)
SAFE ISOLATION	
SCREW SIZE	0.85 - 1.1 V DC x Uc (only with auxiliary contact module with 3 or more N/C contacts)
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	0.8 - 1.1 V DC x Uc
400 V AC, Between the contacts, According to EN 61140	
400 V AC, Between coil and contacts, According to EN 61140	
M3.5, Terminal screw	
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)	2 x (0.75 - 2,5) mm ² 1 x (0.75 - 2.5) mm ²
SHOCK RESISTANCE	5 g, N/C auxiliary 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 5.7 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/C auxiliary 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 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm ² 2 x (0.75 - 2.5) 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	110 V
RATED CONTROL SUPPLY	
VOLTAGE (US) AT DC - MIN	110 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING	112 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, 7 A
220 V, 230 V, 240 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 7 A
380 V, 400 V, 415 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 7 A
440 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 5 A
500 V

RATED OPERATIONAL

CURRENT (IE) AT AC-3, 4 A
660 V, 690 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 5 A
220 V, 230 V, 240 V

RATED OPERATIONAL

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

RATED OPERATIONAL

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

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 4.5 A
500 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 4 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 7 A
HEAT DISSIPATION (IN)

RATED OPERATIONAL

POWER AT AC-3, 240 V, 50 2.2 kW

Hz

RATED OPERATIONAL

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

RATED OPERATIONAL

POWER AT AC-3, 415 V, 50 Hz

RATED OPERATIONAL

POWER AT AC-4, 240 V, 50 Hz

RATED OPERATIONAL

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

RATED OPERATIONAL

POWER AT AC-4, 415 V, 50 Hz

RATED OPERATIONAL

POWER AT AC-4, 440 V, 50 Hz

RATED OPERATIONAL

POWER AT AC-4, 500 V, 50 Hz

RATED OPERATIONAL

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

RATED OPERATIONAL

POWER (NEMA)

RATED OPERATIONAL

VOLTAGE (UE) AT AC - MAX

RESISTANCE PER POLE

STATIC HEAT

DISSIPATION, NON-

CURRENT-DEPENDENT

PVS

STRIPPING LENGTH

(CONTROL CIRCUIT CABLE)

STRIPPING LENGTH

(MAIN CABLE)

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)

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

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

5 kA, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT)

65 kA, CB, SCCR (UL/CSA)

16 A, max. CB, SCCR

480 V	(UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5/ 20 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 RK5/20 A, Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	35 A gG/gL
SUITABLE FOR	Also motors with efficiency class IE3
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	20 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	16 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST	12 A (480V 60Hz 3phase, 277V 60Hz 1phase)
ELECTRICAL DISCHARGE LAMPS	12 A (600V 60Hz 3phase, 347V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	42 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 7 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	6 A, 240 V 60 Hz 3-ph, (UL/CSA) 3 HP, 600 V 60 Hz 3-ph, (UL/CSA) 0.75 HP, 200 V 60 Hz 3-ph, (UL/CSA) 3.4 A, 480 V 60 Hz 3-ph, (UL/CSA) 1.5 HP, 240 V 60 Hz 3-ph, (UL/CSA) 3.9 A, 600 V 60 Hz 3-ph, (UL/CSA) 3.7 A, 200 V 60 Hz 3-ph, (UL/CSA)

	2 HP, 480 V 60 Hz 3-ph, (UL/CSA)
SPECIAL PURPOSE	10 A, FLA 600 V 60 Hz 3phase; (CSA)
RATING OF	60 A, LRA 480 V 60 Hz 3phase; (CSA)
REFRIGERATION	10 A, FLA 480 V 60 Hz 3phase; (CSA)
CONTROL (CSA ONLY)	60 A, LRA 600 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE	12 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
RATING OF RESISTANCE	12 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
AIR HEATING	
SPECIAL PURPOSE	14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
RATING OF TUNGSTEN	14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
INCANDESCENT LAMPS	
CONVENTIONAL	
THERMAL CURRENT ITH	22 A
AT 40°C (3-POLE, OPEN)	
CONVENTIONAL	
THERMAL CURRENT ITH	21 A
AT 50°C (3-POLE, OPEN)	
CONVENTIONAL	
THERMAL CURRENT ITH	20 A
AT 60°C (3-POLE, OPEN)	
RATED OPERATIONAL	
POWER AT AC-3, 440 V, 50	4.5 kW
Hz	
RATED OPERATIONAL	
POWER AT AC-3, 500 V, 50	3.5 kW
Hz	
RATED OPERATIONAL	
POWER AT AC-3, 690 V, 50	3.5 kW
Hz	
ACTUATING VOLTAGE	110 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:



Eaton Corporation plc

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

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