

Specifications

Photo is representative

Eaton 112443

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 18.5 kW, 1 N/O, RDC 60: 48 - 60 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	112443
MODEL CODE	DILM38-10(RDC60)
EAN	4015081119998
PRODUCT LENGTH/DEPTH	97 mm
PRODUCT HEIGHT	85 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.534 kg
COMPLIANCES	CE Marked
CERTIFICATIONS	CSA Std. C22.2 No. 14-05 UL 508 EN 60947-4-1 IEC 60947-4-1 VDE CSA CE CSA-C22.2 No. 60947-4-1-14 UL Category Control No.: NLDX VDE 0660 CSA Class No.: 2411-03, 3211-04 IEC/EN 60947-4-1 UL 60947-4-1 UL File No.: E29096 CSA File No.: 012528 IEC/EN 60947 UL
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	112443

Product specifications

ELECTRICAL	
CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT	Screw connection
AMPERAGE RATING	38A
NUMBER OF POLES	Three-pole
VOLTAGE RATING	48-60 Vdc
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.

Resources

CATALOGS	Product Range Catalog Switching and protecting motors SmartWire-DT Catalog eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	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
DECLARATIONS OF CONFORMITY	DA-DC-00004816.pdf DA-DC-00004783.pdf
DRAWINGS	eaton-contactors-contact-dimensions-210x202.eps eaton-contactors-dimensions-210t014.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-dilm-3d-drawing-009.eps
ECAD MODEL	ETN.112443.edz
INSTALLATION INSTRUCTIONS	IL03407014Z2021_09.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CS-dil_m17_38 DA-CD-dil_m17_38

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 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
OPERATING FREQUENCY	5000 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

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

AC-4: Normal AC induction motors: starting, plugging, reversing, inching	
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-	100 A

POLE, OPEN)	
EQUIPMENT HEAT	
DISSIPATION, CURRENT- DEPENDENT PVID	9.3 W
HEAT DISSIPATION	0 W
CAPACITY PDISS	
HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID	3.1 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	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
VOLTAGE TYPE	DC
DEGREE OF PROTECTION	IP00
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	3

OPEN CONTACT)	
OPERATING TEMPERATURE - MAX	60 °C
OPERATING TEMPERATURE - MIN	-25 °C
POWER CONSUMPTION (PICK-UP) AT DC	12 W
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
CONTACT CONFIGURATION	1 NO
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	M3.5, Terminal screw, Control circuit cables M5, Terminal screw, Main cables
TERMINAL CAPACITY (STRANDED)	1 x 16 mm ² , Main cables
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)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 10) mm ² , Main cables 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
SHOCK RESISTANCE	7 g, N/O 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 5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, 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 3.5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop- mounted, Half-sinusoidal shock 10 ms

TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm ² , Control circuit cables 2 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
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 18 - 6, double 18 - 8, Main cables 18 - 14, Control circuit 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	38 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	38 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	38 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	38 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	22.5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4	15 A

220 V, 230 V, 240 V

RATED OPERATIONAL

**CURRENT (IE) AT AC-4, 15 A
400 V**

RATED OPERATIONAL

**CURRENT (IE) AT AC-4, 15 A
440 V**

RATED OPERATIONAL

**CURRENT (IE) AT AC-4, 15 A
500 V**

RATED OPERATIONAL

**CURRENT (IE) AT AC-4, 12 A
660 V, 690 V**

RATED OPERATIONAL

**CURRENT (IE) AT DC-1, 40 A
110 V**

RATED OPERATIONAL

**CURRENT (IE) AT DC-1, 40 A
220 V**

RATED OPERATIONAL

**CURRENT (IE) AT DC-1, 40 A
V**

RATED OPERATIONAL

**CURRENT FOR SPECIFIED 38 A
HEAT DISSIPATION (IN)**

RATED OPERATIONAL

**POWER AT AC-3, 240 V, 50 12 kW
HZ**

RATED OPERATIONAL

**POWER AT AC-3, 380/400 18.5 kW
V, 50 HZ**

RATED OPERATIONAL

**POWER AT AC-3, 415 V, 50 20 kW
HZ**

RATED OPERATIONAL

**POWER AT AC-4, 220/230 4 kW
V, 50 HZ**

RATED OPERATIONAL

**POWER AT AC-4, 240 V, 50 4.5 kW
HZ**

RATED OPERATIONAL

**POWER AT AC-4, 380/400 7 kW
V, 50 HZ**

RATED OPERATIONAL

**POWER AT AC-4, 415 V, 50 7.5 kW
HZ**

RATED OPERATIONAL

**POWER AT AC-4, 440 V, 50 8 kW
HZ**

RATED OPERATIONAL

9 kW

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

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)

10/65 kA, CB, SCCR

(UL/CSA)

125/70 A, Class J, max.

Fuse, SCCR (UL/CSA)

10/100 kA, Fuse, 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

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

63 A gG/gL

SHORT-CIRCUIT PROTECTION RATING

63 A gG/gL

(TYPE 2 COORDINATION)**AT 400 V****SHORT-CIRCUIT****PROTECTION RATING****(TYPE 2 COORDINATION)****AT 690 V**

35 A gG/gL

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

SPECIAL PURPOSE	192 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
RATING OF DEFINITE PURPOSE RATING	32 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

SPECIAL PURPOSE	7.5 HP, 200 V 60 Hz 3-ph, (UL/CSA)
RATING OF ELEVATOR CONTROL	7.5 HP, 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)
	25.3 A, 200 V 60 Hz 3-ph, (UL/CSA)
	20 HP, 480 V 60 Hz 3-ph, (UL/CSA)
	27 A, 480 V 60 Hz 3-ph, (UL/CSA)
	22 A, 240 V 60 Hz 3-ph, (UL/CSA)

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

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

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

OPERATING	-25° to 60°C
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TEMPERATURE**CONVENTIONAL**

THERMAL CURRENT ITH 45 A
AT 40°C (3-POLE, OPEN)

CONVENTIONAL

THERMAL CURRENT ITH 43 A
AT 50°C (3-POLE, OPEN)

CONVENTIONAL

THERMAL CURRENT ITH 40 A
AT 60°C (3-POLE, OPEN)

RATED OPERATIONAL

POWER AT AC-3, 440 V, 50 HZ 21 kW

RATED OPERATIONAL

POWER AT AC-3, 500 V, 50 HZ 24 kW

RATED OPERATIONAL

POWER AT AC-3, 690 V, 50 HZ 21 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:****Eaton Corporation plc**

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