

DIL CONTACTORS

107014



Overview

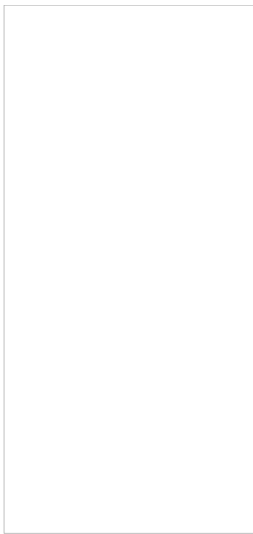


Specifications



Resources

How to



107014

Eaton Moeller® series DILM Contactor, 3 pole, 380 - 440 V 50/60 Hz, AC operation, Screw terminals



[WIN-WIN with Push-in Terminals](#)

[How to improve wiring](#)

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277950

Eaton Moeller® series DILM Auxiliary contact module, 4 pole, Ith= 16 A, 2 N/O, 2 NC, Front fixing, Screw terminals, DILM40 - DILM170

277946

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 16 A, 1 N/O, 1 NC, Front fixing, Screw terminals, DILM40 - DILM170

278464

Eaton Moeller® series ZB Overload relay, ZB150, Ir= 70 - 100 A, 1 N/O, 1 N/C, Direct mounting, IP00

278425

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 10 A, 1 N/O, 1 NC, Side mounted, Screw terminals, DILM40 - DILM225A, -SI

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GENERAL SPECIFICATIONS

General specifications

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PRODUCT NAME Eaton Moeller® series DILM contactor

CATALOG NUMBER 107014

Product specifications

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MODEL CODE DILM170(RAC440)

EAN 4015081067824

PRODUCT LENGTH/DEPTH 160 mm

PRODUCT HEIGHT 170 mm

PRODUCT WIDTH 90 mm

PRODUCT WEIGHT 2.25 kg

CERTIFICATIONS CSA-C22.2 No. 60947-4-1-14
 UL File No.: E29096
 CSA
 CE
 IEC/EN 60947-4-1
 UL
 VDE 0660
 CSA Class No.: 2411-03, 3211-04
 CSA File No.: 012528
 UL Category Control No.: NLDX
 UL 60947-4-1
 IEC/EN 60947

CATALOG NOTES Contacts according to EN 50012

PRODUCT SPECIFICATIONS

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) 1 x (10 - 95) mm², Main cables
 1 x (0.75 - 2.5) mm², Control circuit cables
 2 x (10 - 70) mm², Main cables
 2 x (0.75 - 2.5) mm², Control circuit cables

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) 170 A

10.11 SHORT-CIRCUIT RATING Is the panel builder's responsibility. The specifications must be observed.

RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ 90 kW

CONVENTIONAL THERMAL CURRENT I_{TH} (3-POLE, ENCLOSED) 166 A

RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ 33 kW

RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V 65 A

TERMINAL CAPACITY (COPPER BAND) 2 x (6 x 16 x 0.8) mm (Number of segments x width of cables)

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 380 V

HZ - MIN	
CONVENTIONAL THERMAL CURRENT I_{TH} AT 60°C (3-POLE, OPEN)	185 A
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	65 kA, CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)
CONVENTIONAL THERMAL CURRENT I_{TH} AT 55°C (3-POLE, OPEN)	190 A
RATED OPERATIONAL POWER (NEMA)	93 kW
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
FITTED WITH:	Suppressor circuit in actuating electronics
RATED BREAKING CAPACITY AT 380/400 V	1500 A
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	10 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 600 A, max. Fuse, SCCR (UL/CSA)
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	440 V
RATED BREAKING CAPACITY AT 660/690 V	1320 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	90 A
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	99 A, 600 V 60 Hz 3-ph, (UL/CSA) 96 A, 480 V 60 Hz 3-ph, (UL/CSA) 100 HP, 600 V 60 Hz 3-ph, (UL/CSA) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 V 60 Hz 3-ph, (UL/CSA) 40 HP, 240 V 60 Hz 3-ph, (UL/CSA) 104 A, 240 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA)
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	10 HP
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	41 kW
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
NUMBER OF POLES	Three-pole
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to

10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to
APPLICATION	Contactors for Motors
OPERATING FREQUENCY	3000 mechanical Operations/h (AC operated)
VOLTAGE TYPE	AC
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	250 A gG/gL
PRODUCT CATEGORY	Contactors
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	65 A
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	96 kW
POWER CONSUMPTION, PICK-UP, 50 HZ	180 VA, Dual-frequency coil in a cold state and 1.0
HEAT DISSIPATION CAPACITY PDISS	0 W
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	125 HP
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase,
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	35 ms
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	65 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	57 kW
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 8...3/0, double 8...2/0, Main cables 18 - 14, Control circuit cables
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
DEGREE OF PROTECTION	IP00
OVERVOLTAGE CATEGORY	III
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	41 ms
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
POLLUTION DEGREE	3
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	225 A
POWER CONSUMPTION, PICK-UP, 60 HZ	170 VA, Dual-frequency coil in a cold state and 1.0
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	33 ms

RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
CONNECTION	Screw terminals
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
TIGHTENING TORQUE	14 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	48 kW
FRAME SIZE	FS4
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	415 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	100 A
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	170 A
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	28 ms
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	250 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	160 A (600V 60Hz 3phase, 347V 60Hz 1phase) 160 A (480V 60Hz 3phase, 277V 60Hz 1phase)
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	1020 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles ac (UL/CSA) 170 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles ac (UL/CSA)
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	120 kW
SHOCK RESISTANCE	10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms 10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	160 A

ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	60 HP
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.25 x UC, AC operated
POWER CONSUMPTION, SEALING, 60 HZ	3.1 VA, Dual-frequency coil in a cold state and 1.0 W, Dual-frequency coil in a cold state and 1.0 x 2.3 W, Dual-frequency coil in a cold state and 1.0 x
RESISTANCE PER POLE	0.6 mΩ
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications must be observed.
SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	540 A, LRA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 480 V 60 Hz 3phase; (CSA)
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be lifted.
STRIPPING LENGTH (MAIN CABLE)	24 mm
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase,
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	350 A, max. CB, SCCR (UL/CSA) 30 kA, CB, SCCR (UL/CSA) 300/600 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
RATED BREAKING CAPACITY AT 220/230 V	1500 A
SCREW SIZE	M10, Terminal screw, Main cables M3.5, Terminal screw, Control circuit cables 5 mm AF, Hexagon socket-head spanner, Terminal
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	65 A
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	250 A gG/gL
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	125 HP
PROTECTION	Finger and back-of-hand proof Protection against disarming actuated from front (EN 50274)

POWER CONSUMPTION, SEALING, 50 HZ	3.1 VA, Dual-frequency coil in a cold state and 1.0 W 2.3 W, Dual-frequency coil in a cold state and 1.0 x
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	105 kW
TERMINAL CAPACITY (STRANDED)	1 x (16 - 95) mm ² , Main cables 2 x (16 - 70) mm ² , Main cables
RATED BREAKING CAPACITY AT 500 V	1500 A
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	100 kW
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
EMITTED INTERFERENCE	According to EN 60947-1
CONNECTION TO SMARTWIRE-DT	No
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2.3 W
RATED CONTROL SUPPLY VOLTAGE(US) AT DC - MAX	0 V
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, res AC-3: Normal AC induction motors: starting, switc AC-4: Normal AC induction motors: starting, plug inching
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	170 A
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to
SAFE ISOLATION	690 V AC, Between the contacts, According to EN 690 V AC, Between coil and contacts, According to
OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the inf instruction leaflet (IL) is observed.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	13.7 W
ACTUATING VOLTAGE	RAC 440: 380 - 440 V 50/60 Hz
RESIDUAL CURRENT	1 mA (with actuation of A1 - A2 by the electronics)
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	50 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	41.1 W
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	50 HP
PICK-UP VOLTAGE	0.8 - 1.15 V AC x U _c

CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	225 A
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 4) mm ² , Control circuit cables
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
INTERFERENCE IMMUNITY	According to EN 60947-1
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.
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	250 A gG/gL
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	2100 A
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	22 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	47 kW
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	160 A
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	20 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	380 V
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the device
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	225 A, Maximum motor rating (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	200 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	170 A
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	30 HP
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, screwdriver
DUTY FACTOR	100 %
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V,	170 A

230 V, 240 V	1/0 A
CONVENTIONAL THERMAL CURRENT I_{TH} OF MAIN CONTACTS (1-POLE, OPEN)	460 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	440 V
ARCING TIME	15 ms
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	39 kW
RATED INSULATION VOLTAGE (UI)	690 V
ALTITUDE	Max. 2000 m

Catalogs

Characteristic curve

Declarations of conformity

Drawings

eCAD model

Installation instructions

Installation videos

mCAD model

System overview

Wiring diagrams



Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power — today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy and helping to solve the world's most urgent power management challenges.