

DIL CONTACTORS

277001



Overview



Specifications



Resources

How to

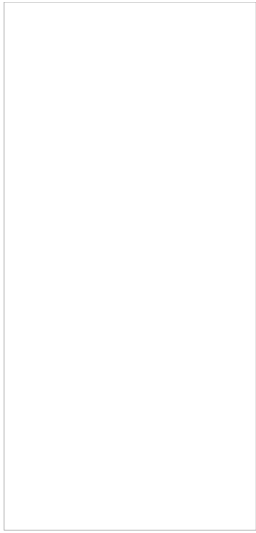
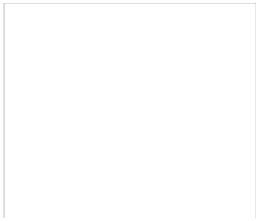
277001

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 50 Hz, 120 V 60 Hz, AC operation, Screw terminals 10(110V50HZ,120V60HZ)



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

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277377

Eaton Moeller® series DILM Auxiliary contact module, 4 pole, Ith= 16 A, 2 N/O, 2 NC, Front fixing, Screw terminals, DILM7-10 - DILM38-10

276426

Eaton Moeller® series DILA Auxiliary contact module, 4 pole, Ith= 16 A, 2 N/O, 2 NC, Front fixing, Screw terminals, DILA, DILM7 - DILM38

278452

Eaton Moeller® series ZB Overload relay, ZB32, Ir= 10 - 16 A, 1 N/O, 1 N/C, Direct mounting, IP20

278453

Eaton Moeller® series ZB Overload relay, ZB32, Ir= 16 - 24 A, 1 N/O, 1 N/C, Direct mounting, IP20

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GENERAL SPECIFICATIONS

General specifications	>	PRODUCT NAME	Eaton Moeller® series DILM contactor
		CATALOG NUMBER	277001
Product specifications	>	MODEL CODE	DILM17-10(110V50HZ,120V60HZ)
		EAN	4015082770013
		PRODUCT LENGTH/DEPTH	97 mm
		PRODUCT HEIGHT	85 mm
		PRODUCT WIDTH	45 mm
		PRODUCT WEIGHT	0.428 kg
		CERTIFICATIONS	CSA File No.: 012528 CSA Class No.: 2411-03, 3211-04 UL VDE 0660 CSA UL Category Control No.: NLDX CE IEC/EN 60947 IEC/EN 60947-4-1 UL File No.: E29096 CSA-C22.2 No. 60947-4-1-14 UL 60947-4-1
		CATALOG NOTES	Contacts according to EN 50012

PRODUCT SPECIFICATIONS

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 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 2 x (0.75 - 2.5) mm ² , Control circuit cables
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	18 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	7.5 kW
CONVENTIONAL THERMAL CURRENT I_{TH} (3-POLE, ENCLOSED)	32 A
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	4.5 kW
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	10 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50	110 V

HZ - MIN	
CONVENTIONAL THERMAL CURRENT I_{TH} AT 60°C (3-POLE, OPEN)	35 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)	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)
CONVENTIONAL THERMAL CURRENT I_{TH} AT 55°C (3-POLE, OPEN)	37 A
RATED OPERATIONAL POWER (NEMA)	7.4 kW
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
RATED BREAKING CAPACITY AT 380/400 V	170 A
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	125 A, max. CB, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) 125 A, max. Fuse, SCCR (UL/CSA)
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	110 V
RATED BREAKING CAPACITY AT 660/690 V	120 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	35 A
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	10 HP, 600 V 60 Hz 3-ph, (UL/CSA) 11 A, 600 V 60 Hz 3-ph, (UL/CSA) 3 HP, 240 V 60 Hz 3-ph, (UL/CSA) 3 HP, 200 V 60 Hz 3-ph, (UL/CSA) 11 A, 480 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA) 11 A, 200 V 60 Hz 3-ph, (UL/CSA) 9.6 A, 240 V 60 Hz 3-ph, (UL/CSA)
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	2 HP
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	5.5 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	5000 mechanical Operations/h (AC operated)
VOLTAGE TYPE	AC
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	63 A gG/gL
PRODUCT CATEGORY	Contactors
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	10 A
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	11 kW
POWER CONSUMPTION, PICK-UP, 50 HZ	52 VA, Dual-frequency coil in a cold state and 1.0 x
HEAT DISSIPATION CAPACITY PDISS	0 W
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	10 HP
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (U 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (U
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	10 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	5.5 kW
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 18 - 6, double 18 - 8, 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	14 ms
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
POLLUTION DEGREE	3
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	40 A
POWER CONSUMPTION, PICK-UP, 60 HZ	67 VA, Dual-frequency coil in a cold state and 1.0 x
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	22 ms
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC

CONNECTION	Screw terminals
OPERATING VOLTAGE AT AC, 60 HZ - MIN	24 V
TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 3.2 Nm, Screw terminals, Main cables
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	6.5 kW
FRAME SIZE	FS2
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	80 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	12 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	18 A
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	16 ms
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	35 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	40 A (480V 60Hz 3phase, 277V 60Hz 1phase) 40 A (600V 60Hz 3phase, 347V 60Hz 1phase)
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	18 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. (UL/CSA) 108 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. (UL/CSA)
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	12 kW
SHOCK RESISTANCE	5.3 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27 when tabletop-mounted, Halfsinusoidal shock 10 ms 6.9 g, N/O main contact, Mechanical, according to IEC 60068-2-27 when tabletop-mounted, Halfsinusoidal shock 10 ms 7 g, N/O 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 3.5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27 when tabletop-mounted, Halfsinusoidal shock 10 ms 10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	35 A

ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	5 HP
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.3 x UC, AC operated
POWER CONSUMPTION, SEALING, 60 HZ	2.1 W, Dual-frequency coil in a cold state and 1.0 x 8.7 VA, Dual-frequency coil in a cold state and 1.0 x
RESISTANCE PER POLE	2.7 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)	30 A, FLA 600 V 60 Hz 3phase; (CSA) 240 A, LRA 480 V 60 Hz 3phase; (CSA) 40 A, FLA 480 V 60 Hz 3phase; (CSA) 180 A, LRA 600 V 60 Hz 3phase; (CSA)
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to
STRIPPING LENGTH (MAIN CABLE)	10 mm
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (U 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (U
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	10/100 kA, Fuse, SCCR (UL/CSA) 50/32 A, max. CB, SCCR (UL/CSA) 125/70 A, Class J, max. Fuse, SCCR (UL/CSA) 10/22 kA, CB, 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	170 A
SCREW SIZE	M3.5, Terminal screw, Control circuit cables M5, Terminal screw, Main cables
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	10 A
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	35 A gG/gL
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	15 HP
PROTECTION	Finger and back-of-hand proof Protection against di actuated from front (EN 50274)

POWER CONSUMPTION, SEALING, 50 HZ	2.1 W, Dual-frequency coil in a cold state and 1.0 x 7.1 VA, Dual-frequency coil in a cold state and 1.0 x
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	10.5 kW
TERMINAL CAPACITY (STRANDED)	1 x 16 mm ² , Main cables
RATED BREAKING CAPACITY AT 500 V	170 A
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	10 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	2.1 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-4: Normal AC induction motors: starting, plug inching AC-3: Normal AC induction motors: starting, switc
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	18 A
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to
SAFE ISOLATION	440 V AC, Between coil and contacts, According to 440 V AC, Between the contacts, According to EN
OPERATING VOLTAGE AT AC, 50 HZ - MIN	24 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	0.7 W
ACTUATING VOLTAGE	110 V 50 Hz, 120 V 60 Hz
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	8 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	2.1 W
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	5 HP
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c

SUITABLE FOR	Also motors with efficiency class IE3
CONVENTIONAL THERMAL CURRENT I_{TH} AT 40°C (3-POLE, OPEN)	40 A
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 16) 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 2 x (0.75 - 10) mm ² , Main 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	50 A gG/gL
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	238 A
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	6 kW
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	35 A
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	2.5 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	120 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)	40 A, Maximum motor rating (UL/CSA)
CONVENTIONAL THERMAL CURRENT I_{TH} AT 50°C (3-POLE, OPEN)	38 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	18 A
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	3 HP
SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver

DUTY FACTOR	100 %
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	18 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	88 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	120 V
ARCING TIME	10 ms
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	5 kW
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
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.