

## Eaton 277468

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 4 kW, 1 N/O, 24 V DC, DC operation, Spring-loaded terminals DILMC9-10(24VDC)

<b>PRODUCT NAME</b>	Eaton Moeller® series DILM contactor
<b>CATALOG NUMBER</b>	277468
<b>PRODUCT LENGTH/DEPTH</b>	75 mm
<b>PRODUCT HEIGHT</b>	68 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.286 kg
<b>CERTIFICATIONS</b>	UL File No.: E29096 CSA Class No.: 2411-03, 3211-04 UL Category Control No.: NLDX IEC/EN 60947-4-1 VDE 0660 UL CE CSA-C22.2 No. 60947-4-1-14 CSA CSA File No.: 012528 UL 60947-4-1 IEC/EN 60947
<b>CATALOG NOTES</b>	Contacts according to EN 50012

<b>NUMBER OF POLES</b>	Three-pole
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF</b>	Does not apply, since the entire switchgear needs to

<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-switch-dilm-characteristic-curve.eps</a>
	<a href="#">eaton-contactors-switch-dilm-characteristic-curve-002.eps</a>
	<a href="#">eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf</a>
	<a href="#">eaton-contactors-contact-dilm-wiring-diagram.eps</a>
	<a href="#">eaton-contactors-contact-dilm-dimensions.eps</a>
	<a href="#">eaton-contactors-frame-dilm-dimensions.eps</a>
	<a href="#">eaton-contactors-dilm-3d-drawing-008.eps</a>

<b>ASSEMBLIES</b>	be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Varistor suppressor circuit
<b>OPERATING FREQUENCY</b>	9000 mechanical Operations/h (DC operated)
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>CONNECTION TO SMARTWIRE-DT</b>	In conjunction with DIL-SWD SmartWire DT contactor module Yes
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	8000 V AC
<b>UTILIZATION CATEGORY</b>	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-3: Normal AC induction motors: starting, switch off during running
<b>CONNECTION</b>	Spring-loaded terminals
<b>FRAME SIZE</b>	FS1

<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-25 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	0.5 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	1.5 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	5 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	7.5 HP
<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	45 A
<b>CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)</b>	18 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)</b>	21 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)</b>	50 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W

<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	0.3 W
<b>SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	31 ms
<b>SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	12 ms
<b>APPLICATION</b>	Contactors for Motors
<b>PRODUCT CATEGORY</b>	Contactors
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
<b>ARCING TIME</b>	10 ms
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Spring clamp connection
<b>SCREWDRIVER SIZE</b>	3.5 mm, Spring-loaded terminals
<b>VOLTAGE TYPE</b>	DC
<b>DEGREE OF PROTECTION</b>	IP20
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>	0
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>	3
<b>POWER CONSUMPTION (PICK-UP) AT DC</b>	4.5 W
<b>POWER CONSUMPTION (SEALING) AT DC</b>	4.5 W
<b>RATED BREAKING CAPACITY AT 220/230 V</b>	90 A
<b>RATED BREAKING CAPACITY AT 380/400 V</b>	90 A

<b>RATED BREAKING CAPACITY AT 500 V</b>	70 A
<b>RATED BREAKING CAPACITY AT 660/690 V</b>	50 A
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	0 V
<b>DROP-OUT VOLTAGE</b>	0.6 - 0.15 x UC, DC operated At least smoothed two-phase bridge rectifier or three-phase rectifier
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DUTY FACTOR</b>	100 %
<b>EMITTED INTERFERENCE</b>	According to EN 60947-1
<b>INTERFERENCE IMMUNITY</b>	According to EN 60947-1
<b>LIFESPAN, MECHANICAL</b>	10,000,000 Operations (DC operated)
<b>PICK-UP VOLTAGE</b>	0.7 - 1.3 V DC x Uc (without auxiliary contact module and at ambient air temperature + 40 °C) 0.8 - 1.1 V DC x Uc 0.85 - 1.1 V DC x Uc (only with auxiliary contact module with 3 or more N/C contacts)
<b>SAFE ISOLATION</b>	400 V AC, Between the contacts, According to EN 61140 400 V AC, Between coil and contacts, According to EN 61140
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	10 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	A600, AC operated (UL/CSA) P300, DC operated

	(UL/CSA)
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	1 x (0.75 - 1.5) mm <sup>2</sup> 2 x (0.75 - 1.5) mm <sup>2</sup>
<b>SHOCK RESISTANCE</b>	<p>3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms</p> <p>7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms</p> <p>10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms</p> <p>5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms</p> <p>3.4 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms</p> <p>5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms</p>
<b>TERMINAL CAPACITY (SOLID)</b>	2 x (0.75 - 2.5) mm <sup>2</sup> 1 x (0.75 - 2.5) mm <sup>2</sup>
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	18 - 14
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	20 A, Maximum motor rating (UL/CSA)
<b>TERMINAL CAPACITY (FLEXIBLE)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 2.5) mm <sup>2</sup>
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	24 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	24 V
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN</b>	126 A

60947)	
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	22 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	7 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	4.5 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	15 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	20 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	9 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	3 kW
RATED OPERATIONAL	4 kW



<b>POWER AT AC-3, 380/400 V, 50 HZ</b>	
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	1.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	1.6 kW
<b>RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ</b>	2.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	2.8 kW
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	3 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	2.8 kW
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	3.6 kW
<b>RATED OPERATIONAL POWER (NEMA)</b>	3.7 kW
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>RESISTANCE PER POLE</b>	4.6 mΩ
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	2.6 W
<b>STRIPPING LENGTH (CONTROL CIRCUIT CABLE)</b>	10 mm
<b>STRIPPING LENGTH (MAIN CABLE)</b>	10 mm
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	5 kA, SCCR (UL/CSA) 45 A, max. Fuse, SCCR (UL/CSA) 60 A, max. CB, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)</b>	65 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5/ 20 A Class

	J, max. Fuse, SCCR (UL/CSA) 16 A, max. CB, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	30/100 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5/20 A, Class J, max. Fuse, SCCR (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V</b>	35 A gG/gL
<b>SUITABLE FOR</b>	Also motors with efficiency class IE3
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V</b>	20 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V</b>	20 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V</b>	16 A gG/gL
<b>SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS</b>	18 A (600V 60Hz 3phase, 347V 60Hz 1phase) 18 A (480V 60Hz 3phase, 277V 60Hz 1phase)
<b>SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING</b>	54 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 9 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF ELEVATOR CONTROL</b>	2 HP, 240 V 60 Hz 3-ph, (UL/CSA) 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 6.8 A, 240 V 60 Hz 3-ph, (UL/CSA) 3 HP, 480 V 60 Hz 3-ph, (UL/CSA) 5 HP, 600 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA) 4.8 A, 480 V 60 Hz 3-ph, (UL/CSA) 6.1 A, 600 V 60 Hz 3-ph, (UL/CSA)

<b>SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)</b>	10 A, FLA 600 V 60 Hz 3phase; (CSA) 10 A, FLA 480 V 60 Hz 3phase; (CSA) 60 A, LRA 600 V 60 Hz 3phase; (CSA) 60 A, LRA 480 V 60 Hz 3phase; (CSA)
<b>SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING</b>	18 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 18 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS</b>	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)
<b>CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)</b>	22 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	21 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)</b>	20 A
<b>RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ</b>	5.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	4.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	4.5 kW
<b>ACTUATING VOLTAGE</b>	24 V DC
<b>ALTITUDE</b>	Max. 2000 m
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	24 V
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	690 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	24 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
:



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