

## Eaton 104453

Eaton Moeller® series DILMF Contactors for Semiconductor Industries acc. to SEMI F47, 380 V 400 V: 32 A, 1 N/O, RAC 240: 190 - 240 V 50/60 Hz, Screw terminals

<b>PRODUCT NAME</b>	Eaton Moeller® series DILMF contactor for semiconductor industries
<b>CATALOG NUMBER</b>	104453
<b>PRODUCT LENGTH/DEPTH</b>	97 mm
<b>PRODUCT HEIGHT</b>	85 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.531 kg
<b>CERTIFICATIONS</b>	CSA Class No.: 2411-03, 3211-04 CSA-C22.2 No. 60947-4-1- 14 IEC/EN 60947-4-1 UL File No.: E29096 UL Category Control No.: NLDX CE CSA CSA File No.: 012528 UL 60947-4-1 UL
<b>CATALOG NOTES</b>	Also tested according to AC-3e.

**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.

**SYSTEM OVERVIEW**

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[eaton-contactors-mounting-dilmf-explosion-drawing.eps](#)

[IL03407014Z2021\\_09.pdf](#)

[eaton-contactors-contact-dilm-wiring-diagram.eps](#)

[eaton-contactors-dimensions-210t014.eps](#)

<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to 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>	Built-in suppressor circuit
<b>POLLUTION DEGREE</b>	3
<b>OPERATING MODE</b>	Operating mechanism adjustable from 50 Hz to 400 Hz.
<b>UTILIZATION CATEGORY</b>	AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces
<b>CONNECTION</b>	Screw terminals
<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</b>	-25 °C

<b>TEMPERATURE (ENCLOSED) - MIN</b>	
<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>	2 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	10 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	5 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	10 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	20 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	25 HP
<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	90 A
<b>CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)</b>	36 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)</b>	100 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	6.6 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID</b>	2.2 W
<b>APPLICATION</b>	Contactors for Semiconductor Industries acc. to SEMI F47
<b>PRODUCT CATEGORY</b>	Contactors
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection

<b>VOLTAGE TYPE</b>	AC
<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>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	240 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	190 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	240 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	190 V
<b>DROP-OUT VOLTAGE</b>	AC operated: 0.5 - 0.2 x UC, AC operated
<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>PICK-UP VOLTAGE</b>	0.8 - 1.15 V AC x Uc
<b>POWER CONSUMPTION, PICK-UP, 50 HZ</b>	14 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	0.7 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 0.8 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
<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>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	40 A, Maximum motor rating (UL/CSA)
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V</b>	45 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	32 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	32 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V</b>	32 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	32 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	18 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V</b>	15 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V</b>	15 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V</b>	15 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V</b>	15 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V</b>	12 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED</b>	32 A

<b>HEAT DISSIPATION (IN)</b>	
<b>RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ</b>	11 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>	15 kW
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	19 kW
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	4 kW
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	4.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ</b>	7 kW
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	7.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	8 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	9 kW
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	10 kW
<b>RATED OPERATIONAL POWER (NEMA)</b>	14.9 kW
<b>RESISTANCE PER POLE</b>	2.65 mΩ
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0.8 W
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	40 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	45 ms
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	125 A, max. CB, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) 125 A, max. Fuse, SCCR

	(UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)</b>	50/32 A, max. CB, SCCR (UL/CSA) 125/70 A, Class J, max. Fuse, SCCR (UL/CSA) 10/65 kA, CB, SCCR (UL/CSA) 10/100 kA, Fuse, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	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)
<b>SUITABLE FOR</b>	Also motors with efficiency class IE3 SEMI F47, Magnet systems
<b>SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS</b>	40 A (480V 60Hz 3phase, 277V 60Hz 1phase) 40 A (600V 60Hz 3phase, 347V 60Hz 1phase)
<b>SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING</b>	32 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 192 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF ELEVATOR CONTROL</b>	25.3 A, 200 V 60 Hz 3-ph, (UL/CSA) 20 HP, 480 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 200 V 60 Hz 3-ph, (UL/CSA) 27 A, 480 V 60 Hz 3-ph, (UL/CSA) 22 A, 600 V 60 Hz 3-ph, (UL/CSA) 20 HP, 600 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 240 V 60 Hz 3-ph, (UL/CSA) 22 A, 240 V 60 Hz 3-ph, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)</b>	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) 30 A, FLA 600 V 60 Hz 3phase; (CSA)



<b>SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING</b>	40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS</b>	40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 40 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>	45 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	43 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)</b>	40 A
<b>RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ</b>	20 kW
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	23 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	17 kW
<b>ACTUATING VOLTAGE</b>	RAC 240: 190 - 240 V 50/60 Hz
<b>ALTITUDE</b>	Max. 2000 m
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	230 V
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	690 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	230 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
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