

# Specifications

## Eaton 104482

Eaton Moeller® series DILMF Contactors for Semiconductor Industries acc. to SEMI F47, 380 V 400 V: 150 A, RAC 24: 24 V 50/60 Hz, Screw terminals

### General specifications

<b>PRODUCT NAME</b>	Eaton Moeller® series DILMF contactor for semiconductor industries
<b>CATALOG NUMBER</b>	104482
<b>MODEL CODE</b>	DILMF150(RAC24)
<b>EAN</b>	4015081042999
<b>PRODUCT LENGTH/DEPTH</b>	160 mm
<b>PRODUCT HEIGHT</b>	170 mm
<b>PRODUCT WIDTH</b>	90 mm
<b>PRODUCT WEIGHT</b>	2.26 kg
<b>CERTIFICATIONS</b>	CSA File No.: 012528 CSA-C22.2 No. 60947-4-1- 14 UL Category Control No.: NLDX UL 60947-4-1 CSA CE IEC/EN 60947-4-1 UL UL File No.: E29096 CSA Class No.: 2411-03, 3211-04
<b>CATALOG NOTES</b>	Also tested according to AC-3e.
<b>GLOBAL CATALOG</b>	104482

## Product specifications

<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

## Resources

	<a href="#">Product Range Catalog</a> <a href="#">Switching and protecting motors</a>
<b>CATALOGS</b>	<a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a> <a href="#">SmartWire-DT Catalog</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-component-dilm-characteristic-curve-003.eps</a> <a href="#">eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps</a> <a href="#">eaton-contactors-short-time-loading-dilm-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00004781.pdf</a> <a href="#">DA-DC-00004818.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-contactors-dilm-dimensions-011.eps</a> <a href="#">eaton-contactors-mounting-dilm-dimensions.eps</a> <a href="#">eaton-contactors-dilm-dimensions-003.eps</a> <a href="#">eaton-general-ie-ready-dilm-contactor-standards.eps</a> <a href="#">eaton-contactors-dilm-3d-drawing-013.eps</a>
<b>ECAD MODEL</b>	<a href="#">ETN.104482.edz</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">eaton-dil-contactors-instruction-leaflet-il03407039z.pdf</a>
<b>INSTALLATION VIDEOS</b>	<a href="#">WIN-WIN with push-in technology</a>
<b>MCAD MODEL</b>	<a href="#">DA-CD-dil_mc80_170</a> <a href="#">DA-CS-dil_mc80_170</a>
<b>SYSTEM OVERVIEW</b>	<a href="#">eaton-contactors-circuit-breaker-dilmf-explosion-drawing.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>	Built-in suppressor circuit
<b>UTILIZATION CATEGORY</b>	AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running
<b>CONNECTION</b>	Screw terminals
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	10 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	50 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	30 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	60 HP

	<a href="#">eaton-contactors-mounting-dilmf-explosion-drawing.eps</a>
<b>WIRING DIAGRAMS</b>	<a href="#">eaton-contactors-contact-dilm-wiring-diagram-003.eps</a>

<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	125 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	125 HP
<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	360 A
<b>CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)</b>	144 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)</b>	400 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	32.1 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID</b>	10.7 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>	0
<b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>	0
<b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>	3
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	24 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	24 V

<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	24 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	24 V
<b>DROP-OUT VOLTAGE</b>	AC operated: 0.5 - 0.2 x UC, AC operated
<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>	180 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	3.1 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 2.3 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	225 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 OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V</b>	160 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	150 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	150 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V</b>	150 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	150 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	100 A

<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V</b>	65 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V</b>	65 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V</b>	65 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V</b>	65 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V</b>	50 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	150 A
<b>RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ</b>	52 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>	75 kW
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	91 kW
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	20 kW
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	22 kW
<b>RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ</b>	33 kW
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	39 kW
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	41 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	47 kW
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	48 kW
<b>RATED OPERATIONAL POWER (NEMA)</b>	93 kW

<b>RESISTANCE PER POLE</b>	0.56 mΩ
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	2.3 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>	40 ms
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	600 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A, max. Fuse, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)</b>	30/100 kA, Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	30/100 kA, Fuse, SCCR (UL/CSA) 300/600 A, Class J, max. Fuse, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA) 30 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>	160 A (480V 60Hz 3phase, 277V 60Hz 1phase) 160 A (600V 60Hz 3phase, 347V 60Hz 1phase)
<b>SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING</b>	150 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 900 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>	30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 99 A, 600 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 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) 104 A, 240 V 60 Hz 3-ph, (UL/CSA) 40 HP, 240 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)</b>	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)
<b>SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING</b>	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
<b>SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS</b>	160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
<b>CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)</b>	190 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	180 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)</b>	160 A
<b>RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ</b>	95 kW
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	110 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	96 kW
<b>ACTUATING VOLTAGE</b>	RAC 24: 24 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</b>	690 V



<b>AC, 50 HZ - MAX</b>	
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	230 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
<b>DATE:</b>



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