Specifications

Eaton 104480

Eaton Moeller® series DILMF Contactors for Semiconductor Industries acc. to SEMI F47, 380 V 400 V: 115 A, RAC 120: 100 - 120 V 50/60 Hz, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILMF contactor for semiconductor industries
CATALOG NUMBER	104480
MODEL CODE	DILMF115(RAC120)
EAN	4015081042975
PRODUCT LENGTH/DEPTH	160 mm
PRODUCT HEIGHT	170 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	2.26 kg
CERTIFICATIONS	CSA Class No.: 2411-03, 3211-04 IEC/EN 60947-4-1 CSA-C22.2 No. 60947-4-1-14 CSA UL Category Control No.: NLDX UL CSA File No.: 012528 UL 60947-4-1 UL File No.: E29096 CE
CATALOG NOTES	Also tested according to AC-3e.
GLOBAL CATALOG	104480

Powering Business Worldwide

Product specifications

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.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
10.3 DEGREE OF PROTECTION OF	Does not apply, since the entire switchgear needs to

Resources

CATALOGS	Product Range Catalog Switching and protecting motors eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf SmartWire-DT Catalog
CHARACTERISTIC CURVE	eaton-contactors-component-dilm-characteristic-curve-003.eps eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps eaton-contactors-short-time-loading-dilm-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	DA-DC-00004818.pdf DA-DC-00004781.pdf
DRAWINGS	eaton-contactors-dilm-dimensions-003.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-dilm-dimensions-011.eps eaton-general-ie-ready-dilm-contactor-standards.eps eaton-contactors-dilm-3d-drawing-013.eps
ECAD MODEL	ETN.104480.edz
INSTALLATION INSTRUCTIONS	eaton-dil-contactors-instruction-leaflet-il03407039z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CD-dil_mc80_170 DA-CS-dil_mc80_170
SYSTEM OVERVIEW	eaton-contactors-mounting-dilmf-explosion-drawing.eps

ASSEMBLIES	be evaluated.
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to be evaluated.
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to be evaluated.
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
FITTED WITH:	Built-in suppressor circuit
POLLUTION DEGREE	3
UTILIZATION CATEGORY	AC-3: Normal AC induction motors: starting, switch off during running AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching
CONNECTION	Screw terminals
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ASSIGNED MOTOR	10 HP

	eaton-contactors-circuit-breaker-dilmf-explosion-drawing.eps
WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram-003.eps

POWER AT 115/120 V, 60 HZ, 1-PHASE	
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	40 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	25 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	50 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	100 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	100 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	285 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	115 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	325 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	18.9 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	6.3 W
APPLICATION	Contactors for Semiconductor Industries acc. to SEMI F47
PRODUCT CATEGORY	Contactors
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
VOLTAGE TYPE	AC
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0

NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	100 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	100 V
DROP-OUT VOLTAGE	AC operated: 0.5 - 0.2 x UC, AC operated
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %
EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1
PICK-UP VOLTAGE	0.8 - 1.15 V AC x Uc
POWER CONSUMPTION, PICK-UP, 50 HZ	180 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
POWER CONSUMPTION, SEALING, 50 HZ	2.3 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 3.1 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	180 A, Maximum motor rating (UL/CSA)
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED OPERATIONAL CURRENT (IE) AT AC-1,	130 A

380 V, 400 V, 415 V	
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	93 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	45 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	115 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	40 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	55 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	70 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	17 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	19 kW
RATED OPERATIONAL	28 kW

POWER AT AC-4, 380/400 V, 50 HZ	
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	33 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	35 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	40 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	43 kW
RATED OPERATIONAL POWER (NEMA)	74.6 kW
RESISTANCE PER POLE	0.56 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2.3 W
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	40 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	40 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	600 A, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	30/100 kA, Fuse, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA) 30 kA, CB, SCCR (UL/CSA)
SUITABLE FOR	Also motors with efficiency class IE3 SEMI F47, Magnet systems

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	160 A (600V 60Hz 3phase, 347V 60Hz 1phase) 160 A (480V 60Hz 3phase, 277V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	690 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 115 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	75 HP, 480 V 60 Hz 3-ph, (UL/CSA) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 96 A, 480 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) 40 HP, 240 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)
SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	540 A, LRA 600 V 60 Hz 3phase; (CSA) 84 A, FLA 480 V 60 Hz 3phase; (CSA) 84 A, FLA 600 V 60 Hz 3phase; (CSA) 540 A, LRA 480 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	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)
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	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)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	160 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	142 A
CONVENTIONAL	130 A

THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	85 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	90 kW
ACTUATING VOLTAGE	RAC 120: 100 - 120 V 50/60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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