

Contactors for Semiconductor Industries acc. to SEMI F47, 380 V 400 V: 25 A, 1 NC, RAC 48: 42 - 48 V 50/60 Hz, Screw terminals



Part no. **DILMF25-01(RAC48)**
104447

General specifications	
Product name	Eaton Moeller® series DILMF contactor for semiconductor industries
Part no.	DILMF25-01(RAC48)
EAN	4015081042647
Product Length/Depth	97 millimetre
Product height	85 millimetre
Product width	45 millimetre
Product weight	0.531 kilogram
Certifications	UL 60947-4-1 IEC/EN 60947-4-1 CSA CSA-C22.2 No. 60947-4-1-14 UL File No.: E29096 CSA Class No.: 2411-03, 3211-04 UL Category Control No.: NLDX UL CE CSA File No.: 012528
Product Tradename	DILMF
Product Type	Contactor for semiconductor industries
Product Sub Type	None
Catalog Notes	Also tested according to AC-3e.
Features & Functions	
Fitted with:	Mirror contact Built-in suppressor circuit
General information	
Application	Contactors for Semiconductor Industries acc. to SEMI F47
Product category	Contactors
Resistance per pole	2.65 mΩ
Suitable for	Also motors with efficiency class IE3 SEMI F47, Magnet systems
Utilization category	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
Voltage type	AC
Climatic environmental conditions	
Altitude	Max. 2000 m
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	60 °C
Electro magnetic compatibility	
Emitted interference	According to EN 60947-1
Interference immunity	According to EN 60947-1
Electrical rating	
Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V	45 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V	25 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	25 A
Rated operational current (Ie) at AC-3, 440 V	25 A
Rated operational current (Ie) at AC-3, 500 V	25 A
Rated operational current (Ie) at AC-3, 660 V, 690 V	15 A
Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V	13 A
Rated operational current (Ie) at AC-4, 440 V	13 A
Rated operational current (Ie) at AC-4, 500 V	13 A

Rated operational current (Ie) at AC-4, 660 V, 690 V		10 A
Rated operational power at AC-3, 240 V, 50 Hz		8.5 kW
Rated operational power at AC-3, 380/400 V, 50 Hz		11 kW
Rated operational power at AC-3, 415 V, 50 Hz		14.5 kW
Rated operational power at AC-3, 440 V, 50 Hz		15.5 kW
Rated operational power at AC-3, 500 V, 50 Hz		17.5 kW
Rated operational power at AC-3, 690 V, 50 Hz		14 kW
Rated operational power at AC-4, 220/230 V, 50 Hz		3.5 kW
Rated operational power at AC-4, 240 V, 50 Hz		4 kW
Rated operational power at AC-4, 415 V, 50 Hz		6.5 kW
Rated operational power at AC-4, 440 V, 50 Hz		7 kW
Rated operational power at AC-4, 500 V, 50 Hz		8 kW
Rated operational power at AC-4, 660/690 V, 50 Hz		8.5 kW
Short-circuit rating		
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)
Short-circuit current rating (high fault at 480 V)		125/70 A, Class J, max. Fuse, SCCR (UL/CSA) 10/100 kA, Fuse, SCCR (UL/CSA) 10/65 kA, CB, SCCR (UL/CSA) 50/32 A, max. CB, SCCR (UL/CSA)
Short-circuit current rating (high fault at 600 V)		10/100 kA, Fuse, SCCR (UL/CSA) 125/100 A, Class J, max. Fuse, SCCR (UL/CSA) 10/22 kA, CB, SCCR (UL/CSA) 50/32 A, max. CB, SCCR (UL/CSA)
Conventional thermal current Ith		
Conventional thermal current Ith (1-pole, enclosed)		90 A
Conventional thermal current Ith (3-pole, enclosed)		36 A
Conventional thermal current Ith at 60°C (3-pole, open)		40 A
Conventional thermal current Ith of main contacts (1-pole, open)		100 A
Switching capacity		
Switching capacity (main contacts, general use)		40 A, Maximum motor rating (UL/CSA)
Switching capacity (auxiliary contacts, general use)		1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)		A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
Magnet system		
Drop-out voltage		AC operated: 0.5 - 0.2 x U _C , AC operated
Duty factor		100 %
Pick-up voltage		0.8 - 1.15 V AC x U _C
Power consumption, pick-up, 50 Hz		14 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz
Power consumption, sealing, 50 Hz		0.7 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz 0.8 W, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz
Rated control supply voltage (U _s) at AC, 50 Hz - min		42 V
Rated control supply voltage (U _s) at AC, 50 Hz - max		48 V
Rated control supply voltage (U _s) at AC, 60 Hz - min		42 V
Rated control supply voltage (U _s) at AC, 60 Hz - max		48 V
Rated control supply voltage (U _s) at DC - min		0 V
Rated control supply voltage (U _s) at DC - max		0 V
Switching time (AC operated, make contacts, closing delay) - max		40 ms
Switching time (AC operated, make contacts, opening delay) - max		45 ms
Motor rating		
Assigned motor power at 115/120 V, 60 Hz, 1-phase		2 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		7.5 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase		5 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase		10 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase		15 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase		20 HP
Communication		

Connection		Screw terminals
Contacts		
Number of contacts (normally closed contacts)		1
Number of auxiliary contacts (normally closed contacts)		1
Number of auxiliary contacts (normally open contacts)		0
Special purpose ratings		
Special purpose rating of ballast electrical discharge lamps		40 A (480V 60Hz 3phase, 277V 60Hz 1phase) 40 A (600V 60Hz 3phase, 347V 60Hz 1phase)
Special purpose rating of definite purpose rating		25 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 150 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
Special purpose rating of elevator control		15.2 A, 240 V 60 Hz 3-ph, (UL/CSA) 14 A, 480 V 60 Hz 3-ph, (UL/CSA) 15 HP, 600 V 60 Hz 3-ph, (UL/CSA) 5 HP, 240 V 60 Hz 3-ph, (UL/CSA) 10 HP, 480 V 60 Hz 3-ph, (UL/CSA) 11 A, 200 V 60 Hz 3-ph, (UL/CSA) 17 A, 600 V 60 Hz 3-ph, (UL/CSA) 3 HP, 200 V 60 Hz 3-ph, (UL/CSA)
Special purpose rating of refrigeration control (CSA only)		180 A, LRA 600 V 60 Hz 3phase; (CSA) 240 A, LRA 480 V 60 Hz 3phase; (CSA) 40 A, FLA 480 V 60 Hz 3phase; (CSA) 30 A, FLA 600 V 60 Hz 3phase; (CSA)
Special purpose rating of resistance air heating		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)
Special purpose rating of tungsten incandescent lamps		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)
Design verification		
Equipment heat dissipation, current-dependent Pvid		4.2 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		1.4 W
Rated operational current for specified heat dissipation (In)		25 A
Static heat dissipation, non-current-dependent Pvs		0.8 W
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 assemblies		Does not apply, since the entire switchgear needs to 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.
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.

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss13-27-37-10-03 [AAB718020])		
Rated control supply voltage AC 50 Hz	V	42 - 48

Rated control supply voltage AC 60 Hz	V	42 - 48
Rated control supply voltage DC	V	0 - 0
Voltage type for actuating		AC
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		3
Type of electrical connection of main circuit		Screw connection
Operating voltage AC 50 Hz	V	230 - 690
Operating voltage AC 60 Hz	V	230 - 690
Rated operation current I _e at AC-1, 400 V	A	45
Rated operation current I _e at AC-3, 400 V	A	25
Rated operation power at AC-3, 400 V	kW	11
Rated operation current I _e at AC-4, 400 V	A	13
Rated operation power at AC-4, 400 V	kW	6
Rated operation power NEMA	kW	11
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		1
Modular version		No
Width	mm	45
Height	mm	85
Depth	mm	97