

Part no. **DILMP20(24VDC)-PI**
199263

General specifications	
Product name	Eaton Moeller® series DILMP 4-pole contactor
Part no.	DILMP20(24VDC)-PI
EAN	4015081973477
Product Length/Depth	75 millimetre
Product height	68 millimetre
Product width	45 millimetre
Product weight	0.285 kilogram
Certifications	IEC/EN 60947 VDE 0660
Product Tradename	DILMP
Product Type	4-pole contactor
Product Sub Type	None
Catalog Notes	Also tested according to AC-3e.
Features & Functions	
Fitted with:	Varistor suppressor circuit
General information	
Application	Contactors for 4 pole electric consumers
Degree of protection	IP20
Lifespan, mechanical	10,000,000 Operations (DC operated)
Operating frequency	5000 mechanical Operations/h (DC operated)
Overvoltage category	III
Pollution degree	3
Product category	Contactors
Protection	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)	6000 V AC
Residual current	1 mA (with actuation of A1 - A2 by the electronics with "0" signal)
Resistance per pole	2.5 mΩ
Utilization category	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running
Voltage type	DC
Ambient conditions, mechanical	
Shock resistance	7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
Climatic environmental conditions	
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	60 °C
Ambient operating temperature (enclosed) - min	25 °C
Ambient operating temperature (enclosed) - max	40 °C
Ambient storage temperature - min	40 °C
Ambient storage temperature - max	80 °C
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-3
Terminal capacities	
Terminal capacity (flexible with ferrule)	1 x (0.5 - 1.5) mm ² , Control circuit cables 1 x (0.5 - 1.5) mm ² , Main cables 2 x (0.5 - 1.5) mm ² , Main cables
Terminal capacity (flexible)	2 x (0.5 - 2.5) mm ²

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Terminal capacity (solid)		1 x (0.5 - 0.25) mm ² 1 x (0.5 - 2.5) mm ² 2 x (0.5 - 2.5) mm ² , Control circuit cables
Terminal capacity (solid/stranded AWG)		20 - 14
Stripping length (main cable)		10 mm
Stripping length (control circuit cable)		10 mm
Screwdriver size		3 x 0.5 mm, Terminal screw 3.0 x 0.5 mm, Terminal screw
Electrical rating		
Rated breaking capacity at 220/230 V		120 A
Rated breaking capacity at 380/400 V		120 A
Rated breaking capacity at 500 V		100 A
Rated breaking capacity at 660/690 V		70 A
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		12 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V		12 A
Rated operational current (Ie) at AC-3, 440 V		12 A
Rated operational current (Ie) at AC-3, 500 V		10 A
Rated operational current (Ie) at AC-3, 660 V, 690 V		7 A
Rated operational current (Ie) at DC-1, 60 V		22 A
Rated operational current (Ie) at DC-1, 110 V		22 A
Rated operational current (Ie) at DC-1, 220 V		6 A
Rated insulation voltage (Ui)		690 V
Rated making capacity up to 690 V (cos phi to IEC/EN 60947)		144 A
Rated operational power at AC-1, 220/230 V, 50 Hz		8 kW
Rated operational power at AC-1, 240 V, 50 Hz		9 kW
Rated operational power at AC-1, 380/400 V, 50 Hz		14 kW
Rated operational power at AC-1, 415 V, 50 Hz		15 kW
Rated operational power at AC-1, 440 V, 50 Hz		16 kW
Rated operational power at AC-1, 500 V, 50 Hz		18 kW
Rated operational power at AC-1, 690 V, 50 Hz		24 kW
Rated operational power at AC-3, 240 V, 50 Hz		4 kW
Rated operational power at AC-3, 380/400 V, 50 Hz		5.5 kW
Rated operational power at AC-3, 415 V, 50 Hz		7 kW
Rated operational voltage (Ue) at AC - max		690 V
Short-circuit rating		
Short-circuit current rating (basic rating)		45 A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) 60 A, max. CB, SCCR (UL/CSA)
Short-circuit current rating (high fault at 480 V)		30 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5, max. Fuse, SCCR (UL/CSA)
Short-circuit current rating (high fault at 600 V)		25 A, Class RK5, max. Fuse, SCCR (UL/CSA) 30 kA, Fuse, SCCR (UL/CSA)
Short-circuit protection rating (type 1 coordination) at 400 V		35 A gG/gL
Short-circuit protection rating (type 1 coordination) at 690 V		25 A gG/gL
Short-circuit protection rating (type 2 coordination) at 400 V		20 A gG/gL
Short-circuit protection rating (type 2 coordination) at 690 V		20 A gG/gL
Conventional thermal current Ith		
Conventional thermal current Ith (1-pole, enclosed)		54 A
Conventional thermal current Ith (3-pole, enclosed)		18 A
Conventional thermal current Ith at 55°C (3-pole, open)		20.5 A
Conventional thermal current Ith of main contacts (1-pole, open)		60 A
Switching capacity		
Switching capacity (main contacts, general use)		20 A, Maximum motor rating (UL/CSA)
Magnet system		
Arcing time		10 ms

Duty factor		100 %
Pick-up voltage		0.8 - 1.1 V AC x Uc
Power consumption (pick-up) at DC		4.5 W
Power consumption (sealing) at DC		4.5 W
Rated control supply voltage (Us) at AC, 50 Hz - min		0 V
Rated control supply voltage (Us) at AC, 50 Hz - max		0 V
Rated control supply voltage (Us) at AC, 60 Hz - min		0 V
Rated control supply voltage (Us) at AC, 60 Hz - max		0 V
Rated control supply voltage (Us) at DC - min		24 V
Rated control supply voltage (Us) at DC - max		24 V
Switching time (DC operated, make contacts, closing delay) - max		31 ms
Switching time (DC operated, make contacts, opening delay) - max		12 ms
Motor rating		
Assigned motor power at 115/120 V, 60 Hz, 1-phase		1 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		5 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase		2 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase		5 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase		10 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase		10 HP
Communication		
Connection		Push in terminals
Connection to SmartWire-DT		In conjunction with DIL-SWD SmartWire DT contactor module Yes
Contacts		
Number of auxiliary contacts (normally closed contacts)		0
Number of auxiliary contacts (normally open contacts)		0
Safety		
Safe isolation		400 V AC, Between the contacts, According to EN 61140 400 V AC, Between coil and contacts, According to EN 61140
Special purpose ratings		
Special purpose rating of ballast electrical discharge lamps		20 A (480V 60Hz 3phase, 277V 60Hz 1phase) 20 A (600V 60Hz 3phase, 347V 60Hz 1phase)
Special purpose rating of definite purpose rating		15 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 90 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
Special purpose rating of elevator control		9 A, 600 V 60 Hz 3-ph, (UL/CSA) 11 A, 480 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA) 3 HP, 240 V 60 Hz 3-ph, (UL/CSA) 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 600 V 60 Hz 3-ph, (UL/CSA) 9.6 A, 240 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA)
Special purpose rating of resistance air heating		20 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 20 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
Special purpose rating of tungsten incandescent lamps		14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
Design verification		
Heat dissipation capacity Pdiss		0 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 8.0

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@ss10.0.1-27-37-10-03 [AAB718015])		
Rated control supply voltage U_s at AC 50HZ	V	0 - 0
Rated control supply voltage U_s at AC 60HZ	V	0 - 0
Rated control supply voltage U_s at DC	V	24 - 24
Voltage type for actuating		DC
Rated operation current I_e at AC-1, 400 V	A	22
Rated operation current I_e at AC-3, 400 V	A	12
Rated operation power at AC-3, 400 V	kW	5.5
Rated operation current I_e at AC-4, 400 V	A	10
Rated operation power at AC-4, 400 V	kW	4.5
Rated operation power NEMA	kW	0
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Type of electrical connection of main circuit		Spring clamp connection
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		4