

Contactor, 4 pole, 22 A, 12 V DC, DC operation

Part no. **DILMP20(12VDC)**
276984

General specifications	
Product name	Eaton Moeller® series DILMP 4-pole contactor
Part no.	DILMP20(12VDC)
EAN	4015082769840
Product Length/Depth	75 millimetre
Product height	68 millimetre
Product width	45 millimetre
Product weight	0.294 kilogram
Certifications	CSA File No.: 012528 IEC/EN 60947 CSA-C22.2 No. 60947-4-1-14 CSA Class No.: 2411-03, 3211-04 UL CE UL Category Control No.: NLDX IEC/EN 60947-4-1 CSA UL File No.: E29096 VDE 0660 UL 60947-4-1
Product Tradename	DILMP
Product Type	4-pole contactor
Product Sub Type	None
Catalog Notes	Contacts according to EN 50012
General information	
Application	Contactors for 4 pole electric consumers
Degree of protection	IP20
Lifespan, mechanical	10,000,000 Operations (DC operated) 10,000,000 Operations (AC operated)
Operating frequency	5000 mechanical Operations/h (DC operated) 5000 mechanical Operations/h (AC 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)	8000 V AC
Residual current	1 mA (with actuation of A1 - A2 by the electronics with "0" signal)
Resistance per pole	3.5 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 5 g, N/C 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
Climatic environmental conditions	
Altitude	Max. 2000 m
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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Terminal capacities	
Terminal capacity (flexible with ferrule)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ²
Terminal capacity (solid)	2 x (0.75 - 2.5) mm ² 1 x (0.75 - 4) mm ²
Terminal capacity (solid/stranded AWG)	18 - 14
Stripping length (main cable)	10 mm
Stripping length (control circuit cable)	10 mm
Screw size	M3.5, Terminal screw
Screwdriver size	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
Tightening torque	1.2 Nm, Screw terminals
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 power at AC-3, 440 V, 50 Hz	7.5 kW
Rated operational power at AC-3, 500 V, 50 Hz	7 kW
Rated operational power at AC-3, 690 V, 50 Hz	6.5 kW
Rated operational voltage (Ue) at AC - max	690 V
Short-circuit rating	
Short-circuit current rating (basic rating)	60 A, max. CB, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) 45 A, max. Fuse, 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)	30 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5, max. 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 I _{th} (1-pole, enclosed)	54 A
Conventional thermal current I _{th} (3-pole, enclosed)	18 A
Conventional thermal current I _{th} at 55°C (3-pole, open)	20.5 A
Conventional thermal current I _{th} at 60°C (3-pole, open)	20 A
Conventional thermal current I _{th} 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
Drop-out voltage	0.2 - 0.6 x U _C , DC operated
Duty factor	100 %
Pick-up voltage	0.8 - 1.1 V AC/DC x U _s 0.8 - 1.1 V DC x U _c
Power consumption (pick-up) at DC	4.5 W
Power consumption (sealing) at DC	4.5 W
Rated control supply voltage (U _s) at AC, 50 Hz - min	0 V
Rated control supply voltage (U _s) at AC, 50 Hz - max	0 V
Rated control supply voltage (U _s) at AC, 60 Hz - min	0 V
Rated control supply voltage (U _s) at AC, 60 Hz - max	0 V
Rated control supply voltage (U _s) at DC - min	12 V
Rated control supply voltage (U _s) at DC - max	12 V
Switching time (DC operated, make contacts, closing delay) - max	31 ms
Switching time (DC operated, make contacts, opening delay) - max	12 ms
Communication	
Connection	Screw terminals
Connection to SmartWire-DT	No
Contacts	
Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Safety	
Safe isolation	400 V AC, Between coil and contacts, According to EN 61140 400 V AC, Between the 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 elevator control	6.1 A, 600 V 60 Hz 3-ph, (UL/CSA) 5 HP, 600 V 60 Hz 3-ph, (UL/CSA)
Special purpose rating of refrigeration control (CSA only)	60 A, LRA 480 V 60 Hz 3phase; (CSA) 10 A, FLA 480 V 60 Hz 3phase; (CSA) 60 A, LRA 600 V 60 Hz 3phase; (CSA) 10 A, FLA 600 V 60 Hz 3phase; (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	
Equipment heat dissipation, current-dependent P _{vid}	5.1 W
Heat dissipation capacity P _{diss}	0 W
Heat dissipation per pole, current-dependent P _{vid}	1.7 W
Rated operational current for specified heat dissipation (I _n)	22 A
Static heat dissipation, non-current-dependent P _{vs}	4.5 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	0 - 0
Rated control supply voltage AC 60 Hz	V	0 - 0
Rated control supply voltage DC	V	12 - 12
Voltage type for actuating		DC
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		4
Type of electrical connection of main circuit		Screw connection
Operating voltage AC 50 Hz	V	24 - 690
Operating voltage AC 60 Hz	V	24 - 690
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
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Modular version		No
Width	mm	45
Height	mm	68
Depth	mm	75