

**Contactor, 12 V DC, 3 pole, 380 V 400 V, 4 kW, Contacts N/C = Normally closed= 1 NC, Screw terminals, DC operation**

**Part no. DILEM-01-G(12VDC)  
079642**

<b>General specifications</b>		
Product name		Eaton Moeller® series DILEM Mini contactor
Part no.		DILEM-01-G(12VDC)
EAN		4015080796428
Product Length/Depth		54 millimetre
Product height		58 millimetre
Product width		45 millimetre
Product weight		0.206 kilogram
Certifications		IEC/EN 60947 VDE 0660 UL File No.: E29096 CSA File No.: 012528 UL UL Category Control No.: NLDX CSA-C22.2 No. 14-05 CE CSA IEC/EN 60947-4-1 UL 508 CSA Class No.: 3211-04
Product Tradename		DILEM
Product Type		Mini contactor
Product Sub Type		None
Catalog Notes		Also tested according to AC-3e.
<b>Features &amp; Functions</b>		
Features		Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
Fitted with:		Auxiliary contact
<b>General information</b>		
Application		Mini Contactors for Motors and Resistive Loads
Degree of protection		IP20
Lifespan, mechanical		150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A) 200,000 Operations (at 240 V, AC-15) 20,000,000 Operations
Mounting position		As required (except vertical with terminals A1/A2 at the bottom)
Operating frequency		9000 mechanical Operations/h
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
Shock resistance		10 g, N/O main contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/O main contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/C auxiliary contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 20 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 20 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
Suitable for		Also motors with efficiency class IE3
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		DC
<b>Climatic environmental conditions</b>		

Ambient operating temperature - min			-25 °C
Ambient operating temperature - max			50 °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
<b>Terminal capacities</b>			
Terminal capacity (flexible with ferrule)			2 x (0.75 - 1.5) mm <sup>2</sup> 1 x (0.75 - 1.5) mm <sup>2</sup>
Terminal capacity (solid)			1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 2.5) mm <sup>2</sup>
Terminal capacity (solid/stranded AWG)			18 - 14
Stripping length (main cable)			8 mm
Screw size			M3.5, Terminal screw
Screwdriver size			0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
Tightening torque			1.2 Nm, Screw terminals
<b>Electrical rating</b>			
Rated breaking capacity at 220/230 V			90 A
Rated breaking capacity at 380/400 V			90 A
Rated breaking capacity at 500 V			64 A
Rated operational power at AC-3, 240 V, 50 Hz			2.5 kW
Rated operational power at AC-3, 380/400 V, 50 Hz			4 kW
Rated operational power at AC-3, 415 V, 50 Hz			4.3 kW
Rated breaking capacity at 660/690 V			42 A
Rated making capacity up to 440 V (cos phi to IEC/EN 60947)			110 A
Rated operational power at AC-4, 220/230 V, 50 Hz			1.5 kW
Rated operational power at AC-4, 240 V, 50 Hz			1.8 kW
Rated operational power at AC-4, 415 V, 50 Hz			3.1 kW
Rated operational power at AC-4, 440 V, 50 Hz			3.3 kW
Rated operational power at AC-4, 500 V, 50 Hz			3 kW
Rated operational power at AC-4, 660/690 V, 50 Hz			3 kW
Rated operational voltage (Ue) at AC - max			690 V
Rated insulation voltage (Ui)			690 V
Rated operational current (Ie)			2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 1.5 A at 100 V, DC L/R ≤ 15 ms (with 3 contacts in series)
Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V			22 A
Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V			6 A
Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V			3 A
Rated operational current (Ie) at AC-15, 500 V			1.5 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V			9 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V			9 A
Rated operational current (Ie) at AC-3, 440 V			9 A
Rated operational current (Ie) at AC-3, 500 V			6.4 A
Rated operational current (Ie) at AC-3, 660 V, 690 V			4.8 A
Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V			6.6 A
Rated operational current (Ie) at AC-4, 440 V			6.6 A
Rated operational current (Ie) at AC-4, 500 V			5 A
Rated operational current (Ie) at AC-4, 660 V, 690 V			3.4 A
Rated operational current (Ie) at DC-1, 110 V			20 A
Rated operational current (Ie) at DC-1, 12 V			20 A
Rated operational current (Ie) at DC-1, 220 V			20 A
Rated operational current (Ie) at DC-1, 24 V			20 A
Rated operational current (Ie) at DC-1, 60 V			20 A

Safe isolation			300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between the contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140 300 V AC, Between coil and contacts, According to EN 61140
<b>Short-circuit rating</b>			
Short-circuit current rating (basic rating)			5 kA, SCCR (UL/CSA) 45 A, max. Fuse, SCCR (UL/CSA)
Short-circuit protection			10 A fast, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding PKZM0-4, Maximum overcurrent protective device, Short-circuit protection only, Auxiliary contacts, Short-circuit rating without welding 6 A gG/gL, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding
Short-circuit protection rating (type 1 coordination) at 500 V			20 A gG/gL
Short-circuit protection rating (type 2 coordination) at 500 V			10 A gG/gL
<b>Conventional thermal current Ith</b>			
Conventional thermal current Ith (1-pole, enclosed)			40 A
Conventional thermal current Ith (3-pole, enclosed)			16 A
Conventional thermal current Ith at 55°C (3-pole, open)			19 A
Conventional thermal current Ith of auxiliary contacts (1-pole, open)			10 A
Conventional thermal current Ith of main contacts (1-pole, open)			50 A
<b>Switching capacity</b>			
Switching capacity (main contacts, general use)			15 A, Maximum motor rating (UL/CSA)
Switching capacity (auxiliary contacts, general use)			10 A, 600 V AC, (UL/CSA) 0.5 A, 250 V DC, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)			A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
<b>Magnet system</b>			
Arcing time			12 ms at 690 V AC
Changeover time			40 - 50 ms
Duty factor			100 %
Pick-up voltage			0.8 - 1.1 V DC x U <sub>c</sub>
Power consumption			Smoothed DC voltage or three-phase bridge rectifier 2.3 VA/W at DC (Pick-up/Sealing power)
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			12 V
Rated control supply voltage (Us) at DC - max			12 V
Switching time (AC operated, N/O, with auxiliary contact module, closing delay)			70 ms
Switching time (DC operated, make contacts, closing delay) - min			26 ms
Switching time (DC operated, make contacts, closing delay) - max			35 ms
Switching time (DC operated, make contacts, opening delay) - min			15 ms
Switching time (DC operated, make contacts, opening delay) - max			25 ms
<b>Motor rating</b>			
Assigned motor power at 115/120 V, 60 Hz, 1-phase			0.5 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase			2 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase			1.5 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase			3 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase			5 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase			5 HP
<b>Contacts</b>			
Control circuit reliability			< 2 λ, < 1 failure at 100,000,000 Operations (at U# = 24 V DC, Umin = 17 V, Imin = 5.4 mA)
Number of auxiliary contacts (normally closed contacts)			1
Number of auxiliary contacts (normally open contacts)			0
Number of contacts (normally closed contacts)			1
<b>Design verification</b>			
Equipment heat dissipation, current-dependent Pvid			0.9 W

Heat dissipation capacity P <sub>diss</sub>		0 W
Heat dissipation per pole, current-dependent P <sub>vid</sub>		0.3 W
Rated operational current for specified heat dissipation (I <sub>n</sub> )		9 A
Static heat dissipation, non-current-dependent P <sub>vs</sub>		2.3 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 Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	12 - 12
Voltage type for actuating		DC
Rated operation current Ie at AC-1, 400 V	A	22
Rated operation current Ie at AC-3, 400 V	A	9
Rated operation power at AC-3, 400 V	kW	4
Rated operation current Ie at AC-4, 400 V	A	6.6
Rated operation power at AC-4, 400 V	kW	3
Rated operation power NEMA	kW	3.7
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		1
Type of electrical connection of main circuit		Screw connection
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		3