

Contactor, 110 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(110VDC)
010136**

General specifications		
Product name		Eaton Moeller® series DILEM Mini contactor
Part no.		DILEM-01-G(110VDC)
EAN		4015080101369
Product Length/Depth		54 millimetre
Product height		58 millimetre
Product width		45 millimetre
Product weight		0.206 kilogram
Certifications		IEC/EN 60947 UL IEC/EN 60947-4-1 UL 508 CSA CE CSA-C22.2 No. 14-05 UL File No.: E29096 CSA Class No.: 3211-04 UL Category Control No.: NLDX CSA File No.: 012528 VDE 0660
Product Tradename		DILEM
Product Type		Mini contactor
Product Sub Type		None
Catalog Notes		Also tested according to AC-3e.
Features & Functions		
Features		Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
Fitted with:		Auxiliary contact
General information		
Application		Mini Contactors for Motors and Resistive Loads
Degree of protection		IP20
Lifespan, mechanical		20,000,000 Operations 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)
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		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 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/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-4: Normal AC induction motors: starting, plugging, reversing, inching AC-3: Normal AC induction motors: starting, switch off during running AC-1: Non-inductive or slightly inductive loads, resistance furnaces
Voltage type		DC
Climatic environmental conditions		

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
Terminal capacities			
Terminal capacity (flexible with ferrule)			2 x (0.75 - 1.5) mm ² 1 x (0.75 - 1.5) mm ²
Terminal capacity (solid)			2 x (0.75 - 2.5) mm ² 1 x (0.75 - 2.5) mm ²
Terminal capacity (solid/stranded AWG)			18 - 14
Stripping length (main cable)			8 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			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)			0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 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) 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 coil and contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140
Short-circuit rating			
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 6 A gG/gL, 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
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
Conventional thermal current Ith			
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
Switching capacity			
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)			P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
Magnet system			
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 _c
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			110 V
Rated control supply voltage (Us) at DC - max			110 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
Motor rating			
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
Contacts			
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
Design verification			
Equipment heat dissipation, current-dependent Pvid			0.9 W

Heat dissipation capacity P _{diss}			0 W
Heat dissipation per pole, current-dependent P _{vid}			0.3 W
Rated operational current for specified heat dissipation (I _n)			9 A
Static heat dissipation, non-current-dependent P _{vs}			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 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		110 - 110
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		9
Rated operation power at AC-3, 400 V	kW		4
Rated operation current I _e 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