

Contactor, 24 V DC, 3 pole, 380 V 400 V, 3 kW, Contacts N/C = Normally closed= 1 NC, Screw terminals, DC operation

Part no. DILEEM-01-G(24VDC)
051650
EL Number 4110180
(Norway)

General specifications			
Product name			Eaton Moeller® series DILEEM Mini contactor
Part no.			DILEEM-01-G(24VDC)
EAN			4015080516507
Product Length/Depth			54 millimetre
Product height			58 millimetre
Product width			45 millimetre
Product weight			0.206 kilogram
Certifications			UL UL 508 UL File No.: E29096 CSA File No.: 012528 IEC/EN 60947 VDE 0660 IEC/EN 60947-4-1 CSA-C22.2 No. 14-05 CSA CSA Class No.: 3211-04 UL Category Control No.: NLDX CE
Product Tradename			DILEEM
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			200,000 Operations (at 240 V, AC-15) 150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A) 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			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 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 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 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
Suitable for			Also motors with efficiency class IE3
Utilization category			AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching 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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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)		1 x (0.75 - 2.5) mm ² 2 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		1.8 kW
Rated operational power at AC-3, 380/400 V, 50 Hz		3 kW
Rated operational power at AC-3, 415 V, 50 Hz		3.1 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		1.1 kW
Rated operational power at AC-4, 240 V, 50 Hz		1.3 kW
Rated operational power at AC-4, 415 V, 50 Hz		2.3 kW
Rated operational power at AC-4, 440 V, 50 Hz		2.4 kW
Rated operational power at AC-4, 500 V, 50 Hz		2.2 kW
Rated operational power at AC-4, 660/690 V, 50 Hz		2.2 kW
Rated operational voltage (Ue) at AC - max		690 V
Rated insulation voltage (Ui)		690 V
Rated operational current (Ie)		1.5 A at 100 V, DC L/R ≤ 15 ms (with 3 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) 2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 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		6.6 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V		6.6 A
Rated operational current (Ie) at AC-3, 440 V		6.6 A
Rated operational current (Ie) at AC-3, 500 V		5 A
Rated operational current (Ie) at AC-3, 660 V, 690 V		3.5 A
Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V		5 A
Rated operational current (Ie) at AC-4, 440 V		5 A
Rated operational current (Ie) at AC-4, 500 V		3.7 A
Rated operational current (Ie) at AC-4, 660 V, 690 V		2.9 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 contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140 300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between the contacts, According to EN 61140
Short-circuit rating		
Short-circuit current rating (basic rating)		45 A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA)
Short-circuit protection		PKZM0-4, Maximum overcurrent protective device, Short-circuit protection only, Auxiliary contacts, Short-circuit rating without welding 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
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)		0.5 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (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 Uc
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		24 V
Rated control supply voltage (Us) at DC - max		24 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		0.25 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		1.5 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase		1 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase		2 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase		3 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase		3 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
Design verification		
Equipment heat dissipation, current-dependent Pvid		0.6 W

Heat dissipation capacity P _{diss}			0 W
Heat dissipation per pole, current-dependent P _{vid}			0.2 W
Rated operational current for specified heat dissipation (I _n)			6.6 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 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		24 - 24
Voltage type for actuating			DC
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		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		6.6
Rated operation power at AC-3, 400 V	kW		3
Rated operation current I _e at AC-4, 400 V	A		5
Rated operation power at AC-4, 400 V	kW		2.2
Rated operation power NEMA	kW		2.2
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		58
Depth	mm		54