DATASHEET - DILEM-01(24V50HZ)

Contactor, 24 V 50 Hz, 3 pole, 380 V 400 V, 4 kW, Contacts N/C = Normally closed= 1 NC, Screw terminals, AC operation

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Part no.   **DILEM-01(24V50HZ)**
                    010086

Product name		Eaton Moeller® series DILEM Mini contactor
Part no.		DILEM-01(24V50HZ)
EAN		4015080100867
Product Length/Depth		52 millimetre
Product height		58 millimetre
Product width		45 millimetre
Product weight		0.17 kilogram
Certifications		IEC/EN 60947-4-1 CSA-C22.2 No. 14-05 IEC/EN 60947 UL Category Control No.: NLDX UL 508 CSA Class No.: 3211-04 UL UL File No.: E29096 CSA File No.: 012528 VDE 0660 CE CSA
Product Tradename		DILEM
Product Type		Mini contactor
Product Sub Type		None
Public Consumption		Yes
Product Family Description		ES-PMCC-ICP-Eaton DILE Mini contactors
Globally Marketable		Yes

Features		Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
Fitted with:		Auxiliary contact

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) 10,000,000 Operations 7,000,000 Operations (Coil 50/60 Hz)
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/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/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/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/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-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		AC

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 capacity (flexible with ferrule)		2 x (0.75 - 1.5) mm² 1 x (0.75 - 1.5) mm²
Terminal capacity (solid)		1 x (0.75 - 2.5) mm² 2 x (0.75 - 2.5) mm²
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

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) 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) 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		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 contacts, According to EN 61140 300 V AC, Between the contacts, According to EN 61140 300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140

Short-circuit current rating (basic rating)		5 kA, SCCR (UL/CSA) 45 A, max. Fuse, 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 (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 (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)

Arcing time		12 ms at 690 V AC
Changeover time		16 - 21 ms
Duty factor		100 %
Pick-up voltage		0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) 1.1 V AC x Uc (voltage tolerance - dual frequency coil 50/60 Hz)
Power consumption, pick-up, 50 Hz		25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, pick-up, 60 Hz		22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 50 Hz		1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 4.6 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Power consumption, sealing, 60 Hz		1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
Rated control supply voltage (Us) at AC, 50 Hz - min		24 V
Rated control supply voltage (Us) at AC, 50 Hz - max		24 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		0 V
Rated control supply voltage (Us) at DC - max		0 V
Switching time (AC operated, make contacts, closing delay) - min		14 ms
Switching time (AC operated, make contacts, closing delay) - max		21 ms
Switching time (AC operated, make contacts, opening delay) - min		8 ms
Switching time (AC operated, make contacts, opening delay) - max		18 ms
Switching time (AC operated, N/O, with auxiliary contact module, closing delay)		45 ms

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

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

Equipment heat dissipation, current-dependent Pvid		1.2 W
Heat dissipation capacity Pdiss		0 W
Heat dissipation per pole, current-dependent Pvid		0.4 W
Rated operational current for specified heat dissipation (In)		9 A
Static heat dissipation, non-current-dependent Pvs		1.8 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	24 - 24
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
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