



Contactor, 3 pole, 380 V 400 V 37 kW, 24 V 50/60 Hz, AC operation, Screw terminals



Part no. DILM80(24V50/60HZ)
239406
EL Number 4134049
(Norway)

General specifications		
Product name		Eaton Moeller® series DILM contactor
Part no.		DILM80(24V50/60HZ)
EAN		4015082394066
Product Length/Depth		160 millimetre
Product height		170 millimetre
Product width		90 millimetre
Product weight		2.18 kilogram
Certifications		IEC/EN 60947 UL 60947-4-1 CSA File No.: 012528 IEC/EN 60947-4-1 CSA Class No.: 2411-03, 3211-04 UL File No.: E29096 UL Category Control No.: NLDX UL VDE 0660 CSA CE CSA-C22.2 No. 60947-4-1-14
Product Tradename		DILM
Product Type		Contactor
Product Sub Type		None
Catalog Notes		Contacts according to EN 50012
General information		
Application		Contactors for Motors
Connection		Screw terminals
Degree of protection		IP00
Frame size		FS4
Lifespan, mechanical		7,000,000 Operations (Coil 50/60 Hz) 10,000,000 Operations (AC operated)
Operating frequency		3600 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		0.6 mΩ
Suitable for		Also motors with efficiency class IE3
Utilization category		AC-3: Normal AC induction motors: starting, switch off during running AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching
Voltage type		AC
Ambient conditions, mechanical		
Shock resistance		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 when tabletop-mounted, Half-sinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

			7 g, N/O auxiliary 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
Electro magnetic compatibility			
Emitted interference			According to EN 60947-1
Interference immunity			According to EN 60947-1
Terminal capacities			
Terminal capacity (copper band)			2 x (6 x 16 x 0.8) mm (Number of segments x width x thickness), Main cables
Terminal capacity (flexible with ferrule)			2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (10 - 70) mm ² , Main cables 2 x (10 - 50) mm ² , Main cables
Terminal capacity (solid)			2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 4) mm ² , Control circuit cables
Terminal capacity (solid/stranded AWG)			Single 8...3/0, double 8...2/0, Main cables 18 - 14, Control circuit cables
Terminal capacity (stranded)			1 x (16 - 70) mm ² , Main cables 2 x (16 - 50) mm ² , Main cables
Stripping length (main cable)			24 mm
Stripping length (control circuit cable)			10 mm
Screw size			M3.5, Terminal screw, Control circuit cables M10, Terminal screw, Main cables 5 mm AF, Hexagon socket-head spanner, Terminal screw, Main cables
Screwdriver size			0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver 2, Terminal screw, Control circuit cables, Pozidriv screwdriver
Tightening torque			1.2 Nm, Screw terminals, Control circuit cables 14 Nm, Screw terminals, Main cables
Electrical rating			
Rated breaking capacity at 220/230 V			800 A
Rated breaking capacity at 380/400 V			800 A
Rated breaking capacity at 500 V			800 A
Rated breaking capacity at 660/690 V			650 A
Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V			110 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V			80 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V			80 A
Rated operational current (Ie) at AC-3, 440 V			80 A
Rated operational current (Ie) at AC-3, 500 V			80 A
Rated operational current (Ie) at AC-3, 660 V, 690 V			65 A
Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V			40 A
Rated operational current (Ie) at AC-4, 440 V			40 A
Rated operational current (Ie) at AC-4, 500 V			40 A
Rated operational current (Ie) at AC-4, 660 V, 690 V			27 A
Rated operational current (Ie) at DC-1, 60 V			110 A
Rated operational current (Ie) at DC-1, 110 V			110 A
Rated operational current (Ie) at DC-1, 220 V			70 A
Rated insulation voltage (Ui)			690 V
Rated making capacity up to 690 V (cos phi to IEC/EN 60947)			1120 A
Rated operational power at AC-3, 240 V, 50 Hz			27.5 kW
Rated operational power at AC-3, 380/400 V, 50 Hz			37 kW
Rated operational power at AC-3, 415 V, 50 Hz			48 kW
Rated operational power at AC-3, 440 V, 50 Hz			51 kW

Rated operational power at AC-3, 500 V, 50 Hz		58 kW
Rated operational power at AC-3, 690 V, 50 Hz		63 kW
Rated operational power at AC-4, 220/230 V, 50 Hz		11.5 kW
Rated operational power at AC-4, 240 V, 50 Hz		13 kW
Rated operational power at AC-4, 415 V, 50 Hz		24 kW
Rated operational power at AC-4, 440 V, 50 Hz		25 kW
Rated operational power at AC-4, 500 V, 50 Hz		29 kW
Rated operational power at AC-4, 660/690 V, 50 Hz		26 kW
Rated operational voltage (Ue) at AC - max		690 V
Short-circuit rating		
Short-circuit current rating (basic rating)		600 A, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA)
Short-circuit current rating (high fault at 480 V)		30/100 kA, Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA)
Short-circuit current rating (high fault at 600 V)		30 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA)
Short-circuit protection rating (type 1 coordination) at 400 V		250 A gG/gL
Short-circuit protection rating (type 1 coordination) at 690 V		200 A gG/gL
Short-circuit protection rating (type 2 coordination) at 400 V		160 A gG/gL
Short-circuit protection rating (type 2 coordination) at 690 V		160 A gG/gL
Conventional thermal current Ith		
Conventional thermal current ith (1-pole, enclosed)		200 A
Conventional thermal current ith (3-pole, enclosed)		80 A
Conventional thermal current ith at 55°C (3-pole, open)		94 A
Conventional thermal current ith at 60°C (3-pole, open)		90 A
Conventional thermal current ith of main contacts (1-pole, open)		225 A
Switching capacity		
Switching capacity (main contacts, general use)		125 A, Maximum motor rating (UL/CSA)
Magnet system		
Arcing time		15 ms
Drop-out voltage		AC operated: 0.6 - 0.3 x UC, AC operated
Duty factor		100 %
Pick-up voltage		0.8 - 1.1 V AC x Uc
Power consumption, pick-up, 50 Hz		328 VA, Dual-frequency coil in a cold state and 1.0 x Us 372 VA, Dual-frequency coil in a cold state and 1.0 x Us
Power consumption, pick-up, 60 Hz		372 VA, Dual-frequency coil in a cold state and 1.0 x Us 328 VA, Dual-frequency coil in a cold state and 1.0 x Us
Power consumption, sealing, 50 Hz		5.8 W, Dual-frequency coil in a cold state and 1.0 x Us
Power consumption, sealing, 60 Hz		22.6 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 5.8 W, Dual-frequency coil in a cold state and 1.0 x Us 37.1 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 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		24 V
Rated control supply voltage (Us) at AC, 60 Hz - max		24 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		20 ms
Switching time (AC operated, make contacts, opening delay) - min		9 ms
Switching time (AC operated, make contacts, opening delay) - max		14 ms
Motor rating		
Assigned motor power at 115/120 V, 60 Hz, 1-phase		7.5 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		25 HP

Assigned motor power at 230/240 V, 60 Hz, 1-phase			15 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase			30 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase			60 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase			75 HP
Communication			
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			690 V AC, Between the contacts, According to EN 61140 690 V AC, Between coil and contacts, According to EN 61140
Special purpose ratings			
Special purpose rating of ballast electrical discharge lamps			100 A (600V 60Hz 3phase, 347V 60Hz 1phase) 100 A (480V 60Hz 3phase, 277V 60Hz 1phase)
Special purpose rating of definite purpose rating			480 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 80 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
Special purpose rating of elevator control			50 HP, 480 V 60 Hz 3-ph, (UL/CSA) 60 HP, 600 V 60 Hz 3-ph, (UL/CSA) 62 A, 600 V 60 Hz 3-ph, (UL/CSA) 62.1 A, 200 V 60 Hz 3-ph, (UL/CSA) 20 HP, 200 V 60 Hz 3-ph, (UL/CSA) 68 A, 240 V 60 Hz 3-ph, (UL/CSA) 65 A, 480 V 60 Hz 3-ph, (UL/CSA) 25 HP, 240 V 60 Hz 3-ph, (UL/CSA)
Special purpose rating of refrigeration control (CSA only)			70 A, FLA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 480 V 60 Hz 3phase; (CSA) 420 A, LRA 600 V 60 Hz 3phase; (CSA)
Special purpose rating of resistance air heating			100 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 100 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
Special purpose rating of tungsten incandescent lamps			100 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 100 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
Design verification			
Equipment heat dissipation, current-dependent Pvid			9 W
Heat dissipation capacity Pdiss			0 W
Heat dissipation per pole, current-dependent Pvid			3 W
Rated operational current for specified heat dissipation (In)			80 A
Static heat dissipation, non-current-dependent Pvs			5.8 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.
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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	24 - 24	
Rated control supply voltage AC 60 Hz	V	24 - 24	
Rated control supply voltage DC	V	0 - 0	
Voltage type for actuating		AC	
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	230 - 690	
Operating voltage AC 60 Hz	V	230 - 690	
Rated operation current Ie at AC-1, 400 V	A	110	
Rated operation current Ie at AC-3, 400 V	A	80	
Rated operation power at AC-3, 400 V	kW	37	
Rated operation current Ie at AC-4, 400 V	A	40	
Rated operation power at AC-4, 400 V	kW	20	
Rated operation power NEMA	kW	44.7	
Number of auxiliary contacts as normally open contact		0	
Number of auxiliary contacts as normally closed contact		0	
Modular version		No	
Width	mm	90	
Height	mm	170	
Depth	mm	160	