DATASHEET - DILM185A/22(RAC240)

Contactor, 380 V 400 V 90 kW, 2 N/O, 2 NC, RAC 240: 190 - 240 V 50/60 Hz, AC operation, Screw connection

Powering Business Worldwide

Part no.	**DILM185A/22(RAC240)**
	139537
EL Number (Norway)	**4134277**

Product name	Eaton Moeller® series DILM Contactor
Part no.	DILM185A/22(RAC240)
EAN	4015081363155
Product Length/Depth	158 millimetre
Product height	190 millimetre
Product width	140 millimetre
Product weight	3.54 kilogram
Compliances	Contact Manufacturer
Certifications	IEC/EN 60947-4-1 UL File No.: E29096 IEC/EN 60947 UL UL 60947-4-1 CSA File No.: 2389068 CE CSA Class No.: 3211-04 UL Category Control No.: NLDX CSA-C22.2 No. 60947-4-1-14 CSA VDE 0660
Product Tradename	DILM
Product Type	Contactor
Product Sub Type	None
Catalog Notes	Contacts according to EN 50012 Also tested according to AC-3e up to 500 V. Also suitable for motors with efficiency class IE3.
Accessories	Fitting options auxiliary contacts: on the side: 2 x DILM1000-XHI(V)11-SI; 2 x DILM1000-XHI11-SA
Application	Contactors for Motors
Connection	Screw terminals
Degree of protection	IP00
Electromagnetic compatibility	Designed for operation in industrial environments. Its use in residential environments may cause radio-frequency interference, requiring additional noise suppression.
Fitted with:	Suppressor circuit in actuating electronics
Lifespan, electrical	100,000 Operations (at Condensor operation)
Lifespan, mechanical	10,000,000 Operations (AC operated)
Operating frequency	3000 mechanical Operations/h (AC operated) 200 Operations/h
Overvoltage category	III
Pollution degree	3
Product category	Contactors
Protection	Finger and back-of-hand proof with terminal shroud or terminal block, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)	8000 V AC
Shock resistance	10 g, N/O 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, Half-sinusoidal shock 10 ms 8 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
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

Altitude	Max. 2000 m
Ambient operating temperature - min	-40 °C
Ambient operating temperature - max	60 °C
Ambient operating temperature (enclosed) - min	40 °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 capacity (busbar)	32 mm width, Main connection
Terminal capacity (copper band)	Fixing with flat cable terminal or cable terminal blocks; See terminal capacity for cable terminal blocks
Terminal capacity (flexible with cable lug)	50 - 185 mm^2
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
Terminal capacity (solid)	1 x (0.75 - 2.5) mm^2, Control circuit cables 2 x (0.75 - 2.5) mm^2, Control circuit cables
Terminal capacity (solid/stranded AWG)	1/0 - 350 MCM, Main cables 18 - 14, Control circuit cables
Terminal capacity (stranded with cable lug)	50 - 185 mm^2
Width across flats	16 mm
Screw size	M10, Terminal screw, Main connections M3.5, Terminal screw, Control circuit cables
Screwdriver size	2, Terminal screw, Control circuit cables, Pozidriv screwdriver
Tightening torque	1.2 Nm, Screw terminals, Control circuit cables 24 Nm, Main cable connection screw/bolt
Inrush current	Max. 30 x Ie (peak)
Rated breaking capacity at 220/230 V	2250 A
Rated breaking capacity at 380/400 V	2250 A
Rated breaking capacity at 500 V	2250 A
Rated breaking capacity at 660/690 V	2250 A
Rated breaking capacity at 1000 V	760 A
Rated insulation voltage (Ui)	1000 V
Rated making capacity (cos phi to IEC/EN 60947)	2700 A
Rated operational current (Ie)	220 A at up to 525 V (Individual compensation, three-phase capacitors, open) 133 A at 690 V (Individual compensation, three-phase capacitors, open)
Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V	337 A
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V	185 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	185 A
Rated operational current (Ie) at AC-3, 440 V	185 A
Rated operational current (Ie) at AC-3, 500 V	185 A
Rated operational current (Ie) at AC-3, 660 V, 690 V	150 A
Rated operational current (Ie) at AC-3, 1000 V	76 A
Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V	136 A
Rated operational current (Ie) at AC-4, 440 V	136 A
Rated operational current (Ie) at AC-4, 500 V	136 A
Rated operational current (Ie) at AC-4, 660 V, 690 V	110 A
Rated operational current (Ie) at AC-4, 1000 V	55 A
Rated operational power at AC-3, 240 V, 50 Hz	62 kW
Rated operational power at AC-3, 380/400 V, 50 Hz	90 kW
Rated operational power at AC-3, 415 V, 50 Hz	110 kW
Rated operational power at AC-3, 440 V, 50 Hz	115 kW
Rated operational power at AC-3, 500 V, 50 Hz	132 kW
Rated operational power at AC-3, 690 V, 50 Hz	140 kW
Rated operational power at AC-3, 1000 V, 50 Hz	108 kW
Rated operational power at AC-4, 220/230 V, 50 Hz	41 kW
Rated operational power at AC-4, 240 V, 50 Hz	45 kW

Rated operational power at AC-4, 415 V, 50 Hz	80 kW
Rated operational power at AC-4, 440 V, 50 Hz	85 kW
Rated operational power at AC-4, 500 V, 50 Hz	96 kW
Rated operational power at AC-4, 660/690 V, 50 Hz	102 kW
Rated operational voltage (Ue) at AC - max	1000 V
Rated operational power at AC-4, 1000 V, 50 Hz	77 kW
Safe isolation	1000 V AC, Between coil and contacts, According to EN 61140
Special purpose rating of definite purpose rating	280 A, FLA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 1680 A, LRA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 336 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 2016 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
Short-circuit current rating (basic rating)	800 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 700 A, max. Fuse, SCCR (UL/CSA)
Short-circuit current rating (high fault at 480 V)	350 A, max. CB, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 600 A, Class J, max. Fuse, SCCR (UL/CSA)
Short-circuit current rating (high fault at 600 V)	600 A, Class J, max. Fuse, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA) 50 kA, CB, SCCR (UL/CSA)
Short-circuit protection rating (type 1 coordination) at 1000 V	200 A gG/gL
Short-circuit protection rating (type 1 coordination) at 400 V	400 A gG/gL
Short-circuit protection rating (type 1 coordination) at 690 V	315 A gG/gL
Short-circuit protection rating (type 2 coordination) at 1000 V	160 A gG/gL
Short-circuit protection rating (type 2 coordination) at 400 V	315 A gG/gL
Short-circuit protection rating (type 2 coordination) at 690 V	250 A gG/gL
Conventional thermal current ith (1-pole, enclosed)	613 A
Conventional thermal current ith (3-pole, enclosed)	245 A
Conventional thermal current ith at 55°C (3-pole, open)	287 A
Conventional thermal current ith of main contacts (1-pole, open)	688 A
Switching capacity (main contacts, general use)	250 A, Maximum motor rating (UL/CSA)
Switching capacity (auxiliary contacts, general use)	15 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
Drop-out voltage	AC operated: 0.25 x US max - 0.6 x US min, AC operated AC operated: 0.2 x US max - 0.4 x US min, AC operated
Duty factor	100 %
Pick-up voltage	0.8 - 1.15 V AC x Us
Power consumption	90 kW
Power consumption, pick-up, 50 Hz	180 W, Pull-in power, Coil in a cold state and 1.0 x Us 210 VA, Pull-in power, Coil in a cold state and 1.0 x Us
Power consumption, pick-up, 60 Hz	210 VA, Pull-in power, Coil in a cold state and 1.0 x Us 180 W, Pull-in power, Coil in a cold state and 1.0 x Us
Power consumption, sealing, 50 Hz	2.6 VA, Coil in a cold state and 1.0 x Us 2.1 W, Coil in a cold state and 1.0 x Us
Power consumption, sealing, 60 Hz	2.1 W, Coil in a cold state and 1.0 x Us 2.6 VA, Coil in a cold state and 1.0 x Us
Rated control supply voltage (Us) at AC, 50 Hz - min	190 V
Rated control supply voltage (Us) at AC, 50 Hz - max	240 V
Rated control supply voltage (Us) at AC, 60 Hz - min	190 V
Rated control supply voltage (Us) at AC, 60 Hz - max	240 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) - max	60 ms
Switching time (AC operated, make contacts, opening delay) - max	40 ms

Assigned motor power at 200/208 V, 60 Hz, 3-phase			50 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase			60 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase			125 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase			150 HP
Number of auxiliary contacts (normally closed contacts)			2
Number of auxiliary contacts (normally open contacts)			2
Number of contacts (normally closed contacts)			2
Number of contacts (normally open contacts)			2
Equipment heat dissipation, current-dependent Pvid			0 W
Heat dissipation capacity Pdiss			0 W
Heat dissipation per pole, current-dependent Pvid			5.33 W
Rated operational current for specified heat dissipation (In)			185 A
Static heat dissipation, non-current-dependent Pvs			2.1 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	190 - 240
Rated control supply voltage Us at AC 60HZ	V	190 - 240
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	337
Rated operation current Ie at AC-3, 400 V	A	185
Rated operation power at AC-3, 400 V	kW	90
Rated operation current Ie at AC-4, 400 V	A	136
Rated operation power at AC-4, 400 V	kW	75
Rated operation power NEMA	kW	93
Modular version		No
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact		2

Type of electrical connection of main circuit			Rail connection
Number of normally closed contacts as main contact			0
Number of normally open contacts as main contact			3

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