Specifications

Eaton 239577

Eaton Moeller® series DILM Contactor, 380 V 400 V 55 kW, 2 N/O, 2 NC, RAC 120: 110 - 120 V 50/60 Hz, AC operation, Screw terminals

General specifications		
PRODUCT NAME	Eaton Moeller® series DILM contactor	
CATALOG NUMBER	239577	
MODEL CODE	DILM115-22(RAC120)	
EAN	4015082395773	
PRODUCT LENGTH/DEPTH	175 mm	
PRODUCT HEIGHT	170 mm	
PRODUCT WIDTH	90 mm	
PRODUCT WEIGHT	2.31 kg	
CERTIFICATIONS	IEC/EN 60947 UL File No.: E29096 CE CSA-C22.2 No. 14-05 UL UL 508 CSA Class No.: 2411-03, 3211-04 UL Category Control No.: NLDX CSA File No.: 012528 IEC/EN 60947-4-1 VDE 0660 CSA	
CATALOG NOTES	Contacts according to EN	
	50012	



Product specification	S	Resources	
ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT	Screw connection	CATALOGS	SmartWire-DT Catalog Product Range Catalog Switching and protecting motors
NUMBER OF POLES	Three-pole		eaton-product-overview-
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.		for-machinery-catalogue- ca08103003zen-en-us.pdf eaton-contactors-short- time-loading-dilm- characteristic-curve- 002.eps
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specifications for the switchgear must be observed.	CHARACTERISTIC CURVE eaton-confidilm-characteris 002.eps eaton-conficomponent characteris 003.eps eaton-confidilm-characteris curve.eps DECLARATIONS OF CONFORMITY	eaton-contactors-short- time-loading-dilm- characteristic-curve.eps
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications for the switchgear must be observed.		dilm-characteristic-curve- 002.eps eaton-contactors- component-dilm- characteristic-curve-
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.		eaton-contactors-switch- dilm-characteristic- curve.eps
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.		DA-DC-00004781.pdf DA-DC-00004818.pdf
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.		eaton-contactors- mounting-dilm- dimensions-002.eps
10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT	Meets the product standard's requirements.		eaton-contactors-dilm-dimensions-011.eps
10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS	Meets the product standard's requirements.	DRAWINGS	mounting-dilm- dimensions.eps eaton-contactors-dilm- dimensions-003.eps
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.	drawing eaton-c comple safety-3 eaton-g dilm-co	eaton-contactors-dilm-3d-drawing.eps eaton-contactors-
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to be evaluated.		complete-unit-dilms- safety-3d-drawing.eps
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to be evaluated.		eaton-general-ie-ready- dilm-contactor- standards.eps

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	ls 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	ls the panel builder's responsibility.
FITTED WITH:	Mirror contact Suppressor circuit in actuating electronics
OPERATING FREQUENCY	3600 mechanical Operations/h (AC operated)
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
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
CONNECTION	Screw terminals

ECAD MODEL	ETN.239577.edz
INSTALLATION INSTRUCTIONS	eaton-dil-contactors- instruction-leaflet- il03407039z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	dil_m80_150_22.stp
	DA-CD-dil m80 170
	dil m80 150 22.dwg
	DA-CS-dil m80 170
WIRING DIAGRAMS	2100SWI-125

AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	10 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	40 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	25 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	50 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	100 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	100 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	285 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	115 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	135 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)	325 A
EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID	18.9 W
HEAT DISSIPATION CAPACITY PDISS	0 W

HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID	6.3 W
APPLICATION	Contactors for Motors
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
ARCING TIME	15 ms
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
VOLTAGE TYPE	AC
DEGREE OF PROTECTION	IP00
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 CLOSED) AS MAIN CONTACT	0
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	2
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
RATED BREAKING CAPACITY AT 220/230 V	1150 A
RATED BREAKING CAPACITY AT 380/400 V	1150 A
RATED BREAKING CAPACITY AT 500 V	1150 A
RATED BREAKING CAPACITY AT 660/690 V	1100 A

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	100 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	100 V
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.25 x UC, AC operated
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %
EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
PICK-UP VOLTAGE	0.8 - 1.15 V AC x Uc
POWER CONSUMPTION, PICK-UP, 50 HZ	180 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
SAFE ISOLATION	690 V AC, Between coil and contacts, According to EN 61140 690 V AC, Between the contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	170 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz
RESIDUAL CURRENT	1 mA (with actuation of A1 - A2 by the electronics with "0" signal)
SCREW SIZE	5 mm AF, Hexagon socket- head spanner, Terminal screw, Main cables M10, Terminal screw, Main cables M3.5, Terminal screw, Control circuit cables
POWER CONSUMPTION, SEALING, 50 HZ	2.3 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 3.1 VA, Dual-frequency coil in a cold state and 1.0 x

	Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms
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)	Single 83/0, double 82/0, Main cables 18 - 14, Control circuit cables
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	180 A, Maximum motor rating (UL/CSA)
TIGHTENING TORQUE	14 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	1610 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	160 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	115 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	93 A
RATED OPERATIONAL CURRENT (IE) AT AC-4,	55 A

220 V, 230 V, 240 V	
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	55 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	45 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	160 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	90 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	160 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	115 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	40 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	55 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	70 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	17 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	19 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	28 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	33 kW
RATED OPERATIONAL	
POWER AT AC-4, 440 V, 50 HZ	35 kW

POWER AT AC-4, 500 V, 50 HZ	
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	43 kW
RATED OPERATIONAL POWER (NEMA)	74 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RESISTANCE PER POLE	0.6 mΩ
STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS	2.3 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	24 mm
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	33 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	28 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	41 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	35 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	10 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 600 A, max. Fuse, 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) 250 A, max. CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 30 kA, CB, SCCR (UL/CSA)

	350 A, max. CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	250 A gG/gL
SUITABLE FOR	Also motors with efficiency class IE3
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	250 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	250 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	250 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	160 A (480V 60Hz 3phase, 277V 60Hz 1phase) 160 A (600V 60Hz 3phase, 347V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	115 A, FLA 480 V 60 Hz 3- ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 690 A, LRA 480 V 60 Hz 3- ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	99 A, 600 V 60 Hz 3-ph, (UL/CSA) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA) 96 A, 480 V 60 Hz 3-ph, (UL/CSA) 100 HP, 600 V 60 Hz 3-ph, (UL/CSA) 40 HP, 240 V 60 Hz 3-ph, (UL/CSA) 104 A, 240 V 60 Hz 3-ph, (UL/CSA)
SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	84 A, FLA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 600 V 60 Hz 3phase; (CSA) 540 A, LRA 480 V 60 Hz

	3phase; (CSA) 84 A, FLA 600 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	160 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	142 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	130 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	85 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	90 kW
ACTUATING VOLTAGE	RAC 120: 110 - 120 V 50/60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	



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