Specifications

Photo is representative

Eaton 276732

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 4 kW, 1 NC, 220 V 50/60 Hz, AC operation, Screw terminals

General specification	ons
PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	276732
MODEL CODE	DILM9-01(220V50/60HZ)
EAN	4015082767327
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.24 kg
WARRANTY	1 year
COMPLIANCES	CE Marked RoHS Compliant
CERTIFICATIONS	UL Listed CSA Certified IEC 60947 EN 60947 IEC 60947-4-1 EN 60947-4-1 VDE 0660 CSA CSA File No.: 012528 IEC/EN 60947 IEC/EN 60947 ICSA-C22.2 No. 60947-4-1-14 UL CE UL Category Control No.: NLDX CSA Class No.: 2411-03, 3211-04 UL File No.: E29096 UL 60947-4-1
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	276732



Product specifications	S	
ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT	Screw connection	
AMPERAGE RATING	170A	
HP RATING - MAX	0.5, 1.5/ 3, 3, 5, 7.5 hp (1/3PH @120,240/208,240,480,600 V)	
NUMBER OF POLES	Three-pole	
ГҮРЕ	Full voltage non-reversing miniature contactor	
OLTAGE RATING	400 V	
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.	
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 FO NORMAL HEAT	Meets the product standard's requirements.	
10.2.3.3 RESIST. OF NSUL. MAT. TO ABNORMAL HEAT/FIRE	Meets the product	
BY INTERNAL ELECT. EFFECTS	standard's requirements.	

Resources	
	Product Range Catalog Switching and protecting motors
CATALOGS	SmartWire-DT Catalog
	eaton-product-overview- for-machinery-catalogue- ca08103003zen-en-us.pdf
	eaton-contactors-switch- dilm-characteristic- curve.eps
CHARACTERISTIC CURVE	eaton-contactors-switch-dilm-characteristic-curve-002.eps
	eaton-contactors- component-dilm- characteristic-curve- 003.eps
DECLARATIONS OF	DA-DC-00004810.pdf
CONFORMITY	DA-DC-00004792.pdf
DRAWINGS	eaton-contactors- mounting-dilm- dimensions-002.eps eaton-contactors- mounting-dilm- dimensions.eps eaton-contactors-module- dilm-dimensions.eps eaton-contactors-frame- dilm-dimensions.eps eaton-contactors-module- dilm-dimensions.eps eaton-contactors-module- dilm-dimensions-002.eps eaton-general-ie-ready- dilm-contactor- standards.eps eaton-contactors-dilm-3d- drawing-007.eps
ECAD MODEL	ETN.276732.edz
INSTALLATION INSTRUCTIONS	eaton-contactors-dila- dilm7-15-dilmp20- il03407013z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology

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	ls the panel builder's responsibility.
10.9.2 POWER- FREQUENCY ELECTRIC STRENGTH	ls 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.
FITTED WITH:	Mirror contact
FREQUENCY RATING	50-60 Hz
OPERATING FREQUENCY	9000 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
CONNECTION TO SMARTWIRE-DT	No
RATED IMPULSE WITHSTAND VOLTAGE	8000 V AC

	DA-CS-dil m7 15
SPECIFICATIONS AND DATASHEETS	Eaton Specification Sheet - 276732
SYSTEM OVERVIEW	eaton-contactors-dilm- contactor-system- overview.eps
WIRING DIAGRAMS	2100SWI-117

(UIMP)	
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
FRAME SIZE	FS1
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	0.5 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	3 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	7.5 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	45 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	18 A

CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	21 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)	50 A
EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID	0.2 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)
TERMINALS	Screw terminals
ARCING TIME	10 ms
ELECTRICAL	
CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
MAIN CIRCUIT	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv
MAIN CIRCUIT SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
MAIN CIRCUIT SCREWDRIVER SIZE VOLTAGE TYPE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver AC
MAIN CIRCUIT SCREWDRIVER SIZE VOLTAGE TYPE DEGREE OF PROTECTION NUMBER OF AUXILIARY CONTACTS (NORMALLY	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver AC IP20
MAIN CIRCUIT SCREWDRIVER SIZE VOLTAGE TYPE DEGREE OF PROTECTION NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) NUMBER OF AUXILIARY CONTACTS (NORMALLY	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver AC IP20
MAIN CIRCUIT SCREWDRIVER SIZE VOLTAGE TYPE DEGREE OF PROTECTION NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) NUMBER OF CONTACTS (NORMALLY CLOSED	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver AC IP20 1

OPERATING TEMPERATURE - MAX	60 °C
OPERATING TEMPERATURE - MIN	-25 °C
RATED BREAKING CAPACITY AT 220/230 V	90 A
RATED BREAKING CAPACITY AT 380/400 V	90 A
RATED BREAKING CAPACITY AT 500 V	70 A
RATED BREAKING CAPACITY AT 660/690 V	50 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	220 V
COIL VOLTAGE	220 Vac, 50-60 Hz
CONTACT CONFIGURATION	1 NC
CONTINUOUS AMPERE RATING	20 A
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.3 x UC, AC operated
OVERVOLTAGE	
CATEGORY	III
DUTY FACTOR	100 %
DUTY FACTOR	100 %
DUTY FACTOR NUMBER OF CONTACTS	100 % 1 NC
DUTY FACTOR NUMBER OF CONTACTS EMITTED INTERFERENCE	100 % 1 NC According to EN 60947-1
DUTY FACTOR NUMBER OF CONTACTS EMITTED INTERFERENCE OPERATION INTERFERENCE	100 % 1 NC According to EN 60947-1 Reversing
DUTY FACTOR NUMBER OF CONTACTS EMITTED INTERFERENCE OPERATION INTERFERENCE IMMUNITY	100 % 1 NC According to EN 60947-1 Reversing According to EN 60947-1 7,000,000 Operations (Coil 50/60 Hz) 10,000,000 Operations (AC
DUTY FACTOR NUMBER OF CONTACTS EMITTED INTERFERENCE OPERATION INTERFERENCE IMMUNITY LIFESPAN, MECHANICAL	100 % 1 NC According to EN 60947-1 Reversing According to EN 60947-1 7,000,000 Operations (Coil 50/60 Hz) 10,000,000 Operations (AC operated)

	in a cold state and 1.0 x Us
SAFE ISOLATION	400 V AC, Between coil and contacts, According to EN 61140 400 V AC, Between the contacts, According to EN 61140
POWER CONSUMPTION,	25 VA, Dual-frequency coil in a cold state and 1.0 x Us
PICK-UP, 60 HZ	27 VA, Dual-frequency coil in a cold state and 1.0 x Us
SCREW SIZE	M3.5, Terminal screw
POWER CONSUMPTION,	1.4 W, Dual-frequency coil in a cold state and 1.0 x Us
SEALING, 50 HZ	1.2 W, Dual-frequency coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	3.3 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 1.2 W, Dual-frequency coil in a cold state and 1.0 x Us
	4.2 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	A600, AC operated (UL/CSA) P300, DC operated (UL/CSA)
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm ² 2 x (0.75 - 2,5) mm ² 1 x (0.75 - 2.5) mm ²
SHOCK RESISTANCE	5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Halfsinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Halfsinusoidal shock 10 ms 5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Halfsinusoidal shock 10 ms 3.4 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 3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm ² 1 x (0.75 - 4) mm ²
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 18 - 10, double 18 - 14
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	20 A, Maximum motor rating (UL/CSA)
POWER CONSUMPTION	4 kW
TIGHTENING TORQUE	1.2 Nm, Screw terminals
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)	112 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	22 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	7 A

RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	4.5 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	15 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	20 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	9 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	1.5 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	1.6 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	2.5 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50	2.8 kW

HZ	
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	2.8 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	3.6 kW
RATED OPERATIONAL POWER (NEMA)	3.7 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RESISTANCE PER POLE	2.5 mΩ
STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS	1.4 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	10 mm
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	15 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	9 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	45 A, max. Fuse, SCCR (UL/CSA) 60 A, max. CB, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	65 kA, CB, SCCR (UL/CSA) 25 A, Class RK5/ 20 A Class J, max. Fuse, SCCR (UL/CSA)

	16 A, max. CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)	
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	25 A, Class RK5/20 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)	
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	35 A gG/gL	
SUITABLE FOR	Also motors with efficiency class IE3	
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	20 A gG/gL	
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	20 A gG/gL	
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	16 A gG/gL	
SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	18 A (600V 60Hz 3phase, 347V 60Hz 1phase) 18 A (480V 60Hz 3phase, 277V 60Hz 1phase)	
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	54 A, LRA 480 V 60 Hz 3- ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 9 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)	
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	2 HP, 240 V 60 Hz 3-ph, (UL/CSA) 3 HP, 480 V 60 Hz 3-ph, (UL/CSA) 6.1 A, 600 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA) 4.8 A, 480 V 60 Hz 3-ph, (UL/CSA) 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 6.8 A, 240 V 60 Hz 3-ph, (UL/CSA) 5 HP, 600 V 60 Hz 3-ph, (UL/CSA)	

SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	10 A, FLA 480 V 60 Hz 3phase; (CSA) 60 A, LRA 480 V 60 Hz 3phase; (CSA) 60 A, LRA 600 V 60 Hz 3phase; (CSA) 10 A, FLA 600 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	18 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 18 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
OPERATING TEMPERATURE	-25° to 60°C
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	22 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	21 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	20 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	4.5 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	4.5 kW
ACTUATING VOLTAGE	220 V 50/60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	



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