Specifications

Photo is representative

Eaton 276989

Eaton Moeller® series DILMP Contactor, 4 pole, 22 A, 220 V DC, DC operation

General specifications

PRODUCT NAME	Eaton Moeller® series DILMP 4-pole contactor
CATALOG NUMBER	276989
MODEL CODE	DILMP20(220VDC)
EAN	4015082769895
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.294 kg
CERTIFICATIONS	VDE 0660 CSA Class No.: 2411-03, 3211-04 CSA IEC/EN 60947 UL File No.: E29096 IEC/EN 60947-4-1 CE CSA File No.: 012528 CSA-C22.2 No. 60947-4-1-14 UL UL 60947-4-1 UL Category Control No.: NLDX
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	276989

Powering Business Worldwide

Product specifications

NUMBER OF POLES	Four-pole
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 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	Does not apply, since the entire switchgear needs to

Resources

CATALOGS	Product Range Catalog Switching and protecting motors SmartWire-DT Catalog eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
DECLARATIONS OF CONFORMITY	DA-DC-00004810.pdf DA-DC-00004792.pdf
DRAWINGS	eaton-contactors-characteristic-curve-2110dia-3.eps eaton-contactors-dilm-dimensions-013.eps eaton-contactors-dilmp-dimensions-006.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-dilm-3d-drawing-007.eps
ECAD MODEL	ETN.276989.edz
INSTALLATION INSTRUCTIONS	eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CS-dil_m7_15 DA-CD-dil_m7_15
WIRING DIAGRAMS	eaton-contactors-contact-dilem-wiring-diagram.eps

ASSEMBLIES	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.
OPERATING FREQUENCY	5000 mechanical Operations/h (DC operated) 5000 mechanical Operations/h (AC operated)
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
CONNECTION TO SMARTWIRE-DT	No
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running
CONNECTION	Screw terminals
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
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	54 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	18 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	20.5 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	60 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	5.1 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1.7 W
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	31 ms
SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	12 ms
APPLICATION	Contactors for 4 pole electric consumers
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
ARCING TIME	10 ms
ELECTRICAL CONNECTION TYPE OF	Screw connection

MAIN CIRCUIT	
SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
VOLTAGE TYPE	DC
DEGREE OF PROTECTION	IP20
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	4
POWER CONSUMPTION (PICK-UP) AT DC	4.5 W
POWER CONSUMPTION (SEALING) AT DC	4.5 W
RATED BREAKING CAPACITY AT 220/230 V	120 A
RATED BREAKING CAPACITY AT 380/400 V	120 A
RATED BREAKING CAPACITY AT 500 V	100 A
RATED BREAKING CAPACITY AT 660/690 V	70 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
DROP-OUT VOLTAGE	0.2 - 0.6 x UC, DC operated
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %

INTERFERENCE IMMUNITY	According to EN 60947-1
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated) 10,000,000 Operations (DC operated)
PICK-UP VOLTAGE	0.8 - 1.1 V AC/DC x Us 0.8 - 1.1 V DC x Uc
SAFE ISOLATION	400 V AC, Between the contacts, According to EN 61140 400 V AC, Between coil and contacts, According to EN 61140
RESIDUAL CURRENT	1 mA (with actuation of A1 - A2 by the electronics with "0" signal)
SCREW SIZE	M3.5, Terminal screw
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	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, Half-sinusoidal shock 10 ms 7 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
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm^2 2 x (0.75 - 2.5) mm^2
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	20 A, Maximum motor rating (UL/CSA)
TIGHTENING TORQUE	1.2 Nm, Screw terminals
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	220 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	220 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING	144 A

CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	
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	12 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	12 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	12 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	10 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	7 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	22 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	6 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	22 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	22 A
RATED OPERATIONAL POWER AT AC-1, 220/230 V, 50 HZ	8 kW
RATED OPERATIONAL POWER AT AC-1, 240 V, 50 HZ	9 kW
RATED OPERATIONAL POWER AT AC-1, 380/400 V, 50 HZ	14 kW
RATED OPERATIONAL POWER AT AC-1, 415 V, 50 HZ	15 kW
RATED OPERATIONAL POWER AT AC-1, 440 V, 50	16 kW

HZ	
RATED OPERATIONAL POWER AT AC-1, 500 V, 50 HZ	18 kW
RATED OPERATIONAL POWER AT AC-1, 690 V, 50 HZ	24 kW
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	7 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	4.5 kW
RATED OPERATIONAL POWER (NEMA)	0 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RESISTANCE PER POLE	3.5 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	4.5 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	10 mm
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	60 A, max. CB, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) 45 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	30 kA, Fuse, SCCR (UL/CSA) 25 A, Class RK5, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	25 A, Class RK5, max. Fuse, SCCR (UL/CSA) 30 kA, Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	35 A gG/gL

SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	25 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	20 A gG/gL
SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	20 A (480V 60Hz 3phase, 277V 60Hz 1phase) 20 A (600V 60Hz 3phase, 347V 60Hz 1phase)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	6.1 A, 600 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)	60 A, LRA 480 V 60 Hz 3phase; (CSA) 10 A, FLA 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	20 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 20 A, 600 V 60 Hz 3phase, 347 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)
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	7.5 kW

RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	7 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	6.5 kW
ACTUATING VOLTAGE	220 V DC
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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