

Specifications

Eaton 106727

Eaton Moeller® series DILM Contactor, 380 V 400 V 900 kW, 2 N/O, 2 NC, RAW 250, AC operation, Screw connection

General specifications

PRODUCT NAME	Eaton Moeller® series DILM Contactor
CATALOG NUMBER	106727
MODEL CODE	DILM1600/22(RAW250)
EAN	4015081064946
PRODUCT LENGTH/DEPTH	392 mm
PRODUCT HEIGHT	252 mm
PRODUCT WIDTH	515 mm
PRODUCT WEIGHT	32 kg
CERTIFICATIONS	CSA Class No.: 3211-04 IEC/EN 60947-4-1 CE UL IEC/EN 60947 CSA File No.: 012528 UL 60947-4-1 UL Category Control No.: NLDX CSA VDE 0660 UL File No.: E29096 CSA-C22.2 No. 60947-4-1- 14
CATALOG NOTES	<ul style="list-style-type: none">• Contacts according to EN 50012• Conventional thermal current I_{th} of main contacts (1-pole, open) at 60°
GLOBAL CATALOG	106727

Product specifications

ACCESSORIES	Fitting options auxiliary contacts: on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA
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.

Resources

CATALOGS	Product Range Catalog Switching and protecting motors
CHARACTERISTIC CURVE	eaton-contactors-component-dilm-characteristic-curve-002.eps eaton-contactors-component-dilm-characteristic-curve.eps eaton-contactors-component-dilm-characteristic-curve-003.eps eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps
DECLARATIONS OF CONFORMITY	DA-DC-00005043.pdf DA-DC-00005052.pdf
DRAWINGS	eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-dilm-dimensions-004.eps eaton-contactors-dilm-3d-drawing-003.eps eaton-contactors-mounting-dilm-3d-drawing-002.eps
ECAD MODEL	DA-CE-ETN.DILM1600_22(RAW250)
INSTALLATION INSTRUCTIONS	IL03406004Z
MCAD MODEL	eaton-iec-contactors-mcad-drawings-dil-h2000-2200.dwg eaton-iec-contactors-mcad-3d-models-dil-h2000-2200.stp

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.
FITTED WITH:	Suppressor circuit in actuating electronics
OPERATING FREQUENCY	1000 mechanical Operations/h (DC operated) 1000 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-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-3: Normal AC induction motors: starting, switch off during running
CONNECTION	Screw terminals

SYSTEM OVERVIEW	eaton-contactors-system55-dilm-explosion-drawing.eps
WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram-004.eps

AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	777777 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	777777 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	560 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	640 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	1200 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	1300 HP
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	1880 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	4500 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	41 W
APPLICATION	Contactors for Motors
PRODUCT CATEGORY	Contactors
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Rail connection
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver

VOLTAGE TYPE	AC/DC
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 1000 V	5800 A
RATED BREAKING CAPACITY AT 220/230 V	16000 A
RATED BREAKING CAPACITY AT 380/400 V	16000 A
RATED BREAKING CAPACITY AT 500 V	16000 A
RATED BREAKING CAPACITY AT 660/690 V	16000 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	250 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	230 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	250 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	230 V
DROP-OUT VOLTAGE	AC operated: 0.2 x US max - 0.6 x US min, AC operated 0.2 x US max - 0.6 x US min, DC operated
OVERVOLTAGE CATEGORY	III

BEHAVIOR IN MARGINAL AND TRANSITIONAL CONDITIONS	<p>Sealing - Voltage drops ($0.6 - 0.7 \times U_c \text{ min}$): Contactor remains switched on</p> <p>Sealing - Pick-up phase ($0.7 \times U_c \text{ min} - 1.15 \times U_c \text{ max}$): Contactor switches on with certainty</p> <p>Sealing - Voltage interruptions $0 - 0.2 \times U_c \text{ min}$) $> 10 \text{ ms}$: Drop-out of the contactor</p> <p>Sealing - Voltage drops ($0.2 - 0.6 \times U_c \text{ min} \leq 12 \text{ ms}$): Time is bridged successfully</p> <p>Sealing - Voltage interruptions ($0 - 0.2 \times U_c \text{ min} \leq 10 \text{ ms}$): Time is bridged successfully</p> <p>Sealing - Voltage drops ($0.2 - 0.6 \times U_c \text{ min}$) $> 12 \text{ ms}$: Drop-out of the contactor</p> <p>Sealing - Excess voltage ($1.15 - 1.3 \times U_c \text{ max}$): Contactor remains switched on</p> <p>Sealing - Pick-up phase ($0 - 0.7 \times U_c \text{ min}$): Contactor does not switch on</p>
DUTY FACTOR	100 %
ELECTROMAGNETIC COMPATIBILITY	Designed for operation in industrial environments. Its use in residential environments may cause radio-frequency interference, requiring additional noise suppression.
LIFESPAN, MECHANICAL	<p>5,000,000 Operations (AC operated)</p> <p>5,000,000 Operations (DC operated)</p>
PICK-UP VOLTAGE	<p>$0.7 - 1.15 \text{ V AC} \times U_s$</p> <p>$0.7 - 1.15 \text{ V DC} \times U_s$</p>
POWER CONSUMPTION, PICK-UP, 50 HZ	<p>1400 W, Pull-in power, Coil in a cold state and $1.0 \times U_s$</p> <p>1600 VA, Pull-in power, Coil in a cold state and $1.0 \times U_s$</p>
SAFE ISOLATION	1000 V AC, Between coil and contacts, According to

	EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	1600 VA, Pull-in power, Coil in a cold state and 1.0 x Us 1400 W, Pull-in power, Coil in a cold state and 1.0 x Us
SCREW SIZE	M3.5, Terminal screw, Control circuit cables M12, Terminal screw, Main connections
POWER CONSUMPTION, SEALING, 50 HZ	36.5 VA, Coil in a cold state and 1.0 x Us 17.3 W, Coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	36.5 VA, Coil in a cold state and 1.0 x Us 17.3 W, Coil in a cold state and 1.0 x Us
RESISTANCE	500 mΩ (Admissible transitional contact resistance - of the external control circuit device when actuating A11)
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 15 A, 600 V AC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
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
SHOCK RESISTANCE	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 10 g, N/O auxiliary contact, 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)	18 - 14, Control circuit cables

SIGNAL LEVEL	5 V - 15 V, PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2), Magnet systems
TERMINAL CAPACITY (BUSBAR)	100 mm width, Main connection
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	1600 A, Maximum motor rating (UL/CSA)
POWER CONSUMPTION	Control transformer with $u_k \leq 7\%$
TIGHTENING TORQUE	35 Nm, Main cable connection screw/bolt 1.2 Nm, Screw terminals, Control circuit cables
WIDTH ACROSS FLATS	18 mm
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	250 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	230 V
RATED INSULATION VOLTAGE (UI)	1000 V
RATED MAKING CAPACITY (COS PHI TO IEC/EN 60947)	19000 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 1000 V	1200 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	1600 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	1600 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	1600 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	1600 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	1600 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 1000 V	1120 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	1280 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	1280 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	1280 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	1280 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	1280 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	1600 A
RATED OPERATIONAL POWER AT AC-3, 1000 V, 50 HZ	1770 kW
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	550 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	900 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	930 kW
RATED OPERATIONAL POWER AT AC-4, 1000 V, 50 HZ	1650 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	430 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	450 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	750 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	770 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	830 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	940 kW
RATED OPERATIONAL POWER AT AC-4, 660/690	1300 kW

V, 50 HZ	
RATED OPERATIONAL POWER (NEMA)	895 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	1000 V
RESISTANCE PER POLE	0.016 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	13 W
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	70 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	40 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	2000 A, max. Fuse, SCCR (UL/CSA) 85 kA, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	85 kA, Fuse, SCCR (UL/CSA) 2000 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	2000 A, max. Fuse, SCCR (UL/CSA) 85 kA, Fuse, SCCR (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	2200 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	1970 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	1800 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	1000 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	1180 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	1600 kW
ACTUATING VOLTAGE	RAW 250
ALTITUDE	Max. 2000 m

OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	250 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	250 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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