Specifications



Photo is representative



Eaton 208210

Eaton Moeller® series DILM Contactor, 380 V 400 V 212 kW, 2 N/O, 2 NC, RAC 500: 250 - 500 V 40 - 60 Hz/250 - 700 V DC, AC and DC operation, Screw connection

General specifications	
PRODUCT NAME	Eaton Moeller® series DILM Contactor
CATALOG NUMBER	208210
MODEL CODE	DILM400/22(RAC500)
EAN	4015082082109
PRODUCT LENGTH/DEPTH	216 mm
PRODUCT HEIGHT	209 mm
PRODUCT WIDTH	160 mm
PRODUCT WEIGHT	8.597 kg
CERTIFICATIONS	IEC/EN 60947-4-1 VDE 0660 UL Category Control No.: NLDX CSA Class No.: 3211-04 UL File No.: E29096 UL 60947-4-1 UL/CSA CSA file No. 012528 North America (UL listed, CSA certified) EN 45545: Fire protection on railway vehicles IEC 61373: Vibration and shock, tested for category 1 class B CE marking
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. • EN 45545 - Fire protection on railway vehicles: Fire protection class of all plastics according to UL94: V-0 / plastic weight in total: 2.576 kg • Conventional thermal current Ith of main contacts (1-pole, open) at 60°

GLOBAL CATALOG	208210
PRODUCT TYPE	Contactor

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.
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	Is the panel builder's responsibility.

Resources

CHARACTERISTIC CURVE	eaton-contactors-component-dilm-characteristic-curve-003.eps eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps eaton-contactors-component-dilm-characteristic-curve-002.eps eaton-contactors-component-dilm-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	eaton-contactor-declaration-of-conformity-uk251103en.pdf eaton-contactor-declaration-of-conformity-eu250620en.pdf
DRAWINGS	eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-dilm-dimensions-008.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-3d-drawing-002.eps eaton-contactors-dilm-3d-drawing-005.eps
ECAD MODEL	DA-CE-ETN.DILM400_22(RAC500)
INSTALLATION INSTRUCTIONS	eaton-contactors-dilm250-to-dilm500-il03406002z.pdf
MCAD MODEL	eaton-iec-contactors-mcad-3d-models-dilm300-400-s22.stp eaton-iec-contactors-mcad-drawings-dilm300-400-s22.dwg
SPECIFICATIONS AND DATASHEETS	Eaton Specification Sheet - 208210
WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram-004.eps

AND CONNECTIONS	
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	2000 mechanical Operations/h (DC operated) 2000 mechanical Operations/h (AC operated) 200 Operations/h
POLLUTION DEGREE	3
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
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
CONNECTION	Screw terminals
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-40 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	125 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	150 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	300 HP

ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	400 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	1125 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	450 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	522 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	1250 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	12.33 W
APPLICATION	Contactors for Motors
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)
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	950 A

CAPACITY AT 1000 V	
RATED BREAKING CAPACITY AT 220/230 V	5000 A
RATED BREAKING CAPACITY AT 380/400 V	5000 A
RATED BREAKING CAPACITY AT 500 V	5000 A
RATED BREAKING CAPACITY AT 660/690 V	5000 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	500 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	250 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	500 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	250 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	Sealing - Voltage interruptions 0 - 0.2 x Uc min) > 10 ms: Drop-out of the contactor Sealing - Voltage drops (0.2 - 0.6 x Uc min ≤12 ms: Time is bridged successfully Sealing - Excess voltage (1.15 - 1.3 x Uc max): Contactor remains switched on Sealing - Voltage interruptions (0 - 0.2 x Uc min ≤ 10 ms: Time is bridged successfully Sealing - Voltage drops (0.2 - 0.6 x Uc min) > 12 ms: Drop-out of the contactor Sealing - Pick-up phase (0.7 x Uc min - 1.15 x Uc max): Contactor switches on with certainty Sealing - Pick-up phase (0 - 0.7 x Uc min: Contactor does not switch on Sealing - Voltage drops (0.6 - 0.7 x Uc min: Contactor remains switched on
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	7,000,000 Operations (AC operated)

	7,000,000 Operations (DC operated)
PICK-UP VOLTAGE	0.7 - 1.15 V DC x Us 0.7 - 1.15 V AC x Us
POWER CONSUMPTION, PICK-UP, 50 HZ	630 VA, Pull-in power, Coil in a cold state and 1.0 x Us
SAFE ISOLATION	1000 V AC, Between coil and contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	630 VA, Pull-in power, Coil in a cold state and 1.0 x Us
SCREW SIZE	M10, Terminal screw, Main connections M3.5, Terminal screw, Control circuit cables
POWER CONSUMPTION, SEALING, 50 HZ	11.7 W, Coil in a cold state and 1.0 x Us 19.6 VA, Coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	19.6 VA, Coil in a cold state and 1.0 x Us 11.7 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)
RATED OPERATIONAL CURRENT (IE)	177 A at 690 V (Individual compensation, three-phase capacitors, open) 307 A at up to 525 V (Individual compensation, three-phase capacitors, open)
INRUSH CURRENT	Max. 30 x Ie (peak)
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)
LIFESPAN, ELECTRICAL	100,000 Operations (at Condensor operation)
TERMINAL CAPACITY (COPPER BAND)	Fixing with flat cable terminal or cable terminal blocks; See terminal capacity for cable terminal blocks
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm², Control circuit cables 2 x (0.75 - 2.5) mm², Control circuit cables
SHOCK RESISTANCE	10 g, N/O auxiliary 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 main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

TERMINAL CAPACITY (SOLID)	2 x (0.75 - 2.5) mm², Control circuit cables 1 x (0.75 - 2.5) mm², Control circuit cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Control circuit cables 2/0 - 500 MCM, Main cables
SIGNAL LEVEL	5 V - 15 V, PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2), Magnet systems
TERMINAL CAPACITY (BUSBAR)	25 mm width, Main connection
TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)	50 - 240 mm²
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	450 A, Maximum motor rating (UL/CSA)
TERMINAL CAPACITY (STRANDED WITH CABLE LUG)	70 - 240 mm²
POWER CONSUMPTION	Control transformer with uk ≤ 6%
TIGHTENING TORQUE	24 Nm, Main cable connection screw/bolt 1.2 Nm, Screw terminals, Control circuit cables
WIDTH ACROSS FLATS	16 mm
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	700 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	250 V
RATED INSULATION VOLTAGE (UI)	1000 V
RATED MAKING CAPACITY (COS PHI TO IEC/EN 60947)	5500 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	612 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 1000 V	95 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	400 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	400 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	400 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	400 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	325 A
RATED OPERATIONAL	95 A

CURRENT (IE) AT AC-4, 1000 V	
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	296 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	296 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	296 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	296 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	260 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	400 A
RATED OPERATIONAL POWER AT AC-3, 1000 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	200 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	232 kW
RATED OPERATIONAL POWER AT AC-4, 1000 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	92 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	100 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	160 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	176 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	186 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	210 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	240 kW
RATED OPERATIONAL POWER (NEMA)	223 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC -	1000 V

MAX	
RESISTANCE PER POLE	0.077 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	11.7 W
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	80 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	110 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	30 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 800 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	600 A, max. CB, SCCR (UL/CSA) 100 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 800/600 A, Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	30 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 800/600 A, Class J, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 1000 V	250 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	630 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	630 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 1000 V	200 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	500 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	500 A gG/gL
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	3300 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 3120 A, LRA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

	420 A, FLA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 550 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	612 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	548 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	500 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	250 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	280 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	300 kW
ACTUATING VOLTAGE	RAC 500: 250 - 500 V 40 - 60 Hz/250 - 700 V DC
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	250 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	500 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	250 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	500 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:

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