

Specifications

Eaton 109797

Eaton Moeller® series DILMP Contactor, 4 pole, AC operation, AC-1: 32 A, 1 N/O, 230 V 50 Hz, 240 V 60 Hz, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILMP 4-pole contactor
CATALOG NUMBER	109797
MODEL CODE	DILMP32- 10(230V50HZ,240V60HZ)
EAN	4015081093694
PRODUCT LENGTH/DEPTH	97 mm
PRODUCT HEIGHT	85 mm
PRODUCT WIDTH	58 mm
PRODUCT WEIGHT	0.49 kg
CERTIFICATIONS	CSA CSA File No.: 012528 UL 60947-4-1 VDE 0660 CE IEC/EN 60947-4-1 UL File No.: E29096 UL Category Control No.: NLDX UL IEC/EN 60947 CSA-C22.2 No. 60947-4-1- 14 CSA Class No.: 2411-03, 3211-04
CATALOG NOTES	Contacts according to EN 50012
PRODUCT TYPE	4-pole contactor

Features Functions

NUMBER OF POLES	Four-pole
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General

APPLICATION	Contactors for 4 pole electric consumers
DEGREE OF PROTECTION	IP00
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated) 10,000,000 Operations (DC operated)
CONNECTION	Screw terminals
OPERATING FREQUENCY	5000 mechanical Operations/h (DC operated) 5000 mechanical Operations/h (AC operated)
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
RESIDUAL CURRENT	1 mA (with actuation of A1 - A2 by the electronics with "0" signal)
RESISTANCE PER POLE	2.7 mΩ
TYPE	Full voltage non-reversing small contactor
USED WITH	DILM32-XHI(C), DILA-XHI(V)(C)
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running
VOLTAGE TYPE	AC

Ambient conditions, mechanical

SHOCK RESISTANCE

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
5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

Climatic environmental conditions

ALTITUDE Max. 2000 m

AMBIENT OPERATING TEMPERATURE - MIN -25 °C

AMBIENT OPERATING TEMPERATURE - MAX 60 °C

AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN -25 °C

AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX 40 °C

AMBIENT STORAGE TEMPERATURE - MIN -40 °C

AMBIENT STORAGE TEMPERATURE - MAX 80 °C

CLIMATIC PROOFING
Damp heat, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-3

Electro magnetic compatibility

INTERFERENCE IMMUNITY

According to EN 60947-1

Terminal capacities

TERMINALS Screw terminals

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)
1 x (0.75 - 16) mm², Main cables
2 x (0.75 - 10) mm², Main cables
1 x (0.75 - 2.5) mm², Control circuit cables
2 x (0.75 - 2.5) mm², Control circuit cables

TERMINAL CAPACITY (SOLID)
1 x (0.75 - 4) mm², Control circuit cables
2 x (0.75 - 2.5) mm², Control circuit cables
2 x (0.75 - 10) mm², Main cables
1 x (0.75 - 16) mm², Main cables

TERMINAL CAPACITY (SOLID/STRANDED AWG)
18 - 6, Main cables
18 - 14, Control circuit cables

TERMINAL CAPACITY (STRANDED) 1 x 16 mm², Main cables

STRIPPING LENGTH (MAIN CABLE) 10 mm

STRIPPING LENGTH (CONTROL CIRCUIT CABLE) 10 mm

SCREW SIZE M5, Terminal screw, Main cables

	M3.5, Terminal screw, Control circuit cables
SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
TIGHTENING TORQUE	3 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables

Electrical rating

**RATED BREAKING
CAPACITY AT 220/230 V** 180 A

**RATED BREAKING
CAPACITY AT 380/400 V** 180 A

**RATED BREAKING
CAPACITY AT 500 V** 180 A

**RATED BREAKING
CAPACITY AT 660/690 V** 120 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-1,
380 V, 400 V, 415 V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
220 V, 230 V, 240 V** 18 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
380 V, 400 V, 415 V** 18 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
440 V** 18 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
500 V** 18 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
660 V, 690 V** 12 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1, 60
V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1,
110 V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1,
220 V** 32 A

**RATED INSULATION
VOLTAGE (UI)** 690 V

**RATED MAKING
CAPACITY UP TO 690 V
(COS PHI TO IEC/EN
60947)** 238 A

**RATED OPERATIONAL
POWER AT AC-1, 220/230
V, 50 HZ** 12 kW

**RATED OPERATIONAL
POWER AT AC-1, 240 V, 50
HZ** 13 kW

**RATED OPERATIONAL
POWER AT AC-1, 380/400
V, 50 HZ** 20 kW

Short-circuit rating

**SHORT-CIRCUIT CURRENT
RATING (BASIC RATING)** 125 A, max. CB, SCCR
(UL/CSA)
5 kA, SCCR (UL/CSA)
125 A, max. Fuse, SCCR
(UL/CSA)

**SHORT-CIRCUIT CURRENT
RATING (HIGH FAULT AT
480 V)** 125/70 A, Class J, max.
Fuse, SCCR (UL/CSA)
10/65 kA, CB, SCCR
(UL/CSA)
10/100 kA, Fuse, SCCR
(UL/CSA)
50/32 A, max. CB, SCCR
(UL/CSA)

**SHORT-CIRCUIT CURRENT
RATING (HIGH FAULT AT
600 V)** 10/100 kA, Fuse, SCCR
(UL/CSA)
125/100 A, Class J, max.
Fuse, SCCR (UL/CSA)
50/32 A, max. CB, SCCR
(UL/CSA)
10/22 kA, CB, SCCR
(UL/CSA)

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 1 COORDINATION)
AT 400 V** 63 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 1 COORDINATION)
AT 690 V** 50 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 2 COORDINATION)
AT 400 V** 35 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 2 COORDINATION)
AT 690 V** 35 A gG/gL

RATED OPERATIONAL POWER AT AC-1, 415 V, 50 HZ	22 kW
RATED OPERATIONAL POWER AT AC-1, 440 V, 50 HZ	23 kW
RATED OPERATIONAL POWER AT AC-1, 500 V, 50 HZ	26 kW
RATED OPERATIONAL POWER AT AC-1, 690 V, 50 HZ	35 kW
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	7.5 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	10 kW
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	10.5 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	12 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	11 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V

Conventional thermal current I_{th}

CONVENTIONAL THERMAL CURRENT I_{TH} (1-POLE, ENCLOSED)	76 A
CONVENTIONAL THERMAL CURRENT I_{TH} (3-POLE, ENCLOSED)	27 A
CONVENTIONAL THERMAL CURRENT I_{TH} AT 55°C (3-POLE, OPEN)	29 A
CONVENTIONAL THERMAL CURRENT I_{TH} OF MAIN CONTACTS (1- POLE, OPEN)	84 A

Switching capacity

SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	40 A, Maximum motor rating (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	10 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)

Magnet system

DROP-OUT VOLTAGE	AC operated: 0.6 - 0.4 x Uc, AC operated
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x Uc 0.85 - 1.1 V AC/DC x Us
POWER CONSUMPTION	7.5 kW
POWER CONSUMPTION, PICK-UP, 50 HZ	50 VA, Dual-frequency coil in a cold state and 1.0 x Us
POWER CONSUMPTION, PICK-UP, 60 HZ	40 W, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 50 VA, Dual-frequency coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 50 HZ	2.1 W, Dual-frequency coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	2.1 W, Dual-frequency coil in a cold state and 1.0 x Us 8 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	230 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	230 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	240 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	240 V
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	16 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	22 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	14 ms
COIL VOLTAGE	230-240 Vac, 50/60 Hz

Motor rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	2 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	7.5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	10 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	15 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	20 HP

Communication

CONNECTION TO SMARTWIRE-DT	No
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Safety

SAFE ISOLATION	440 V AC, Between coil and contacts, According to EN 61140 440 V AC, Between the contacts, According to EN 61140
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Contacts

NUMBER OF CONTACTS	1 NO
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NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
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NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
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NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
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Special purpose ratings

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	40 A (480V 60Hz 3phase, 277V 60Hz 1phase) 40 A (600V 60Hz 3phase, 347V 60Hz 1phase)
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SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	25 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 150 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
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SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	5 HP, 240 V 60 Hz 3-ph, (UL/CSA) 15.2 A, 240 V 60 Hz 3-ph, (UL/CSA) 14 A, 480 V 60 Hz 3-ph, (UL/CSA) 15 HP, 600 V 60 Hz 3-ph, (UL/CSA) 3 HP, 200 V 60 Hz 3-ph, (UL/CSA) 10 HP, 480 V 60 Hz 3-ph, (UL/CSA) 11 A, 200 V 60 Hz 3-ph, (UL/CSA) 17 A, 600 V 60 Hz 3-ph, (UL/CSA)
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SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	40 A, FLA 480 V 60 Hz 3phase; (CSA) 180 A, LRA 600 V 60 Hz 3phase; (CSA) 30 A, FLA 600 V 60 Hz 3phase; (CSA) 240 A, LRA 480 V 60 Hz 3phase; (CSA)
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SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
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**SPECIAL PURPOSE
RATING OF TUNGSTEN
INCANDESCENT LAMPS**

40 A, 480 V 60 Hz 3phase,
277 V 60 Hz 1phase,
(UL/CSA)
40 A, 600 V 60 Hz 3phase,
347 V 60 Hz 1phase,
(UL/CSA)

Design verification

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	6.6 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	2.2 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	32 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	2.1 W
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.

Resources

	Product Range Catalog Switching and protecting motors
CATALOGS	SmartWire-DT Catalog eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-characteristic-curve-2110dia-3.eps
DECLARATIONS OF CONFORMITY	eaton-4-pole-contactor-declaration-of-conformity-uk251255en.pdf eaton-4-pole-contactor-declaration-of-conformity-eu250772en.pdf
DRAWINGS	eaton-contactors-dimensions-2110dim-10.eps eaton-contactors-dimensions-2110dim-11.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps
ECAD MODEL	ETN.109797.edz
INSTALLATION INSTRUCTIONS	IL03407049Z
INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	DA-CS-dil_mp32_45 eaton-iec-contactors-mcad-drawings-dil-mp32-45.dwg
PEP ECO-PASSPORT	eaton-iec-contactors-pep-eato-00016-v0101-en.pdf
SPECIFICATIONS AND DATASHEETS	Eaton Specification Sheet - 109797
WIRING DIAGRAMS	eaton-contactors-dilmp-wiring-diagram.eps

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.
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.

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:

