

Specifications

Photo is representative

Eaton 277864

Eaton Moeller® series DILM Contactor, 380 V 400 V 22 kW, 2 N/O, 2 NC, 400 V 50 Hz, 440 V 60 Hz, AC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	277864
MODEL CODE	DILM50- 22(400V50HZ,440V60HZ)
EAN	4015082778644
PRODUCT LENGTH/DEPTH	147 mm
PRODUCT HEIGHT	115 mm
PRODUCT WIDTH	55 mm
PRODUCT WEIGHT	0.922 kg
COMPLIANCES	CE Marked
CERTIFICATIONS	EN 60947-4-1 IEC 60947-4-1 UL 508 CSA Std. C22.2 No. 14-05 VDE UL VDE 0660 CSA IEC/EN 60947
CATALOG NOTES	Contacts according to EN 50012
GLOBAL CATALOG	277864

Product specifications

ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT

Screw connection

AMPERAGE RATING

50A

NUMBER OF POLES

Three-pole

VOLTAGE RATING

400-440 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 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.

Resources

[SmartWire-DT Catalog](#)

CATALOGS

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

[Product Range Catalog Switching and protecting motors](#)

CHARACTERISTIC CURVE

[eaton-contactors-switch-dilm-characteristic-curve.eps](#)

[eaton-contactors-component-dilm-characteristic-curve-003.eps](#)

[eaton-contactors-short-time-loading-dilm-characteristic-curve.eps](#)

[eaton-contactors-switch-dilm-characteristic-curve-002.eps](#)

DECLARATIONS OF CONFORMITY

[DA-DC-00004782.pdf](#)

[DA-DC-00004817.pdf](#)

DRAWINGS

[eaton-contactors-dilm-dimensions-012.eps](#)

[eaton-contactors-dilm-dimensions-002.eps](#)

[eaton-contactors-mounting-dilm-dimensions-002.eps](#)

[eaton-contactors-mounting-dilm-dimensions.eps](#)

[eaton-contactors-contact-dilm-3d-drawing-003.eps](#)

[eaton-contactors-mounting-dilm-3d-drawing.eps](#)

[eaton-general-ie-ready-dilm-contactor-standards.eps](#)

ECAD MODEL

[ETN.277864.edz](#)

INSTALLATION INSTRUCTIONS

[IL03407033Z](#)

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	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:	Mirror contact
FREQUENCY RATING	50-60 Hz
OPERATING FREQUENCY	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
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
UTILIZATION CATEGORY	AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads,

INSTALLATION VIDEOS	WIN-WIN with push-in technology
MCAD MODEL	dil_m40_65_22.dwg DA-CS-dil_m40 dil_m40_65_22.stp
WIRING DIAGRAMS	2100SWI-125

	resistance furnaces
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)	145 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	58 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	68 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	162 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	9.9 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	3.3 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)
ARCING TIME	10 ms
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection

SCREWDRIVER SIZE	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
VOLTAGE TYPE	AC
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
OPERATING TEMPERATURE - MAX	60 °C
OPERATING TEMPERATURE - MIN	-25 °C
RATED BREAKING CAPACITY AT 220/230 V	500 A
RATED BREAKING CAPACITY AT 380/400 V	500 A
RATED BREAKING CAPACITY AT 500 V	500 A
RATED BREAKING CAPACITY AT 660/690 V	320 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	400 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	440 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	440 V

CONTACT CONFIGURATION	2 NO, 2 NC
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.3 x UC, AC operated
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %
EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c
POWER CONSUMPTION, PICK-UP, 50 HZ	149 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz
SAFE ISOLATION	440 V AC, Between coil and contacts, According to EN 61140 440 V AC, Between the contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	178 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 60 Hz
SCREW SIZE	M3.5, Terminal screw, Control circuit cables M6, Terminal screw, Main cables
POWER CONSUMPTION, SEALING, 50 HZ	16 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz 4.1 W, Dual-frequency coil in a cold state and 1.0 x U _s , at 50 Hz
POWER CONSUMPTION, SEALING, 60 HZ	4.1 W, Dual-frequency coil in a cold state and 1.0 x U _s , at 60 Hz 19 VA, Dual-frequency coil in a cold state and 1.0 x U _s , at 60 Hz
TERMINAL CAPACITY (STRANDED)	1 x (16 - 50) mm ² , Main cables 2 x (16 - 35) mm ² , Main cables
TERMINAL CAPACITY (COPPER BAND)	2 x (6 x 9 x 0.8) mm (Number of segments x width x thickness), Main cables
TERMINAL CAPACITY	1 x (0.75 - 2.5) mm ² ,

(FLEXIBLE WITH FERRULE)	Control circuit cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 35) mm ² , Main cables 2 x (0.75 - 25) mm ² , Main cables
SHOCK RESISTANCE	5 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 7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half- sinusoidal shock 10 ms 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 when tabletop-mounted, Half- sinusoidal shock 10 ms
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 2.5) mm ² , Control circuit cables 2 x (0.75 - 16) mm ² , Main cables 2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (0.75 - 16) mm ² , Main cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14, Control circuit cables Single 14 - 1, double 14 - 2, Main cables
TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 3.3 Nm, Screw terminals, Main cables
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY	0 V

VOLTAGE (US) AT DC - MIN	
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	700 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	80 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	50 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	50 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	50 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	50 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	32 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	21 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	21 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	21 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	21 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	17 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	50 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	45 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	60 A

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	50 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	17 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	22 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	30 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	6 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	6.5 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	10 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	11 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	12 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	13 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	14 kW
RATED OPERATIONAL POWER (NEMA)	29.8 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RESISTANCE PER POLE	1.9 mΩ
STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS	4.1 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	14 mm
SWITCHING TIME (AC OPERATED, MAKE	18 ms

CONTACTS, CLOSING DELAY) - MAX	
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	12 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	13 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	160 A gG/gL
SUITABLE FOR	Also motors with efficiency class IE3
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	80 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	80 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	63 A gG/gL
OPERATING TEMPERATURE	-25° to 60°C
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	80 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	71 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	65 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	32 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	36 kW
RATED OPERATIONAL	30 kW

POWER AT AC-3, 690 V, 50 HZ	
ACTUATING VOLTAGE	400 V 50 Hz, 440 V 60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:



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