

Specifikace



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Eaton 051791

Eaton Moeller® series DILEM Contactor, 42 V 50 Hz, 48 V 60 Hz, 3 pole, 380 V 400 V, 4 kW, Contacts N/C = Normally closed= 1 NC, Screw terminals, AC operation

Obecné specifikace

PRODUCT NAME	Eaton Moeller® series DILEM Mini contactor
CATALOG NUMBER	051791
EAN	4015080517917
PRODUCT LENGTH/DEPTH	52 mm
PRODUCT HEIGHT	58 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.17 kg
CERTIFICATIONS	CSA Class No.: 3211-04 UL 508 UL File No.: E29096 UL CSA IEC/EN 60947-4-1 UL Category Control No.: NLDX VDE 0660 CSA File No.: 012528 IEC/EN 60947 CE CSA-C22.2 No. 14-05
CATALOG NOTES	Also tested according to AC-3e.
MODEL CODE	DILEM- 01(42V50HZ,48V60HZ)

Klimatické podmínky a podmínky prostředí

AMBIENT OPERATING TEMPERATURE - MAX 50 °C

AMBIENT STORAGE TEMPERATURE - MAX 80 °C

AMBIENT OPERATING TEMPERATURE - MIN -25 °C

AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX 40 °C

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

AMBIENT STORAGE TEMPERATURE - MIN -40 °C

CLIMATIC PROOFING Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

Smluvený tepelný proud I_{th}

CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED) 40 A

CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED) 16 A

CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN) 19 A

CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN) 10 A

CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN) 50 A

Kontakty

CONTROL CIRCUIT RELIABILITY < 2 λ, < 1 failure at 100,000,000 Operations (at U_e = 24 V DC, U_{min} = 17 V, I_{min} = 5.4 mA)

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) 1

NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) 0

Ověření návrhu

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 Meets the product standard's requirements.

TO NORMAL HEAT	
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 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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	1.2 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.4 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	9 A

STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS	1.8 W
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Jmenovité elektrické charakteristiky

RATED BREAKING CAPACITY AT 220/230 V	90 A
RATED BREAKING CAPACITY AT 380/400 V	90 A
RATED BREAKING CAPACITY AT 500 V	64 A
RATED BREAKING CAPACITY AT 660/690 V	42 A
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 440 V (COS PHI TO IEC/EN 60947)	110 A
RATED OPERATIONAL CURRENT (IE)	0.5 A at 220 V, DC L/R $\leq$ 15 ms (with 3 contacts in series) 2.5 A at 60 V, DC L/R $\leq$ 15 ms (with 2 contacts in series) 1.5 A at 100 V, DC L/R $\leq$ 15 ms (with 3 contacts in series) 2.5 A at 24 V, DC L/R $\leq$ 15 ms (with 1 contact in series)
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	22 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V	3 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V	1.5 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	6.4 A
RATED OPERATIONAL CURRENT (IE) AT AC-3,	4.8 A

Features & functions

FEATURES	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
FITTED WITH:	Auxiliary contact
NUMBER OF POLES	Three-pole

660 V, 690 V	
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	6.6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	6.6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	3.4 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 12 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 24 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	20 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	2.5 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	4.3 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	1.5 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	1.8 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	3.1 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	3.3 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	3 kW

RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	3 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
SAFE ISOLATION	300 V AC, Between auxiliary contacts, According to EN 61140 300 V AC, Between the contacts, According to EN 61140 300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between coil and contacts, According to EN 61140

Obecné informace

APPLICATION	Mini Contactors for Motors and Resistive Loads
DEGREE OF PROTECTION	IP20
LIFESPAN, MECHANICAL	150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A) 7,000,000 Operations (Coil 50/60 Hz) 200,000 Operations (at 240 V, AC-15) 10,000,000 Operations
MOUNTING POSITION	As required (except vertical with terminals A1/A2 at the bottom)
OPERATING FREQUENCY	9000 mechanical Operations/h
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)	6000 V AC
SHOCK RESISTANCE	10 g, N/O main contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/O main contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 20 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 20 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 10 g, N/C auxiliary contact,

Magnetový systém

ARCING TIME	12 ms at 690 V AC
CHANGEOVER TIME	16 - 21 ms
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.1 V AC x U _c (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) 1.1 V AC x U _c (voltage tolerance - dual frequency coil 50/60 Hz)
POWER CONSUMPTION, PICK-UP, 50 HZ	22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, PICK-UP, 60 HZ	22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, SEALING, 50 HZ	1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 4.6 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
POWER CONSUMPTION, SEALING, 60 HZ	1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	42 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	42 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	48 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	48 V
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms

	Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
SUITABLE FOR	Also motors with efficiency class IE3
UTILIZATION CATEGORY	AC-3: Normal AC induction motors: starting, switch off during running
VOLTAGE TYPE	AC

SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	14 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	8 ms
SWITCHING TIME (AC OPERATED, N/O, WITH AUXILIARY CONTACT MODULE, CLOSING DELAY)	45 ms

Jmenovité charakteristiky motoru

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	0.5 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	2 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	1.5 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	3 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	5 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	5 HP

Jmenovitá zkratová odolnost

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	5 kA, SCCR (UL/CSA) 45 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION	6 A gG/gL, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding 10 A fast, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding PKZM0-4, Maximum overcurrent protective device, Short-circuit protection only, Auxiliary contacts, Short-circuit rating without welding
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 500 V	20 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 500 V	10 A gG/gL

Spínací výkon

SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	0.5 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
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SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
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SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	15 A, Maximum motor rating (UL/CSA)
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Kapacity svorek

SCREW SIZE	M3.5, Terminal screw
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SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
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STRIPPING LENGTH (MAIN CABLE)	8 mm
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TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 1.5) mm ² 1 x (0.75 - 1.5) mm ²
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TERMINAL CAPACITY (SOLID)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ²
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TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14
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Zdroje

DECLARATIONS OF CONFORMITY	eaton-mini-contactor-declaration-of-conformity-eu250759en.pdf eaton-mini-contactor-declaration-of-conformity-uk251242en.pdf
ECAD MODEL	ETN.051791.edz
CHARACTERISTIC CURVE	eaton-contactors-switch-dilm-characteristic-curve.eps
INSTALAČNÍ NÁVODY	IL03407009Z
MCAD MODEL	eaton-contactor-relays-mcad-drawings-dil-em.dwg DA-CS-dil_em
PEP ECO-PASSPORT	eaton-iec-contactors-pep-eato-00133-v0101-en.pdf
SCHÉMATA ZAPOJENÍ	eaton-contactors-contact-dilm-wiring-diagram-002.eps
VÝKRESY	eaton-contactors-diler-dimensions-004.eps eaton-contactors-diler-dimensions-005.eps eaton-contactors-dilem-dimensions.eps eaton-general-ie-ready-dilm-contactor-standards.eps eaton-tripping-devices-mounting-diler-contactor-relay-symbol.eps

NÁZEV PROJEKTU:

ČÍSLO PROJEKTU:

PŘIPRAVIL:

DATUM:



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