



## Eaton 051803

Eaton Moeller® series DILEM Contactor, 220 V 50 Hz, 240 V 60 Hz, 4 pole, 380 V 400 V, 4 kW, Screw terminals, AC operation

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<b>PRODUCT NAME</b>	Eaton Moeller® series DILEM Mini contactor
<b>CATALOG NUMBER</b>	051803
<b>PRODUCT LENGTH/DEPTH</b>	52 mm
<b>PRODUCT HEIGHT</b>	58 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.17 kg
<b>CERTIFICATIONS</b>	IEC/EN 60947-4-1 CE UL 508 IEC/EN 60947 UL Category Control No.: NLDX UL CSA-C22.2 No. 14-05 CSA File No.: 012528 CSA VDE 0660 UL File No.: E29096 CSA Class No.: 3211-04
<b>CATALOG NOTES</b>	Also tested according to AC-3e.

<b>NUMBER OF POLES</b>	Four-pole
<b>FEATURES</b>	Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF</b>	Does not apply, since the

<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-switch-dilm-characteristic-curve.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">eaton-4-pole-contactor-declaration-of-conformity-uk251256en.pdf</a>
□□□□□	<a href="#">IL03407009Z</a>
□□□	<a href="#">eaton-contactors-contact-dilem-wiring-diagram.eps</a>

<b>PROTECTION OF ASSEMBLIES</b>	entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>OPERATING FREQUENCY</b>	9000 mechanical Operations/h
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC
<b>UTILIZATION CATEGORY</b>	AC-3: Normal AC induction motors: starting, switch off during running AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching
<b>CONNECTION</b>	Screw terminals
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	50 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE</b>	-25 °C

<b>(ENCLOSED) - MIN</b>	
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	0.5 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	2 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	1.5 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	5 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	5 HP
<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	50 A
<b>CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)</b>	16 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)</b>	19 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)</b>	10 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)</b>	60 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	9.56 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	2.39 W
<b>SWITCHING TIME (AC OPERATED, N/O, WITH AUXILIARY CONTACT MODULE, CLOSING DELAY)</b>	45 ms

<b>APPLICATION</b>	Mini Contactors for Motors and Resistive Loads
<b>PRODUCT CATEGORY</b>	Contactors
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
<b>ARCING TIME</b>	12 ms at 690 V AC
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>SCREWDRIVER SIZE</b>	0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
<b>VOLTAGE TYPE</b>	AC
<b>DEGREE OF PROTECTION</b>	IP20
<b>MOUNTING POSITION</b>	As required (except vertical with terminals A1/A2 at the bottom)
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>	0
<b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>	4
<b>RATED BREAKING CAPACITY AT 220/230 V</b>	90 A
<b>RATED BREAKING CAPACITY AT 380/400 V</b>	90 A
<b>RATED BREAKING CAPACITY AT 500 V</b>	64 A
<b>RATED BREAKING CAPACITY AT 660/690 V</b>	42 A
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	220 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	220 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	240 V

<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	240 V
<b>OVERVOLTAGE CATEGORY</b>	III
<b>CONTROL CIRCUIT RELIABILITY</b>	< 2 λ, < 1 failure at 100,000,000 Operations (at U <sub>e</sub> = 24 V DC, U <sub>min</sub> = 17 V, I <sub>min</sub> = 5.4 mA)
<b>DUTY FACTOR</b>	100 %
<b>CHANGEOVER TIME</b>	16 - 21 ms
<b>LIFESPAN, MECHANICAL</b>	20,000,000 Operations 150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A) 200,000 Operations (at 240 V, AC-15) 7,000,000 Operations (Coil 50/60 Hz)
<b>PICK-UP VOLTAGE</b>	1.1 V AC x U <sub>c</sub> (voltage tolerance - dual frequency coil 50/60 Hz) 0.8 - 1.1 V AC x U <sub>c</sub> (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)
<b>POWER CONSUMPTION, PICK-UP, 50 HZ</b>	25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
<b>SAFE ISOLATION</b>	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 auxiliary contacts, According to EN 61140 300 V AC, Between coil and contacts, According to EN 61140
<b>POWER CONSUMPTION, PICK-UP, 60 HZ</b>	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
<b>SCREW SIZE</b>	M3.5, Terminal screw
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	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
<b>POWER CONSUMPTION, SEALING, 60 HZ</b>	1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz
<b>RATED OPERATIONAL CURRENT (IE)</b>	2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 1.5 A at 100 V, DC L/R ≤ 15 ms (with 3 contacts in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series)
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.75 - 1.5) mm <sup>2</sup> 1 x (0.75 - 1.5) mm <sup>2</sup>
<b>SHOCK RESISTANCE</b>	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 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 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 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
<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 2.5) mm <sup>2</sup>
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	18 - 14
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	15 A, Maximum motor rating (UL/CSA)
<b>TIGHTENING TORQUE</b>	1.2 Nm, Screw terminals

<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	0 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>RATED MAKING CAPACITY UP TO 440 V (COS PHI TO IEC/EN 60947)</b>	110 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V</b>	22 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	3 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V</b>	1.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	9 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	9 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V</b>	9 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	6.4 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	4.8 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V</b>	6.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V</b>	6.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V</b>	6.6 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V</b>	5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4,</b>	3.4 A



<b>660 V, 690 V</b>	
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V</b>	20 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 12 V</b>	20 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V</b>	20 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 24 V</b>	20 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V</b>	20 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	22 A
<b>RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ</b>	2.5 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>	4 kW
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	4.3 kW
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	1.5 kW
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	1.8 kW
<b>RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ</b>	3 kW
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	3.1 kW
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	3.3 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	3 kW
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	3 kW
<b>RATED OPERATIONAL POWER (NEMA)</b>	3.7 kW
<b>RATED OPERATIONAL</b>	690 V

<b>VOLTAGE (UE) AT AC - MAX</b>	
<b>RESISTANCE PER POLE</b>	9.18 mΩ
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	1.8 W
<b>STRIPPING LENGTH (MAIN CABLE)</b>	8 mm
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	21 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN</b>	14 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	18 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN</b>	8 ms
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	45 A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION</b>	6 A gG/gL, 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 10 A fast, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 500 V</b>	20 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 500 V</b>	10 A gG/gL
<b>CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)</b>	22 A
<b>CONVENTIONAL</b>	20 A

THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	4.6 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	4 kW
ACTUATING VOLTAGE	220 V 50 Hz, 240 V 60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:

