

Specifications



Photo is representative



Eaton 111891

Eaton Moeller series Power Defense - Molded Case Circuit Breaker. Circuit-breaker LZM, 3 p, 40A, C1-A40-I

General specifications

PRODUCT NAME	Eaton Moeller series Power Defense molded case circuit-breaker
CATALOG NUMBER	111891
MODEL CODE	LZMC1-A40-I
EAN	4015081114399
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	145 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	1.014 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	VDE 0660 IEC IEC/EN 60947
PRODUCT TYPE	Molded case circuit breaker



Powering Business Worldwide

Delivery program

CIRCUIT BREAKER FRAME TYPE	LZM1
APPLICATION	Use in unearthed supply systems at 690 V
AMPERAGE RATING	40 A
NUMBER OF POLES	Three-pole

Technical data - electrical

VOLTAGE RATING	690 V - 690 V
RATED INSULATION VOLTAGE (UI)	690 V AC
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	6000 V
RATED OPERATIONAL CURRENT	160 A (380/400 V AC-1, making and breaking capacity) 160 A (690 V AC-1, making and breaking capacity) 40 A (660-690 V AC-3, making and breaking capacity) 125 A (415 V AC-1, making and breaking capacity) 40 A (415 V AC-3, making and breaking capacity)
INSTANTANEOUS CURRENT SETTING (II) - MIN	320 A
INSTANTANEOUS CURRENT SETTING (II) - MAX	400 A
OVERLOAD CURRENT SETTING (IR) - MIN	32 A
OVERLOAD CURRENT SETTING (IR) - MAX	40 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	0 A
SHORT DELAY CURRENT SETTING (ISD) - MAX	0 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	320 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	400 A
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	55 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	36 kA
RATED SHORT-CIRCUIT	22.5 kA

BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	6 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	121 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ	76 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ	63 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 525 V, 50/60 HZ	24 kA
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 690 V, 50/60 HZ	14 kA
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Frame clamp
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
OVERVOLTAGE CATEGORY	III
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
POLLUTION DEGREE	3
LIFESPAN, ELECTRICAL	7500 operations at 690 V AC-1 10000 operations at 400 V AC-1 10000 operations at 415 V AC-1 7500 operations at 415 V AC-3

Technical data - mechanical

TYPE	Circuit breaker
RELEASE SYSTEM	Thermomagnetic release
MOUNTING METHOD	DIN rail (top hat rail) mounting optional Fixed Built-in device fixed built-in technique
DEGREE OF PROTECTION	IP20 In the area of the HMI devices: IP20 (basic protection type)
DEGREE OF PROTECTION (IP), FRONT SIDE	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
DEGREE OF PROTECTION (TERMINATIONS)	IP00 (terminations, phase isolator and band terminal) IP10 (tunnel terminal)
PROTECTION AGAINST DIRECT CONTACT	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
NUMBER OF OPERATIONS PER HOUR - MAX	120
HANDLE TYPE	Rocker lever
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
DIRECTION OF INCOMING SUPPLY	As required
STANDARD TERMINALS	Box terminal
TERMINAL CAPACITY (CONTROL CABLE)	0.75 mm ² - 2.5 mm ² (1x) 0.75 mm ² - 1.5 mm ² (2x)
TERMINAL CAPACITY (ALUMINUM SOLID CONDUCTOR/CABLE)	16 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER BUSBAR)	Max. 16 mm x 5 mm direct at switch rear-side

Design verification as per IEC/EN 61439 - technical data

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	40 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	10.656 W

	<p>connection Min. 12 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection</p>
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	<p>6 mm² - 16 mm² (2x) direct at switch rear-side connection 10 mm² - 16 mm² (1x) direct at switch rear-side connection 6 mm² - 16 mm² (2x) at box terminal 10 mm² - 16 mm² (1x) at box terminal 16 mm² - 95 mm² (1x) at tunnel terminal</p>
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	<p>25 mm² - 70 mm² (1x) direct at switch rear-side connection 25 mm² - 70 mm² (1x) at box terminal 25 mm² (2x) direct at switch rear-side connection 25 mm² - 95 mm² (1x) at tunnel terminal 25 mm² (2x) at box terminal</p>
TERMINAL CAPACITY (COPPER STRIP)	<p>Min. 2 segments of 9 mm x 0.8 mm at box terminal Max. 9 segments of 9 mm x 0.8 mm at box terminal</p>
CLIMATIC PROOFING	<p>Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78</p>
LIFESPAN, MECHANICAL	20000 operations

Design verification as per IEC/EN 61439

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 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

Additional information

FEATURES	Protection unit
FUNCTIONS	System and cable protection
SPECIAL FEATURES	<ul style="list-style-type: none"> • Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity I_{cn}) • Rated current = rated uninterrupted current: 40 A

	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.

Resources

	eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps
CHARACTERISTIC CURVE	eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-039.eps eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-033.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250118en.pdf
DRAWINGS	eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps eaton-circuit-breaker-nzm-mccb-dimensions-017.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-basic-unit-lzm1-instruction-leaflet-il01203007z.pdf
INSTALLATION VIDEOS	Power Defense EMEA

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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