

Specifications



Photo is representative



Eaton 111895

Eaton Moeller series Power Defense -
Molded Case Circuit Breaker. Circuit-breaker
LZM, 3 p, 100A, C1-A100-I

General specifications

PRODUCT NAME	Eaton Moeller series Power Defense molded case circuit-breaker
CATALOG NUMBER	111895
MODEL CODE	LZMC1-A100-I
EAN	4015081114436
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	145 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	1.014 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 IEC VDE 0660

Delivery program

CIRCUIT BREAKER FRAME TYPE LZM1

APPLICATION Use in unearthed supply systems at 690 V

AMPERAGE RATING 100 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

100 A (415 V AC-3, making and breaking capacity)
 160 A (690 V AC-1, making and breaking capacity)
 100 A (660-690 V AC-3, making and breaking capacity)
 160 A (380/400 V AC-1, making and breaking capacity)
 125 A (415 V AC-1, making and breaking capacity)

INSTANTANEOUS CURRENT SETTING (II) - MIN 600 A

INSTANTANEOUS CURRENT SETTING (II) - MAX 1000 A

OVERLOAD CURRENT SETTING (IR) - MIN 80 A

OVERLOAD CURRENT SETTING (IR) - MAX 100 A

SHORT DELAY CURRENT SETTING (ISD) - MIN 0 A

SHORT DELAY CURRENT SETTING (ISD) - MAX 0 A

SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN 600 A

SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX 1000 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	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
OVERVOLTAGE CATEGORY	III
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
POLLUTION DEGREE	3
LIFESPAN, ELECTRICAL	10000 operations at 400 V AC-1 5000 operations at 690 V AC-3 7500 operations at 415 V AC-3 10000 operations at 415 V AC-1 7500 operations at 690 V AC-1

Technical data - mechanical

TYPE	Circuit breaker
RELEASE SYSTEM	Thermomagnetic release
MOUNTING METHOD	Built-in device fixed built-in technique DIN rail (top hat rail) mounting optional Fixed
DEGREE OF PROTECTION	In the area of the HMI devices: IP20 (basic protection type) IP20
DEGREE OF PROTECTION (IP), FRONT SIDE	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
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) 100 A

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT 21.9 W

	connection M8 at rear-side screw connection Min. 12 mm x 5 mm direct at switch rear-side connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	10 mm ² - 16 mm ² (1x) at box terminal 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection 6 mm ² - 16 mm ² (2x) at box terminal 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection 16 mm ² - 95 mm ² (1x) at tunnel terminal
TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)	25 mm ² (2x) direct at switch rear-side connection 25 mm ² - 95 mm ² (1x) at tunnel terminal 25 mm ² (2x) at box terminal 25 mm ² - 70 mm ² (1x) direct at switch rear-side connection 25 mm ² - 70 mm ² (1x) at box terminal
TERMINAL CAPACITY (COPPER STRIP)	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
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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	- 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: 100 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-characteristic-power-defense-mccb-characteristic-curve-033.eps
CHARACTERISTIC CURVE	eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps
	eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-039.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250118en.pdf
	eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps
DRAWINGS	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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