Specifications



Photo is representative

Eaton 111956

Eaton Moeller series Power Defense - Molded Case Circuit Breaker. Circuit-breaker, 3 p, 500A, C, 3

General specifications	
PRODUCT NAME	Eaton Moeller series Power Defense molded case circuit-breaker
CATALOG NUMBER	111956
MODEL CODE	LZMC3-A500-I
EAN	4015081115044
PRODUCT LENGTH/DEPTH	166 mm
PRODUCT HEIGHT	275 mm
PRODUCT WIDTH	140 mm
PRODUCT WEIGHT	5.8 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 VDE 0660 IEC

Additional information

FUNCTIONS	System and cable protection

Delivery program

AMPERAGE RATING	500 A
APPLICATION	Use in unearthed supply systems at 690 V
CIRCUIT BREAKER FRAME TYPE	LZM3
FEATURES	Motor drive optional Protection unit
NUMBER OF POLES	Three-pole
RELEASE SYSTEM	Thermomagnetic release
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 Icn) • Rated current = rated uninterrupted current: 500 A
TYPE	Circuit breaker

Design verification as per IEC/EN 61439

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.
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.

Design verification as per IEC/EN 61439 - technical data

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	93 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	500 A

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.

Technical data - electrical

AMPERAGE RATING	500 A
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
HANDLE TYPE	Rocker lever
INSTANTANEOUS CURRENT SETTING (II) - MAX	5000 A
INSTANTANEOUS CURRENT SETTING (II) - MIN	3000 A
ISOLATION	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
LIFESPAN, ELECTRICAL	3000 operations at 690 V AC-1 2000 operations at 400 V AC-3 2000 operations at 690 V AC-3 5000 operations at 400 V AC-1
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	500 A
OVERLOAD CURRENT SETTING (IR) - MIN	400 A
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V
RATED INSULATION VOLTAGE (UI)	1000 V AC
RATED OPERATIONAL CURRENT	500 A (415 V AC-1, making and breaking capacity) 450 A (660-690 V AC-3, making and breaking capacity) 500 A (690 V AC -1, making and breaking capacity) 450 A (415 V AC-3, making and breaking capacity) 500 A (380/400 V AC-1, making and breaking capacity)
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ	55 kA

Technical data - mechanical

CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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)
LIFESPAN, MECHANICAL	15000 operations
MOUNTING METHOD	Fixed Built-in device fixed built-in technique
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
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)
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 Icn) • Rated current = rated uninterrupted current: 500 A

RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ	36 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ	22.5 kA
RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 525 V, 50/60 HZ	9 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
RATED SHORT-TIME WITHSTAND CURRENT (T = 0.3 S)	3.3 kA
RATED SHORT-TIME WITHSTAND CURRENT (T = 1 S)	3.3 kA
SHORT DELAY CURRENT SETTING (ISD) - MAX	0 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	0 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	5000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	3000 A
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
VOLTAGE RATING	690 V - 690 V
VOLTAGE RATING (DC)	750 VDC

Technical data - mechanical - terminals

STANDARD TERMINALS	Screw terminal
TERMINAL CAPACITY (COPPER BUSBAR)	M10 at rear-side screw connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm² - 185 mm² (1x) at tunnel terminal

Resources

CHARACTERISTIC CURVE	eaton-circuit-breaker-nzm-mccb-characteristic-curve-032.eps eaton-circuit-breaker-tripping-characteristic-nzm-mccb-characteristic-curve.eps

	eaton-circuit-breaker-nzm-mccb-characteristic-curve-035.eps
DECLARATIONS OF CONFORMITY	eaton-molded-case-circuit-breaker-declaration-of-conformity-eu250120en.pdf
DRAWINGS	eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps eaton-circuit-breaker-nzm-mccb-dimensions-020.eps eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-002.eps
INSTALLATION INSTRUCTIONS	eaton-circuit-breaker-basic-unit-lzm3-il01208013z.pdf
INSTALLATION VIDEOS	Power Defense EMEA

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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