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## Eaton 111852

Eaton Moeller series Power Defense -  
Molded Case Circuit Breaker. Circuit-breaker  
LZM, 3 p, 50A, B1-A50-I

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<b>PRODUCT NAME</b>	Eaton Moeller series Power Defense molded case circuit-breaker
<b>CATALOG NUMBER</b>	111852
<b>PRODUCT LENGTH/DEPTH</b>	88 mm
<b>PRODUCT HEIGHT</b>	145 mm
<b>PRODUCT WIDTH</b>	90 mm
<b>PRODUCT WEIGHT</b>	1.046 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	IEC IEC/EN 60947 VDE 0660

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**AMPERAGE RATING** 50 A

**VOLTAGE RATING** 440 V - 440 V

**CIRCUIT BREAKER FRAME TYPE** LZM1

**FEATURES** Protection unit

**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.

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### CHARACTERISTIC CURVE

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[eaton-circuit-breaker-nzm-mccb-characteristic-curve-051.eps](#)

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[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](#)

<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the 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>POLLUTION DEGREE</b>	3
<b>MOUNTING METHOD</b>	DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique Fixed
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	13.2 W
<b>UTILIZATION CATEGORY</b>	A (IEC/EN 60947-2)
<b>ISOLATION</b>	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0

<b>PROTECTION AGAINST DIRECT CONTACT</b>	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
<b>DEGREE OF PROTECTION</b>	In the area of the HMI devices: IP20 (basic protection type) IP20
<b>DIRECTION OF INCOMING SUPPLY</b>	As required
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Frame clamp
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERVOLTAGE CATEGORY</b>	III
<b>RATED OPERATIONAL CURRENT</b>	50 A (415 V AC-3, making and breaking capacity) 125 A (415 V AC-1, making and breaking capacity) 160 A (380/400 V AC-1, making and breaking capacity) 50 A (660-690 V AC-3, making and breaking capacity)
<b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>	IP40 (with insulating surround) IP66 (with door coupling rotary handle)
<b>DEGREE OF PROTECTION (TERMINATIONS)</b>	IP00 (terminations, phase isolator and band terminal) IP10 (tunnel terminal)
<b>NUMBER OF POLES</b>	Three-pole
<b>TERMINAL CAPACITY (COPPER STRIP)</b>	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
<b>LIFESPAN, ELECTRICAL</b>	7500 operations at 415 V AC-3 7500 operations at 400 V AC-1 10000 operations at 415 V AC-1
<b>FUNCTIONS</b>	System and cable protection
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>Maximum back-up fuse, if the expected short-circuit currents at the installation</li> </ul>

- location exceed the switching capacity of the circuit breaker (Rated short-circuit breaking capacity  $I_{cn}$ )
- Rated current = rated uninterrupted current: 50 A

<b>APPLICATION</b>	Use in unearthed supply systems at 440 V
<b>SHOCK RESISTANCE</b>	20 g (half-sinusoidal shock 20 ms)
<b>POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT</b>	Front side
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	50 A
<b>RELEASE SYSTEM</b>	Thermomagnetic release
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 10 ms
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>	500 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	300 A
<b>TERMINAL CAPACITY (CONTROL CABLE)</b>	0.75 mm <sup>2</sup> - 1.5 mm <sup>2</sup> (2x) 0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup> (1x)
<b>TERMINAL CAPACITY (COPPER BUSBAR)</b>	Min. 12 mm x 5 mm direct at switch rear-side connection Max. 16 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	16 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) direct at switch rear-side connection 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection 10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) at box terminal 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at box terminal
<b>TERMINAL CAPACITY</b>	16 mm <sup>2</sup> (1x) at tunnel

<b>(ALUMINUM SOLID CONDUCTOR/CABLE)</b>	terminal
<b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b>	25 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) direct at switch rear-side connection 25 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) at box terminal 25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal 25 mm <sup>2</sup> (2x) direct at switch rear-side connection 25 mm <sup>2</sup> (2x) at box terminal
<b>TERMINAL CAPACITY (ALUMINUM STRANDED CONDUCTOR/CABLE)</b>	25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal
<b>HANDLE TYPE</b>	Rocker lever
<b>SHORT DELAY CURRENT SETTING (ISD) - MAX</b>	0 A
<b>SHORT DELAY CURRENT SETTING (ISD) - MIN</b>	0 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>	500 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	300 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	50 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	40 A
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 230 V, 50/60 HZ</b>	30 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 400/415 V, 50/60 HZ</b>	25 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS (IEC/EN 60947) AT 440 V, 50/60 HZ</b>	18.5 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 400/415 V, 50/60 HZ</b>	53 kA
<b>RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 440 V, 50/60 HZ</b>	53 kA

STANDARD TERMINALS	Box terminal
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	63 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	6000 V
RATED INSULATION VOLTAGE (UI)	690 V AC

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:



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