



□□□□□

Eaton 116471

Eaton Moeller series Power Defense -
Molded Case Circuit Breaker. Circuit-
breaker, 4 p, 500A, C, 3

□□□□

PRODUCT NAME	Eaton Moeller series Power Defense molded case circuit-breaker
CATALOG NUMBER	116471
PRODUCT LENGTH/DEPTH	159 mm
PRODUCT HEIGHT	275 mm
PRODUCT WIDTH	185 mm
PRODUCT WEIGHT	7.3 kg
COMPLIANCES	RoHS conform
CERTIFICATIONS	IEC/EN 60947 VDE 0660 IEC

AMPERAGE RATING	500 A
VOLTAGE RATING	690 V - 690 V
CIRCUIT BREAKER FRAME TYPE	LZM3
FEATURES	Protection unit Motor drive optional
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.

CHARACTERISTIC CURVE

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

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-032.eps](#)

[eaton-circuit-breaker-nzm-mccb-characteristic-curve-035.eps](#)

[eaton-circuit-breaker-nzm-mccb-dimensions-021.eps](#)

[eaton-circuit-breaker-switch-nzm-mccb-dimensions-016.eps](#)

[eaton-circuit-breaker-cable-nzm-mccb-3d-drawing-003.eps](#)

□□

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.
POLLUTION DEGREE	3
LIFESPAN, MECHANICAL	15000 operations
UTILIZATION CATEGORY	A (IEC/EN 60947-2)
MOUNTING METHOD	Built-in device fixed built-in technique Fixed
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT	130.5 W
ISOLATION	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0
PROTECTION AGAINST	Finger and back-of-hand

DIRECT CONTACT	proof to DIN EN 50274/VDE 0106 part 110
DEGREE OF PROTECTION	IP20 In the area of the HMI devices: IP20 (basic protection type)
DIRECTION OF INCOMING SUPPLY	As required
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
CURRENT RATING OF NEUTRAL CONDUCTOR	200% of phase conductor
OVERVOLTAGE CATEGORY	III
RATED OPERATIONAL CURRENT	500 A (415 V AC-1, making and breaking capacity) 500 A (380/400 V AC-1, making and breaking capacity) 500 A (690 V AC -1, making and breaking capacity) 450 A (415 V AC-3, making and breaking capacity) 450 A (660-690 V AC-3, making and breaking capacity)
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)
NUMBER OF POLES	Four-pole
LIFESPAN, ELECTRICAL	3000 operations at 690 V AC-1 2000 operations at 400 V AC-3 5000 operations at 400 V AC-1 2000 operations at 690 V AC-3
FUNCTIONS	System and cable protection
TYPE	Circuit breaker
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: 500 A
- Set value in neutral
conductor is
synchronous with
set value I_r of main
pole.

APPLICATION	Use in unearthed supply systems at 690 V
SHOCK RESISTANCE	20 g (half-sinusoidal shock 20 ms)
POSITION OF CONNECTION FOR MAIN CURRENT CIRCUIT	Front side
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (I_N)	500 A
RELEASE SYSTEM	Thermomagnetic release
SHORT-CIRCUIT TOTAL BREAKTIME	< 10 ms
RATED SHORT-TIME WITHSTAND CURRENT (I_t = 0.3 s)	3.3 kA
RATED SHORT-TIME WITHSTAND CURRENT (I_t = 1 s)	3.3 kA
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX	5000 A
SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN	3000 A
TERMINAL CAPACITY (COPPER BUSBAR)	M10 at rear-side screw connection
TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)	16 mm ² - 185 mm ² (1x) at tunnel terminal
HANDLE TYPE	Rocker lever
SHORT DELAY CURRENT SETTING (ISD) - MAX	0 A
SHORT DELAY CURRENT SETTING (ISD) - MIN	0 A
INSTANTANEOUS CURRENT SETTING (II) -	5000 A

MAX	
INSTANTANEOUS CURRENT SETTING (II) - MIN	3000 A
NUMBER OF OPERATIONS PER HOUR - MAX	60
OVERLOAD CURRENT SETTING (IR) - MAX	500 A
OVERLOAD CURRENT SETTING (IR) - MIN	400 A
OVERLOAD CURRENT SETTING (IR)	400 A - 500 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 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 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
STANDARD TERMINALS	Screw terminal
RATED SHORT-CIRCUIT MAKING CAPACITY ICM AT 240 V, 50/60 HZ	121 kA
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS	6000 V
RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS	8000 V

VOLTAGE RATING (DC)	750 VDC
RATED INSULATION VOLTAGE (UI)	1000 V AC
