

# Eaton 103020

Eaton Moeller series NZM - Molded Case Circuit Breaker. Circuit-breaker, 3p, 8A, B1-S8-CNA

<b>PRODUCT NAME</b>	Eaton Moeller series NZM - Molded case circuit breaker
<b>CATALOG NUMBER</b>	103020
<b>PRODUCT LENGTH/DEPTH</b>	88 mm
<b>PRODUCT HEIGHT</b>	165.5 mm
<b>PRODUCT WIDTH</b>	90 mm
<b>PRODUCT WEIGHT</b>	1.046 kg
<b>COMPLIANCES</b>	RoHS conform
<b>CERTIFICATIONS</b>	CSA (File No. 22086) UL 489 UL/CSA UL (File No. E31593) Specially designed for North America CSA certified CSA (Class No. 1432-01) UL (Category Control Number DKPU2) CSA-C22.2 No. 5-09 UL listed



Powering Business Worldwide

<b>AMPERAGE RATING</b>	8 A
<b>VOLTAGE RATING</b>	440 V - 440 V
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF</b>	Does not apply, since the

<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-circuit-breaker-nzm-mccb-characteristic-curve-058.eps</a>
	<a href="#">eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-032.eps</a>
	<a href="#">eaton-circuit-breaker-characteristic-power-defense-mccb-characteristic-curve-038.eps</a>
	<a href="#">eaton-circuit-breaker-switch-disconnector-nzmb-il01203004z.pdf</a>
	<a href="#">eaton-circuit-breaker-nzm-mccb-dimensions-017.eps</a>
	<a href="#">eaton-circuit-breaker-switch-nzm-mccb-dimensions-014.eps</a>
	<a href="#">eaton-circuit-breaker-switch-nzm-mccb-3d-drawing-006.eps</a>

<b>PROTECTION OF ASSEMBLIES</b>	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>	Built-in device fixed built-in technique Fixed
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT</b>	1.76 W
<b>ISOLATION</b>	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	70 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	40 °C
<b>PROTECTION AGAINST DIRECT CONTACT</b>	Finger and back-of-hand proof to VDE 0106 part

	100
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>RATED OPERATING POWER AT AC-3, 230 V</b>	1.5 kW
<b>RATED OPERATING POWER AT AC-3, 400 V</b>	3 kW
<b>SWITCH OFF TECHNIQUE</b>	Magnetic
<b>DEGREE OF PROTECTION</b>	IP20 (basic degree of protection, in the operating controls area) IP20
<b>DIRECTION OF INCOMING SUPPLY</b>	As required
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Other
<b>LIFESPAN, MECHANICAL</b>	20000 operations
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION (IP), FRONT SIDE</b>	IP66 (with door coupling rotary handle) IP40 (with insulating surround)
<b>DEGREE OF PROTECTION (TERMINATIONS)</b>	IP00 (terminations, phase isolator and strip terminal) IP10 (tunnel terminal)
<b>NUMBER OF POLES</b>	Three-pole
<b>TERMINAL CAPACITY (COPPER STRIP)</b>	Max. 9 segments of 9 mm x 0.8 mm at box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal
<b>LIFESPAN, ELECTRICAL</b>	7500 operations at 415 V AC-3
<b>FUNCTIONS</b>	Short-circuit protection
<b>TYPE</b>	Circuit breaker
<b>SPECIAL FEATURES</b>	<ul style="list-style-type: none"> <li>• Rated current = rated uninterrupted current: 8 A</li> <li>• This circuit-breaker is only allowed to be used for UL/CSA applications.</li> <li>• Motor protection in conjunction with contactor and</li> </ul>

	<ul style="list-style-type: none"> <li>overload relay</li> <li>• With short-circuit release</li> <li>• Without overload release <math>I_r</math></li> </ul>
<b>APPLICATION</b>	Branch circuits, feeder circuits
<b>SHOCK RESISTANCE</b>	20 g (half-sinusoidal shock 20 ms)
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	8 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MAX</b>	88 A
<b>SHORT-CIRCUIT RELEASE NON-DELAYED SETTING - MIN</b>	48 A
<b>HANDLE TYPE</b>	Rocker lever
<b>INSTANTANEOUS CURRENT SETTING (II) - MAX</b>	88 A
<b>INSTANTANEOUS CURRENT SETTING (II) - MIN</b>	48 A
<b>NUMBER OF OPERATIONS PER HOUR - MAX</b>	120
<b>OVERLOAD CURRENT SETTING (IR) - MAX</b>	0 A
<b>OVERLOAD CURRENT SETTING (IR) - MIN</b>	0 A
<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>	25 kA
<b>STANDARD TERMINALS</b>	Box terminal
<b>RATED OPERATING VOLTAGE UE (UL) - MAX</b>	480 Y / 277 V
<b>RELEASE SYSTEM</b>	Thermomagnetic release
<b>SHORT-CIRCUIT TOTAL BREAKTIME</b>	< 10 ms
<b>TERMINAL CAPACITY (ALUMINUM SOLID)</b>	16 mm <sup>2</sup> (1x) at tunnel terminal

<b>CONDUCTOR/CABLE)</b>	
<b>TERMINAL CAPACITY (CONTROL CABLE)</b>	14 mm <sup>2</sup> - 18 mm <sup>2</sup> (1x) 16 mm <sup>2</sup> - 18 mm <sup>2</sup> (2x)
<b>TERMINAL CAPACITY (COPPER BUSBAR)</b>	M6 at rear-side screw connection Max. 16 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection
<b>TERMINAL CAPACITY (COPPER SOLID CONDUCTOR/CABLE)</b>	6 mm <sup>2</sup> - 9 mm <sup>2</sup> (2x) direct at switch rear-side connection 6 mm <sup>2</sup> (1x) at tunnel terminal 6 mm <sup>2</sup> - 12 mm <sup>2</sup> (1x) direct at switch rear-side connection 6 mm <sup>2</sup> - 12 mm <sup>2</sup> (1x) at box terminal
<b>TERMINAL CAPACITY (COPPER STRANDED CONDUCTOR/CABLE)</b>	4 mm <sup>2</sup> - 2/0 mm <sup>2</sup> (1x) at box terminal 4 mm <sup>2</sup> - 3/0 mm <sup>2</sup> (1x) at tunnel terminal 4 mm <sup>2</sup> - 2/0 mm <sup>2</sup> (1x) direct at switch rear-side connection
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICU (IEC/EN 60947) AT 400/415 V, 50/60 HZ</b>	25 kA
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT AUXILIARY CONTACTS</b>	6000 V
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP) AT MAIN CONTACTS</b>	6000 V
<b>POWER LOSS</b>	1.8 W

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**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

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