

## Miniature circuit breaker (MCB), 80A, 3p+N, D-Char

**Part no.**                    **AZ-3N-D80**  
**211825**

<b>General specifications</b>		
Product name		Eaton Moeller series xEffect - AZ MCB
Part no.		AZ-3N-D80
EAN		4015082118259
Product Length/Depth		90 millimetre
Product height		75 millimetre
Product width		108 millimetre
Product weight		0.858 kilogram
Compliances		RoHS conform
Certifications		IEC/EN 60947-2 EN45545-2 IEC 61373
Product Tradename		xEffect - AZ MCB
Product Type		MCB
Product Sub Type		None
<b>Delivery program</b>		
Application		Switchgear for industrial and advanced commercial applications xEffect - Switchgear for industrial and advanced commercial applications
Number of poles		Three-pole + N
Number of poles (total)		4
Number of poles (protected)		3
Tripping characteristic		D
Release characteristic		D
Amperage Rating		80 A
Type		AZ Miniature circuit breaker
<b>Technical Data - Electrical</b>		
Voltage type		AC
Voltage rating		230 V AC / 400 V AC
Voltage rating at DC		60 V DC (per pole)
Rated operational voltage (Ue) - max		400 V
Rated insulation voltage (Ui)		440 V
Rated impulse withstand voltage (Uimp)		4 kV
Frequency rating - min		50 Hz
Frequency rating - max		60 Hz
Rated switching capacity (IEC/EN 60947-2)		20 kA
Operational switching capacity		20 kA
Rated short-circuit breaking capacity (EN 60898) at 230 V		0 kA
Rated short-circuit breaking capacity (EN 60898) at 400 V		0 kA
Rated short-circuit breaking capacity (IEC 60947-2) at 230 V		20 kA
Rated short-circuit breaking capacity (IEC 60947-2) at 400 V		20 kA
Admissible back-up fuse - max		200 A gL/gG
Selectivity class		3
Lifespan, electrical		10000 operations
Overvoltage category		III
Pollution degree		2
Direction of incoming supply		As required
<b>Technical Data - Mechanical</b>		
Frame		45 mm
Enclosure width		90 mm

Width in number of modular spacings		6
Built-in depth		75 mm
Mounting width per pole		27 mm
Mounting width		27 mm
Mounting Method		Top-hat rail IEC/EN 60715
Degree of protection		IP40 (when fitted) IP20
Terminals (top and bottom)		Lift terminals
Connectable conductor cross section (solid-core) - min		2.5 mm <sup>2</sup>
Connectable conductor cross section (solid-core) - max		50 mm <sup>2</sup>
Connectable conductor cross section (multi-wired) - min		2.5 mm <sup>2</sup>
Connectable conductor cross section (multi-wired) - max		50 mm <sup>2</sup>
Terminal capacity (control cable)		2.5 mm <sup>2</sup> - 50 mm <sup>2</sup>
Terminal protection		Finger and hand touch safe, DGUV VS3, EN 50274
<b>Design verification as per IEC/EN 61439 - technical data</b>		
Rated operational current for specified heat dissipation (In)		80 A
Heat dissipation per pole, current-dependent		0 W
Equipment heat dissipation, current-dependent		22.11 W
Static heat dissipation, non-current-dependent		0 W
Heat dissipation capacity		0 W
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		55 °C
<b>Design verification as per IEC/EN 61439</b>		
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 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.
<b>Additional information</b>		
Current limiting class		3
Features		Additional equipment possible Concurrently switching N-neutral
Special features		Ambient temperature hint: a 1 °C increase results in a 0.5% linear reduction of current carrying capacity
Used with		Miniature circuit breaker AZ

## Technical data ETIM 8.0

Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)

Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB)  
(ecl@ss10.0.1-27-14-19-01 [AAB905014])

Built-in depth	mm	75
Release characteristic		D
Number of poles (total)		4
Number of protected poles		3
Rated current	A	80
Rated voltage	V	400
Rated insulation voltage $U_i$	V	440
Rated impulse withstand voltage $U_{imp}$	kV	4
Rated short-circuit breaking capacity $I_{cn}$ according to EN 60898 at 230 V	kA	0
Voltage type		AC
Rated short-circuit breaking capacity $I_{cn}$ according to EN 60898 at 400 V	kA	0
Rated short-circuit breaking capacity $I_{cu}$ according to IEC 60947-2 at 230 V	kA	20
Rated short-circuit breaking capacity $I_{cu}$ according to IEC 60947-2 at 400 V	kA	20
Frequency	Hz	50 - 60
Current limiting class		3
Flush-mounted installation		No
Concurrently switching neutral conductor		Yes
Over voltage category		3
Pollution degree		2
Additional equipment possible		Yes
Width in number of modular spacings		6
Degree of protection (IP)		IP20
Ambient temperature during operating	°C	-25 - 55
Connectable conductor cross section multi-wired	mm <sup>2</sup>	2.5 - 50
Connectable conductor cross section solid-core	mm <sup>2</sup>	2.5 - 50
Explosion-proof		No