DATASHEET - LZMC1-4-A80-I

Circuit-breaker, 4 p, 80A, fixed mounted design

Part no. **LZMC1-4-A80-I**
111914

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller series Power Defense molded case circuit-breaker
Part no.	LZMC1-4-A80-I
EAN	4015081114627
Product Length/Depth	88 millimetre
Product height	145 millimetre
Product width	120 millimetre
Product weight	1.324 kilogram
Compliances	RoHS conform
Certifications	IEC IEC/EN 60947 VDE 0660
Product Tradename	Power Defense
Product Type	Molded case circuit breaker
Product Sub Type	None

Delivery program

Application	Use in unearthed supply systems at 690 V
Type	Circuit breaker
Circuit breaker frame type	LZM1
Number of poles	Four-pole
Amperage Rating	80 A
Release system	Thermomagnetic release
Features	Protection unit
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: 80 A Set value in neutral conductor is synchronous with set value Ir of main pole.

Technical Data - Electrical

Voltage rating	690 V - 690 V
Rated insulation voltage (Ui)	690 V AC
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	6000 V
Current rating of neutral conductor	200% of phase conductor
Rated operational current	80 A (415 V AC-3, making and breaking capacity) 80 A (660-690 V AC-3, making and breaking capacity) 160 A (690 V AC-1, making and breaking capacity) 160 A (380/400 V AC-1, making and breaking capacity) 125 A (415 V AC-1, making and breaking capacity)
Instantaneous current setting (Ii) - min	480 A
Instantaneous current setting (Ii) - max	800 A
Overload current setting (Ir)	63 A - 80 A
Overload current setting (Ir) - min	63 A
Overload current setting (Ir) - max	80 A
Short delay current setting (Isd) - min	0 A
Short delay current setting (Isd) - max	0 A
Short-circuit release non-delayed setting - min	480 A
Short-circuit release non-delayed setting - max	800 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	6 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
Short-circuit total breaktime	< 10 ms
Electrical connection type of main circuit	Frame clamp
Isolation	300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
Number of operations per hour - max	120
Handle type	Rocker lever
Utilization category	A (IEC/EN 60947-2)
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	10000 operations at 415 V AC-1 7500 operations at 690 V AC-1 5000 operations at 690 V AC-3 7500 operations at 415 V AC-3 10000 operations at 400 V AC-1
Direction of incoming supply	As required

Technical Data - Mechanical

Mounting Method	DIN rail (top hat rail) mounting optional Built-in device fixed built-in technique Fixed
Degree of protection	IP20 In the area of the HMI devices: IP20 (basic protection type)
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)
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)
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
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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: 80 A Set value in neutral conductor is synchronous with set value Ir of main pole.
Lifespan, mechanical	20000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Box terminal
Terminal capacity (control cable)	0.75 mm^2 - 2.5 mm^2 (1x) 0.75 mm^2 - 1.5 mm^2 (2x)
Terminal capacity (aluminum solid conductor/cable)	16 mm^2 (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)	25 mm^2 - 95 mm^2 (1x) at tunnel terminal
Terminal capacity (copper busbar)	Max. 16 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection M8 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)	6 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 - 95 mm^2 (1x) at tunnel terminal 10 mm^2 - 16 mm^2 (1x) at box terminal 10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection 6 mm^2 - 16 mm^2 (2x) at box terminal
Terminal capacity (copper stranded conductor/cable)	25 mm^2 (2x) direct at switch rear-side connection 25 mm^2 - 95 mm^2 (1x) at tunnel terminal 25 mm^2 (2x) at box terminal 25 mm^2 - 70 mm^2 (1x) at box terminal 25 mm^2 - 70 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper strip)	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

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)	80 A

Equipment heat dissipation, current-dependent	16.32 W
Design verification as per IEC/EN 61439	
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.
Additional information	
Functions	System and cable protection