

Circuit-breaker, 4 p, 500A



Part no. LZMC3-4-A500-I
116471

General specifications	
Product name	Eaton Moeller series Power Defense molded case circuit-breaker
Part no.	LZMC3-4-A500-I
EAN	4015081162130
Product Length/Depth	159 millimetre
Product height	275 millimetre
Product width	185 millimetre
Product weight	7.3 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947 VDE 0660 IEC
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	LZM3
Number of poles	Four-pole
Amperage Rating	500 A
Release system	Thermomagnetic release
Features	Protection unit Motor drive optional
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.
Technical Data - Electrical	
Voltage rating	690 V - 690 V
Voltage rating (DC)	750 V DC
Rated insulation voltage (U _i)	1000 V AC
Rated impulse withstand voltage (U _{imp}) at auxiliary contacts	6000 V
Rated impulse withstand voltage (U _{imp}) at main contacts	8000 V
Current rating of neutral conductor	200% of phase conductor
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)
Rated short-time withstand current (t = 0.3 s)	3.3 kA
Rated short-time withstand current (t = 1 s)	3.3 kA
Instantaneous current setting (I _i) - min	3000 A
Instantaneous current setting (I _i) - max	5000 A
Overload current setting (I _r)	400 A - 500 A
Overload current setting (I _r) - min	400 A
Overload current setting (I _r) - max	500 A
Short delay current setting (I _{sd}) - min	0 A
Short delay current setting (I _{sd}) - max	0 A
Short-circuit release non-delayed setting - min	3000 A
Short-circuit release non-delayed setting - max	5000 A
Rated short-circuit breaking capacity I _{cs} (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 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		Screw connection
Isolation		500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
Number of operations per hour - max		60
Handle type		Rocker lever
Utilization category		A (IEC/EN 60947-2)
Overvoltage category		III
Pollution degree		3
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
Direction of incoming supply		As required
Technical Data - Mechanical		
Mounting Method		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		IP40 (with insulating surround) IP66 (with door coupling rotary handle)
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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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: 500 A Set value in neutral conductor is synchronous with set value Ir of main pole.
Lifespan, mechanical		15000 operations
Technical Data - Mechanical - Terminals		
Standard terminals		Screw terminal
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
Design verification as per IEC/EN 61439 - technical data		
Rated operational current for specified heat dissipation (In)		500 A
Equipment heat dissipation, current-dependent		130.5 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