

## Circuit-breaker, 4 p, 63A

**Part no.**                    **LZMC1-4-A63-I**  
**111913**

| <b>General specifications</b>   |   |
|---|---|
| Product name  | Eaton Moeller series Power Defense molded case circuit-breaker  |
| Part no.  | LZMC1-4-A63-I   |
| EAN   | 4015081114610   |
| Product Length/Depth  | 88 millimetre   |
| Product height  | 145 millimetre  |
| Product width   | 120 millimetre  |
| Product weight  | 1.324 kilogram  |
| Compliances   | RoHS conform  |
| Certifications  | VDE 0660<br>IEC/EN 60947<br>IEC   |
| Product Tradename   | Power Defense   |
| Product Type  | Molded case circuit breaker   |
| Product Sub Type  | None  |
| <b>Delivery program</b>   |   |
| Application   | Use in unearthed supply systems at 690 V  |
| Type  | Circuit breaker   |
| Circuit breaker frame type  | LZM1  |
| Number of poles   | Four-pole   |
| Amperage Rating   | 63 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 I <sub>cn</sub> ) Rated current = rated uninterrupted current: 63 A Set value in neutral conductor is synchronous with set value I <sub>r</sub> of main pole. |
| <b>Technical Data - Electrical</b>  |   |
| Voltage rating  | 690 V - 690 V   |
| Rated insulation voltage (U <sub>i</sub> )  | 690 V AC  |
| Rated impulse withstand voltage (U <sub>imp</sub> ) at auxiliary contacts                   | 6000 V  |
| Rated impulse withstand voltage (U <sub>imp</sub> ) at main contacts                        | 6000 V  |
| Current rating of neutral conductor   | 200% of phase conductor   |
| Rated operational current   | 63 A (415 V AC-3, making and breaking capacity)<br>125 A (415 V AC-1, making and breaking capacity)<br>63 A (660-690 V AC-3, making and breaking capacity)<br>160 A (380/400 V AC-1, making and breaking capacity)<br>160 A (690 V AC-1, making and breaking capacity)  |
| Instantaneous current setting (I <sub>i</sub> ) - min                                       | 380 A   |
| Instantaneous current setting (I <sub>i</sub> ) - max                                       | 630 A   |
| Overload current setting (I <sub>r</sub> )  | 50 A - 63 A   |
| Overload current setting (I <sub>r</sub> ) - min  | 50 A  |
| Overload current setting (I <sub>r</sub> ) - max  | 63 A  |
| Short delay current setting (I <sub>sd</sub> ) - min  | 0 A   |
| Short delay current setting (I <sub>sd</sub> ) - max  | 0 A   |
| Short-circuit release non-delayed setting - min   | 378 A   |
| Short-circuit release non-delayed setting - max   | 630 A   |
| Rated short-circuit breaking capacity I <sub>cs</sub> (IEC/EN 60947) at 230 V, 50/60 Hz     | 55 kA   |
| Rated short-circuit breaking capacity I <sub>cs</sub> (IEC/EN 60947) at 400/415 V, 50/60 Hz | 36 kA   |
| Rated short-circuit breaking capacity I <sub>cs</sub> (IEC/EN 60947) at 440 V, 50/60 Hz     | 22.5 kA   |
| Rated short-circuit breaking capacity I <sub>cs</sub> (IEC/EN 60947) at 525 V, 50/60 Hz     | 6 kA  |
| Rated short-circuit making capacity I <sub>cm</sub> at 240 V, 50/60 Hz                      | 121 kA  |

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| Rated short-circuit making capacity I <sub>cm</sub> at 400/415 V, 50/60 Hz |  | 76 kA   |
| Rated short-circuit making capacity I <sub>cm</sub> at 440 V, 50/60 Hz     |  | 63 kA   |
| Rated short-circuit making capacity I <sub>cm</sub> at 525 V, 50/60 Hz     |  | 24 kA   |
| Rated short-circuit making capacity I <sub>cm</sub> 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)<br>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   |  | 5000 operations at 690 V AC-3<br>10000 operations at 400 V AC-1<br>10000 operations at 415 V AC-1<br>7500 operations at 415 V AC-3<br>7500 operations at 690 V AC-1   |
| Direction of incoming supply   |  | As required   |
| <b>Technical Data - Mechanical</b>   |  |   |
| Mounting Method  |  | Built-in device fixed built-in technique<br>DIN rail (top hat rail) mounting optional<br>Fixed  |
| Degree of protection   |  | In the area of the HMI devices: IP20 (basic protection type)<br>IP20  |
| Degree of protection (IP), front side                                      |  | IP66 (with door coupling rotary handle)<br>IP40 (with insulating surround)  |
| Degree of protection (terminations)  |  | IP10 (tunnel terminal)<br>IP00 (terminations, phase isolator and band 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<br>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 I <sub>cn</sub> ) Rated current = rated uninterrupted current: 63 A Set value in neutral conductor is synchronous with set value I <sub>r</sub> of main pole.                       |
| Lifespan, mechanical   |  | 20000 operations  |
| <b>Technical Data - Mechanical - Terminals</b>                             |  |   |
| Standard terminals   |  | Box terminal  |
| Terminal capacity (control cable)  |  | 0.75 mm <sup>2</sup> - 1.5 mm <sup>2</sup> (2x)<br>0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup> (1x)  |
| Terminal capacity (aluminum solid conductor/cable)                         |  | 16 mm <sup>2</sup> (1x) at tunnel terminal  |
| Terminal capacity (aluminum stranded conductor/cable)                      |  | 25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal   |
| Terminal capacity (copper busbar)  |  | Max. 16 mm x 5 mm direct at switch rear-side connection<br>Min. 12 mm x 5 mm direct at switch rear-side connection<br>M8 at rear-side screw connection  |
| Terminal capacity (copper solid conductor/cable)                           |  | 6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) direct at switch rear-side connection<br>16 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal<br>10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) direct at switch rear-side connection<br>6 mm <sup>2</sup> - 16 mm <sup>2</sup> (2x) at box terminal<br>10 mm <sup>2</sup> - 16 mm <sup>2</sup> (1x) at box terminal |
| Terminal capacity (copper stranded conductor/cable)                        |  | 25 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) direct at switch rear-side connection<br>25 mm <sup>2</sup> (2x) at box terminal<br>25 mm <sup>2</sup> - 70 mm <sup>2</sup> (1x) at box terminal<br>25 mm <sup>2</sup> (2x) direct at switch rear-side connection<br>25 mm <sup>2</sup> - 95 mm <sup>2</sup> (1x) at tunnel terminal   |
| Terminal capacity (copper strip)   |  | Min. 2 segments of 9 mm x 0.8 mm at box terminal<br>Max. 9 segments of 9 mm x 0.8 mm at box terminal  |
| <b>Design verification as per IEC/EN 61439 - technical data</b>            |  |   |
| Rated operational current for specified heat dissipation (I <sub>n</sub> ) |  | 63 A  |

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| Equipment heat dissipation, current-dependent                                    |  | 14.17 W  |
| <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>  |  |  |
| Functions  |  | System and cable protection  |