

Circuit-breaker, 3 p, 250A



**Part no.** LZMC2-A250-I  
111940

| General specifications  |  |  |
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| Product name  |  | Eaton Moeller series Power Defense molded case circuit-breaker   |
| Part no.  |  | LZMC2-A250-I   |
| EAN   |  | 4015081114887  |
| Product Length/Depth  |  | 142 millimetre   |
| Product height  |  | 185 millimetre   |
| Product width   |  | 105 millimetre   |
| Product weight  |  | 2.345 kilogram   |
| Compliances   |  | RoHS conform   |
| Certifications  |  | IEC/EN 60947<br>VDE 0660<br>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  |  | LZM2   |
| Number of poles   |  | Three-pole   |
| Amperage Rating   |  | 250 A  |
| Release system  |  | Thermomagnetic release   |
| Features  |  | Motor drive optional<br>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: 250 A               |
| Technical Data - Electrical   |  |  |
| 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                        |  | 8000 V   |
| Rated operational current   |  | 250 A (415 V AC-3, making and breaking capacity)<br>250 A (660-690 V AC-3, making and breaking capacity)<br>300 A (380/400 V AC-1, making and breaking capacity)<br>300 A (415 V AC-1, making and breaking capacity)<br>300 A (690 V AC-1, making and breaking capacity) |
| Instantaneous current setting (I <sub>i</sub> ) - min                                       |  | 1500 A   |
| Instantaneous current setting (I <sub>i</sub> ) - max                                       |  | 2500 A   |
| Overload current setting (I <sub>r</sub> ) - min  |  | 200 A  |
| Overload current setting (I <sub>r</sub> ) - max  |  | 250 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   |  | 1500 A   |
| Short-circuit release non-delayed setting - max   |  | 2500 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   |
| 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  |

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| 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  |  | 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   |  | 7500 operations at 690 V AC-1<br>10000 operations at 400 V AC-1<br>7500 operations at 415 V AC-1<br>5000 operations at 690 V AC-3<br>6500 operations at 415 V AC-3  |
| Direction of incoming supply   |  | As required   |
| <b>Technical Data - Mechanical</b>   |  |   |
| Mounting Method  |  | Built-in device fixed built-in technique<br>Fixed<br>DIN rail (top hat rail) mounting optional  |
| Degree of protection   |  | In the area of the HMI devices: IP20 (basic protection type)<br>IP20  |
| Degree of protection (IP), front side  |  | IP40 (with insulating surround)<br>IP66 (with door coupling rotary handle)  |
| 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, cyclic, to IEC 60068-2-30<br>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: 250 A |
| Lifespan, mechanical   |  | 20000 operations  |
| <b>Technical Data - Mechanical - Terminals</b>                                   |  |   |
| Standard terminals   |  | Screw terminal  |
| Terminal capacity (copper busbar)  |  | M8 at rear-side screw connection  |
| Terminal capacity (copper solid conductor/cable)                                 |  | 16 mm <sup>2</sup> (1x) at tunnel terminal  |
| <b>Design verification as per IEC/EN 61439 - technical data</b>                  |  |   |
| Rated operational current for specified heat dissipation (In)                    |  | 250 A   |
| Equipment heat dissipation, current-dependent                                    |  | 58.13 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.  |

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| 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  |