| 360046 | **Eaton Moeller series HLR Solid-state relay, 3-phase, 20 A, 42 - 660 V, DC** | |
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| **General specifications** | Product Name | Eaton Moeller series HLR solid state relay |
| | Catalog Number | 360046 |
| | Model Code | HLR20/3(DC)600V |
| | EAN | 4,01508E+12 |
| | Product Length/Depth | 103 mm |
| | Product Height | 110 mm |
| | Product Width | 54 mm |
| | Product Weight | 0.505 kg |
| | Compliances | CE Marked RoHS Compliant |
| | Certifications | CE UL 508 EAC CCC |
| **Features & Functions** | Features | Modular version |
| | Functions | Switching at zero-crossing |
| | Electrical connection type for auxiliary- and control-current circuit | Screw connection |
| | Electrical connection type of main circuit | |
| **General** | Degree of protection | IP20 |
| | Frequency rating | 45 Hz - 65 Hz |
| | Mounting position | Mount device in specified orientation and do not obstruct the heatsink |
| | Number of phases | 3 |
| | Number of pilot lights | 1 |
| | Overvoltage category | III |
| | Pollution degree | 2 |
| | Rated impulse withstand voltage (Uimp) | 6 kV (1.2/50 µs) |
| | Series | HLR |
| | Shock resistance | 15/11 g/ms (according to EN 50155, EN 61373) |
| | Type | Solid-state relay |
| | Vibration resistance | 2 g/axis (2-100 Hz, IEC 60068-2-6, EN 50155, EN 61373) |
| | Voltage type | DC |
| **Climatic environmental conditions** | Altitude | 0 - 1000 m (Above 1000 m derate linearly by 1% of FLC per 100 m up to a maximum of 2000 m) |
| | Ambient storage temperature - min | -40 °C |
| | Ambient storage temperature - max | 100 °C |
| | Climatic proofing | 95% relative humidity non-condensing at 40°C |
| | Operating temperature - min | |
| | Operating temperature - max | 80 °C |
| **Electromagnetic compatibility** | Air discharge | 8 kV (according to IEC/EN 61000-4-2) |
| | Burst Impulse | Main: 2 kV, 5 kHz PC 1 (according to IEC/EN 61000-4-4) Control: 1 kV, 5 kHz PC 1 (according to IEC/EN 61000-4-4) |
| | Contact discharge | 4 kV (according to IEC/EN 61000-4-2) |
| | Electromagnetic fields | 10 V/m, 80 - 1000 MHz and 1.4 - 2.0 GHz, PC 1 (according to IEC/EN 61000-4-3) 10 V/m, 2.0 - 2.7 GHz, PC 1 (according to IEC/EN 61000-4-3) |
| | Immunity to line-conducted interference | 10 V/m, 0.15 - 80 MHz, PC 1 (according to IEC/EN 61000-4-6) |
| | Radio interference class | Class A |
| **Terminal capacities** | Terminal capacity (flexible with ferrule) | Main: 1 x 1-4 mm², 2 x 1-4 mm² Control: 1 x 0.5-2.5 mm², 2 x 0.5-2.5 mm² |
| | Terminal capacity (solid) | Main: 1 x 2.5-6 mm², 2 x 2.5-6 mm² Control: 1 x 0.5-2.5 mm², 2 x 0.5-2.5 mm² |
| | Terminal capacity (solid/stranded AWG) | Main: 1 x 14-10, 2 x 14-10 Control: 1 x 18-12, 2 x 18-12 |
| | Terminal capacity (stranded) | |
| | Tightening torque | Main: 2 Nm (17.7 lb-in) Control: 0.5 Nm (4.4 lb-in) |
| | Screwdriver size | Main: Pozidriv 2 Control: Pozidriv 1 |

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| **Electrical rating** | Operating voltage - max. | 660 V |
| | Operating voltage - min. | 42 V |
| | Rated operational current (Ie) at AC-1 | 12:00 am |
| | Rated operational current (Ie) at AC-3 | |
| | Rated operational current (Ie) at AC-51 | 20 A |
| | Rated operational current (Ie) at AC-53A | 10:00 am |
| | Rated operational current (Ie) at AC-53B | |
| | Rated operational voltage (Ue) at AC - min | |
| | Rated operational voltage (Ue) at AC - max | |
| **Short-circuit rating** | Rated conditional short-circuit current, type 1, 600 Y/347 V | 100 kA |
| | Rated conditional short-circuit current (Iq), type 2, 230 V | |
| | Rated conditional short-circuit current (Iq), type 2, 380 V, 400 V, 415 V | |
| **Control circuit** | Delay time | 1/2 period + 500 microseconds at 24 V DC |
| | Drop-out time | < 20 ms |
| | Drop-out voltage | 1 V DC |
| | Input current | 29.5 mA at 24 V DC |
| | Pick-up voltage | 4.8 V DC |
| | Rated control supply voltage (Us) at AC, 50 Hz - min | 0 V |
| | Rated control supply voltage (Us) at AC, 50 Hz - max | |
| | Rated control supply voltage (Us) at AC, 60 Hz - min | |
| | Rated control supply voltage (Us) at AC, 60 Hz - max | |
| | Rated control supply voltage (Us) at DC - min | 5 V |
| | Rated control supply voltage (Us) at DC - max | 32 V |
| **Motor rating** | Horsepower | 3 HP (230 V), 7.5 HP (480 V), 10 HP (600 V) |
| | Rated operational power at 220/230 V, 50 Hz | 2.2 kW |
| | Rated operational power at 400 V, 50 Hz | 4 kW |
| **Design verification** | Equipment heat dissipation, current-dependent Pvid | 58 W |
| | Heat dissipation per pole, current-dependent Pvid | 19.3 W |
| | Rated operational current for specified heat dissipation (In) | |
| | Static heat dissipation, non-current-dependent Pvs | 0 W |
| | 10.2.2 Corrosion resistance | Meets the product standard's requirements. |
| | 10.2.3.1 Verification of thermal stability of enclosures | |
| | 10.2.3.2 Verification of resistance of insulating materials to normal heat | |
| | 10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects | |
| | 10.2.4 Resistance to ultra-violet (UV) radiation | Please enquire |

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| | 10.2.5 Lifting | Does not apply, since the entire switchgear needs to be evaluated. |
| | 10.2.6 Mechanical impact | |
| | 10.2.7 Inscriptions | |
| | 10.3 Degree of protection of assemblies | |
| | 10.4 Clearances and creepage distances | |
| | 10.5 Protection against electric shock | |
| | 10.6 Incorporation of switching devices and components | |
| | 10.7 Internal electrical circuits and connections | Is the panel builder's responsibility. |
| | 10.8 Connections for external conductors | |
| | 10.9.2 Power-frequency electric strength | |
| | 10.9.3 Impulse withstand voltage | |
| | 10.9.4 Testing of enclosures made of insulating material | |
| | 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 | |
| | 10.13 Mechanical function | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |
| **Installation instructions** | IL034110ZU2021_09.pdf | |
| **Date** | Wed Feb 23 2022 | |