

Overload relay, Separate mounting, Earth-fault protection: none, Ir= 4 - 20 A, 1 N/O, 1 N/C



**Part no.** ZEB32-20/KK

136496

**EL Number  
(Norway)**

4137365

| General specifications                         |  |   |
|--|--|---|
| Product name                                   |  | Eaton Moeller® series ZEB Electronic overload Relay   |
| Part no.                                       |  | ZEB32-20/KK   |
| EAN  |  | 4015081332762   |
| Product Length/Depth                           |  | 108 millimetre  |
| Product height                                 |  | 110 millimetre  |
| Product width                                  |  | 45 millimetre   |
| Product weight                                 |  | 0.393 kilogram  |
| Compliances                                    |  | Contact Manufacturer  |
| Certifications                                 |  | IEC/EN 60947-4-1<br>UL<br>CSA File No.: 2290956<br>CSA-C22.2 No. 14<br>CSA<br>IEC/EN 60947<br>UL File No.: E1230<br>UL 508<br>UL Category Control No.: NKCR<br>CSA Class No.: 3211-03<br>VDE 0660<br>CE |
| Product Tradename                              |  | ZEB   |
| Product Type                                   |  | Electronic overload Relay   |
| Product Sub Type                               |  | None  |
| Catalog Notes                                  |  | Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.  |
| Features & Functions                           |  |   |
| Earth fault protection                         |  | None  |
| Features                                       |  | Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)  |
| Functions                                      |  | Filament bulb (24 V)  |
| General information                            |  |   |
| Class  |  | Adjustable  |
| Degree of protection                           |  | IP20  |
| Mounting method                                |  | Separate positioning<br>Separate mounting   |
| Overload release current setting - min         |  | 4 A   |
| Overload release current setting - max         |  | 20 A  |
| Overvoltage category                           |  | III   |
| Pollution degree                               |  | 3   |
| Protection                                     |  | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)  |
| Rated impulse withstand voltage (Uimp)         |  | 6000 V AC<br>6000 V (auxiliary circuits)  |
| Shock resistance                               |  | Mechanical, According to IEC/EN 60068-2-27<br>15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms  |
| Suitable for                                   |  | Branch circuits, (UL/CSA)   |
| Voltage type                                   |  | Self powered  |
| Climatic environmental conditions              |  |   |
| Ambient operating temperature - min            |  | -25 °C  |
| Ambient operating temperature - max            |  | 65 °C   |
| Ambient operating temperature (enclosed) - max |  | 65 °C   |
| Climatic proofing                              |  | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78  |

| <b>Terminal capacities</b>   |  |   |
|--|--|---|
| Terminal capacity (flexible with ferrule)  |  | 2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables   |
| Terminal capacity (solid)  |  | 1 x (1.5 - 16) mm <sup>2</sup> , Main cables<br>2 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables   |
| Terminal capacity (solid/stranded AWG)   |  | 1 x (14 - 4), Main cables<br>2 x (18 - 12), Control circuit cables  |
| Stripping length (main cable)  |  | 13 mm   |
| Stripping length (control circuit cable)   |  | 8 mm  |
| Screw size   |  | M3.5, Terminal screw, Control circuit cables  |
| Screwdriver size   |  | 2, Terminal screw, Pozidriv screwdriver<br>1 x 6 mm, Terminal screw, Standard screwdriver   |
| Tightening torque  |  | 7 lb-in, Screw terminals<br>0.8 - 1.2 Nm, Screw terminals, Control circuit cables   |
| <b>Electrical rating</b>   |  |   |
| Conventional thermal current $I_{th}$ of auxiliary contacts (1-pole, open)       |  | 5 A   |
| Rated control supply voltage (Us) at AC, 50 Hz - min                             |  | 0 V   |
| Rated control supply voltage (Us) at AC, 50 Hz - max                             |  | 0 V   |
| Rated control supply voltage (Us) at AC, 60 Hz - min                             |  | 0 V   |
| Rated control supply voltage (Us) at AC, 60 Hz - max                             |  | 0 V   |
| Rated control supply voltage (Us) at DC - min                                    |  | 0 V   |
| Rated control supply voltage (Us) at DC - max                                    |  | 0 V   |
| Rated frequency - min  |  | 50 Hz   |
| Rated frequency - max  |  | 60 Hz   |
| Rated operational current (Ie) at AC-15, 120 V                                   |  | 1.5 A   |
| Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V                     |  | 1.5 A   |
| Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V                     |  | 0.9 A   |
| Rated operational current (Ie) at DC-13, 110 V                                   |  | 0.4 A   |
| Rated operational current (Ie) at DC-13, 220 V, 230 V                            |  | 0.2 A   |
| Rated operational current (Ie) at DC-13, 24 V                                    |  | 0.9 A   |
| Rated operational current (Ie) at DC-13, 60 V                                    |  | 0.75 A  |
| Rated operational voltage (Ue) at AC - max                                       |  | 690 V   |
| Safe isolation   |  | 240 V AC, Between auxiliary contacts, According to EN 61140<br>600 V AC, Between main circuits, According to EN 61140<br>440 V, Between auxiliary contacts and main contacts, According to EN 61140 |
| Short-circuit protection rating  |  | Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits   |
| Short-circuit current rating (high fault at 600 V)                               |  | 60 A, Class J, max. Fuse, SCCR (UL/CSA)<br>100 kA, Fuse, SCCR (UL/CSA)  |
| Switching capacity (auxiliary contacts, pilot duty)                              |  | R300, DC operated (UL/CSA)<br>B600, AC operated (UL/CSA)  |
| Voltage rating - max   |  | 600 V   |
| <b>Contacts</b>  |  |   |
| Number of auxiliary contacts (change-over contacts)                              |  | 0   |
| Number of auxiliary contacts (normally closed contacts)                          |  | 1   |
| Number of auxiliary contacts (normally open contacts)                            |  | 1   |
| Number of contacts (normally closed contacts)                                    |  | 1   |
| Number of contacts (normally open contacts)                                      |  | 1   |
| <b>Design verification</b>   |  |   |
| Equipment heat dissipation, current-dependent P <sub>vid</sub>                   |  | 2.3 W   |
| Heat dissipation capacity P <sub>diss</sub>                                      |  | 0 W   |
| Heat dissipation per pole, current-dependent P <sub>vid</sub>                    |  | 0.77 W  |
| Rated operational current for specified heat dissipation (I <sub>n</sub> )       |  | 20 A  |
| Static heat dissipation, non-current-dependent P <sub>vs</sub>                   |  | 0 W   |
| 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.  |

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| 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.                         |

## Technical data ETIM 9.0

|   |  |    |                      |
|---|--|----|----------------------|
| Low-voltage industrial components (EG000017) / Electronic overload relay (EC001080)   |  |    |                      |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Electronic overload relay (ec1@ss13-27-37-15-02 [AKF076019]) |  |    |                      |
| Mounting method   |  |    | Separate positioning |
| Type of electrical connection of main circuit   |  |    | Screw connection     |
| Adjustable current range  |  | A  | 4 - 20               |
| External power supply required  |  |    | No                   |
| Rated control supply voltage AC 50 Hz   |  | V  | 0 - 0                |
| Rated control supply voltage AC 60 Hz   |  | V  | 0 - 0                |
| Rated control supply voltage DC   |  | V  | 0 - 0                |
| Voltage type for actuating  |  |    |                      |
| Number of auxiliary contacts as normally closed contact   |  |    | 1                    |
| Number of auxiliary contacts as normally open contact   |  |    | 1                    |
| Number of auxiliary contacts as change-over contact   |  |    | 0                    |
| Voltage type (operating voltage)  |  |    | AC                   |
| Operating voltage AC 50 Hz  |  | V  | 230 - 690            |
| Operating voltage AC 60 Hz  |  | V  | 230 - 690            |
| Operating voltage DC  |  | V  | 0 - 0                |
| Rated switch current  |  | A  |                      |
| Release class   |  |    | Adjustable           |
| Reset function automatic  |  |    | Yes                  |
| Reset function input  |  |    | No                   |
| Reset function push-button  |  |    | Yes                  |
| Width   |  | mm | 45                   |
| Height  |  | mm | 110                  |
| Depth   |  | mm | 108                  |