

## Overload relay, Ir= 0.6 - 1 A, 1 N/O, 1 N/C, Direct mounting

Part no.                   ZE-1,0  
                                   014376  
 EL Number               4130478  
 (Norway)

| General specifications                         |  |                                                                                                                                                                                                                                                                                |
|------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name                                   |  | Eaton Moeller® series ZE Thermal overload relay                                                                                                                                                                                                                                |
| Part no.                                       |  | ZE-1,0                                                                                                                                                                                                                                                                         |
| EAN                                            |  | 4015080143765                                                                                                                                                                                                                                                                  |
| Product Length/Depth                           |  | 52 millimetre                                                                                                                                                                                                                                                                  |
| Product height                                 |  | 65 millimetre                                                                                                                                                                                                                                                                  |
| Product width                                  |  | 45 millimetre                                                                                                                                                                                                                                                                  |
| Product weight                                 |  | 0.075 kilogram                                                                                                                                                                                                                                                                 |
| Certifications                                 |  | CSA-C22.2 No. 14<br>CSA<br>IEC/EN 60947-5-1<br>IEC/EN 60947-4-1<br>CSA Class No.: 3211-03<br>CE<br>UL File No.: E29184<br>UL Category Control No.: NKCR<br>CSA File No.: 012528<br>UL 508<br>UL<br>VDE 0660<br>IEC/EN 60947                                                    |
| Product Tradename                              |  | ZE                                                                                                                                                                                                                                                                             |
| Product Type                                   |  | Thermal overload relay                                                                                                                                                                                                                                                         |
| Product Sub Type                               |  | None                                                                                                                                                                                                                                                                           |
| Catalog Notes                                  |  | Ambient air temperature: Operating range to IEC/EN 60947, PTB: -5°C to +50°C<br>Ambient operating temperature (according to IEC/EN 60947)<br>PTB: -5 °C - +55 °C<br>Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| Features & Functions                           |  |                                                                                                                                                                                                                                                                                |
| Features                                       |  | Reset pushbutton manual/auto<br>Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)<br>Test/off button<br>Trip-free release                                                                                                                               |
| General information                            |  |                                                                                                                                                                                                                                                                                |
| Ambient operating temperature - min            |  | -25 °C                                                                                                                                                                                                                                                                         |
| Ambient operating temperature - max            |  | 50 °C                                                                                                                                                                                                                                                                          |
| Ambient operating temperature (enclosed) - min |  | 25 °C                                                                                                                                                                                                                                                                          |
| Ambient operating temperature (enclosed) - max |  | 40 °C                                                                                                                                                                                                                                                                          |
| Class                                          |  | CLASS 10 A                                                                                                                                                                                                                                                                     |
| Climatic proofing                              |  | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30                                                                                                                                                                                                 |
| Degree of protection                           |  | IP20                                                                                                                                                                                                                                                                           |
| Mounting method                                |  | Direct attachment<br>Direct mounting                                                                                                                                                                                                                                           |
| Overload release current setting - min         |  | 0.6 A                                                                                                                                                                                                                                                                          |
| Overload release current setting - max         |  | 1 A                                                                                                                                                                                                                                                                            |
| Overvoltage category                           |  | III                                                                                                                                                                                                                                                                            |
| Pollution degree                               |  | 3                                                                                                                                                                                                                                                                              |
| Product category                               |  | ZE overload relays for mini contactor relays                                                                                                                                                                                                                                   |
| 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>4000 V (auxiliary and control circuits)                                                                                                                                                                                                                           |
| Shock resistance                               |  | 10 g, Mechanical, Sinusoidal, Shock duration 10 ms                                                                                                                                                                                                                             |
| Suitable for                                   |  | Branch circuits, (UL/CSA)                                                                                                                                                                                                                                                      |
| Temperature compensation                       |  | Continuous                                                                                                                                                                                                                                                                     |

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|                                                                                   |  | ≤ 0.25 %/K, residual error for T > 40°                                                                                                                                                                 |
| <b>Terminal capacities</b>                                                        |  |                                                                                                                                                                                                        |
| Terminal capacity (flexible with ferrule)                                         |  | 2 x (0.5 - 1.5) mm <sup>2</sup> , Main cables<br>1 x (0.5 - 1.5) mm <sup>2</sup> , Control circuit cables<br>1 x (0.5 - 1.5) mm <sup>2</sup> , Main cables                                             |
| Terminal capacity (solid)                                                         |  | 1 x (0.75 - 2.5) mm <sup>2</sup> , Main cables<br>1 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables<br>2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables                               |
| Terminal capacity (solid/stranded AWG)                                            |  | 18 - 14, Main cables<br>2 x (18 - 12), Control circuit cables                                                                                                                                          |
| Stripping length (main cable)                                                     |  | 8 mm                                                                                                                                                                                                   |
| Stripping length (control circuit cable)                                          |  | 8 mm                                                                                                                                                                                                   |
| Screw size                                                                        |  | M3.5, Terminal screw                                                                                                                                                                                   |
| Screwdriver size                                                                  |  | 2, Terminal screw, Pozidriv screwdriver<br>0.8 x 5.5 mm, Terminal screw, Standard screwdriver                                                                                                          |
| <b>Electrical rating</b>                                                          |  |                                                                                                                                                                                                        |
| Conventional thermal current I <sub>th</sub> of auxiliary contacts (1-pole, open) |  | 6 A                                                                                                                                                                                                    |
| Rated operational current (I <sub>e</sub> ) at AC-15, 120 V                       |  | 1.5 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at AC-15, 220 V, 230 V, 240 V         |  | 1.5 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at AC-15, 380 V, 400 V, 415 V         |  | 0.7 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at AC-15, 500 V                       |  | 0.5 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at DC-13, 110 V                       |  | 0.4 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at DC-13, 220 V, 230 V                |  | 0.2 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at DC-13, 24 V                        |  | 0.9 A                                                                                                                                                                                                  |
| Rated operational current (I <sub>e</sub> ) at DC-13, 60 V                        |  | 0.75 A                                                                                                                                                                                                 |
| Rated operational voltage (U <sub>e</sub> ) - max                                 |  | 690 V                                                                                                                                                                                                  |
| Safe isolation                                                                    |  | 300 V AC, Between auxiliary contacts and main contacts, According to EN 61140<br>250 V AC, Between auxiliary contacts, According to EN 61140<br>300 V AC, Between main circuits, According to EN 61140 |
| Switching capacity (auxiliary contacts, general use)                              |  | 0.6 A, 600V AC, (UL/CSA)<br>1.5 A, 240V AC, (UL/CSA)                                                                                                                                                   |
| Switching capacity (auxiliary contacts, pilot duty)                               |  | D300, AC operated (UL/CSA)<br>R300, DC operated (UL/CSA)                                                                                                                                               |
| <b>Short-circuit rating</b>                                                       |  |                                                                                                                                                                                                        |
| Short-circuit current rating (basic rating)                                       |  | 5 kA, SCCR (UL/CSA)<br>3 A, max. Fuse, SCCR (UL/CSA)<br>15 A, max. CB, CB for max. 480 V, SCCR (UL/CSA)                                                                                                |
| Short-circuit protection rating                                                   |  | 4 A gG/gL, Fuse, Type "2" coordination<br>20 A gG/gL, Fuse, Type "1" coordination<br>Max. 4 A gG/gL, Fuse, Auxiliary contacts                                                                          |
| <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>                    |  | 4.8 W                                                                                                                                                                                                  |
| Heat dissipation capacity P <sub>diss</sub>                                       |  | 0 W                                                                                                                                                                                                    |
| Heat dissipation per pole, current-dependent P <sub>vid</sub>                     |  | 1.6 W                                                                                                                                                                                                  |
| Rated operational current for specified heat dissipation (I <sub>n</sub> )        |  | 1 A                                                                                                                                                                                                    |
| Static heat dissipation, non-current-dependent P <sub>vs</sub>                    |  | 0 W                                                                                                                                                                                                    |
| 10.2.2 Corrosion resistance                                                       |  | Meets the product standard's requirements.                                                                                                                                                             |
| 10.2.3.2 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.                                                                                                                                     |

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| 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.                                                                                           |
| 10.10 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

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| Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)                                                                                                       |   |                   |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecl@ss13-27-37-15-01 [AKF075019]) |   |                   |
| Adjustable current range                                                                                                                                                               | A | 0.6 - 1           |
| Max. rated operation voltage U <sub>e</sub>                                                                                                                                            | V | 690               |
| Mounting method                                                                                                                                                                        |   | Direct attachment |
| Type of electrical connection of main circuit                                                                                                                                          |   | Screw connection  |
| 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                 |
| Release class                                                                                                                                                                          |   | CLASS 10 A        |
| Reset function input                                                                                                                                                                   |   | No                |
| Reset function automatic                                                                                                                                                               |   | Yes               |
| Reset function push-button                                                                                                                                                             |   | Yes               |