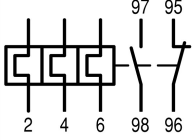




Overload relay, electronic, 4-20A

Part no. ZEB32-20
Catalog No. 136488
Eaton Catalog No. XTOE020CCS
EL-Nummer (Norway) 4137357

Delivery program

| | | | |
|-------------------------------|-------|---|---|
| Product range | | | Electronic overload relays ZEB |
| Phase-failure sensitivity | | | IEC/EN 60947, VDE 0660 Part 102 |
| Description | | | Test/off button Reset pushbutton Manual/auto reset selectable Protection with heavy starting duty (Class 10A-30) |
| Mounting type | | | Direct mounting |
| Earth-fault protection | | | |
| Earth-fault protection | | | none |
| Setting range | | | |
| Overload releases | I_r | A | 4 - 20 |
| Contact sequence | | |  |
| Auxiliary contacts | | | |
| N/O = Normally open | | | 1 N/O |
| N/C = Normally closed | | | 1 N/C |
| For use with | | | DILM17 DILM25 DILM32 DILM38 DIULM17 DIULM25 DIULM32 SDAINLM30 SDAINLM45 SDAINLM55 |

Technical data

General

| | | | |
|---|--|----|--|
| Standards | | | IEC/EN 60947, VDE 0660, UL, CSA |
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Open | | °C | -25 - +65 |
| Ambient temperature open max. | | °C | 65 |
| Enclosed | | °C | |
| Ambient temperature enclosed max. | | °C | 65 |
| Mechanical shock resistance | | g | 15 Shock duration 10 ms according to IEC 60068-2-27 |
| Degree of Protection | | | IP20 |
| Protection against direct contact when actuated from front (EN 50274) | | | Finger and back-of-hand proof |

Main conducting paths

| | | | |
|---------------------------------------|-----------|------|-------|
| Rated impulse withstand voltage | U_{imp} | V AC | 6000 |
| Overvoltage category/pollution degree | | | III/3 |
| Rated insulation voltage | U_i | V AC | 690 |
| Rated operational voltage | U_e | V AC | 690 |
| Rated frequency | f | Hz | 50/60 |
| Safe isolation to EN 61140 | | | |

| | | | |
|--|--|-----------------|--------------|
| Between auxiliary contacts and main contacts | | V AC | 600 |
| Between main circuits | | V AC | 600 |
| Terminal capacities | | mm ² | |
| Solid | | mm ² | 1 x 1.5 - 16 |
| Solid or stranded | | AWG | 1 x 14 - 4 |

Auxiliary and control circuits

| | | | |
|---------------------------------------|------------------|-----------------|------------------|
| Rated impulse withstand voltage | U _{imp} | V | 6000 |
| Overvoltage category/pollution degree | | | III/3 |
| Terminal capacities | | mm ² | |
| Solid | | mm ² | 2 x (0.75 - 4) |
| Flexible with ferrule | | mm ² | 2 x (0.75 - 2.5) |
| Solid or stranded | | AWG | 2 x (18 - 12) |
| Terminal screw | | | M3.5 |
| Tightening torque | | Nm | 0.8 - 1.2 |
| Tightening torque | | lb-in | 7 |
| Tools | | | |
| Pozidriv screwdriver | | Size | 2 |
| Standard screwdriver | | mm | 1 x 6 |
| Rated insulation voltage | U _i | V AC | 500 |
| Rated operational voltage | U _e | V AC | 500 |
| Safe isolation to EN 61140 | | | |
| between the auxiliary contacts | | V AC | 240 |
| Conventional thermal current | I _{th} | A | 5 |
| Rated operational current | I _e | A | |
| AC-15 | | | |
| Make contact | | | |
| 120 V | I _e | A | 1.5 |
| 220 V 230 V 240 V | I _e | A | 1.5 |
| 380 V 400 V 415 V | I _e | A | 0.5 |
| 500 V | I _e | A | 0.5 |
| Break contact | | | |
| 120 V | I _e | A | 1.5 |
| 220 V 230 V 240 V | I _e | A | 1.5 |
| 380 V 400 V 415 V | I _e | A | 0.9 |
| 500 V | I _e | A | 0.8 |
| DC-13 L/R - 15 ms | | | |
| 24 V | I _e | A | 0.9 |
| 60 V | I _e | A | 0.75 |
| 110 V | I _e | A | 0.4 |
| 220 V | I _e | A | 0.2 |
| Short-circuit rating without welding | | | |
| max. fuse | | A gG/gL | 6 |

Rating data for approved types

| | | | |
|------------------------------|--|------|------------|
| Auxiliary contacts | | | |
| Pilot Duty | | | |
| AC operated | | | B600 |
| DC operated | | | R300 |
| Short Circuit Current Rating | | SCCR | |
| 600 V High Fault | | | |
| SCCR (fuse) | | kA | 100 |
| max. Fuse | | A | 60 Class J |

Design verification as per IEC/EN 61439

| Technical data for design verification | | | |
|--|------------|----|--|
| Rated operational current for specified heat dissipation | I_n | A | 20 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 0.77 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 2.3 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 0 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 65 |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties | | | |
| 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 6.0

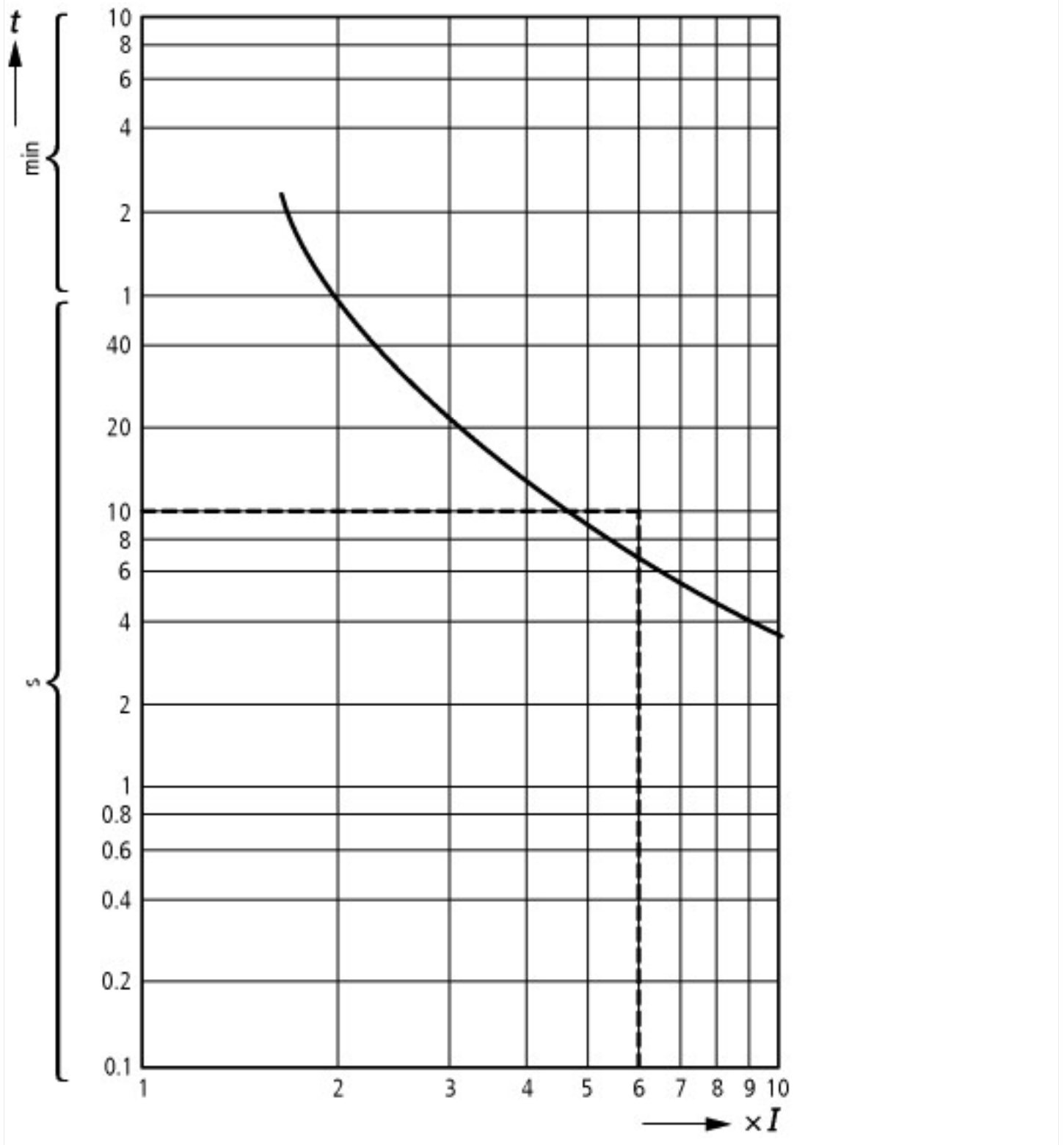
| Low-voltage industrial components (EG000017) / Electronic overload relay (EC001080) | | | |
|--|--|---|-------------------|
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Electronic overload relay (ec1@ss8.1-27-37-15-02 [AKF076011]) | | | |
| Adjustable current range | | A | 4 - 20 |
| 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 |
| Rated control supply voltage U_s at AC 50HZ | | V | 0 - 0 |
| Rated control supply voltage U_s at AC 60HZ | | V | 0 - 0 |
| Rated control supply voltage U_s at DC | | V | 0 - 0 |
| Release class | | | Adjustable |
| Voltage type for actuating | | | Selfsupplied |

Approvals

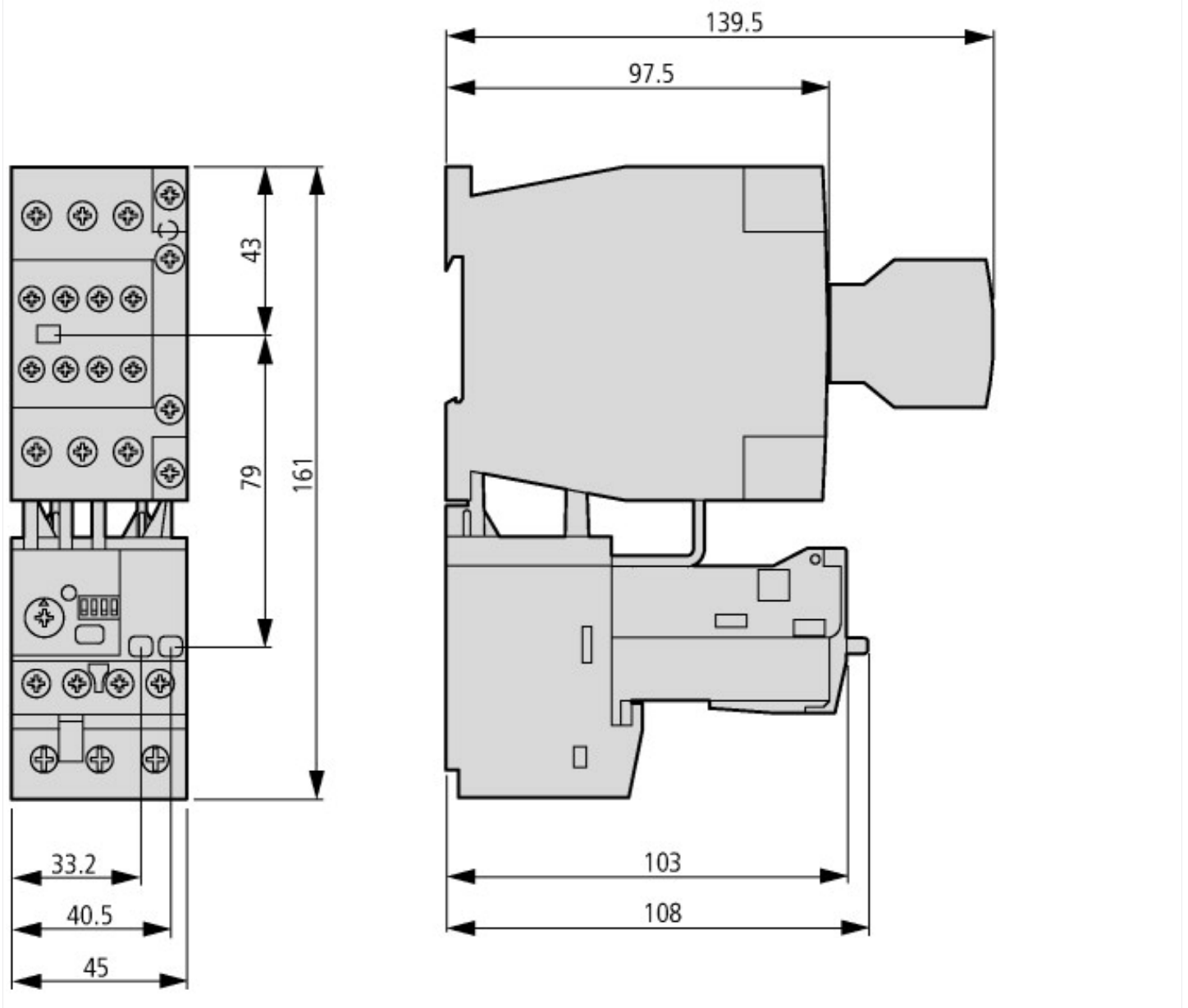
| | | |
|-------------------|--|--|
| Product Standards | | UL 508; CSA-C22.2 No. 14; IEC/EN 60947-4-1; CE marking |
| UL File No. | | E1230 |

| | |
|--------------------------------------|---------------------------|
| UL Category Control No. | NKCR |
| CSA File No. | 2290956 |
| CSA Class No. | 3211-03 |
| North America Certification | UL listed, CSA certified |
| Specially designed for North America | No |
| Suitable for | Branch circuits |
| Max. Voltage Rating | 600 V AC |
| Degree of Protection | IEC: IP20, UL/CSA Type: - |

Characteristics



Dimensions



Additional product information (links)

IL04210002E Solid-state motor protection relay

IL04210002E Solid-state motor protection relay ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04210002E2012_06.pdf