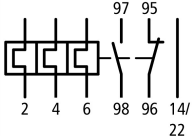




## Overload relay, 24-32A, 1N/O+1N/C

Part no. ZB32-32  
Catalog No. 278454  
Eaton Catalog No. XTOB032CC1  
EL-Nummer 4131849  
(Norway)

### Delivery program

|                                                                                  |       |   |                                                                                    |
|----------------------------------------------------------------------------------|-------|---|------------------------------------------------------------------------------------|
| Product range                                                                    |       |   | Overload relay ZB up to 150 A                                                      |
| Product range                                                                    |       |   | Accessories                                                                        |
| Accessories                                                                      |       |   | Overload relays                                                                    |
| Frame size                                                                       |       |   | ZB32                                                                               |
| Phase-failure sensitivity                                                        |       |   | IEC/EN 60947, VDE 0660 Part 102                                                    |
| Description                                                                      |       |   | Test/off button<br>Reset pushbutton manual/auto<br>Trip-free release               |
| Mounting type                                                                    |       |   | Direct mounting                                                                    |
|  | $I_r$ | A | 24 - 32                                                                            |
| Contact sequence                                                                 |       |   |  |

### Auxiliary contacts

|                       |  |  |                                                                                                                                                                                                    |
|-----------------------|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N/O = Normally open   |  |  | 1 N/O                                                                                                                                                                                              |
| N/C = Normally closed |  |  | 1 N/C                                                                                                                                                                                              |
| For use with          |  |  | DILM17<br>DILM25<br>DILM32<br>DILM38<br>DILMF8<br>DILMF11<br>DILMF14<br>DILMF17<br>DILMF25<br>DILMF32<br>DIULM17<br>DIULM25<br>DIULM32<br>SDAINLM30<br>SDAINLM45<br>SDAINLM55<br>DS7-34...SX032... |

### Short-circuit protection

|                                                                                                              |       |   |     |
|--------------------------------------------------------------------------------------------------------------|-------|---|-----|
| Type "1" coordination<br> | gG/gL | A | 125 |
| Type "2" coordination<br> | gG/gL | A | 63  |

### Notes

Overload release: tripping class 10 A

short-circuit protective device: Observe the maximum permissible fuse of the contactor with direct device mounting.

Suitable for protection of Ex e-motors.

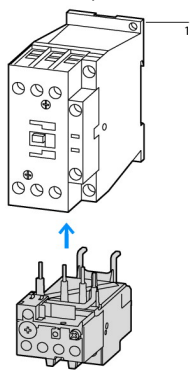


II(2)G [Ex d] [Ex e] [Ex px], II(2)D [Ex p] [Ex t]

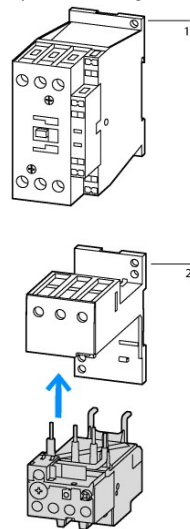
PTB 10 ATEX 3010

**Notes**

Fitted directly to the contactor



Separate mounting

1 Contactor  
2 Bases**Technical data****General**

|                                                                       |    |  |                                                                                |
|-----------------------------------------------------------------------|----|--|--------------------------------------------------------------------------------|
| Standards                                                             |    |  | IEC/EN 60947, VDE 0660, UL, CSA                                                |
| Climatic proofing                                                     |    |  | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature                                                   |    |  | Operating range to IEC/EN 60947<br>PTB: -5 °C - +55 °C                         |
| Open                                                                  | °C |  | -25 - +55                                                                      |
| Enclosed                                                              | °C |  | - 25 - 40                                                                      |
| Temperature compensation                                              |    |  | Continuous                                                                     |
| Weight                                                                | kg |  | 0.141                                                                          |
| Mechanical shock resistance                                           | g  |  | 10<br>Sinusoidal<br>Shock duration 10 ms                                       |
| 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               | 690                        |
| Rated operational voltage                      | $U_e$     | V AC            | 690                        |
| Safe isolation to EN 61140                     |           |                 |                            |
| Between auxiliary contacts and main contacts   |           | V AC            | 440                        |
| Between main circuits                          |           | V AC            | 440                        |
| Temperatur compensation residual error > 40 °C |           |                 | $\leq 0.25 \text{ \%}/K$   |
| Current heat loss (3 conductors)               |           |                 |                            |
| Lower value of the setting range               |           | W               | 3.4                        |
| Maximum setting                                |           | W               | 6                          |
| Terminal capacities                            |           | mm <sup>2</sup> |                            |
| Solid                                          |           | mm <sup>2</sup> | 1 x (1 - 6)<br>2 x (1 - 6) |
| Flexible with ferrule                          |           | mm <sup>2</sup> | 1 x (1 - 4)<br>2 x (1 - 4) |
| Solid or stranded                              |           | AWG             | 18 - 8                     |
| Terminal screw                                 |           |                 | M4                         |
| Tightening torque                              |           | Nm              | 1.8                        |
| Stripping length                               |           | mm              | 10                         |
| Tools                                          |           |                 |                            |

|                      |      |       |
|----------------------|------|-------|
| Pozidriv screwdriver | Size | 2     |
| Standard screwdriver | mm   | 1 x 6 |

## Auxiliary and control circuits

|                                       |           |         |                                                                                 |
|---------------------------------------|-----------|---------|---------------------------------------------------------------------------------|
| Rated impulse withstand voltage       | $U_{imp}$ | V       | 4000                                                                            |
| Overvoltage category/pollution degree |           |         | III/3                                                                           |
| Terminal capacities                   |           | $mm^2$  |                                                                                 |
| Solid                                 |           | $mm^2$  | 1 x (0.75 - 4)<br>2 x (0.75 - 4)                                                |
| Flexible with ferrule                 |           | $mm^2$  | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5)                                            |
| Solid or stranded                     |           | AWG     | 2 x (18 - 14)                                                                   |
| Terminal screw                        |           |         | M3.5                                                                            |
| Tightening torque                     |           | Nm      | 1.2                                                                             |
| Stripping length                      |           | mm      | 8                                                                               |
| 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       | 6                                                                               |
| 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 L/R $\leq 15$ ms                   |           |         |                                                                                 |
|                                       |           |         | Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| 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                                                                               |

## Notes

**Notes** Ambient air temperature: Operating range to IEC/EN 60947, PTB: -5°C to +55°C  
Main circuits terminal capacity solid and flexible conductors with ferrules: When using 2 conductors use equal cross-sections.

## Rating data for approved types

|                              |  |      |                                                    |
|------------------------------|--|------|----------------------------------------------------|
| Auxiliary contacts           |  |      |                                                    |
| Pilot Duty                   |  |      |                                                    |
| AC operated                  |  |      | B300 at opposite polarity<br>B600 at same polarity |
| 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 <sub>n</sub>    | A  | 32                                                                                                                               |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 2                                                                                                                                |
| Equipment heat dissipation, current-dependent                                                                          | P <sub>vid</sub>  | W  | 6                                                                                                                                |
| Static heat dissipation, non-current-dependent                                                                         | P <sub>vs</sub>   | W  | 0                                                                                                                                |
| Heat dissipation capacity                                                                                              | P <sub>diss</sub> | W  | 0                                                                                                                                |
| Operating ambient temperature max.                                                                                     |                   | °C | -25                                                                                                                              |
| Operating ambient temperature max.                                                                                     |                   | °C | 55                                                                                                                               |
| 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

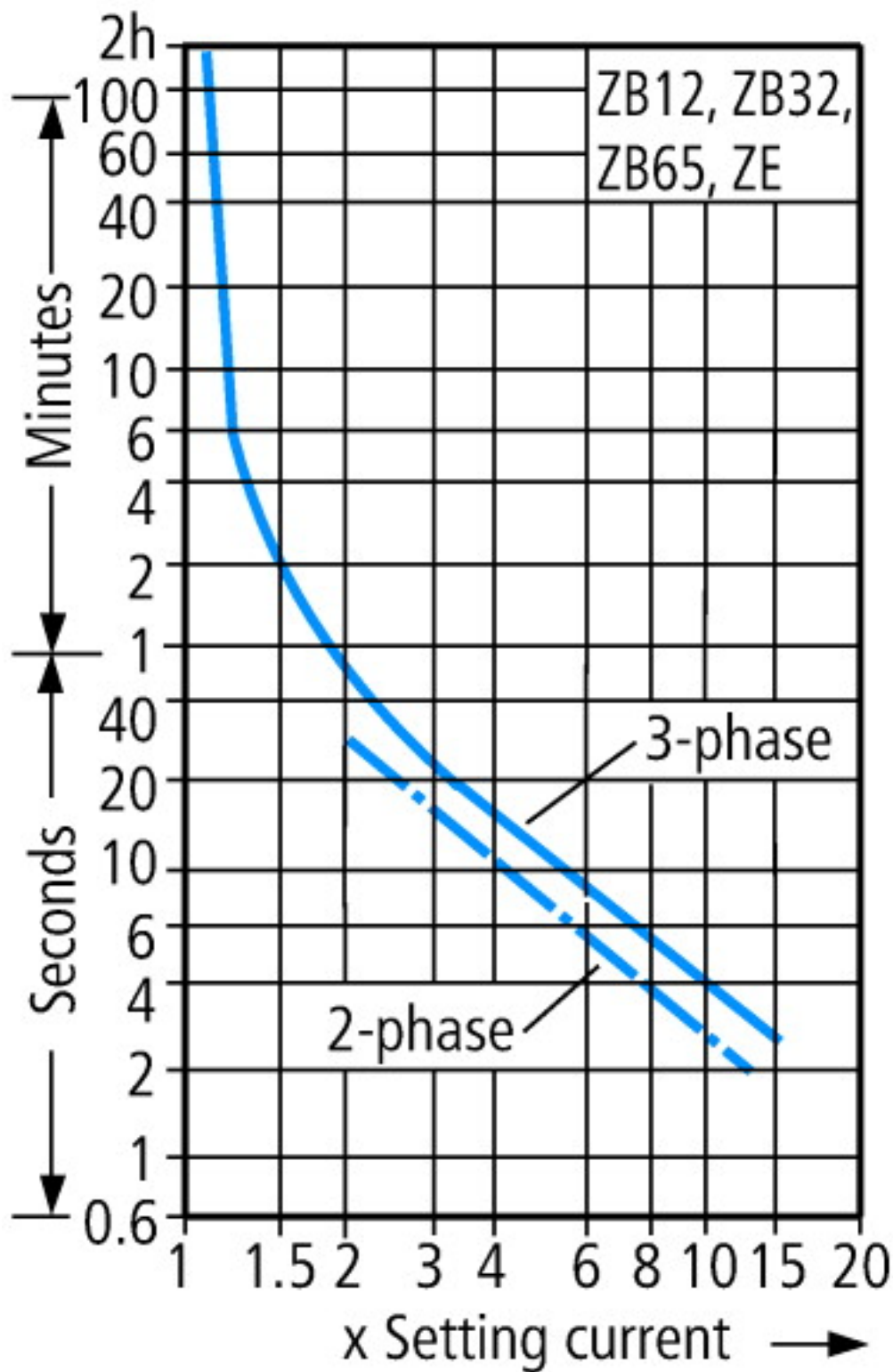
|                                                                                                                                                                                         |  |   |                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|-------------------|
| Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)                                                                                                        |  |   |                   |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecl@ss8.1-27-37-15-01 [AKF075011]) |  |   |                   |
| Adjustable current range                                                                                                                                                                |  | A | 24 - 32           |
| 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          |

## Approvals

|                         |  |  |                                                                          |
|-------------------------|--|--|--------------------------------------------------------------------------|
| Product Standards       |  |  | IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking |
| UL File No.             |  |  | E29184                                                                   |
| UL Category Control No. |  |  | NKCR                                                                     |
| CSA File No.            |  |  | 12528                                                                    |
| CSA Class No.           |  |  | 3211-03                                                                  |

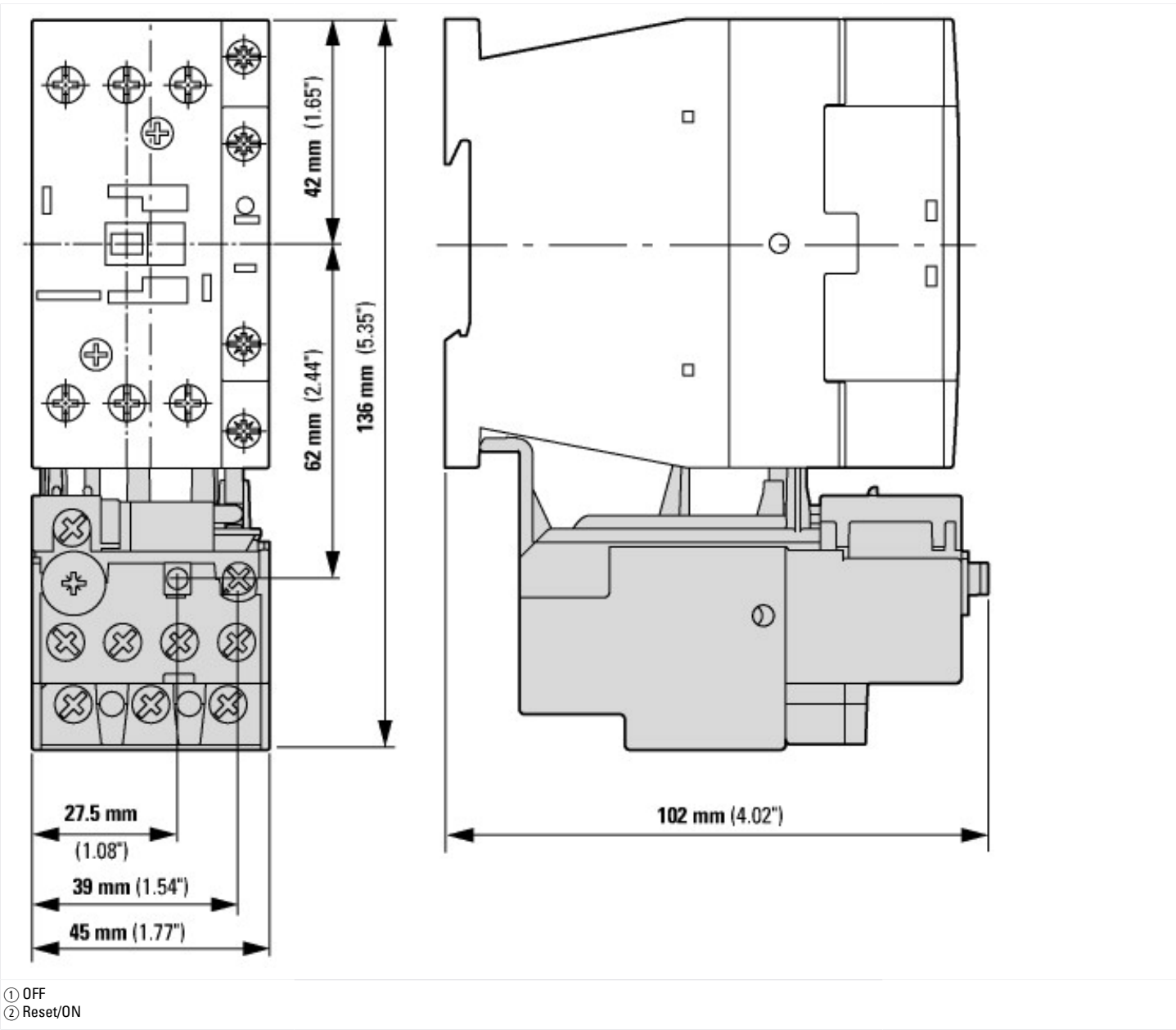
|                                      |  |                           |
|--------------------------------------|--|---------------------------|
| North America Certification          |  | UL listed, CSA certified  |
| Specially designed for North America |  | No                        |
| Suitable for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

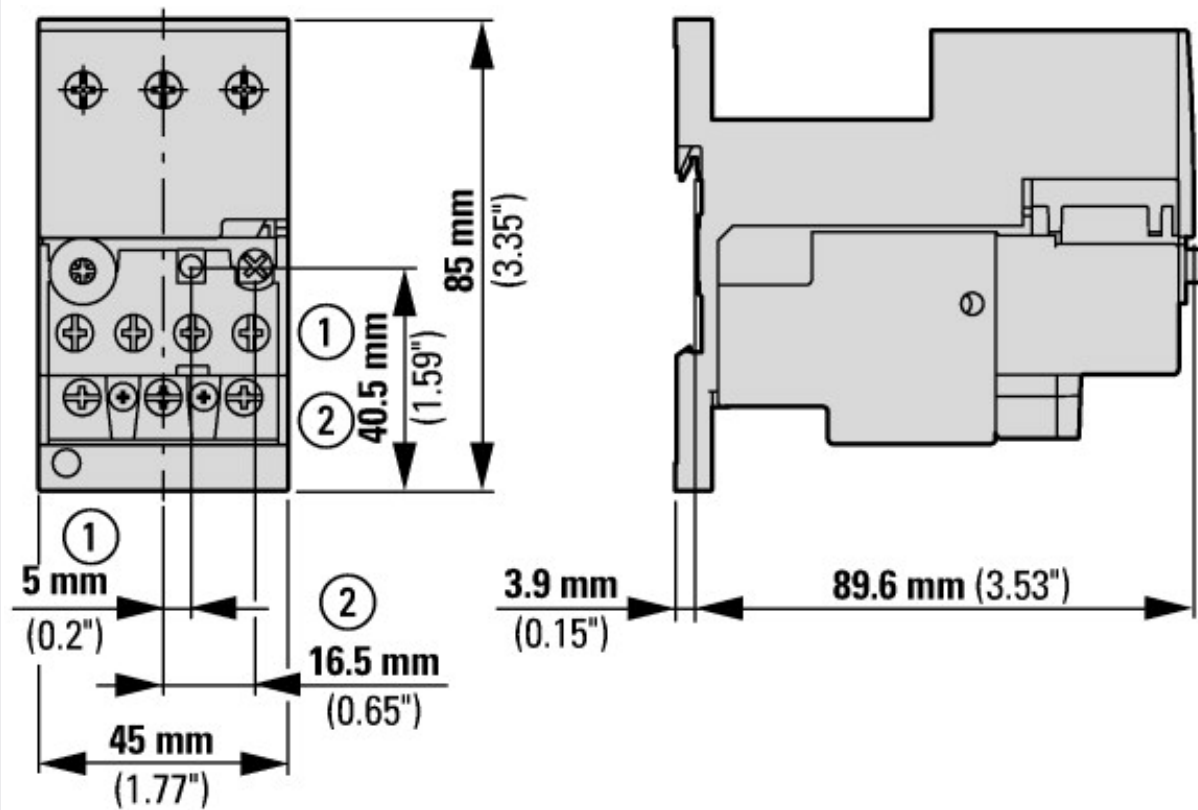
Characteristics



These tripping characteristics are mean values of the spread at 20 °C ambient temperature in a cold state. Tripping time depends on response current. On devices at operating temperature the tripping time of the overload relay drops to approx. 25 % of the read value. Specific characteristics for each individual setting range can be found in the manual.

Dimensions





With base ZB32-XEZ

### Additional product information (links)

|                                                                                                                                            |                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IL03407015Z (AWA2300-2114) Overload relay</b>                                                                                           |                                                                                                                                                                       |
| IL03407015Z (AWA2300-2114) Overload relay                                                                                                  | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407015Z2017_01.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407015Z2017_01.pdf</a> |
| <b>IL03407195Z Sealable shroud</b>                                                                                                         |                                                                                                                                                                       |
| IL03407195Z Sealable shroud                                                                                                                | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407195Z2011_06.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407195Z2011_06.pdf</a> |
| <b>MN03407004Z (AWB2300-1527D/GB) ZB12/XTOB...BC1 and ZB32/XTOB...CC1 overload relays, overload monitoring of Ex e motors</b>              |                                                                                                                                                                       |
| MN03407004Z (AWB2300-1527D/GB) ZB12/XTOB...BC1 and ZB32/XTOB...CC1 overload relays, overload monitoring of Ex e motors - Deutsch / English | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03407004Z_DE_EN.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03407004Z_DE_EN.pdf</a>             |