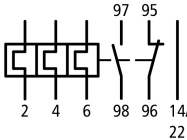




## Overload relay, 0.24-0.4A, 1N/O+1N/C

Part no. ZB32-0,4  
Catalog No. 278444  
Eaton Catalog No. XTOBP40CC1  
EL-Nummer 4131839  
(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 | 0.24 - 0.4                                                                         |
| Contact sequence                                                                 |       |   |  |

### Auxiliary contacts

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

### Short-circuit protection

|                                                                                                              |       |   |    |
|--------------------------------------------------------------------------------------------------------------|-------|---|----|
| Type "1" coordination<br> | gG/gL | A | 25 |
| Type "2" coordination<br> | gG/gL | A | 2  |

### 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.



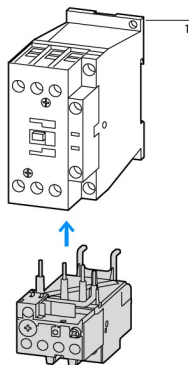
II(2)G [Ex d] [Ex e] [Ex px], II(2)D [Ex p] [Ex t]

PTB 10 ATEX 3010

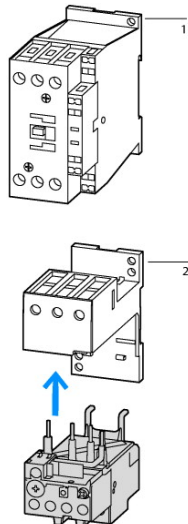
Observe manual MN03407005Z-DE/EN.

## 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 |           |                 | $\frac{\Delta R}{R} = 0.25 \% / K$ |
| Current heat loss (3 conductors)               |           |                 |                                    |
| Lower value of the setting range               |           | W               | 1.9                                |
| Maximum setting                                |           | W               | 5.4                                |
| 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                                                              |
| <b>Auxiliary and control circuits</b> |                  |                 |                                                                    |
| Rated impulse withstand voltage       | U <sub>imp</sub> | V               | 4000                                                               |
| Overvoltage category/pollution degree |                  |                 | III/3                                                              |
| Terminal capacities                   |                  | mm <sup>2</sup> |                                                                    |
| Solid                                 |                  | mm <sup>2</sup> | 1 x (0.75 - 4)<br>2 x (0.75 - 4)                                   |
| Flexible with ferrule                 |                  | mm <sup>2</sup> | 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              | 0.8 - 1.2                                                          |
| Stripping length                      |                  | mm              | 8                                                                  |
| Tools                                 |                  |                 |                                                                    |
| Pozidriv screwdriver                  |                  | Size            | 2                                                                  |
| Standard screwdriver                  |                  | mm              | 1 x 6                                                              |
| Rated insulation voltage              | U <sub>i</sub>   | V AC            | 500                                                                |
| Rated operational voltage             | U <sub>e</sub>   | V AC            | 500                                                                |
| Safe isolation to EN 61140            |                  |                 |                                                                    |
| between the auxiliary contacts        |                  | V AC            | 240                                                                |
| Conventional thermal current          | I <sub>th</sub>  | A               | 6                                                                  |
| Rated operational current             | I <sub>e</sub>   | A               |                                                                    |
| AC-15                                 |                  |                 |                                                                    |
| Make contact                          |                  |                 |                                                                    |
| 120 V                                 | I <sub>e</sub>   | A               | 6                                                                  |
| 220 V 230 V 240 V                     | I <sub>e</sub>   | A               | 1.5                                                                |
| 380 V 400 V 415 V                     | I <sub>e</sub>   | A               | 0.5                                                                |
| 500 V                                 | I <sub>e</sub>   | A               | 0.5                                                                |
| Break contact                         |                  |                 |                                                                    |
| 120 V                                 | I <sub>e</sub>   | A               | 1.5                                                                |
| 220 V 230 V 240 V                     | I <sub>e</sub>   | A               | 1.5                                                                |
| 380 V 400 V 415 V                     | I <sub>e</sub>   | A               | 0.9                                                                |
| 500 V                                 | I <sub>e</sub>   | A               | 0.8                                                                |
| DC-13 L/R - 15 ms                     |                  |                 |                                                                    |
| 24 V                                  | I <sub>e</sub>   | A               | 0.9                                                                |
| 60 V                                  | I <sub>e</sub>   | A               | 0.75                                                               |
| 110 V                                 | I <sub>e</sub>   | A               | 0.4                                                                |
| 220 V                                 | I <sub>e</sub>   | A               | 0.2                                                                |
| Notes                                 |                  |                 | Rated operational current DC-13, 60 V: N/O auxiliary contact 0.6 A |
| Short-circuit rating without welding  |                  |                 |                                                                    |
| max. fuse                             |                  | A gG/gL         | 6                                                                  |
| <b>Rating data for approved types</b> |                  |                 |                                                                    |
| 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               | 1 Class J/CC                                                       |

## Design verification as per IEC/EN 61439

|                                                          |                |   |     |
|----------------------------------------------------------|----------------|---|-----|
| Technical data for design verification                   |                |   |     |
| Rated operational current for specified heat dissipation | I <sub>n</sub> | A | 0.4 |

|                                                                                                                        |                   |    |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 1.8                                                                                                                              |
| Equipment heat dissipation, current-dependent                                                                          | P <sub>vid</sub>  | W  | 5.4                                                                                                                              |
| Static heat dissipation, non-current-dependent                                                                         | P <sub>vs</sub>   | W  | 0                                                                                                                                |
| Heat dissipation capacity                                                                                              | P <sub>diss</sub> | W  | 0                                                                                                                                |
| Operating ambient temperature min.                                                                                     |                   | °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

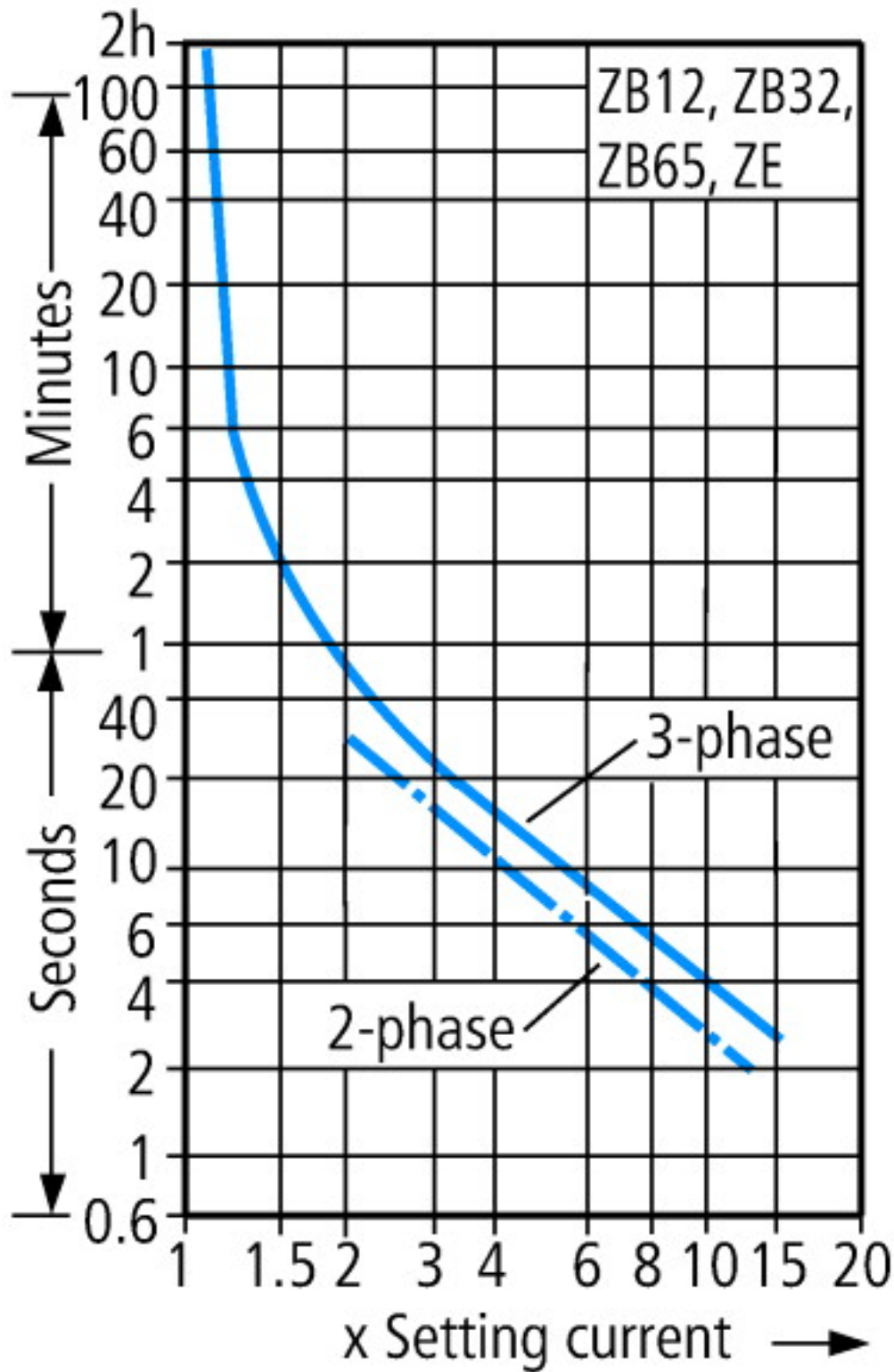
|                                                                                                                                                                                        |  |   |                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|-------------------|
| 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 (ec@ss8.1-27-37-15-01 [AKF075011]) |  |   |                   |
| Adjustable current range                                                                                                                                                               |  | A | 0.24 - 0.4        |
| Max. rated operation voltage Ue                                                                                                                                                        |  | 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                                                          |

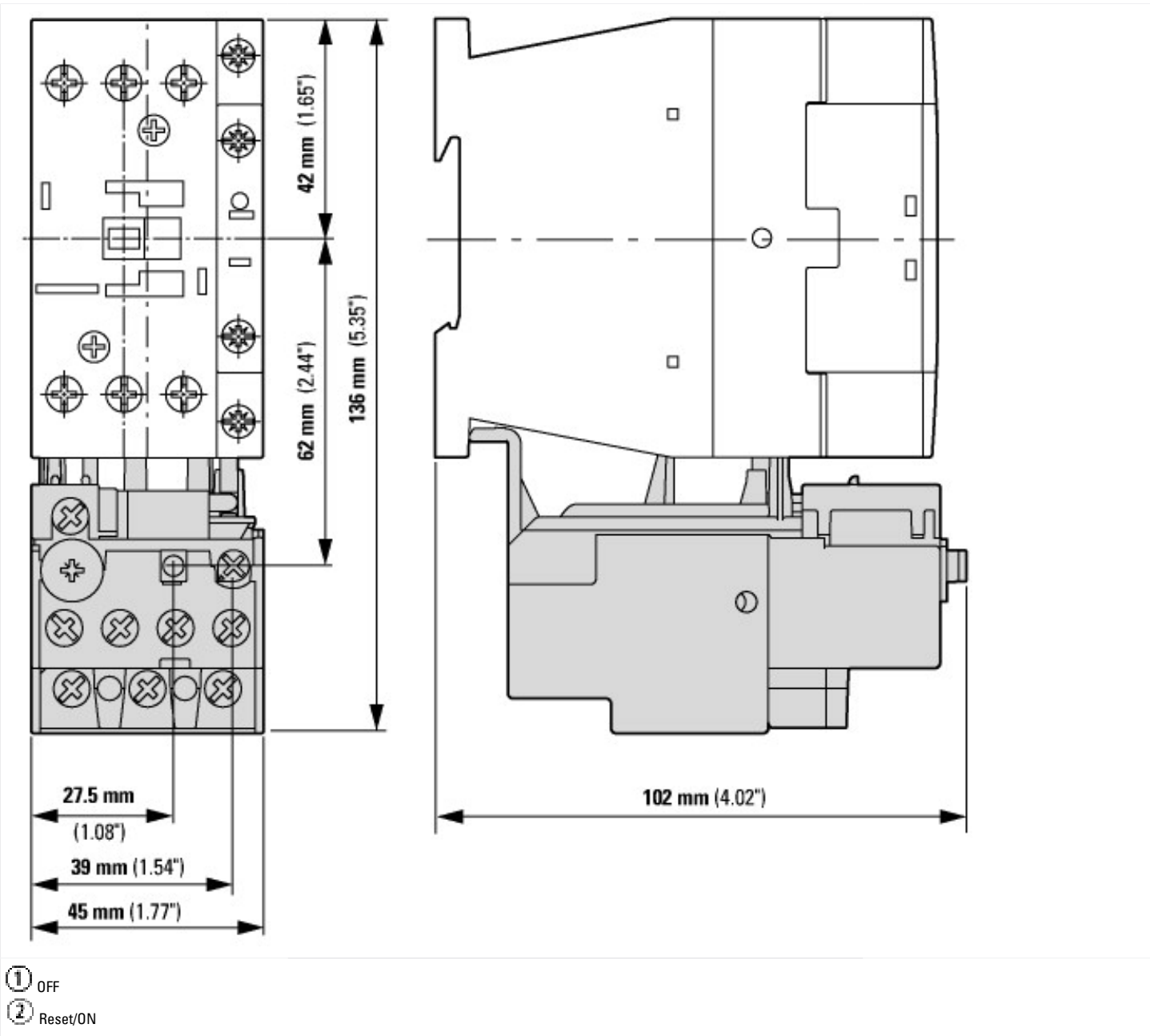
|                      |                           |
|----------------------|---------------------------|
| Max. Voltage Rating  | 600 V AC                  |
| Degree of Protection | IEC: IP20, UL/CSA Type: - |

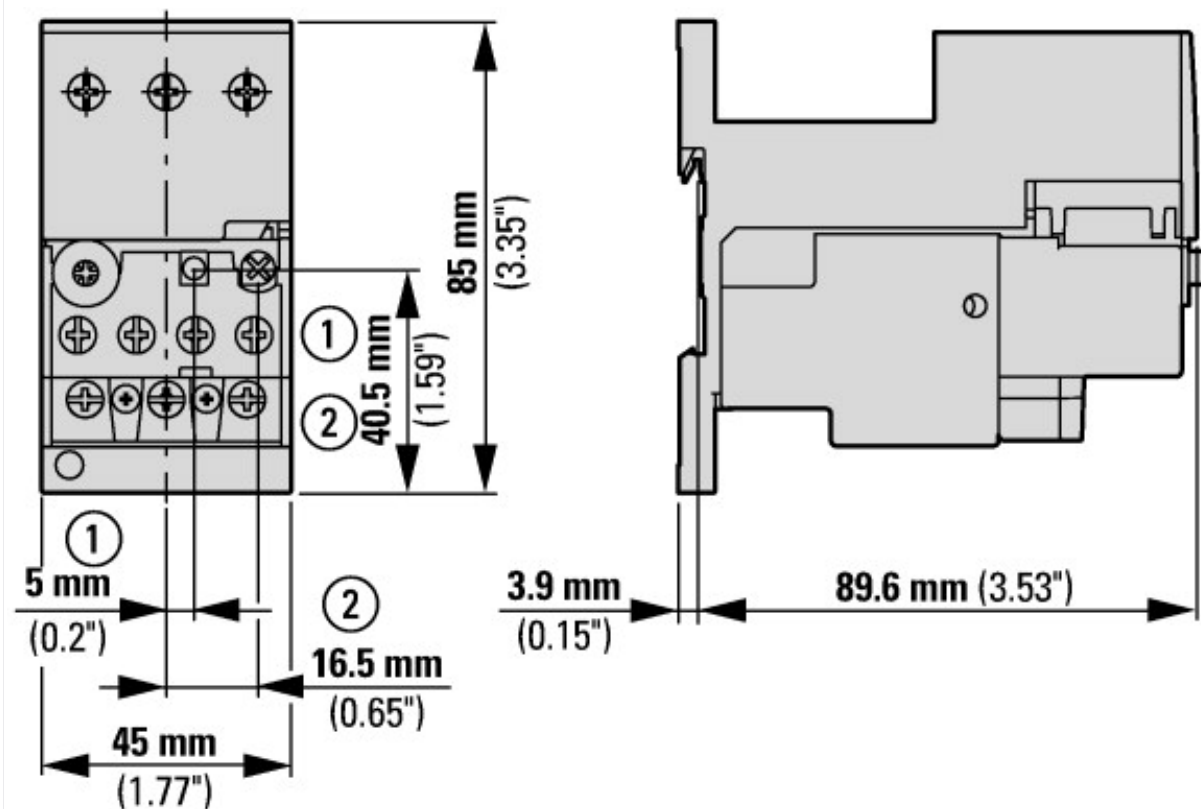
Characteristics



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)

### IL03407015Z (AWA2300-2114) Overload relay

IL03407015Z (AWA2300-2114) Overload relay [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407015Z2017\\_01.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407015Z2017_01.pdf)

### IL03407195Z Sealable shroud

IL03407195Z Sealable shroud [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407195Z2011\\_06.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407195Z2011_06.pdf)

### MN03407004Z (AWB2300-1527D/GB) ZB12/XTOB...BC1 and ZB32/XTOB...CC1 overload relays, overload monitoring of Ex e motors

MN03407004Z (AWB2300-1527D/GB) ZB12/XTOB...BC1 and ZB32/XTOB...CC1 overload relays, overload monitoring of Ex e motors - Deutsch / English [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN03407004Z\\_DE\\_EN.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03407004Z_DE_EN.pdf)