

## PRODUCT-DETAILS

# T16-13

## T16-13 Thermal Overload Relay



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | T16-13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Product ID            | 1SAZ711201R1045                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| EAN                   | 4013614397967                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Catalog Description   | T16-13 Thermal Overload Relay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Long Description      | <p>The T16-13 thermal overload relay is an economic electromechanical protection device for the main circuit. It offers reliable and fast protection for motors in the event of overload or phase failure. The device has trip class 10. Further features are the temperature compensation, trip contact (NC), signal contact (NO), automatic- or manual reset selectable, trip-free mechanism, STOP function and a trip indication. The overload relays are connected directly to the mini contactors or block contactors.</p> <p>Single mounting kits are available as accessory.</p> |

### Ordering

|                        |          |
|------------------------|----------|
| Minimum Order Quantity | 1 piece  |
| Customs Tariff Number  | 85364900 |

### Popular Downloads

|                                   |                                    |
|-----------------------------------|------------------------------------|
| Data Sheet, Technical Information | 2CDC106020D0201                    |
| Instructions and Manuals          | 2CDC106019M6802<br>2CDC106021M6801 |
| Time-Current Characteristic Curve | 1SAZ700505F0017                    |

## Dimensions

|                            |          |
|----------------------------|----------|
| Product Net Width          | 47 mm    |
| Product Net Height         | 76.7 mm  |
| Product Net Depth / Length | 53.5 mm  |
| Product Net Weight         | 0.104 kg |

## Technical

|                                                    |                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Setting Range                                      | 10 ... 13 A                                                                                                                                                                                                                                                                                                                   |
| Rated Operational Voltage                          | Auxiliary Circuit 600 V AC/DC<br>Main Circuit 690 V AC                                                                                                                                                                                                                                                                        |
| Rated Operational Current ( $I_e$ )                | 13 A                                                                                                                                                                                                                                                                                                                          |
| Rated Operational Current AC-3 ( $I_e$ )           | 13 A                                                                                                                                                                                                                                                                                                                          |
| Rated Frequency (f)                                | Auxiliary Circuit 50 Hz<br>Auxiliary Circuit 60 Hz<br>Auxiliary Circuit DC<br>Main Circuit 50 Hz<br>Main Circuit 60 Hz                                                                                                                                                                                                        |
| Rated Impulse Withstand Voltage ( $U_{imp}$ )      | Auxiliary Circuit 6 kV<br>Main Circuit 6 kV                                                                                                                                                                                                                                                                                   |
| Rated Insulation Voltage ( $U_i$ )                 | 690 V                                                                                                                                                                                                                                                                                                                         |
| Number of Poles                                    | 3                                                                                                                                                                                                                                                                                                                             |
| Number of Auxiliary Contacts NC                    | 1                                                                                                                                                                                                                                                                                                                             |
| Number of Auxiliary Contacts NO                    | 1                                                                                                                                                                                                                                                                                                                             |
| Number of Protected Poles                          | 3                                                                                                                                                                                                                                                                                                                             |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | Auxiliary Circuit NC 6 A<br>Auxiliary Circuit NO 4 A                                                                                                                                                                                                                                                                          |
| Rated Operational Current AC-15 ( $I_e$ )          | (120 V) NC 3 A<br>(120 V) NO 0.5 A<br>(240 V) NC 3 A<br>(240 V) NO 0.5 A<br>(400 V) NC 0.75 A<br>(400 V) NO 0.5 A<br>(500 V) NC 0.75 A<br>(500 V) NO 0.5 A                                                                                                                                                                    |
| Rated Operational Current DC-13 ( $I_e$ )          | (125 V) NC 0.55 A<br>(125 V) NO 0.55 A<br>(24 V) NC 1.25 A<br>(24 V) NO 1.25 A<br>(250 V) NC 0.27 A<br>(250 V) NO 0.27 A<br>(500 V) NC 0.15 A<br>(500 V) NO 0.15 A<br>(60 V) NC 0.55 A<br>(60 V) NO 0.55 A                                                                                                                    |
| Degree of Protection                               | IP20                                                                                                                                                                                                                                                                                                                          |
| Pollution Degree                                   | 3                                                                                                                                                                                                                                                                                                                             |
| Connecting Capacity Auxiliary Circuit              | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 1 mm <sup>2</sup><br>Flexible 1/2x 1 ... 2.5 mm <sup>2</sup><br>Rigid 1/2x 0.75 ... 4 mm <sup>2</sup> |
| Connecting Capacity                                | Flexible with Ferrule 1/2x 0.75 ... 4 mm <sup>2</sup>                                                                                                                                                                                                                                                                         |

|                          |                                                                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Circuit             | Flexible with Insulated Ferrule 1/2x 0.75 ... 4 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 4 mm <sup>2</sup><br>Solid 1/2x 0.75 ... 1.5 mm <sup>2</sup><br>Solid 1/2x 1.5 ... 4 mm <sup>2</sup><br>Stranded 1/2x 1 ... 4 mm <sup>2</sup> |
| Tightening Torque        | Auxiliary Circuit 1 ... 1.2 N·m<br>Main Circuit 1.1 ... 1.5 N·m                                                                                                                                                                         |
| Wire Stripping Length    | Auxiliary Circuit 9 mm<br>Main Circuit 12 mm                                                                                                                                                                                            |
| Recommended Screw Driver | Main Circuit Pozidriv 2                                                                                                                                                                                                                 |
| Power Loss               | at Rated Operating Conditions per Pole 1.3 W                                                                                                                                                                                            |
| Suitable For             | B6<br>BC6<br>B7<br>BC7<br>VB6<br>VBC6<br>VB7<br>VBC7<br>AS09<br>AS12<br>AS16                                                                                                                                                            |
| Standards                | IEC/EN 60947-1<br>IEC/EN 60947-4-1<br>IEC/EN 60947-5-1<br>UL 60947-1<br>UL 60947-4-1                                                                                                                                                    |

## Technical UL/CSA

|                                              |                                                                 |
|----------------------------------------------|-----------------------------------------------------------------|
| Maximum Operating Voltage UL/CSA             | Main Circuit 600 V AC                                           |
| Ampere Rating UL/CSA                         | 13 A                                                            |
| Contact Rating UL/CSA                        | (NC:) B600<br>(NC:) Q600<br>(NO:) Q600<br>(NO:) D300            |
| Connecting Capacity Main Circuit UL/CSA      | Flexible 1/2x 18-12 AWG<br>Stranded 1/2x 18-10 AWG              |
| Connecting Capacity Auxiliary Circuit UL/CSA | Flexible 1/2x 18-12 AWG<br>Stranded 1/2x 18-12 AWG              |
| Tightening Torque UL/CSA                     | Auxiliary Circuit 9 ... 11 in·lb<br>Main Circuit 9 ... 13 in·lb |

## Environmental

|                                                |                                                                                            |
|------------------------------------------------|--------------------------------------------------------------------------------------------|
| Ambient Air Temperature                        | Operation -25 ... +60 °C<br>Operation Compensated -25 ... +60 °C<br>Storage -50 ... +80 °C |
| Ambient Air Temperature Compensation           | Yes                                                                                        |
| Maximum Operating Altitude Permissible         | 2000 m                                                                                     |
| Resistance to Shock acc. to IEC 60068-2-27     | 11 ms Pulse 22g                                                                            |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 3g / 3 ... 150 Hz                                                                          |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                                          |

## Certificates and Declarations (Document Number)

|                 |                 |
|-----------------|-----------------|
| ABS Certificate | 1SAA941001-0102 |
|-----------------|-----------------|

|                                      |                                    |
|--------------------------------------|------------------------------------|
| BV Certificate                       | 1SAA941001-0203                    |
| CB Certificate                       | 1SAA941008-2001                    |
| CQC Certificate                      | CQC2011010309459316                |
| cUL Certificate                      | cUL_E48139                         |
| Declaration of<br>Conformity - CCC   | 2020980304001787                   |
| Declaration of<br>Conformity - CE    | 1SAD938510-0182                    |
| DNV GL Certificate                   | 1SAA941001-0302                    |
| EAC Certificate                      | 1SAA941002-2702                    |
| Environmental<br>Information         | 1SAC200055H0009                    |
| GL Certificate                       | 1SAA941007-0401                    |
| GOST Certificate                     | 1SAA941000-2704                    |
| Instructions and<br>Manuals          | 2CDC106019M6802<br>2CDC106021M6801 |
| LR Certificate                       | 1SAA941001-0502                    |
| RINA Certificate                     | 1SAA941000-0802                    |
| RMRS Certificate                     | 1SAA941000-0704                    |
| RoHS Information                     | 1SAD938507-0182                    |
| Time-Current<br>Characteristic Curve | 1SAZ700505F0017                    |
| UL Certificate                       | UL_E48139                          |

## Container Information

|                                   |               |
|-----------------------------------|---------------|
| Package Level 1 Units             | 1 piece       |
| Package Level 1 Width             | 48 mm         |
| Package Level 1 Height            | 63 mm         |
| Package Level 1 Depth /<br>Length | 82 mm         |
| Package Level 1 Gross<br>Weight   | 0.116 kg      |
| Package Level 1 EAN               | 4013614397967 |
| Package Level 2 Units             | 40 piece      |
| Package Level 2 Width             | 280 mm        |
| Package Level 2 Height            | 210 mm        |
| Package Level 2 Depth /<br>Length | 395 mm        |
| Package Level 2 Gross<br>Weight   | 8.738 kg      |
| Package Level 2 EAN               | 4013614440670 |

## Classifications

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Object Classification<br>Code         | F                                 |
| ETIM 4                                | EC000106 - Thermal overload relay |
| ETIM 5                                | EC000106 - Thermal overload relay |
| ETIM 6                                | EC000106 - Thermal overload relay |
| ETIM 7                                | EC000106 - Thermal overload relay |
| eClass                                | V11.0 : 27371501                  |
| UNSPSC                                | 39121520                          |
| IDEA Granular Category<br>Code (IGCC) | 5364 >> Overload relay            |
| E-Number (Finland)                    | 3706149                           |
| E-Number (Sweden)                     | 3212070                           |

| Accessories     |                            |          |          |                 |
|-----------------|----------------------------|----------|----------|-----------------|
| Identifier      | Description                | Type     | Quantity | Unit Of Measure |
| 1SAZ701901R0001 | DB16 Single Mounting Kit   | DB16     | 1        | piece           |
| 1SFA616162R1014 | KPR3-101L Reset Pushbutton | KPR-101L | 1        | piece           |

Categories

Low Voltage Products and Systems → Control Products → Contactors → Thermal Overload Relays

