

# TF42-20



## General Information

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Extended Product Type:</b> | TF42-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Product ID:</b>            | 1SAZ721201R1049                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>EAN:</b>                   | 4016779764971                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Catalog Description:</b>   | TF42-20 Thermal Overload Relay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Long Description:</b>      | The TF42-20 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 block contactors. Single mounting kits are available as accessory. |

## Categories

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

## Accessories

| Identifier                      | Description              | Type | Qty |
|---------------------------------|--------------------------|------|-----|
| <a href="#">1SAZ701902R0001</a> | DB42 Single Mounting Kit | DB42 | 1   |

## Ordering

|                                |               |
|--------------------------------|---------------|
| <b>EAN:</b>                    | 4016779764971 |
| <b>Minimum Order Quantity:</b> | 1 piece       |
| <b>Customs Tariff Number:</b>  | 85364900      |

## Dimensions

|                            |          |
|----------------------------|----------|
| <b>Product Net Width:</b>  | 45.0 mm  |
| <b>Product Net Height:</b> | 88.3 mm  |
| <b>Product Net Depth:</b>  | 70.5 mm  |
| <b>Product Net Weight:</b> | 0.135 kg |

## Container Information

|                                      |               |
|--------------------------------------|---------------|
| <b>Package Level 1 Units:</b>        | 1 piece       |
| <b>Package Level 1 Width:</b>        | 48.0 mm       |
| <b>Package Level 1 Height:</b>       | 92.0 mm       |
| <b>Package Level 1 Length:</b>       | 78.0 mm       |
| <b>Package Level 1 Gross Weight:</b> | 0.150 kg      |
| <b>Package Level 2 Units:</b>        | 48 piece      |
| <b>Package Level 2 Width:</b>        | 280.0 mm      |
| <b>Package Level 2 Height:</b>       | 210.0 mm      |
| <b>Package Level 2 Length:</b>       | 395.0 mm      |
| <b>Package Level 2 Gross Weight:</b> | 7.586 kg      |
| <b>Package Level 2 EAN:</b>          | 4013614440199 |

## Technical

|                                                        |                                                        |
|--------------------------------------------------------|--------------------------------------------------------|
| <b>Setting Range:</b>                                  | 16.0 ... 20.0 A                                        |
| <b>Rated Operational Voltage:</b>                      | Auxiliary Circuit 600 V AC DC<br>Main Circuit 690 V AC |
| <b>Rated Operational Current (I<sub>e</sub>):</b>      | 20 A                                                   |
| <b>Rated Operational Current AC-3 (I<sub>e</sub>):</b> | 20.00 A                                                |

|                                                                     |                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rated Frequency (f):</b>                                         | Auxiliary Circuit 50 Hz<br>Auxiliary Circuit 60 Hz<br>Auxiliary Circuit DC<br>Main Circuit 50 Hz<br>Main Circuit 60 Hz                                                                                                                                                                                                        |
| <b>Rated Impulse Withstand Voltage (<math>U_{imp}</math>):</b>      | Auxiliary Circuit 6 kV<br>Main Circuit 6 kV                                                                                                                                                                                                                                                                                   |
| <b>Rated Insulation Voltage (<math>U_i</math>):</b>                 | 690 V                                                                                                                                                                                                                                                                                                                         |
| <b>Number of Poles:</b>                                             | 3                                                                                                                                                                                                                                                                                                                             |
| <b>Number of Auxiliary Contacts NC:</b>                             | 1                                                                                                                                                                                                                                                                                                                             |
| <b>Number of Auxiliary Contacts NO:</b>                             | 1                                                                                                                                                                                                                                                                                                                             |
| <b>Number of Protected Poles:</b>                                   | 3                                                                                                                                                                                                                                                                                                                             |
| <b>Conventional Free-air Thermal Current (<math>I_{th}</math>):</b> | Auxiliary Circuit NC 6.00 A<br>Auxiliary Circuit NO 4.00 A                                                                                                                                                                                                                                                                    |
| <b>Rated Operational Current AC-15 (<math>I_e</math>):</b>          | (120V) NC 3.000 A<br>(120V) NO 0.750 A<br>(240V) NC 3.000 A<br>(240V) NO 0.750 A<br>(400V) NC 0.750 A<br>(400V) NO 0.750 A<br>(500V) NC 0.750 A<br>(500V) NO 0.750 A                                                                                                                                                          |
| <b>Rated Operational Current DC-13 (<math>I_e</math>):</b>          | (125V) NC 0.550 A<br>(125V) NO 0.550 A<br>(24V) NC 1.250 A<br>(24V) NO 1.250 A<br>(250V) NC 0.270 A<br>(250V) NO 0.270 A<br>(500V) NC 0.150 A<br>(500V) NO 0.150 A<br>(60V) NC 0.550 A<br>(60V) NO 0.550 A                                                                                                                    |
| <b>Degree of Protection:</b>                                        | IP20                                                                                                                                                                                                                                                                                                                          |
| <b>Pollution Degree:</b>                                            | 3                                                                                                                                                                                                                                                                                                                             |
| <b>Connecting Capacity-Auxiliary Circuit:</b>                       | 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> |
| <b>Connecting Capacity-Main Circuit:</b>                            | Flexible with Ferrule 1/2x 0.75 ... 4 mm <sup>2</sup><br>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>Rigid 1/2x 0.75 ... 4 mm <sup>2</sup>                                                                                                                 |
| <b>Tightening Torque:</b>                                           | Auxiliary Circuit 1 ... 1.5 N·m<br>Main Circuit 2.5 ... 2.7 N·m                                                                                                                                                                                                                                                               |
| <b>Wire Stripping Length:</b>                                       | Auxiliary Circuit 9 mm<br>Main Circuit 12 mm                                                                                                                                                                                                                                                                                  |
| <b>Recommended Screw Driver:</b>                                    | Main Circuit Pozidriv 2                                                                                                                                                                                                                                                                                                       |
| <b>Mounting Position:</b>                                           | Position 1 to 5                                                                                                                                                                                                                                                                                                               |
| <b>Power Loss:</b>                                                  | Per Pole 1.8 ... 2.6 W                                                                                                                                                                                                                                                                                                        |
| <b>Suitable For:</b>                                                | AF09<br>AF12<br>AF16<br>AF26<br>AF30<br>AF38                                                                                                                                                                                                                                                                                  |
| <b>Standards:</b>                                                   | 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                                                                                                                                                                                                                                          |

## Environmental

|                                                        |                                                                                            |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Ambient Air Temperature:</b>                        | Operation -25 ... +60 °C<br>Operation Compensated -25 ... +60 °C<br>Storage -50 ... +80 °C |
| <b>Ambient Air Temperature Compensation:</b>           | Yes                                                                                        |
| <b>Maximum Operating Altitude Permissible:</b>         | 2000 m                                                                                     |
| <b>Resistance to Shock acc. to IEC 60068-2-27:</b>     | 11 ms Pulse 25g                                                                            |
| <b>Resistance to Vibrations acc. to IEC 60068-2-6:</b> | 5g / 3 ... 150 Hz                                                                          |
| <b>RoHS Status:</b>                                    | Following EU Directive 2002/95/EC August 18, 2005 and amendment                            |

## Technical UL/CSA

|                                                      |                                                                  |
|------------------------------------------------------|------------------------------------------------------------------|
| <b>Maximum Operating Voltage UL/CSA:</b>             | Main Circuit 600 V AC                                            |
| <b>Ampere Rating UL/CSA:</b>                         | 20.00 A                                                          |
| <b>Contact Rating UL/CSA:</b>                        | (NC:) B600<br>(NC:) Q600<br>(NO:) Q600<br>(NO:) D300             |
| <b>Connecting Capacity-Main Circuit UL/CSA:</b>      | Flexible 1/2x 18 ... 10 AWG<br>Stranded 1/2x 18 ... 10 AWG       |
| <b>Connecting Capacity-Auxiliary Circuit UL/CSA:</b> | Flexible 1/2x 18 ... 12 AWG<br>Stranded 1/2x 18 ... 12 AWG       |
| <b>Tightening Torque UL/CSA:</b>                     | Auxiliary Circuit 9 ... 13 in·lb<br>Main Circuit 13 ... 22 in·lb |

## Certificates and Declarations (Document Number)

|                                        |                 |
|----------------------------------------|-----------------|
| <b>ABS Certificate:</b>                | 1SAA941001-0101 |
| <b>ATEX Certificate:</b>               | 1SAA941001-3901 |
| <b>BV Certificate:</b>                 | 1SAA941001-0201 |
| <b>CB Certificate:</b>                 | 1SAA941009-2001 |
| <b>CCC Certificate:</b>                | 1SAA941002-3805 |
| <b>cUL Certificate:</b>                | 1SAA941001-1702 |
| <b>cUR Certificate:</b>                | cUL_E48139      |
| <b>Declaration of Conformity - CE:</b> | 1SAD938504-0181 |
| <b>DNV Certificate:</b>                | 1SAA941002-0301 |
| <b>GL Certificate:</b>                 | 1SAA941007-0401 |
| <b>GOST Certificate:</b>               | 1SAA941001-2701 |
| <b>LR Certificate:</b>                 | 1SAA941001-0501 |
| <b>RINA Certificate:</b>               | 1SAA941000-0801 |
| <b>RMRS Certificate:</b>               | 1SAA941000-0703 |
| <b>RoHS Information:</b>               | 1SAA941006-4402 |
| <b>UL Certificate:</b>                 | UL_E48139       |

## Classifications

|                                    |                                   |
|------------------------------------|-----------------------------------|
| <b>Object Classification Code:</b> | F                                 |
| <b>E-nummer:</b>                   | 3211972                           |
| <b>ETIM 4.0:</b>                   | EC000106 - Thermal overload relay |
| <b>ETIM 5.0:</b>                   | EC000106 - Thermal overload relay |