

## Alternate Catalog No. TF42-5.7 Catalog No. 1SAZ721201R1038

**Description:** TF42-5.7 Thermal Overload Relay

**UPC No** 4013614398100

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The TF42-5.7 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.



Representative Image

### Descriptors

Category

Overload Relays

### Specifications

|                                       |                                                                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                          | Thermal Overload Relay                                                                                                                                                        |
| Rated Operational Voltage             | Auxiliary Circuit 600 V AC / DC<br>Main Circuit 690 V AC                                                                                                                      |
| Rated Operational Current             | 5.7 A                                                                                                                                                                         |
| Setting Range                         | 4.2 ... 5.7 A                                                                                                                                                                 |
| Rated Impulse Withstand Voltage       | Auxiliary Circuit 6 kV<br>Main Circuit 6 kV                                                                                                                                   |
| Rated Insulation Voltage              | 690 V                                                                                                                                                                         |
| Number of Poles                       | 3                                                                                                                                                                             |
| Number of Auxiliary Contacts NC       | 1                                                                                                                                                                             |
| Number of Auxiliary Contacts NO       | 1                                                                                                                                                                             |
| Number of Protected Poles             | 3                                                                                                                                                                             |
| Trip Class                            | class 10                                                                                                                                                                      |
| Conventional Free-air Thermal Current | Auxiliary Circuit NC 6 A<br>Auxiliary Circuit NO 4 A<br>Auxiliary Circuit 50 Hz<br>Auxiliary Circuit 60 Hz<br>Auxiliary Circuit DC<br>Main Circuit 50Hz<br>Main Circuit 60 Hz |
| Rated Frequency                       |                                                                                                                                                                               |
| Rated Operational Current AC-3        | 5.7 A                                                                                                                                                                         |
| Degree of Protection                  | IP20                                                                                                                                                                          |
| Pollution Degree                      | 3                                                                                                                                                                             |
| Suitable For                          | AF09<br>AF12<br>AF16<br>AF26<br>AF30<br>AF38                                                                                                                                  |
| Rated Operational Current AC-15       | (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                    |

## Specifications

|                                                |                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Operational Current DC-13                | (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                                                                                                                    |
| Connecting Capacity Main Circuit               | 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>                                                                                                                 |
| 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> |
| Wire Stripping Length                          | Auxiliary Circuit 9 mm<br>Main Circuit 12 mm                                                                                                                                                                                                                                                                                  |
| Tightening Torque                              | Auxiliary Circuit 1 ... 1.5 N·m<br>Main Circuit 1.5 ... 2.5 N·m                                                                                                                                                                                                                                                               |
| Mounting Position                              | Position 1 to 5                                                                                                                                                                                                                                                                                                               |
| Power Loss                                     | at Rated Operating Conditions per Pole 1.1 ... 2.0 W                                                                                                                                                                                                                                                                          |
| 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                                                                                                                                                                                                                                          |
| Recommended Screw Driver                       | Main Circuit Pozidriv 2                                                                                                                                                                                                                                                                                                       |
| Maximum Operating Voltage UL/CSA               | Main Circuit 600 V AC                                                                                                                                                                                                                                                                                                         |
| Ampere Rating UL/CSA                           | 5.7 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 18-10 AWG<br>Stranded 1/2x 18-10 AWG                                                                                                                                                                                                                                                                            |
| Ambient Air Temperature                        | Operation -25 ... +60 °C<br>Operation Compensated -25 ... +60 °C<br>Storage -50 ... +80 °C                                                                                                                                                                                                                                    |
| Ambient Air Temperature Compensation           | Yes                                                                                                                                                                                                                                                                                                                           |
| Connecting Capacity Auxiliary Circuit UL/CSA   | Flexible 1/2x 18-12 AWG<br>Stranded 1/2x 18-12 AWG                                                                                                                                                                                                                                                                            |
| Resistance to Shock acc. to IEC 60068-2-27     | 11 ms Pulse 25g                                                                                                                                                                                                                                                                                                               |
| Maximum Operating Altitude Permissible         | 2000 m                                                                                                                                                                                                                                                                                                                        |
| RoHS Status                                    | Following EU Directive 2011/65/EU                                                                                                                                                                                                                                                                                             |
| Resistance to Vibrations acc. to IEC 60068-2-6 | 5g / 3 ... 150 Hz                                                                                                                                                                                                                                                                                                             |
| Tightening Torque UL/CSA                       | Auxiliary Circuit 9 ... 13 in·lb<br>Main Circuit 13 ... 22 in·lb                                                                                                                                                                                                                                                              |
| Object Classification Code                     | F                                                                                                                                                                                                                                                                                                                             |

## Classifications

|          |                                   |
|----------|-----------------------------------|
| ETIM 5.0 | EC000106 - Thermal overload relay |
| ETIM 6.0 | EC000106 - Thermal overload relay |
| ETIM 7   | EC000106 - Thermal overload relay |
| eClass   | 7.0 27371501                      |
| ETIM 4   | EC000106 - Thermal overload relay |

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