



Representative Image

## Alternate Catalog No. TF140DU-135 Catalog No. 1SAZ431201R1003

**Description:** TF140DU-135 Thermal Overload Relay

**UPC No** 4013614446832

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The TF140DU-135 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 10A. Further features are the temperature compensation, trip contact (NC), signal contact (NO), automatic- or manual reset selectable, trip-free mechanism, STOP- and Test function and a trip indication. The overload relays are connected directly to the block contactors.

### Descriptors

|          |                 |
|----------|-----------------|
| Category | Overload Relays |
|----------|-----------------|

### Specifications

|                                       |                                                                                                                                                                                                          |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                          | Thermal Overload Relay                                                                                                                                                                                   |
| Rated Operational Voltage             | Auxiliary Circuit 440/500 V DC/V AC<br>Main Circuit 690 V AC                                                                                                                                             |
| Rated Operational Current             | 135 A                                                                                                                                                                                                    |
| Setting Range                         | 100 ... 135 A                                                                                                                                                                                            |
| Rated Impulse Withstand Voltage       | Auxiliary Circuit 6 kV<br>Main Circuit 8 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 10A                                                                                                                                                                                                |
| Conventional Free-air Thermal Current | Auxiliary Circuit NC 10 A<br>Auxiliary Circuit NO 6 A<br>Auxiliary Circuit 50 Hz<br>Auxiliary Circuit 60 Hz<br>Auxiliary Circuit DC<br>Main Circuit 60 Hz<br>Main Circuit 50Hz<br>Main Circuit DC        |
| Rated Frequency                       |                                                                                                                                                                                                          |
| Rated Operational Current AC-3        | 135 A                                                                                                                                                                                                    |
| Degree of Protection                  | Housing IP20<br>Main Circuit Terminals IP10                                                                                                                                                              |
| Pollution Degree                      | 3                                                                                                                                                                                                        |
| Suitable For                          | AF116<br>AF140<br>(120 V) NC 3 A<br>(120 V) NO 1.5 A<br>(240 V) NC 3 A<br>(240 V) NO 1.5 A<br>(400 V) NC 1.9 A<br>(400 V) NO 1 A<br>(440 V) NC 1 A<br>(440 V) NO 1 A<br>(500 V) NC 1 A<br>(500 V) NO 1 A |
| Rated Operational Current AC-15       |                                                                                                                                                                                                          |

**by ABB**

## Specifications

|                                              |                                                                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Operational Current DC-13              | (125 V) NC 0.25 A<br>(125 V) NO 0.25 A<br>(24 V) NC 1.25 A<br>(24 V) NO 1.25 A<br>(250 V) NC 0.12 A<br>(250 V) NO 0.04 A<br>(60 V) NC 0.25 A<br>(60 V) NO 0.25 A                                          |
| Connecting Capacity Main Circuit             | Flexible with Ferrule 1/2x 16 ... 70 mm <sup>2</sup><br>Flexible with Insulated Ferrule 1/2x 16 ... 70 mm <sup>2</sup><br>Flexible 1/2x 16 ... 70 mm <sup>2</sup><br>Rigid 1/2x 16 ... 70 mm <sup>2</sup> |
| Connecting Capacity Auxiliary Circuit        | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup><br>Flexible 1/2x 0.75 ... 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 25 mm                                                                                                                                                              |
| Tightening Torque                            | Auxiliary Circuit 0.8 ... 1.2 N·m<br>Main Circuit 8 ... 10 N·m                                                                                                                                            |
| Mounting Position                            | Position 1 to 5                                                                                                                                                                                           |
| Power Loss                                   | at Rated Operating Conditions per Pole 3.2 ... 5.8 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                     | Auxiliary Circuit Pozidriv 2<br>Main Circuit Hexagon 4                                                                                                                                                    |
| Maximum Operating Voltage UL/CSA             | Main Circuit 600 V AC                                                                                                                                                                                     |
| Ampere Rating UL/CSA                         | 135 A                                                                                                                                                                                                     |
| Contact Rating UL/CSA                        | (NC:) B600<br>(NO:) C300                                                                                                                                                                                  |
| Connecting Capacity Main Circuit UL/CSA      | Flexible 1/2x 6-2/0 AWG<br>Stranded 1/2x 6-2/0 AWG                                                                                                                                                        |
| Ambient Air Temperature                      | Operation -25 ... +55 °C<br>Operation Compensated -25 ... +55 °C<br>Storage -40 ... +70 °C                                                                                                                |
| Ambient Air Temperature Compensation         | Yes                                                                                                                                                                                                       |
| Connecting Capacity Auxiliary Circuit UL/CSA | Flexible 1/2x 18-14 AWG<br>Stranded 1/2x 18-14 AWG                                                                                                                                                        |
| Resistance to Shock acc. to IEC 60068-2-27   | 11 ms Pulse 12g                                                                                                                                                                                           |
| Maximum Operating Altitude Permissible       | 2000 m                                                                                                                                                                                                    |
| RoHS Status                                  | Following EU Directive 2011/65/EU                                                                                                                                                                         |
| Tightening Torque UL/CSA                     | Auxiliary Circuit 12 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 |

## Dimensions

|                            |         |
|----------------------------|---------|
| Product Net Width          | 89 mm   |
| Product Net Height         | 140 mm  |
| Product Net Weight         | 0.82 kg |
| Product Net Depth / Length | 126 mm  |

### Package Information

|                                |               |
|--------------------------------|---------------|
| Package Level 1 Units          | 1 piece       |
| Package Level 1 Width          | 165 mm        |
| Package Level 1 Depth / Length | 151 mm        |
| Package Level 1 Gross Weight   | 0.945 kg      |
| Package Level 1 EAN            | 4013614446832 |
| Package Level 1 Height         | 133 mm        |
| Package Level 2 Width          | 280 mm        |
| Package Level 2 Units          | 4 piece       |
| Package Level 2 Depth / Length | 395 mm        |
| Package Level 2 EAN            | 4013614494376 |
| Package Level 2 Gross Weight   | 8.786 kg      |
| Package Level 2 Height         | 210 mm        |

### Ordering

|                       |                                          |
|-----------------------|------------------------------------------|
| ECN                   | N                                        |
| Customs Tariff Number | 85364900                                 |
| ECCN                  | N                                        |
| ABB MDF Code          | 3DL - Relays (LV / Control + Protection) |