PRODUCT-DETAILS

# TF96-87

## TF96-87 Thermal Overload Relay 75 ... 87 A



### General Information

| | |
|---|---|
| Extended Product Type | TF96-87 |
| Product ID | 1SAZ911201R1005 |
| EAN | 4013614483028 |
| Catalog Description | TF96-87 Thermal Overload Relay 75 ... 87 A |
| Long Description | The TF96-87 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. |

### Ordering

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

### Popular Downloads

| | |
|---|---|
| Data Sheet, Technical Information | 2CDC106069D0201 |

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| | |
|---|---|
| Instructions and Manuals | 2CDC106052M6803 |
| Instructions and Manuals (Part 2) | 1SAC200017M0002 |
| Ex Operating Instructions | 2CDC106086M6801 |
| Time-Current Characteristic Curve | 1SAZ900502F0005 |
| CAD Dimensional Drawing | 2CDC001079B0201 |
| Dimension Diagram | 1SAZ900401F0001 |

## Dimensions

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|---|---|
| Product Net Width | 69.9 mm |
| Product Net Height | 106.9 mm |
| Product Net Depth / Length | 106.3 mm |
| Product Net Weight | 0.52 kg |

## Technical

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|---|---|
| Setting Range | 75 ... 87 A |
| Rated Operational Voltage | Auxiliary Circuit 600 V AC/DC<br>Main Circuit 690 V AC<br>Main Circuit 440 V DC |
| Rated Operational Current ($I_e$) | 87 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 8 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 | Housing IP20<br>Main Circuit Terminals IP10 |
| Pollution Degree | 3 |
| Connecting Capacity | Flexible with Ferrule 1/2x 0.75 ... 2.5 mm² |

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| | |
|---|---|
| Auxiliary Circuit | Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm²<br>Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm²<br>Flexible 1/2x 0.75 ... 1 mm²<br>Flexible 1/2x 1 ... 2.5 mm²<br>Rigid 1/2x 0.75 ... 4 mm² |
| Connecting Capacity Main Circuit | Flexible with Ferrule 1/2x 6 ... 35 mm²<br>Flexible with Ferrule 1x 6 ... 50 mm²<br>Flexible with Insulated Ferrule 1/2x 6 ... 16 mm²<br>Flexible with Insulated Ferrule 1x 6 ... 50 mm²<br>Flexible 1/2x 6 ... 35 mm²<br>Flexible 1x 6 ... 50 mm²<br>Rigid 1/2x 6 ... 35 mm²<br>Rigid 1x 6 ... 50 mm² |
| Tightening Torque | Auxiliary Circuit 1 ... 1.2 N·m<br>Main Circuit 6.0 ... 9.0 N·m |
| Wire Stripping Length | Auxiliary Circuit 9 mm<br>Main Circuit 20 mm |
| Recommended Screw Driver | Auxiliary Circuit Pozidriv 2<br>Main Circuit Hexagon 4 |
| Mounting Position | 1 ... 6 |
| Power Loss | at Rated Operating Conditions per Pole 2.9 ... 3.9 W |
| Suitable For | AF80<br>AF96 |
| 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<br>IEC 60335-2-40 A2L |

## Technical UL/CSA

| | |
|---|---|
| Maximum Operating Voltage UL/CSA | Main Circuit 600 V AC |
| Contact Rating UL/CSA | (NC:) B600<br>(NC:) Q600<br>(NO:) Q600<br>(NO:) D300 |
| Connecting Capacity Main Circuit UL/CSA | Flexible 1x 8-1 AWG<br>Flexible 2x 8-3 AWG<br>Stranded 1x 8-1 AWG<br>Stranded 2x 8-3 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 53 ... 80 in·lb |

## Environmental

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|---|---|
| Ambient Air Temperature | Operation -40 ... +70 °C<br>Operation Compensated -40 ... +70 °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 25g |
| Resistance to Vibrations | 5g 3 ... 150 Hz |
| RoHS Status | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019 |
| Toxic Substances Control Act - TSCA | 2CMT2023-006525 |

## Material Compliance

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|---|---|
| Conflict Minerals Reporting Template | 9AKK108467A5658 |

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|---|---|
| (CMRT) | |
| REACH Declaration | 2CMT2021-006202 |
| RoHS Information | 2CMT2021-006277 |
| RoHS Status | Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019 |
| Toxic Substances Control Act - TSCA | 2CMT2023-006525 |
| WEEE B2C / B2B | Business To Business |
| WEEE Category | 5. Small Equipment (No External Dimension More Than 50 cm) |

## Circular Value

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|---|---|
| End of Life Instructions | 1SAC200334H0001 |

## Eco Transparency

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|---|---|
| Environmental Product Declaration - EPD | 1SAC200249H0001 |
| Environmental Information | 1SAC200059H0009 |

## Certificates and Declarations

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|---|---|
| A2L Certificate - IEC | 1SAA941000-4601 |
| ABS Certificate | 1SAA941003-0101 |
| ATEX Certificate | 1SAA941006-3901 |
| BV Certificate | 1SAA941001-0203 |
| CB Certificate | 1SAA941015-2001 |
| CQC Certificate | CQC2014010309689434 |
| Declaration of Conformity - CCC | 2020980309000292 |
| Declaration of Conformity - CE | 1SAD101100-3503 |
| Declaration of Conformity - UKCA | 1SAD201100-3503 |
| DNV GL Certificate | 1SAA941004-0301 |
| EAC Certificate | 1SAA941002-2701 |
| IECEx Certificate | 1SAA941002-4001 |
| LR Certificate | 1SAA941003-0501 |
| RINA Certificate | RINA_ELE098115XG |
| RMRS Certificate | 1SAA941002-0701 |
| UL Certificate | E48139-20130329 |

## Container Information

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|---|---|
| Package Level 1 Units | box 1 piece |
| Package Level 1 Width | 97 mm |
| Package Level 1 Height | 121 mm |
| Package Level 1 Depth / Length | 97 mm |
| Package Level 1 Gross Weight | 0.62 kg |
| Package Level 1 EAN | 4013614483028 |
| Package Level 2 Units | 12 piece |
| Package Level 2 Width | 280 mm |
| Package Level 2 Height | 210 mm |
| Package Level 2 Depth / Length | 395 mm |
| Package Level 2 Gross Weight | 7.826 kg |

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|---|---|
| Package Level 2 EAN | 4013614485466 |

## Classifications

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|---|---|
| Object Classification 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 |
| ETIM 8 | EC000106 - Thermal overload relay |
| eClass | V11.0 : 27371501 |
| UNSPSC | 39122330 |
| IDEA Granular Category Code (IGCC) | 5366 >> Thermal overload relay |
| E-Number (Finland) | 3706594 |
| E-Number (Norway) | 4116798 |
| E-Number (Sweden) | 3210274 |

## Accessories

| Identifier | Description | Type | Quantity | Unit Of Measure |
|---|---|---|---|---|
| 1SAZ901901R1001 | DB96 Single Mounting Kit | DB96 | 1 | piece |
| 1SAX101911R1001 | DRS-F-01 Remote Reset Coil | DRS-F-01 | 1 | piece |
| 1SAX101911R1002 | DRS-F-02 Remote Reset Coil | DRS-F-02 | 1 | piece |
| 1SAX101911R1003 | DRS-F-03 Remote Reset Coil | DRS-F-03 | 1 | piece |
| 1SAX101911R1004 | DRS-F-04 Remote Reset Coil | DRS-F-04 | 1 | piece |
| 1SAZ701904R1001 | DRS-F-TF-01 Remote Coil | DRS-F-TF-01 | 1 | piece |
| 1SAZ701904R1002 | DRS-F-TF-02 Remote Coil | DRS-F-TF-02 | 1 | piece |
| 1SAZ701904R1003 | DRS-F-TF-03 Remote Coil | DRS-F-TF-03 | 1 | piece |
| 1SAZ701904R1004 | DRS-F-TF-04 Remote Coil | DRS-F-TF-04 | 1 | piece |
| 1SAZ701903R1001 | WRH-F Holder | WRH-F | 1 | piece |
| 1SAZ701903R1011 | WRB-400 Bowden Wire | WRB-400 | 1 | piece |
| 1SAZ701903R1012 | WRB-600 Bowden Wire | WRB-600 | 1 | piece |
| 1SAZ701903R1013 | WRB-1000 Bowden Wire | WRB-1000 | 1 | piece |
| 1SAZ701903R1030 | WRBG Gasket | WRBG | 1 | piece |
| 1SFA616162R1014 | KPR3-101L Reset push button | KPR-101L | 1 | piece |

## Categories

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

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