

# TF140DU-90



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

## General Information

<b>Extended Product Type:</b>	TF140DU-90
<b>Product ID:</b>	1SAZ431201R1001
<b>EAN:</b>	4013614446818
<b>Catalog Description:</b>	TF140DU-90 Thermal Overload Relay
<b>Long Description:</b>	The TF140DU-90 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.

## Ordering

<b>Minimum Order Quantity:</b>	1 piece
<b>Customs Tariff Number:</b>	85364900

## Dimensions

<b>Product Net Width:</b>	89 mm
<b>Product Net Height:</b>	140 mm
<b>Product Net Depth / Length:</b>	126 mm
<b>Product Net Weight:</b>	0.82 kg

## Popular Downloads

<b>Data Sheet, Technical Information:</b>	2CDC106061D0201
<b>Data Sheet, Technical Information (Part 2):</b>	1SAZ400503F0001
<b>Instructions and Manuals:</b>	2CDC106050M6802
<b>Dimension Diagram:</b>	1SAZ400404F0001

## Technical

<b>Setting Range:</b>	66 ... 90 A
<b>Rated Operational Voltage:</b>	Auxiliary Circuit 440 V DC Auxiliary Circuit 500 V AC Main Circuit 690 V AC
<b>Rated Operational Current (I<sub>e</sub>):</b>	90 A
<b>Rated Operational Current AC-3 (I<sub>e</sub>):</b>	90 A

<b>Rated Frequency (f):</b>	Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit DC Main Circuit 60 Hz Main Circuit 50 Hz Main Circuit DC
<b>Rated Impulse Withstand Voltage (U<sub>imp</sub>):</b>	Auxiliary Circuit 6 kV Main Circuit 8 kV
<b>Rated Insulation Voltage (U<sub>i</sub>):</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 (I<sub>th</sub>):</b>	Auxiliary Circuit NC 10 A Auxiliary Circuit NO 6 A
<b>Rated Operational Current AC-15 (I<sub>e</sub>):</b>	(120 V) NC 3 A (120 V) NO 1.5 A (240 V) NC 3 A (240 V) NO 1.5 A (400 V) NC 1.9 A (400 V) NO 1 A (440 V) NC 1 A (440 V) NO 1 A (500 V) NC 1 A (500 V) NO 1 A
<b>Rated Operational Current DC-13 (I<sub>e</sub>):</b>	(125 V) NC 0.25 A (125 V) NO 0.25 A (24 V) NC 1.25 A (24 V) NO 1.25 A (250 V) NC 0.12 A (250 V) NO 0.04 A (60 V) NC 0.25 A (60 V) NO 0.25 A
<b>Degree of Protection:</b>	Housing IP20 Main Circuit Terminals IP10
<b>Pollution Degree:</b>	3
<b>Connecting Capacity Auxiliary Circuit:</b>	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm <sup>2</sup> Flexible 1/2x 0.75 ... 2.5 mm <sup>2</sup> Rigid 1/2x 0.75 ... 4 mm <sup>2</sup>
<b>Connecting Capacity Main Circuit:</b>	Flexible with Ferrule 1/2x 16 ... 70 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 16 ... 70 mm <sup>2</sup> Flexible 1/2x 16 ... 70 mm <sup>2</sup> Rigid 1/2x 16 ... 70 mm <sup>2</sup>
<b>Tightening Torque:</b>	Auxiliary Circuit 0.8 ... 1.2 N·m Main Circuit 8 ... 10 N·m

<b>Wire Stripping Length:</b>	Auxiliary Circuit 9 mm Main Circuit 25 mm
<b>Recommended Screw Driver:</b>	Auxiliary Circuit Pozidriv 2 Main Circuit Hexagon 4
<b>Mounting Position:</b>	Position 1 to 5
<b>Power Loss:</b>	at Rated Operating Conditions per Pole 2.4 ... 4.4 W
<b>Suitable For:</b>	AF116 AF140
<b>Standards:</b>	IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 60947-1 UL 60947-4-1

## Environmental

<b>Ambient Air Temperature:</b>	Operation -25 ... +55 °C Operation Compensated -25 ... +55 °C Storage -40 ... +70 °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 12g
<b>RoHS Status:</b>	Following EU Directive 2011/65/EU

## Technical UL/CSA

<b>Maximum Operating Voltage UL/CSA:</b>	Main Circuit 600 V AC
<b>Ampere Rating UL/CSA:</b>	90 A
<b>Contact Rating UL/CSA:</b>	(NC:) B600 (NO:) C300
<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1/2x 6-2/0 AWG Stranded 1/2x 6-2/0 AWG
<b>Connecting Capacity Auxiliary Circuit UL/CSA:</b>	Flexible 1/2x 18-14 AWG Stranded 1/2x 18-14 AWG
<b>Tightening Torque UL/CSA:</b>	Auxiliary Circuit 12 in·lb

## Certificates and Declarations (Document Number)

<b>ABS Certificate:</b>	1SAA941004-0101
<b>BV Certificate:</b>	1SAA941003-0201
<b>CB Certificate:</b>	1SAA941012-2001
<b>CCC Certificate:</b>	1SAA941009-3802

<b>cUL Certificate:</b>	cUL_E48139
<b>Declaration of Conformity - CE:</b>	1SAD938503-0185
<b>DNV GL Certificate:</b>	1SAA941004-0301
<b>EAC Certificate:</b>	1SAA941002-2701
<b>GOST Certificate:</b>	1SAA941001-2701
<b>Instructions and Manuals:</b>	2CDC106050M6802
<b>LR Certificate:</b>	1SAA941004-0501
<b>RINA Certificate:</b>	RINA_ELE098115XG
<b>RMRS Certificate:</b>	1SAA941002-0701
<b>RoHS Information:</b>	1SAD938503-0185
<b>UL Certificate:</b>	UL_E48139

## Container Information

<b>Package Level 1 Units:</b>	1 piece
<b>Package Level 1 Width:</b>	165 mm
<b>Package Level 1 Height:</b>	133 mm
<b>Package Level 1 Depth / Length:</b>	151 mm
<b>Package Level 1 Gross Weight:</b>	0.945 kg
<b>Package Level 1 EAN:</b>	4013614446818
<b>Package Level 2 Units:</b>	4 piece
<b>Package Level 2 Width:</b>	280 mm
<b>Package Level 2 Height:</b>	210 mm
<b>Package Level 2 Depth / Length:</b>	395 mm
<b>Package Level 2 Gross Weight:</b>	8.786 kg
<b>Package Level 2 EAN:</b>	4013614494352

## Classifications

<b>Object Classification Code:</b>	F
<b>E-nummer:</b>	3210241
<b>ETIM 4:</b>	EC000106 - Thermal overload relay
<b>ETIM 5:</b>	EC000106 - Thermal overload relay
<b>ETIM 6:</b>	EC000106 - Thermal overload relay
<b>ETIM 7:</b>	EC000106 - Thermal overload relay
<b>eClass:</b>	7.0 27371501
<b>UNSPSC:</b>	39121521

