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**PRODUCT-DETAILS****TF42-13B****TF42-13B Thermal Overload Relay 10 ... 13 A**

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**General Information**

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<b>Extended Product Type:</b>	TF42-13B
<b>Product ID:</b>	1SAZ741201R1045
<b>EAN:</b>	4013614517174
<b>Catalog Description:</b>	TF42-13B Thermal Overload Relay 10 ... 13 A

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**Long Description:**

The TF42-B thermal overload relays are economic electromechanical protection devices for the main circuit, complying with the latest railway rolling stock standards and allowing installation in passengers or driver cabins for trains frequently operating tunnels or undergrounds.

They offer a reliable protection for motors in the event of overload or phase failure. The devices have trip class 10.

The thermal overload relays are three pole relays with bimetal tripping elements. The motor current flows through the bimetal tripping elements and heats them directly and indirectly. In case of an overload (over current), the bimetal elements bent as a result of the heating. This leads to a release of the relay and a change of the contacts switching position (95-96 / 97-98).

- Manual or automatic reset selectable
- Phase loss sensitive acc. to IEC/EN 60947-4-1
- TEST and STOP function – Trip indication on the front
- Temperature compensation
- Suitable for three- and single-phase applications
- designed in accordance to the applicable parts of IEC 60077 standard
- shocks and vibration withstand conforming to IEC 61373 (category 1, class B)
- usable according to European fire and smoke safety standard EN 45545-2

<b>Display Name:</b>	TF42-13B
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## Ordering

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

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## Popular Downloads

<b>Data Sheet, Technical Information:</b>	2CDC106023D0201
<b>Instructions and Manuals:</b>	2CDC106022M6802
<b>Instructions and Manuals (Part 2):</b>	1SAC200017M0002
<b>Time-Current Characteristic Curve:</b>	1SAZ700506F0016
<b>CAD Dimensional Drawing:</b>	2CDC001079B0201

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## Dimensions

<b>Product Net Width:</b>	45 mm
<b>Product Net Height:</b>	88.3 mm
<b>Product Net Depth / Length:</b>	70.5 mm
<b>Product Net Weight:</b>	0.13 kg

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## Technical

<b>Setting Range:</b>	10 ... 13 A
<b>Rated Operational Voltage:</b>	Auxiliary Circuit 600 V AC/DC Main Circuit 690 V AC
<b>Rated Operational Current (I<sub>e</sub>):</b>	13 A

<b>Rated Frequency (f):</b>	Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit DC Main Circuit 50 Hz Main Circuit 60 Hz
<b>Rated Impulse Withstand Voltage (U<sub>imp</sub>):</b>	Auxiliary Circuit 6 kV Main Circuit 6 kV
<b>Rated Insulation Voltage (U<sub>i</sub>):</b>	690 V
<b>Number of Poles:</b>	3P
<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 6 A Auxiliary Circuit NO 4 A Main Circuit 0 A
<b>Rated Operational Current AC-15 (I<sub>e</sub>):</b>	(120 V) NC 3 A (120 V) NO 0.75 A (240 V) NC 3 A (240 V) NO 0.75 A (400 V) NC 0.75 A (400 V) NO 0.75 A (500 V) NC 0.75 A (500 V) NO 0.75 A
<b>Rated Operational Current DC-13 (I<sub>e</sub>):</b>	(125 V) NC 0.55 A (125 V) NO 0.55 A (24 V) NC 1.25 A (24 V) NO 1.25 A (250 V) NC 0.27 A (250 V) NO 0.27 A (500 V) NC 0.15 A (500 V) NO 0.15 A (60 V) NC 0.55 A (60 V) NO 0.55 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> Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm <sup>2</sup> Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm <sup>2</sup> Flexible 1/2x 0.75 ... 1 mm <sup>2</sup> Flexible 1/2x 1 ... 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 0.75 ... 4 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 0.75 ... 4 mm <sup>2</sup> Flexible 1/2x 0.75 ... 4 mm <sup>2</sup> Rigid 1/2x 0.75 ... 4 mm <sup>2</sup>
<b>Tightening Torque:</b>	Auxiliary Circuit 1 ... 1.2 N-m Main Circuit 2.5 ... 2.7 N-m
<b>Wire Stripping Length:</b>	Auxiliary Circuit 9 mm Main Circuit 12 mm
<b>Recommended Screw Driver:</b>	Main Circuit Pozidriv 2
<b>Power Loss:</b>	at Rated Operating Conditions per Pole 1.3 ... 2.2 W

<b>Suitable For:</b>	AF09ZB AF09B AF12ZB AF12B AF16ZB AF16B AF26ZB AF26B AF30ZB AF30B AF38ZB AF38B
<b>Standards:</b>	IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 60947-1 UL 60947-4-1 IEC 60335-2-40 A2L

## Technical UL/CSA

<b>Maximum Operating Voltage UL/CSA:</b>	Main Circuit 600 V AC
<b>Contact Rating UL/CSA:</b>	(NC:) B600 (NC:) Q600 (NO:) Q600 (NO:) D300
<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1/2x 18-10 AWG Stranded 1/2x 18-10 AWG
<b>Connecting Capacity Auxiliary Circuit UL/CSA:</b>	Flexible 1/2x 18-12 AWG Stranded 1/2x 18-12 AWG
<b>Tightening Torque UL/CSA:</b>	Auxiliary Circuit 9 ... 11 in-lb Main Circuit 13 ... 22 in-lb

## Environmental

<b>Ambient Air Temperature:</b>	Operation -25 ... +60 °C Operation Compensated -25 ... +60 °C Storage -50 ... +80 °C
<b>Ambient Air Temperature Compensation:</b>	Yes
<b>Maximum Operating Altitude Permissible:</b>	2000 m
<b>Shock and Vibration Withstand acc. to IEC Category 1, Class B 61373:</b>	
<b>Resistance to Shock acc. to IEC 60068-2-27:</b>	11 ms Pulse 25g
<b>Resistance to Vibrations:</b>	5g 3 ... 150 Hz
<b>RoHS Information:</b>	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019
<b>Toxic Substances Control Act - TSCA:</b>	2CMT2023-006525

## Material Compliance

<b>Conflict Minerals Reporting Template (CMRT):</b>	9AKK108467A5658
<b>REACH Declaration:</b>	2CMT2021-006202

<b>RoHS Declaration:</b>	2CMT2021-006277
<b>WEEE B2C / B2B:</b>	Business To Business
<b>WEEE Category:</b>	5. Small Equipment (No External Dimension More Than 50 cm)

## ABB EcoSolutions

<b>ABB EcoSolutions:</b>	Yes
<b>ABB Site Meeting Group Waste To Landfill Target:</b>	UL 2799 Zero Waste To Landfill Validation available
<b>EcoSolutions Profile:</b>	1SFC100125C0355
<b>End Of Life Disassembling Instructions:</b>	1SAC200429H0001
<b>Environmental Information:</b>	1SAC200057H0009
<b>Environmental Product Declaration - EPD:</b>	1SAC200373H0001
<b>Improved Energy Efficiency for Customers:</b>	Product Efficiency - Product considered more energy-efficient compared to similar product on market or older products from the same line
<b>Recyclability Rate of the Product acc. to EN45555:</b>	Design for Closing Resource Loops - Standard EN45555 - 65 %

## Certificates and Declarations

<b>A2L Certificate – IEC:</b>	1SAA941000-4601
<b>CCC Certificate:</b>	2024010304658956
<b>CQC Certificate:</b>	CQC2011010309464423
<b>Declaration of Conformity - CCC:</b>	2020980304001788
<b>Declaration of Conformity - CE:</b>	1SAD101100-3505
<b>Declaration of Conformity - UKCA:</b>	1SAD201100-3505
<b>UL Certificate:</b>	E48139-20090126

## Container Information

<b>Package Level 1 Units:</b>	carton 1 piece
<b>Package Level 1 Width:</b>	48 mm
<b>Package Level 1 Height:</b>	92 mm
<b>Package Level 1 Depth / Length:</b>	78 mm
<b>Package Level 1 Gross Weight:</b>	0.145 kg
<b>Package Level 1 EAN:</b>	4013614517174
<b>Package Level 2 Units:</b>	carton 48 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>	7.346 kg
<b>Package Level 2 EAN:</b>	4013614517396

### External Classifications and Standards

<b>Object Classification Code:</b>	F
<b>ETIM 9:</b>	EC000106 - Thermal overload relay
<b>ETIM 10:</b>	EC000106 - Thermal overload relay
<b>eClass:</b>	V11.0 : 27371501
<b>UNSPSC:</b>	39121520
<b>IDEA Granular Category Code (IGCC):</b>	5364 >> Overload relay

### Accessories

Identifier	Description	Type	Qty	Unit Of Measure
1SAZ701902R0001	DB42 Single Mounting Kit DB42		1	piece

### Categories

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

