PRODUCT-DETAILS

TF42-3.1B

TF42-3.1B Thermal Overload Relay 2.3 ... 3.1 A

General Information

Extended Product Type	TF42-3.1B
Product ID	1SAZ741201R1033
EAN	4013614517129
Catalog Description	TF42-3.1B Thermal Overload Relay 2.3 ... 3.1 A
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

Ordering

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

Popular Downloads

Data Sheet, Technical Information	2CDC106023D0201
Instructions and Manuals	2CDC106022M6802
Instructions and Manuals (Part 2)	1SAC200017M0002
CAD Dimensional Drawing	2CDC001079B0201

Dimensions

Product Net Width	45 mm
Product Net Height	88.3 mm
Product Net Depth / Length	70.5 mm
Product Net Weight	0.13 kg

Technical

Setting Range	2.3 ... 3.1 A
Rated Operational Voltage	Auxiliary Circuit 600 V AC/DC Main Circuit 690 V AC
Rated Operational Current (I_e)	3.1 A
Rated Frequency (f)	Auxiliary Circuit 50 Hz Auxiliary Circuit 60 Hz Auxiliary Circuit DC Main Circuit 50 Hz Main Circuit 60 Hz
Rated Impulse Withstand Voltage (U_{imp})	Auxiliary Circuit 6 kV Main Circuit 6 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 Auxiliary Circuit NO 4 A Main Circuit 0 A
Rated Operational Current	(120 V) NC 3 A (120 V) NO 0.75 A

AC-15 (I_e)	(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
Rated Operational Current DC-13 (I_e)	(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
Degree of Protection	IP20
Pollution Degree	3
Connecting Capacity Auxiliary Circuit	Flexible with Ferrule 1/2x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 1x 0.75 ... 2.5 mm² Flexible with Insulated Ferrule 2x 0.75 ... 1.5 mm² Flexible 1/2x 0.75 ... 1 mm² Flexible 1/2x 1 ... 2.5 mm² Rigid 1/2x 0.75 ... 4 mm²
Connecting Capacity Main Circuit	Flexible with Ferrule 1/2x 0.75 ... 4 mm² Flexible with Insulated Ferrule 1/2x 0.75 ... 4 mm² Flexible 1/2x 0.75 ... 4 mm² Rigid 1/2x 0.75 ... 4 mm²
Tightening Torque	Auxiliary Circuit 1 ... 1.2 N·m Main Circuit 2.5 ... 2.7 N·m
Wire Stripping Length	Auxiliary Circuit 9 mm Main Circuit 12 mm
Recommended Screw Driver	Main Circuit Pozidriv 2
Power Loss	at Rated Operating Conditions per Pole 1.1 ... 2.0 W
Suitable For	AF09ZB AF09B AF12ZB AF12B AF16ZB AF16B AF26ZB AF26B AF30ZB AF30B AF38ZB AF38B
Standards	CSA 22.2 No. 14 IEC 60077-1 (applicable parts) IEC 60077-2 (applicable parts) IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 508

Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V AC
Contact Rating UL/CSA	(NC:) B600 (NC:) Q600 (NO:) Q600

	(NO:) D300
Connecting Capacity Main Circuit UL/CSA	Flexible 1/2x 18-10 AWG Stranded 1/2x 18-10 AWG
Connecting Capacity Auxiliary Circuit UL/CSA	Flexible 1/2x 18-12 AWG Stranded 1/2x 18-12 AWG
Tightening Torque UL/CSA	Auxiliary Circuit 9 ... 11 in·lb Main Circuit 13 ... 22 in·lb

Environmental

Ambient Air Temperature	Operation -25 ... +60 °C Operation Compensated -25 ... +60 °C Storage -50 ... +80 °C
Ambient Air Temperature Compensation	Yes
Maximum Operating Altitude Permissible	2000 m
Shock and Vibration Withstand acc. to IEC 61373	Category 1, Class B
Resistance to Shock acc. to IEC 60068-2-27	11 ms Pulse 25g
Resistance to Vibrations acc. to IEC 60068-2-6	5g / 3 ... 150 Hz
RoHS Status	Following EU Directive 2011/65/EU and Amendment 2015/863 July 22, 2019

Certificates and Declarations

CQC Certificate	CQC2011010309464423
Declaration of Conformity - CCC	2020980304001788
Declaration of Conformity - CE	1SAD101100-3505
Declaration of Conformity - UKCA	1SAD201100-3505
UL Certificate	E48139-20090126

Container Information

Package Level 1 Units	carton 1 piece
Package Level 1 Width	48 mm
Package Level 1 Height	92 mm
Package Level 1 Depth / Length	78 mm
Package Level 1 Gross Weight	0.145 kg
Package Level 1 EAN	4013614517129
Package Level 2 Units	carton 48 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	7.346 kg
Package Level 2 EAN	4013614517358

Classifications

Object Classification Code	F
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	39121520
IDEA Granular Category Code (IGCC)	5364 >> Overload relay

Accessories

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

Categories

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