

# TF96-78



## TF96-78 Thermal Overload Relay

### General Information

Extended Product Type	TF96-78
Product ID	1SAZ911201R1004
EAN	4013614483011
Catalog Description	TF96-78 Thermal Overload Relay
Long Description	The TF96-78 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

Minimum Order Quantity	1 piece
Customs Tariff Number	85364900

### Dimensions

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

### Popular Downloads

Data Sheet, Technical Information	2CDC106069D0201
Data Sheet, Technical Information (Part 2)	1SAZ800502F0005
Data Sheet, Technical Information (Part 3)	1SAZ800503 1SAZ900506
Instructions and Manuals	2CDC106052M6803
Instructions and Manuals (Part 2)	2CDC106086M6801
Dimension Diagram	1SAZ900401F0001

### Technical

Setting Range	65 ... 78 A
Rated Operational Voltage	Auxiliary Circuit 600 V AC/DC Main Circuit 690 V AC

Main Circuit 440 V DC	
Rated Operational Current ( $I_e$ )	78 A
Rated Operational Current AC-3 ( $I_e$ )	78 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 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 Auxiliary Circuit NO 4 A
Rated Operational Current AC-15 ( $I_e$ )	(120 V) NC 3 A (120 V) NO 0.5 A (240 V) NC 3 A (240 V) NO 0.5 A (400 V) NC 0.75 A (400 V) NO 0.5 A (500 V) NC 0.75 A (500 V) NO 0.5 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	Housing IP20 Main Circuit Terminals IP10
Pollution Degree	3
Connecting Capacity Auxiliary Circuit	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>
Connecting Capacity Main Circuit	Flexible with Ferrule 1/2x 6 ... 35 mm <sup>2</sup> Flexible with Ferrule 1x 6 ... 50 mm <sup>2</sup> Flexible with Insulated Ferrule 1/2x 6 ... 16 mm <sup>2</sup> Flexible with Insulated Ferrule 1x 6 ... 50 mm <sup>2</sup> Flexible 1/2x 6 ... 35 mm <sup>2</sup> Flexible 1x 6 ... 50 mm <sup>2</sup> Rigid 1/2x 6 ... 35 mm <sup>2</sup> Rigid 1x 6 ... 50 mm <sup>2</sup>
Tightening Torque	Auxiliary Circuit 1 ... 1.2 N·m Main Circuit 6.0 ... 9.0 N·m
Wire Stripping Length	Auxiliary Circuit 9 mm Main Circuit 20 mm
Recommended Screw Driver	Auxiliary Circuit Pozidriv 2 Main Circuit Hexagon 4
Mounting Position	Position 1 to 6
Power Loss	at Rated Operating Conditions per Pole 2.7 ... 3.8 W
Suitable For	AF80 AF96

Standards	IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 60947-1 UL 60947-4-1
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## Technical UL/CSA

Maximum Operating Voltage UL/CSA	Main Circuit 600 V AC
Ampere Rating UL/CSA	78 A
Contact Rating UL/CSA	(NC:) B600 (NC:) Q600 (NO:) Q600 (NO:) D300
Connecting Capacity Main Circuit UL/CSA	Flexible 1x 8-1 AWG Flexible 2x 8-3 AWG Stranded 1x 8-1 AWG Stranded 2x 8-3 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 53 ... 80 in-lb

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## Environmental

Ambient Air Temperature	Operation -40 ... +70 °C Operation Compensated -40 ... +70 °C 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 acc. to IEC 60068-2-6	5g / 3 ... 150 Hz
RoHS Status	Following EU Directive 2011/65/EU

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## Certificates and Declarations (Document Number)

ABS Certificate	1SAA941003-0101
ATEX Certificate	1SAA941006-3901
BV Certificate	1SAA941001-0203
CB Certificate	1SAA941016-2001
CCC Certificate	1SAA941013-3801
cUL Certificate	cUL_E48139
Declaration of Conformity - CE	1SAD938509-0187
DNV GL Certificate	1SAA941004-0301
EAC Certificate	1SAA941002-2701
GOST Certificate	1SAA941001-2701
Instructions and Manuals	2CDC106052M6803
Instructions and Manuals (Part 2)	2CDC106086M6801
LR Certificate	1SAA941003-0501
RINA Certificate	RINA_ELE098115XG
RMRS Certificate	1SAA941002-0701
RoHS Information	1SAD938507-0187
UL Certificate	UL_E48139

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## Container Information

Package Level 1 Units	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	4013614483011
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
Package Level 2 EAN	4013614485459

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## Classifications

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
eClass	7.0 27371501
UNSPSC	39121521
E-Number (Sweden)	3210273

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## Categories

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

