

## 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.

## Categories

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

## Ordering

Minimum Order Quantity:	1 piece
Customs Tariff Number:	85364900
EAN:	4013614483011

## Dimensions

Product Net Height:	106.9 mm
Product Net Depth:	106.3 mm
Product Net Weight:	0.52 kg
Product Net Width:	69.9 mm

## Container Information

Package Level 1 Width:	97 mm
Package Level 1 Height:	121 mm
Package Level 1 Length:	97 mm
Package Level 1 Gross Weight:	0.62 kg
Package Level 2 Units:	12 piece
Package Level 2 Width:	280 mm
Package Level 2 Height:	210 mm
Package Level 2 Length:	395 mm
Package Level 2 Gross Weight:	7.826 kg
Package Level 2 EAN:	4013614485459
Package Level 1 Units:	1 piece

## Technical

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 0.75 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>	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 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 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>
<b>Tightening Torque:</b>	Auxiliary Circuit 1 ... 1.2 N·m Main Circuit 6.0 ... 9.0 N·m
<b>Wire Stripping Length:</b>	Auxiliary Circuit 9 mm Main Circuit 20 mm
<b>Recommended Screw Driver:</b>	Auxiliary Circuit Pozidriv 2 Main Circuit Hexagon 4
<b>Mounting Position:</b>	Position 1 to 6
<b>Power Loss:</b>	at Rated Operating Conditions per Pole 2.7 ... 3.8 W
<b>Suitable For:</b>	AF80 AF96
<b>Standards:</b>	IEC/EN 60947-1 IEC/EN 60947-4-1 IEC/EN 60947-5-1 UL 60947-1 UL 60947-4-1
<b>Setting Range:</b>	65 ... 78 A

## Environmental

<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 25g
<b>Resistance to Vibrations acc. to IEC 60068-2-6:</b>	5g / 3 ... 150 Hz
<b>RoHS Status:</b>	Following EU Directive 2002/95/EC August 18, 2005 and amendment
<b>Ambient Air Temperature:</b>	Operation -25 ... +60 °C Operation Compensated -25 ... +60 °C Storage -50 ... +80 °C

## Technical UL/CSA

<b>Ampere Rating UL/CSA:</b>	78 A
<b>Contact Rating UL/CSA:</b>	(NC:) B600 (NC:) Q600 (NO:) Q600 (NO:) D300
<b>Connecting Capacity Main Circuit UL/CSA:</b>	Flexible 1x 8-1 AWG Flexible 2x 8-3 AWG Stranded 1x 8-1 AWG Stranded 2x 8-3 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 53 ... 80 in-lb

Maximum Operating Voltage  
UL/CSA:

Main Circuit 600 V AC

### Certificates and Declarations (Document Number)

Data Sheet, Technical Information (Part 2): 1SAZ800502F0005

Instructions and Manuals: 2CDC106052M6803

Instructions and Manuals (Part 2): 2CDC106086M6801

ABS Certificate: 1SAA941003-0101

ATEX Certificate: 1SAA941006-3901

BV Certificate: 1SAA941001-0202

CB Certificate: 1SAA941016-2001

CCC Certificate: 1SAA941013-3801

cUL Certificate: cUL\_E48139

Data Sheet, Technical Information: 2CDC106069D0201

Declaration of Conformity - CE: 1SAD938506-0187

DNV Certificate: 1SAA941004-0301

EAC Certificate: 1SAA941002-2701

GOST Certificate: 1SAA941001-2701

LR Certificate: 1SAA941003-0501

RINA Certificate: RINA\_ELE098115XG

RMRS Certificate: 1SAA941002-0701

RoHS Information: 1SAA941008-4401

UL Certificate: UL\_E48139

### Classifications

E-number: 3210273

ETIM 4: EC000106 - Thermal overload relay

ETIM 5: EC000106 - Thermal overload relay

ETIM 6: EC000106 - Thermal overload relay

eClass: 7.0 27371501

UNSPSC: 39121521

Object Classification Code: F

