

DESCRIPTION AND APPLICATION

STI and STID converters are intended for converting the signal of Ni 1000/6180 or Pt 100/3850 resistance-type temperature sensing elements to the unified signal 4 - 20 mA. The converter consists of a plastic case, inside which the printed circuit boards and the terminal board for connection of power supply and the resistance-type temperature sensing element are placed. Two variants exist regarding to the design of the converter case:

1. STI Pt and STI Ni converters: the plastic case is made of LEXAN material, and is identical to, for example, the connection head of S 120 sensors. It is provided with a wall bracket or with a clip for attaching to a DIN console. The terminal board casing meets the IP 65 ingress protection requirements according to the EN 60 529 standard.

2. STID Pt and STID Ni converters the plastic box is made of NORYL SE1 material and is provided by a self-extinguishing retarder. It is intended for installation directly to a switchboard on a DIN console. The terminal board casing meets the IP 20 ingress protection requirements according to the EN 60 529 standard.

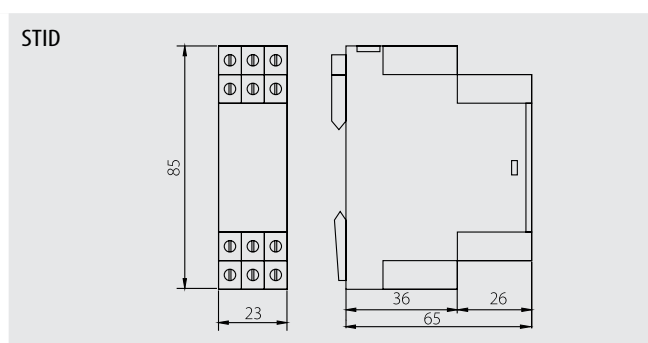
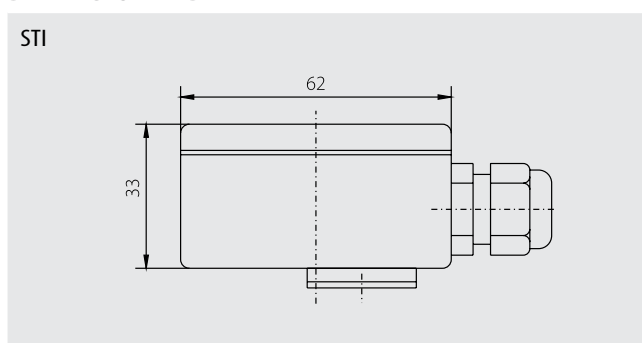
These converters can be utilised in any control system compatible with 4 - 20 mA current output. Standard measuring ranges of the converter are listed in the specifications table. Operating temperature range is -30 to 80°C. These limits must not be exceeded even for a short time. The sensors are designed to be operated in a chemically non-aggressive environment.



SPECIFICATIONS

Converter type	STI Ni STID Ni	STI Pt STID Pt
Input signal	Ni 1000/6180	Pt 100/3850
Output signal	4 to 20 mA	
Power supply (UNAP)	11 to 30 V DC for STI; 10 to 30 V DC for STID (Recommended value 24 V DC)	
Maximum voltage ripple UNAP	0,5 %	
Standard measuring ranges	-30 to 60 °C	-30 to 60 °C
	0 to 35 °C	0 to 35 °C
	0 to 100 °C	0 to 100 °C
	0 to 150 °C	0 to 200 °C
	0 to 250 °C	0 to 400 °C
Terminal board ingress protection	IP 65 (for STI), IP 20 (for STID) according to EN 60 529	
Ambient temperature	-30 to 80 °C	
Measurement error	< 0,6 % of the measuring range, minimum 0,5 °C	
Load resistance	50(UNAP - 10) Ω for STI; 50(UNAP - 9) Ω for STID	
Output current for sensing element break	> 24 mA	
Output current for sensing element short	< 3,5 mA	
Sensor connection	according to the wiring diagram	
Recommended wire cross section	STI: 0,35 to 1,5 mm ² STID: 0,35 to 4 mm ²	
Material of the case	STI: LEXAN 500 R STID: NORYL SE1	
Working conditions	ambient temperature: -30 to 80 °C	
	relative humidity: max. 85 % (at the ambient temperature 25 °C)	
	atmospheric pressure: 87 to 107 kPa	
Mass	0,15 kg	

DIMENSIONAL DRAFT



WIRING DIAGRAM

STI Ni

UNAP – supply voltage, any polarity
1 sensing element terminal no. 1
2 sensing element terminal no. 2 + shielding

STI Pt

UNAP – supply voltage, any polarity
1, 2 terminals for Pt 100 sens. element conn.
3, 4 terminals for conn. of compensation wiring

STID Pt, STID Ni

UNAP – supply voltage, any polarity
1, 2 terminals for Pt 100 sens. element conn.
3, 4 terminals for conn. of compensation wiring

2-wire connection

Ni 1000

2-wire connection

Pt 100

3-wire connection

Pt 100

expansion loop connection

Pt 100

SENSOR INSTALLATION AND SERVICING

Prior to connecting the lead-in cables of the resistance-type sensing element and supply voltage it is necessary to attach the converter to a wall or a DIN console and, if dealing with the STI Pt or STI Ni variant, to unscrew the connection head lid. The lead-in cables of a resistance-type sensing element are then connected to the corresponding terminals according to the wiring diagram. Recommended wire cross-section is determined by terminal board type and can be found in the specifications table. In case the lead-in cable is laid in the vicinity of high voltage conductors or those supplying equipment creating disturbing electromagnetic field (e.g. inductive load equipment), a shielded cable should be used. To insure the ingress protection value of IP 65 of STI Pt or STI Ni variants the grommet has to be tightened and the lid has to be screwed on after connecting the lead-in cable. After installing and connecting the sensor to the appropriate evaluating electrical equipment, it is ready to use. The sensor does not require any special servicing or maintenance. The device can be operated in any working position, but the grommet must not be directed upwards.

HOW TO ORDER

Converters 4-20 mA	6	A	B	C	C	D	0	0	0	0	0	0
Ni 1000/6180			0									
Pt 100/3850			1									
				-30 to 60 °C	0	1						
				0 to 35 °C	0	2						
				0 to 100 °C	0	3						
				0 to 150 °C	0	4						
				0 to 250 °C	0	5						
				0 to 200 °C	0	7						
				0 to 400 °C	0	8						
				console			1					
				DIN bar			2					
				Box for DIN bar			3					

WHEN ORDERING GOODS, THE FOLLOWING DATA ARE REQUIRED:

Required data	Example
Product type	STI Ni
Temperature range	0 to 35 °C
Console / DIN bar / Box for DIN bar	Console

DELIVERY

In addition, the following documents may be provided together with the product: calibration sheet, the EU Declaration of Conformity.