

TEMPERATURE TO CURRENT CONVERTERS STI AND STID (4 to 20 mA)

020.17en

DESCRIPTION AND APPLICATION



STI and STID converters are intended for converting the signal of Ni 1000/6180, Pt 100/3850 or Pt 1000/3850 resistance-type temperature sensing elements to the unified signal 4 to 20 mA. These converters can be utilised in any control system compatible with 4 to 20 mA current output. Standard measuring ranges of the converter are listed in the specifications table. Operating temperature range is -30 to 70 °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. Two variants exist regarding to the design of the converter case:

1. STI Pt and STI Ni converters: the plastic case is made of POLYAMIDE 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 rail. The terminal board casing meets the IP 65 ingress protection requirements according to the EN 60529 standard, as amended.
2. STID Pt: the plastic box is made of TARFLON - IRY 2200, which meets requirements of UL 90 V-0 standard, as amended. It is intended for installation directly to a switchboard on a DIN rail.



DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard) or in an Accredited laboratory.

SPECIFICATIONS

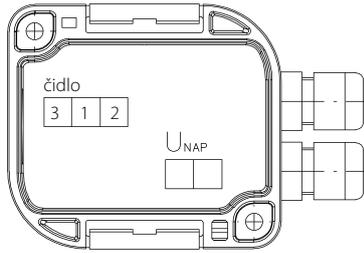
Converter type	STI Ni	STI Pt 100 STID Pt 100	STI Pt 1000 STID Pt 1000
Input signal	Ni 1000/6180	Pt 100/3850	Pt 1000/3850
Output signal	4 to 20 mA		
Power supply (U)	11 to 30 V DC (recommended value 24 V DC)		
Maximum voltage ripple	0.5 %		
Standard measuring ranges*)	-30 to 60 °C 0 to 35 °C 0 to 100 °C 0 to 150 °C 0 to 250 °C	-30 to 60 °C 0 to 35 °C 0 to 100 °C 0 to 150 °C 0 to 200 °C 0 to 400 °C	-30 to 60 °C 0 to 35 °C 0 to 100 °C 0 to 150 °C 0 to 200 °C 0 to 400 °C
STI and STID ingress protection	STI: IP 65 in accordance with EN 60529, as amended STID: IP 20 (plastic case) / IP 00 (terminal board) in accordance with EN 60529, as amended		
Ambient temperature	-30 to 70 °C		
Measuring error	< 0.6 % of the measuring range, minimum 0.5 °C		
Load resistance	150 Ω for power supply 12 V DC 700 Ω for power supply 24 V DC		
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 2.5 mm ²		
Material of case	STI: POLYAMIDE STID: TARFLON - IRY 2200 - meets requirements of UL 94 V-0, as amended		
Operating conditions	ambient temperature: -30 to 70 °C relative humidity: max. 85 % (at the ambient temperature 25 °C) atmospheric pressure: 87 to 107 kPa		
Weight	0.15 kg		

*)According to the customer's requirement, it is possible to provide a customized measuring range from -40 to 150 °C; the minimum span of the range must be 35 °C (e.g. -20 to 15 °C; -30 to 80 °C)

WIRING DIAGRAM

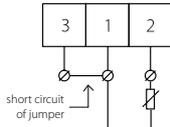
STI Ni, STI Pt 100, STI Pt 1000

UNAP – power supply
arbitrary polarity,
output 4 to 20 mA



1, 2, 3 – sensor connection terminals

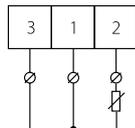
STI - 2-wire connection



Ni 1000, Pt 100, Pt 1000

Note: for 2-wire connection must be short circuit of jumper between terminals 3 and 1 plugged in.

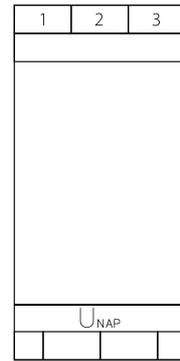
STI - 3-wire connection



Pt 100, Pt 1000

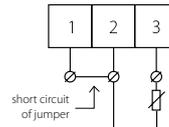
STID Pt 100, STID Pt 1000

UNAP – power supply
arbitrary polarity,
output 4 to 20 mA



1, 2, 3 – sensor connection terminals

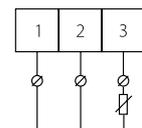
STID - 2-wire connection



Pt 100, Pt 1000

Note: for 2-wire connection must be short circuit of jumper between terminals 3 and 1 plugged in.

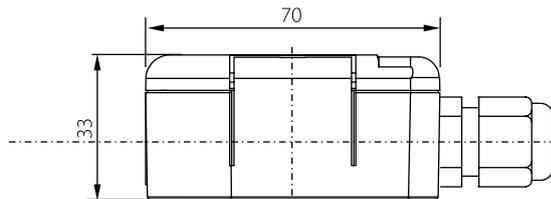
STID - 3-wire connection



Pt 100, Pt 1000

DIMENSIONAL DRAFT

STI



STID

