

## Temperature converter PT100 2/3/4-wire (9 ranges)



<b>Identification</b>	Type	WPT 7-1929 PT100
	Part-No.	751929
<b>Product version</b>		
Datasheet version	00	
<b>Use/Application/Properties</b>		
Description	Temperatur converter with 2/3/4-wire technology for PT100 sensors, with 9 input- and output ranges.	
<b>Input</b>		
Measurement input	PT100, 2/3/4-wire, adjustable via DIP-switch S2	
Galvanic insulation I/O	3-way isolation	
Temperature range	- 50–150 °C / 0–100 °C / 0–200 °C - adjustable via DIP switch S1	
Critical frequency	10 Hz	
Sensor current	0.5 mA	
Input resistance	3L: 1 MΩ, 3L/4L: 240 kΩ	
Zero /Span	Production comparison	
<b>Output</b>		
Output signal	adjustable via DIP switch S1	
Ripple	<5 mV <sub>eff</sub>	
<b>General</b>		
Rated voltage	DC 24 V	
Operation voltage range	DC 16.8–30 V	
Rated current	13.0 mA	
Status indication LED	LED yellow, blinks for wire break and output goes to a saturated state	
Input/output protection	Overvoltage AC/DC 30 V, short circuit-proof output	
Accuracy	0.3 % FSR	
Linearity error	0.1 % FSR	
Rise time (10 - 90%)	30 ms	
Build-up time (Accuracy 1%)	60 ms	

## Temperature converter PT100 2/3/4-wire (9 ranges)

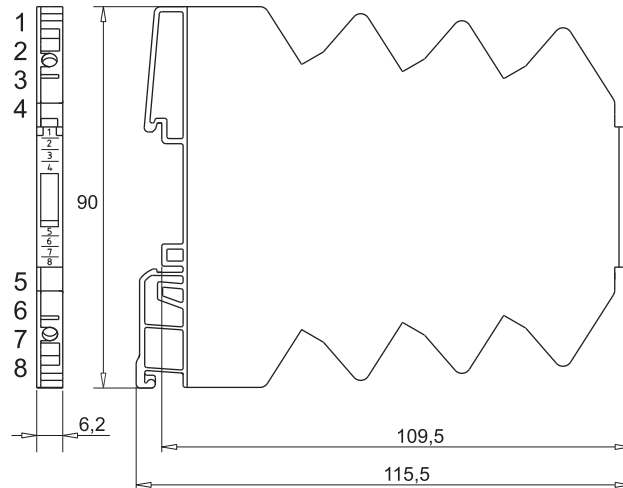
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω, 4-conductor: 0,01 %/Ω
Temperature coefficient	150 ppm / K FSR
Insulation voltage input/output	2.5 kV <sub>eff</sub>
Housing material	PA
Mounting	DIN rail mountable TS35 (EN 60715)
Protection class	IP 20
Installation position	Optional
Termination	Spring terminal 0.14–1.5 mm <sup>2</sup> Stripping Length: 10 mm Screwdriver: 3,5 × 0,6 mm
Operation temperature range	-40 °C ... 70 °C
Storage temperature range	-40 °C ... 80 °C
Dimensions (w × h × d)	6.2 × 90.0 × 115.6 mm
Weight (kg/piece)	0.050 kg/piece
PU	1
Standards	<b>EN 50155:2007-07</b> Railway applications – Rolling stock – Electronic equipment <b>EN 50121-3-2:2016-12</b> Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus <b>EN 50124-1:2017-03</b> Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment <b>EN 61373:2010-09</b> Railway applications – Rolling stock equipment – Shock and vibration tests <b>EN 45545-2:2013+A1:2015</b> Railway applications – Fire protection on railway vehicles – Part 2: Requirements for fire behaviour of materials and components <b>HN_Isolationsprüfung:2012-12</b> Company internal standard – Insulation test

### Failure Rate Prediction (MTBF)

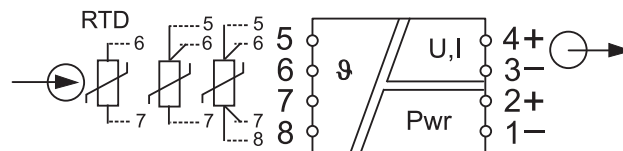
Standards	Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500
Failure rate at -40 °C	187 fit
Failure rate at +40 °C	498 fit
Failure rate at +45 °C	586 fit
Failure rate at +45 °C	1706639 h
Failure rate at +70 °C	1519 fit
	1 fit equals one failure per 10 <sup>9</sup> component hours
	The indicated temperature is the mean component ambient temperature.
Comments	The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances

# Temperature converter PT100 2/3/4-wire (9 ranges)

## Dimensions



## PIN assignment



## Circuit

● → Switch On		S1					
Range	Output	1	2	3	4	5	6
-50 – 150°C	0-10V						
-50 – 150°C	0-20mA	●					
-50 – 150°C	4-20mA		●				
0 – 100°C	0-10V	●	●				
0 – 100°C	0-20mA			●			
0 – 100°C	4-20mA	●		●			
0 – 200°C	0-10V			●	●		
0 – 200°C	0-20mA	●	●	●			
0 – 200°C	4-20mA					●	

● → Switch On		S2			
Input configuration	1	2	3	4	
2-wire	●		●	●	
3-wire		●			
4-wire	●				

## Accessories

Accessories	Color	Article number	Type
Tag holder 4×11 mm	681313	BZT-0411	100
Isolation plate	760809	TP 7-0809	5
Labels for laser printer 4.23 x 11 mm (Sheet with 1056 labels)	681034	LEB 0411	1

## Accessories

Accessories	Color	2-pole	3-pole	4-pole	8-pole	16-pole
Jumper comb 6A	762802	762805	762812	762822	762832	10
Jumper comb 6A	762803	762806	762813	762823	762833	10
Jumper comb 6A	762804	762807	762814	762824	762834	10