

## Head/Field-Mounted Temperature Transmitter with Indicator PEK301HD With HART Protocol



### Application Area

Head and Field mounted temperature transmitter with HART- protocol for converting various input signals into a scalable 4 to 20 mA analogue output signal

### Input Types

- Resistance thermometer (RTD)
- Thermocouple (TC)
- Resistance transmitter ( $\Omega$ )
- Voltage transmitter (mV)

### Features

- Head and Field Mount temperature transmitter
- Transmitters, settable via HART-protocol
- High performance, high reliability
- Variety of sensor inputs
- Variety of enclosures
- Single or dual sensor inputs for RTD, thermocouple, mV, and ohm
- Digital communication
- Self-diagnostics function
- LCD display for Field mount

## Technical Data

Power Supply			
Supply Voltage, Polarity Protected	Minimum	12 V DC without load 18 V DC with 250Ω load	
	Maximum	36V DC	
Output			
Output Signal		4 to 20 mA with Hart	
Signal On Alarm		Under Range 3.9 mA Over Range 20.5 mA Sensor break; sensor open-circuit 3.6 mA	
Load		Max. 23mA	
Transmission Behavior		Loop Current Linear in Input Range	
Input			
No. of Input		Single or Dual	
Input	Type	Measurement Range	Min. meas. Ranges
Resistor Temperature Device (RTD)	PT100	-200°C to 850°C (-328°F to 1562°F)	10K
	PT500	-200°C to 250°C (-328 °F to 482 °F)	10K
	PT1000	-200°C to 250°C (-328 °F to 482 °F)	10K
	Cu50	-50°C to 150°C (-58 °F to 302 °F)	10K
	Cu100	-50°C to 150°C (-58 °F to 302 °F)	10K
Resistance transmitter	Resistance(Ω)	0 to 400Ω	10Ω
		0 to 2000Ω	20Ω
Connection type : 2-,3- or 4- wiere connection			
Thermocouples (TC)	B (PtRh30-PtRh6)	0 to 1820 °C (-32°F to 3308 F)	500K
	E(NiCr-CuNi)	-270°C to 1000°C (-454°F to 1832°F)	50K
	J(Fe-CuNi)	-210°C to 1200°C (-346°F to 2192°F)	50K
	K(NiCr-Ni)	-270 °C to 1372°C (-454°F to 2501°F)	50K
	N(NiCrSi-NiSi)	-270 to 1300°C (-454°F to 2372°F)	50K
	R(PtRh13-Pt)	-50 to 1768°C (-58°F to 3214.4°F)	500K
	S(PtRh10-Pt)	-50 to 1768°C (-58°F to 3214.4°F)	500K
	T(Cu-CuNi)	-270 to 400°C (-454°F to 752°F)	50K

Voltage Transmitters(mV)	Millivolt Transmitter(mV)	-10 to 75mV	5mV
		-100 to 100mV	5mV
		-100 to 500mV	6mV
		-100 to 2000mV	20mV
<b>Performance Characteristic</b>			
Response time	1s		
Reference operating conditions	Calibration temperature: 23°C (73.4oF) 5K		
Long term stability	≤0.05%/year		
Switch on delay	≤5s		
Influence of ambient	Negligible		
Load influence	Negligible		
Power supply influence	Negligible		
Self stability configuration	0 to 2%		
Filter configuring	0 to 160 μA		
Resolution	0.3μA		
Maximum measured error	Input	Type	Measurement accuracy
	RTD	Pt100	0.2K or 0.08%
		Pt500	0.5K or 0.20%
		Pt1000	0.3K or 0.12%
		Cu50	0.2K or 0.08%
		Cu100	0.3K or 0.12%
	TC	K, J, T, E	typ.0.5K or 0.08%
		N	typ.1.0K or 0.08%
		S, B, R	typ.2.0K or 0.08%
	Ω	0 to 400Ω	±0.1Ω or 0.08%
		0 to 2000Ω	±1.5Ω or 0.12%
	mV	-10 to 75mV	±20μV or 0.08%
		-100 to 100mV	±0μV or 0.08%
		-100 to 500mV	±0μV or 0.08%
-100 to 2000mV		±0μV or 0.08%	
<b>Environment conditions</b>			
Ambient temperature limits	-40 to 65°C (-40°C to 85°C) without LCD		
Storage temperature	-40 to 80°C with LCD ; -45 to 100 °C		
Humidity	0 ~ 95 %		

Degree of protection	IP65
Shock and vibration resistance	4g/2 to 150 Hz as per IEC 60 068-26
Protection rating (Enclosure)	Interference immunity and interference emission according to GB/T17626.2-1998), compliance with IEC 61000-4-3:1995.
Ex-protection	Ex ia IIC T4
Others	
Display Type	5 digits
Display Range	-19999 ~ 19999
Weight	Approx. 1,500 g
Electrical Connection	Aluminum die cast
Enclosure Materials	M20 X 1.5
Enclosure Model	PEK003, PEK006

### Electrical Field Connection Diagram

