



Features

- Digital programmable transmitter
- Suitable for installation in connecting heads in accordance with DIN, form B
- Input for resistance thermometer and resistance
- Can be configured by PC
- Output signal: 4...20 mA invertible, 2-wire circuitry
- Programmable output signal for sensor breakage and sensor short circuit
- Power supply: 8...28 V DC
- Ex II 1G, EEx ia IIC T4/T6
- Increased ambient temperature

Application

The digital transmitter converts a temperature-dependent change in resistance into a current signal typical of process control systems. Likewise, linear changes in resistance, e.g. by valves or level transmitters can be converted into an analog current signal. An extensive range of configuration options is available, such as sensor type, measuring range, output, sensor failure signal and response time (damping).

Techn. Data

Mechanical design

case material plastic Valox 815
 type of protection:
 case IP 68
 terminals IP 00

Mounting

borings for mounting in connection heads per DIN form B or larger

Connections

terminal screws for wire or flexible lead
 $\leq 1.5 \text{ mm}^2$

Housing temperature

operation and storage: $-40 \dots +85 \text{ }^\circ\text{C}$

Auxiliary energy supply

function range 8...28 V DC
 internal consumption 25 mW...0.8 W

EMC

overserved requirement standard:
 emission: EN 50081-1, EN 50081-2
 immunity :EN 50082-2, EN 50082-1
 emission and immunity: EN 61326
 ATEX 94/9/EG: EN 50014, EN 50020
 immunity influence $\leq \pm 0.5\%$ of span

Influence of the supply voltage on the output signal

$\leq 0.005\%$ of span/V

Signal input

- resistance thermometer (RTD) 2- or 3-wire circuitry Pt100...Pt1000, Ni100...Ni1000
- resistance input (Lin.R) 2- or 3-wire circuitry 0...10.000 Ohm

sensor current: $> 0.2 \text{ mA}, < 0.4 \text{ mA}$
 cable resistance: max. 10 Ohm per wire

Measuring ranges/measuring spans

type	min-value	max-value	min-span
Pt 100	$-200 \text{ }^\circ\text{C}$	$+850 \text{ }^\circ\text{C}$	$25 \text{ }^\circ\text{K}$
Ni 100	$-60 \text{ }^\circ\text{C}$	$+250 \text{ }^\circ\text{C}$	$25 \text{ }^\circ\text{K}$
Lin. R	0 Ohm	10.000 Ohm	30 Ohm

offset: 50 % of selec. max. value

Output signal

signal range 4...20 mA/20...4 mA
 RTD: temperature linear
 Lin.R: resistance linear
 updating time : 135 ms

Burden

$\leq (\text{Uvers.}-8\text{V})/0.023 \text{ Ohm}$

Burden influence

$< 0.01\%$ of span /100 Ohm

Sensor error

sensor breakage and sensor short circuit
 programmable: 3.5...23 mA
 NAMUR NE43 upscale: 23 mA
 NAMUR NE43 downscale: 3.5 mA

Accuracy

accuracy, the greater of general and basis values:

general values		
input type	absolute accuracy	temperature coefficient
all	$\leq \pm 0.1\%$ of span	$\leq \pm 0.1\%$ of span/ $^\circ\text{C}$
basic values		
input type	basic accuracy	temperature coefficient
RTD	$\leq \pm 0.3 \text{ }^\circ\text{C}$	$\leq \pm 0.01 \text{ }^\circ\text{C}/^\circ\text{C}$
Lin.R	$\leq \pm 0.2 \text{ Ohm}$	$\leq \pm 20 \text{ mOhm}/^\circ\text{C}$
EMC immunity influence.....		$\leq \pm 0.5\%$ of span
response time (programmable)		0.33...60s
warm-up time		5 M

Vibration

vibration: IEC 68-2-6 Test FC
 Lloyd's specification No. 1: 4g/2...100 Hz

Ex-design



EEx approval CENELEC:
 DEMKO 03 ATEX 134704X
 Ex II 1 G, EEx ia IIC T4/T6

max. ambient temperature.:

for T4: $85 \text{ }^\circ\text{C}$

for T6: $60 \text{ }^\circ\text{C}$

applicable in zone 0, 1, 2

Ui: 28 V DC

Ii: 120 mA DC

Pi: 0.84 W

Li: 10 μH

Ci: 1.0 nF

Weight

approx. 50 g

Connection diagram

Dimensions

input:

output:

resistance thermometer

resistance/potentiometer

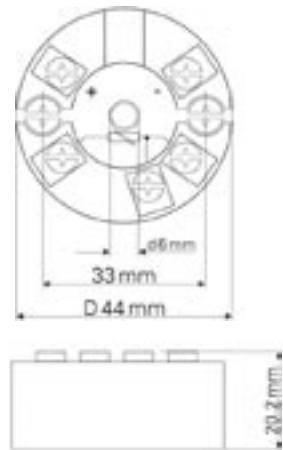
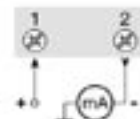
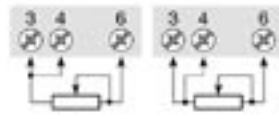
2-wire

3-wire

2-wire

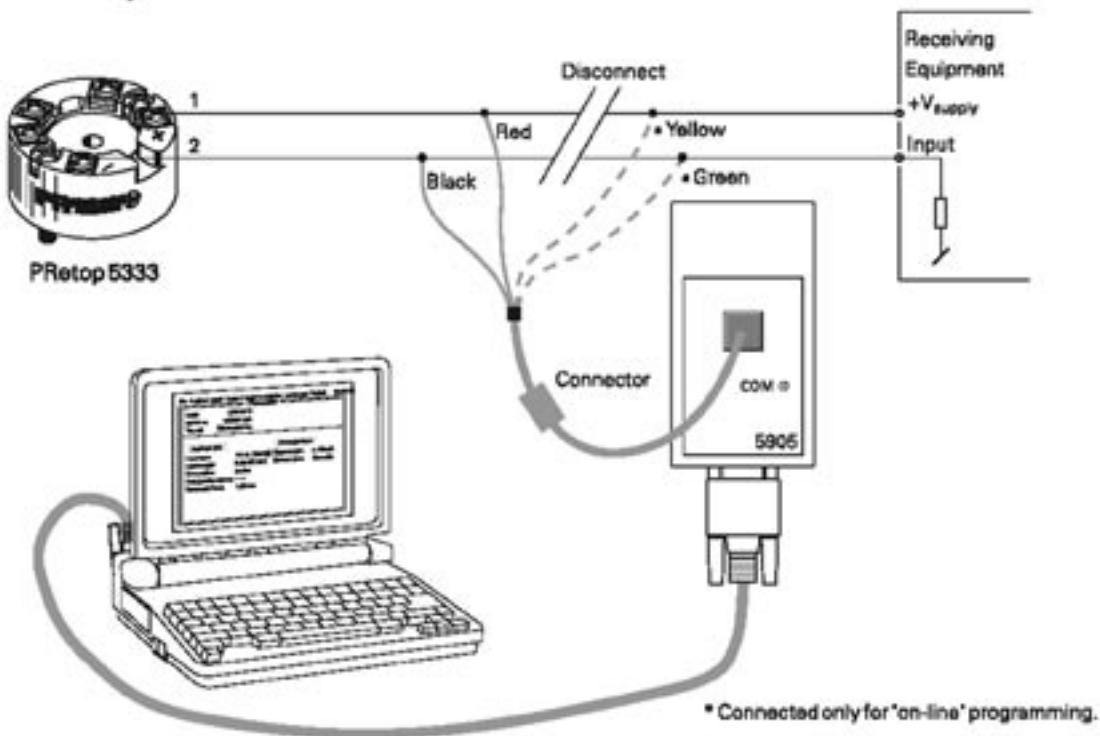
3-wire

2-wire installation



Programming

- Loop Link is a battery-powered communications interface that is needed for programming PA 2250/51 (internal software art.-no. PRetop 5333)
- For programming please refer to the drawing below and the help functions in PReset.



Order Details - please give additional specifications for models not listed -

Transmitter for temperature head mounting programmable		
design	· standard	PA2250
	· II 1G EEx ia IIC T4/T6	PA2251
without configuration ¹		F11
per customer choice		F12
	signal input	
	measuring range	
	output	
	sensor break	
	response time (damping)	
order code (example)		PA2250 F11
Accessory		
program "Loop Link 5905"		MC1070

¹ adjusted at factory:
 signal input Pt 100, 3-wire
 measuring range 0...150 °C
 output 4...20 mA
 sensor break 23 mA
 response time (damping) 1 s