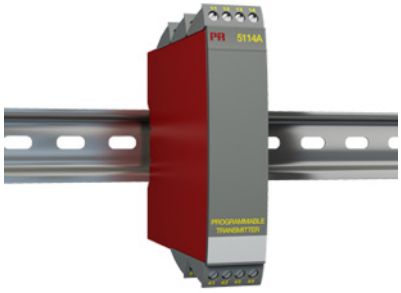
PERFORMANCE MADE SMARTER



Programmable transmitter

5114A

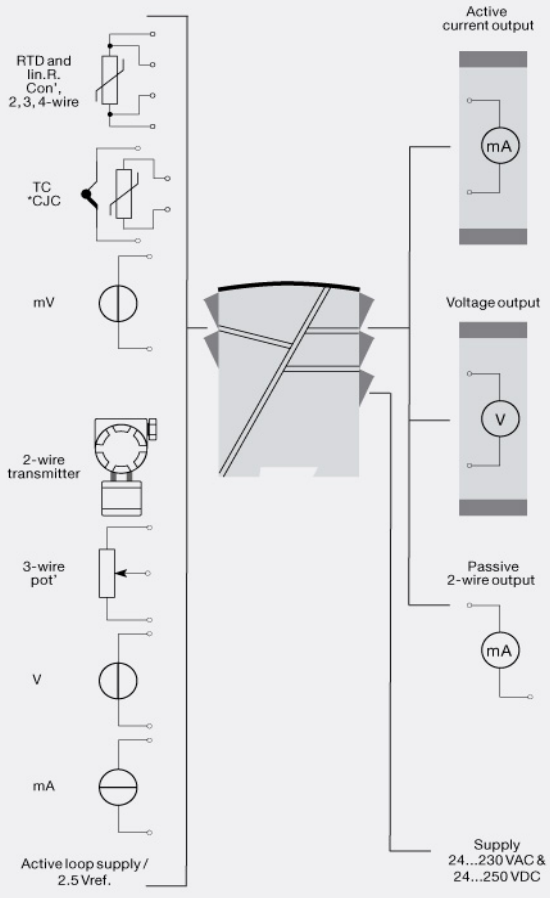
– Input for RTD, TC, mV, linear resistance, mA, and V
– 3-port 3.75 kVAC galvanic isolation
– Current and voltage output
– Universal voltage supply
– 1- and 2-channel versions
– Loop supply > 17.1 V

Advanced features
- The 5114 transmitter can be configured, with or without a power supply, using the PReset software and the Loop Link communications unit.

Application
- Jumper selectable inputs for current/voltage or temperature.
- Programmable current (0...100 mA) and voltage (0...250 VDC) inputs.
- Linearized, electronic temperature measurement.
- Conversion of linear resistance variation e.g, from solenoids and butterfly valves or linear movements with attached potentiometer.
- 17.1 VDC loop and 2.5 VDC potentiometer supplies.
- Automatic 4- / 3-wire or programmable 2-wire cable compensation.
- Configurable sensor error detection including NAMUR NE43.

Technical characteristics
- Active or Passive current output and selectable voltage output.
- Separation of circuits in PELV/SELV installations.

Connections



Order:

Type	Version	Input	Channels
5114 A	Standard : A	RTD / TC / R / mA / V / mV : -	Single : A Double : B

Note! For TC inputs with internal CJC, remember to order the CJC connectors type 5910 / 5910 Ex (ch. 1) and 5913 / 5913 Ex (ch. 2).

Environmental Conditions

Specifications range	-20°C to +60°C
Calibration temperature	20...28°C
Relative humidity	< 95% RH (non-cond.)
Protection degree	IP20

Mechanical specifications

Dimensions (HxWxD)	109 x 23.5 x 130 mm
Weight approx.	225 g
DIN rail type	DIN 46277
Wire size	1 x 2.5 mm^2 stranded wire
Screw terminal torque	0.5 Nm

Common specifications

Supply voltage, universal	21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
Fuse	400 mA SB / 250 VAC
Max. power consumption	≤ 3 W (2 channels)
Internal consumption	≤ 2 W (2 channels)
Isolation voltage, test / working	3.75 kVAC / 250 VAC
Communications interface	Loop Link
Signal / noise ratio	Min. 60 dB (0...100 kHz)
Response time (0...90%, 100...10%): Temperature input (programmable)	400 ms...60 s
mA / V input (programmable)	250 ms...60 s
Updating time	115 ms (temperature input)
Updating time	75 ms (mA / V / mV input)
Signal dynamics, input	22 bit
Signal dynamics, output	16 bit
Auxiliary voltages: Reference voltage	2.5 VDC ±0.5% / 15 mA
Auxiliary supply: 2-wire supply (pin 44...42 and 54...52)	28...17.1 VDC / 0...20 mA
EMC immunity influence	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst	< ±1% of span

Input specifications

Max. offset	50% of selected max. value
RTD input	Pt100, Ni100, lin. R
Cable resistance per wire (max.), RTD	10 Ω
Sensor current, RTD	Nom. 0.2 mA
Effect of sensor cable resistance (3-/4-wire), RTD	< 0.002 Ω / Ω
Sensor error detection, RTD	Yes
TC input: Thermocouple type	B, E, J, K, L, N, R, S, T, U, W3, W5, LR
Cold junction compensation (CJC)	< ±1.0°C
Sensor error current, TC	Nom. 30 µA
Sensor error detection, TC	Yes
Current input: Measurement range	0...100 mA
Min. measurement range (span), current input	4 mA
Input resistance: Supplied unit	Nom. 10 Ω + PTC 10 Ω
Input resistance: Non-supplied unit	RSHUNT = ∞, VDROP < 6 V
Voltage input: Measurement range	0...250 VDC
Voltage input: Measurement range	-150...+150 mV
Min. measurement range (span), voltage input	5 mV
Input resistance, voltage input	Nom. 10 MΩ (≤ 2.5 VDC)
Input resistance, voltage input	Nom. 5 MΩ (> 2.5 VDC)
Input resistance, voltage input	Nom. 10 MΩ (mV input)

Output specifications

Max. offset	50% of selected max. value
Current output: Signal range	0...20 mA
Min. signal range	10 mA
Load (max.)	20 mA/600 Ω/12 VDC
Load stability, current output	≤0.01% of span / 100 Ω
Current limit	≤ 28 mA
2-wire 4...20 mA output: Signal range	4...20 mA
Load stability, 4…20 mA output	≤ 0.01% of span / 100 Ω
Max. load resistance [Ω]	(Vsupply - 3.5) / 0.023 A
Max. external 2-wire supply	29 VDC
Effect of external 2-wire supply voltage variation	< 0.005% of span / V
Voltage output: signal range	0...10 VDC
Voltage output, min. signal range	500 mV
Load (min.)	500 kΩ
Sensor error indication, current output	Programmable 0...23 mA
NAMUR NE 43 Upscale/Downscale	23 mA / 3.5 mA
*of span	= of the presently selected range

Approvals

EMC	EN 61326-1
LVD 2006/95/EC	EN 61010-1
PELV/SELV	IEC 364-4-41 and EN 60742
EAC TR-CU 020/2011	EN 61326-1
DNV Marine	Stand. f. Certific. No. 2.4