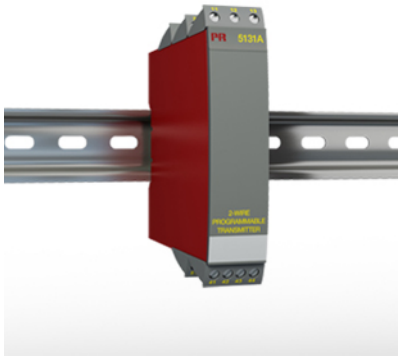
PERFORMANCE MADE SMARTER



2-wire programmable transmitter

5131A

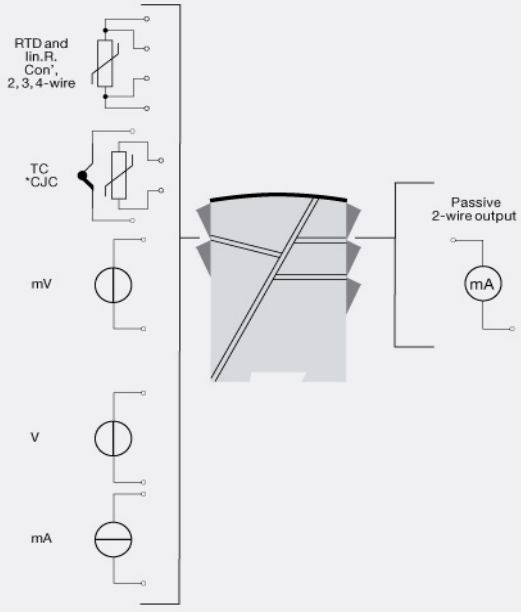
– Input for RTD, TC, mV, linear resistance, mA, and V sample
– 3.75 kVAC galvanic isolationt
– 4...20 mA loop output
– 1- or 2-channel version
– DIN rail mounting

Advanced features
- The 5131A transmitter can be configured with the software program PReset using a standard PC and the Loop Link communications unit.

Application
- Independent channel jumper selectable inputs for current/voltage or temperature.
- Current input programmable in range 0...100 mA and voltage inputs in range 0...250 VDC.
- Linearized, electronic temperature measurement with RTD or TC sensor.
- Conversion of linear resistance variation to a standard analog current / voltage signal, for example from solenoids and butterfly valves or linear movements with attached potentiometer.
- 4- or 3-wire connection automatic cable compensation or 2-wire connection with programmable cable compensation.
- Configurable sensor error detection including NAMUR NE43.

Technical characteristics
- Analog current output can be configured to any current within 0...20 mA range.
- Voltage output range is selectable between 0...10 VDC.
- Programming can be performed with or without a power supply.
- The 2-channel version has full galvanic isolation between the channels.
- Separation of circuits in PELV/SELV installations.

Connection



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.	195 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	7.5...35 VDC
Fuse	50 mA SB / 250 VAC
Isolation voltage, test / working	3.75 kVAC / 250 VAC
Communications interface	Loop Link
Signal / noise ratio	Min. 60 dB (0...100 kHz)
Signal dynamics, input	22 bit
Signal dynamics, output	16 bit
Updating time	115 ms (temperature input)
Updating time	75 ms (mA / V / mV input)
Response time (0...90%, 100...10%): Temperature input (programmable)	400 ms...60 s
mA / V input (programmable)	250 ms...60 s
EMC immunity influence	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst	< ±1% of span
Effect of supply voltage change	< 0.005% of span / VDC

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	-150...+150 mV
Voltage input: Measurement range	0...250 VDC
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)

Output specifications

Max. offset	50% of selected max. value
Current output: Signal range	4…20 mA
Min. signal range	10 mA
Load resistance, current output	≤ (Vsupply -7.5)/0.023 A) [Ω]
Load stability, current output	≤0.01% of span/100 Ω
Current limit	≤ 28 mA
Sensor error detection, current output	Programmable 3.5…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	EN 61010-1
PELV/SELV	IEC 364-4-41 and EN 60742
ATEX	DEMKO 99ATEX124572