



## IPAQ R520

### Smart HART-compatible Dual-input 2-wire Transmitter



The IPAQ R520 transmitters are universal, isolated, dual-input temperature transmitters with additional voltage and resistance input. R520X/R520XS are Intrinsically Safe versions for use in Ex-Zone 1 and 2. The transmitters are compatible with the HART 6 protocol. Typical characteristics are the high accuracy, stability and reliability combined with a robust housing.

- Universal, dual-input for RTD and T/C
- SIL 2 compatible according to IEC 61508-2
- 5 year guaranteed stability
- Withstands vibrations up to 5 g
- Complies with NAMUR NE 21, NE 43, NE 53, NE 89 and NE 107
- EMC immunity according to Criteria A
- Sensor Backup
- Sensor Drift Monitoring
- Sensor Isolation Monitoring
- Sensor Matching
- 50 point customized linearization
- Integrated in Emerson AMS and Siemens PDM systems

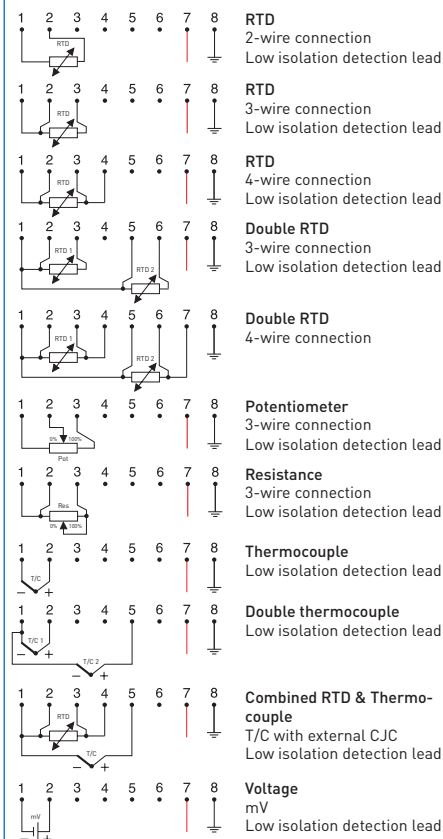
### Specifications:

<b>Input RTD</b>		
Pt100	(IEC 60751, $\alpha=0.00385$ )	-200 to +850 °C
PtX (10 ≤ X ≤ 1000)	(IEC 60751, $\alpha=0.00385$ )	Corresp. to max. 4000 Ω
Pt100	(JIS C 1604, $\alpha=0.003916$ )	-200 to +850 °C
Ni100	(DIN 43760)	-60 to +250 °C
Ni120	(Edison Curve No. 7)	-60 to +250 °C
Ni1000	(DIN 43760)	-50 to +180 °C
Cu10	(Edison Cu Windings No. 15)	-50 to +200 °C
Input connections	One sensor	2-, 3- and 4-wire connection
	Two sensors	2-, 3- and 4-wire connection
Input Thermocouple	T/C types	B, C, D, E, J, K, N, R, S, T
Input Resistance	Potentiometer	100 to 4000 Ω, 2-, 3- and 4-wire connection
Input Voltage		-10 to +1000 mV
<b>Double inputs for RTD and Thermocouple</b>		
Measure mode		T1 or T2 or difference, average, min, max of T1 and T2
Sensor Redundancy		Automatic switchover to undamaged sensor
Sensor Drift Monitoring		Adjustable maximum temp. difference T1-T2
<b>Output</b>		
Output signal	Temperature linear	4-20 mA, 20-4 mA or customized
NAMUR compliance	Measure and fail currents	NAMUR, NE 43
Test output		mA meter with impedance ≤10 Ω
Galvanic isolation		1500 VAC, 1 min
Ex-classifications	R520X/R520XS	ATEX: II 2(I)G Ex ia [ia Ga] IIC T6...T4 Gb <sup>1)</sup>
		IECEx: Ex ia [ia Ga] IIC T6...T4 Gb <sup>1)</sup>
Power supply	R520/R520S	10.0...36.0 VDC, Standard power supply
	R520X/R520XS	10.0...30.0 VDC, I.S. power supply
Ambient temperature	Storage/operation	-20 to +70 °C
Accuracy	RTD (Pt and Ni sensors)	Max. of ±0.1 °C or ±0.05 % of span
	Thermocouple	Typical ±0.05 % of span
	Resistance/voltage	See data sheet
Long-term stability		Max. drift: ±0.05 % of span / 5 years
Mounting		35 mm DIN rail acc. to EN 60715

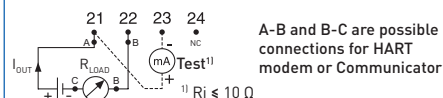
<sup>1)</sup> For Tambient, see the manual

### Input connections

See data sheet for more alternatives

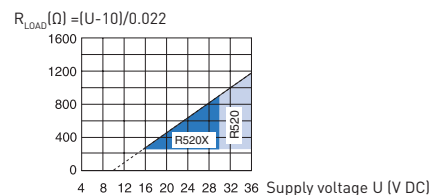


### Output connections

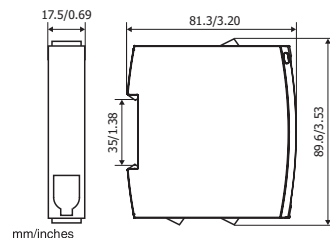


A-B and B-C are possible connections for HART modem or Communicator

### Output load diagram



### Dimensions



### Ordering information

IPAQ R520	70R5200010
IPAQ R520S, SIL 2 compatible	70R5200S10
IPAQ R520X (ATEX, IECEx)	70R520X010
IPAQ R520XS, SIL 2 compatible (ATEX, IECEx)	70R520XS10
ICON-X, PC configuration kit	70CFGUSX01