



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

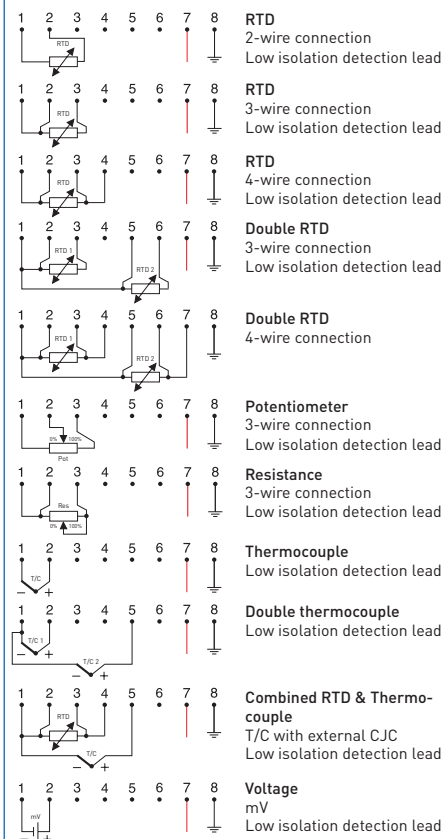
Specifications:

Input RTD		
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
Double inputs for RTD and Thermocouple		
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
Output		
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(1)G Ex ia [ia Ga] IIC T6...T4 Gb ¹⁾ IECEx: Ex ia [ia Ga] IIC T6...T4 Gb ¹⁾
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

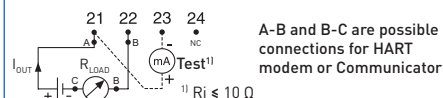
¹⁾ For Tambient, see the manual

Input connections

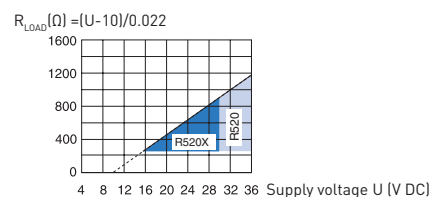
See data sheet for more alternatives



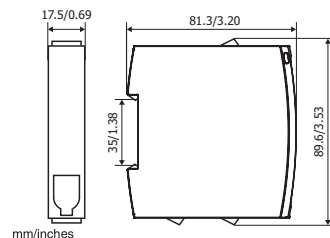
Output connections



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