IPAQ C520

HART Compatible
Universal
Dual-input
2-wire Transmitter

SIL 2 · IEC · IECEx · Ex · HART COMMUNICATION PROTOCOL · CE · 5 YEAR WARRANTY

The IPAQ C520 transmitters are universal, isolated, dual-input temperature transmitters with additional voltage and resistance input.
C520X/C520XS are Intrinsically Safe versions for use in Ex-Zone 0, 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 guaranted stability
- Withstands 10 g vibrations
- 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

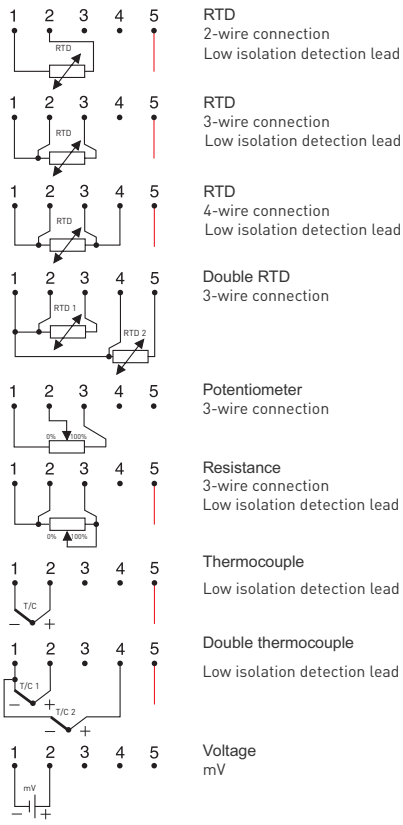
Specifications:

Input RTD		
Pt100	(IEC 60751, α=0.00385)	-200 to +850 °C
PtX (10 ≤ X ≤ 1000)	(IEC 60751, α=0.00385)	Corresp. to max. 4 000 Ω
Pt100	(JIS C 1604, α=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- and 3-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
Galvanic isolation		1500 VAC, 1 min
Ex-classifications	C520X/C520XS	ATEX: II 1G Ex ia IIC T6...T4 Ga[1)] IECEx: Ex ia IIC T6...T4 Ga[1)]
Power supply	C520/C520S	10...36.0 VDC, Standard power supply
	C520X/C520XS	10...30.0 VDC, I.S. power supply
Ambient temperature	Storage/operation	-40 to +85 °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
Connection head		DIN B or larger

[1)] For Tambient, see the manual

Input connections

See data sheet for more alternatives



RTD
2-wire connection
Low isolation detection lead

RTD
3-wire connection
Low isolation detection lead

RTD
4-wire connection
Low isolation detection lead

Double RTD
3-wire connection

Potentiometer
3-wire connection

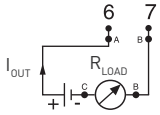
Resistance
3-wire connection
Low isolation detection lead

Thermocouple
Low isolation detection lead

Double thermocouple
Low isolation detection lead

Voltage
mV

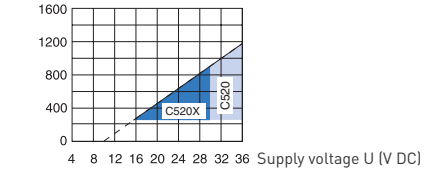
Output connections



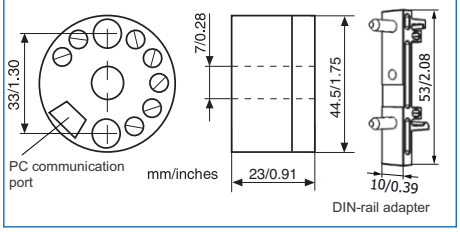
A-B and B-C are possible connections for HART modem or Communicator

Output load diagram

$R_{LOAD}(\Omega) = (U-10)/0.022$



Dimensions



Ordering information

IPAQ C520	70C5200010
IPAQ C520S, SIL 2 compatible	70C5200S10
IPAQ C520X	70C520X010
IPAQ C520XS, SIL 2 compatible	70C520XS10
ICON PC configuration kit (USB-conn.)	70CFGUSX01
Configuration	70CAL00001
Head mounting kit - 10 pcs	70ADA00027

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