OUTPUT

Output (Analog)

Output signal	Analog (4 to 20) mA or (20 to 4) mA
Transmission as	Temperature linear, resistance linear, voltage linear
Maximum load	$(U_{b\,max}$ - 11V) / 0.023 A (current output)
Digital filter 1st degree	(0 to 120) s
Minimum current required	3.5 mA, multidrop mode 4 mA
Current limit	≤ 23 mA
Switch on delay	10 s (during switch-on operation I_a ≤ 3.8 mA)
Response time	Resistance thermometer (RTD)	0.9 to 1.3 s (depends on the connection method 2/3/4-wire)
	Thermocouples (TC)	0.8 s
	Reference temperature	0.9 s

Failure Mode

Underranging	Linear drop from 4.0 mA to 3.8 mA
Overranging	Linear increase from 20.0 mA to 20.5 mA
Failure, e.g. sensor breakage; sensor short circuit	≤ 3.6 mA or ≥ 21 mA (configurable 21.5 mA to 23 mA)

Electrical Connection

Supply Voltage	11V ≤ Vcc ≤ 42 V non-hazardous area, reverse polarity protected, see XP documentation for hazardous locations
Entry	3/4 inch NPT conduit connection x 1/2 inch NPT process connection
Residual	U_{ss} ≤ 3 V at U_b ≥ 13.5 V, f_{max} = 1 kHz

ACCURACY

Reference conditions	Calibration temperature (25 ± 5) °C [77 ± 9] °F Supply voltage: 24 V dc 4-wire circuit for resistance adjustment

Resistance Thermometer (RTD)

TYPE	MEASUREMENT ACCURACY - DIGITAL[1]	MEASUREMENT ACCURACY - D/A[2]
Pt100, Ni100, Ni120 Pt500 Cu50, Pt50, Pt1000 Pt200	0.1 °C [0.18 °F] 0.3 °C [0.54 °F] 0.2 °C [0.36 °F] 1.0 °C [1.8 °F]	0.03% 0.03% 0.03% 0.03%

Thermocouple (TC)

TYPE	MEASUREMENT ACCURACY - DIGITAL[1]	MEASUREMENT ACCURACY - D/A[2]
K, J, T, E, L, U N, C, D S, B, R	0.25 °C [0.45 °F] 0.5 °C [0.9 °F] 1.0 °C [1.8 °F]	0.03% 0.03% 0.03%

Resistance (Ω)

TYPE	MEASUREMENT ACCURACY - DIGITAL[1]	MEASUREMENT ACCURACY - D/A[2]	MEASUREMENT RANGE
Resistance	± 0.04 Ω	0.03%	(10 to 400) Ω
	± 0.8 Ω	0.03%	(10 to 2000) Ω

Voltage (mV)

TYPE	MEASUREMENT ACCURACY - DIGITAL[1]	MEASUREMENT ACCURACY - D/A[2]	MEASUREMENT RANGE
Voltage	± 10 µV	0.03%	(-20 to 100) mV

[1] Using HART® transmitted measured value
[2] % refers to the set span. Accuracy of current output = digital + D/A accuracy

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