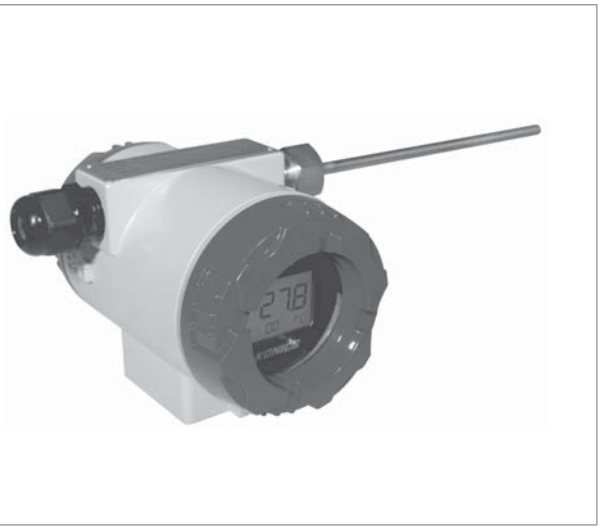
KT-502H

HART-protocol temperature transmitter

The KT-502H is smart type with multi rangeinput, which can be remote control by using a Hart protocol.
Also it is possible to Universalrange input.

Features

- SMART temperature transmitter KT-502H for resistance thermometers (RTD), thermocouples(TC), resistance and voltage transmitters, set-table via HART-protocol, for temperature field transmitter and universal application
- With backlight LCD screen can read easily in the darkness
- Continuously rotatable display(330˚) for ease of reading



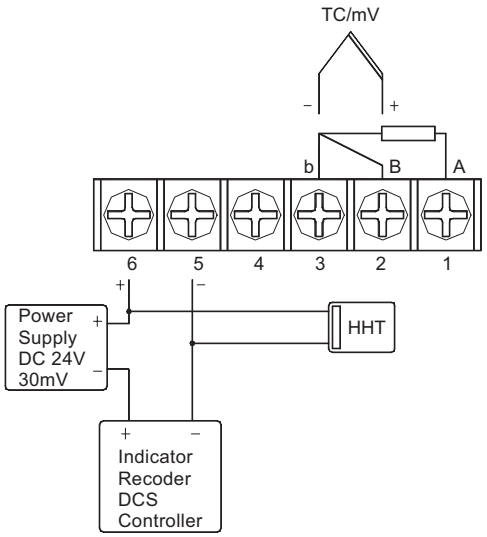
Ordering Codes

Basic	Mounting Bracket	Description
KT-502H		
	0	None
	1	With Bracket

Specifications

- Universal settings with HART-protocol for various input signals
- 2 wire technology, 4 t0 20mA analogue output
- High accuracy in total ambient temperature range
- Galvanic isolation
- An internal temperature sensor for active temperature compensation
- Wide voltage supply range
- Customer specific measurement range settings
- Simple and user friendly software
- Multiparametric backlight rotatable LCD Display

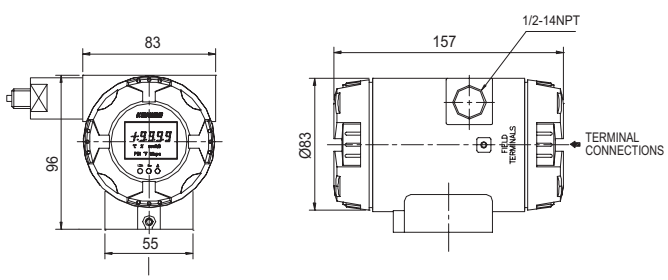
Connections



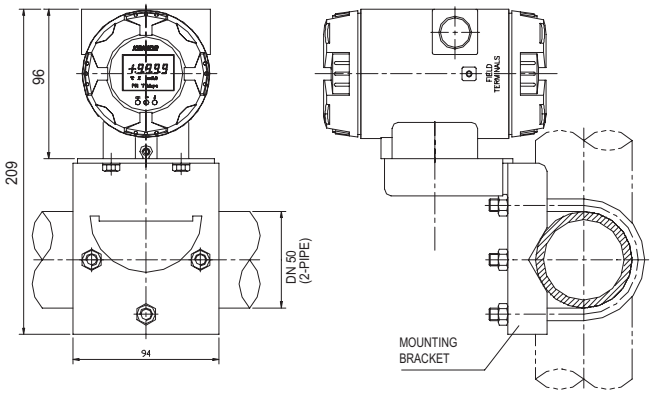
Dimensions

(Unit : mm)

TEMPERATRUE TRANSMITTER



MOUNTING BRACKET



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Functions

• Input

	Type	Measurement ranges	Min.meas. Ranges
Resistance thermometer (RTD)	Pt100	-200℃ to 850℃ (-328˚F to 1562˚F)	10K
	Pt500	-200℃ to 250℃ (-328˚F to 482˚F)	10K
	Pt1000	-200℃ to 250℃ (-328˚F to 482˚F)	10K
	Cu50	-50℃ to 150℃ (-58˚F to 302˚F)	10K
	Cu100	-50℃ to 150℃ (-58˚F to 302˚F)	10K
	*Ni100	-60℃ to 180℃ (-76˚F to 356˚F)	10K
	*Ni500	-60℃ to 180℃ (-76˚F to 356˚F)	10K
	*Ni1000	-60℃ to 150℃ (-76˚F to 302˚F)	10K
Resistance transmitter	Resistance(Ω)	0 to 400Ω	10Ω
		0 to 2000Ω	20Ω
		0 to 10000Ω	100Ω
*á = 5000ppm/K or 6180ppm/K Connection type : 2-, 3- or 4-wire connection Sensor current : 0.5 mA			
Thermocouples (TC)	B(PtRh30-PtRh6)	0 to 1820℃ (32 to 3308˚F)	500K
	E(NiCr-CuNi)	-270 to 1000℃ (-454 to 1832˚F)	50K
	J(Fe-CuNi)	-210 to 1200℃ (-346 to 2192˚F)	50K
	K(NiCr-Ni)	-270 to 1372℃ (-454 to 2501˚F)	50K
	N(NiCrSi-NiSi)	-270 to 1300℃ (-454 to 2372˚F)	50K
	R(PtRh13-Pt)	-50 to 1768℃ (-58 to 3214.4˚F)	500K
	S(PtRh10-Pt)	-50 to 1768℃ (-58 to 3214.4˚F)	500K
	T(Cu-CuNi)	-270 to 400℃ (-454 to 752˚F)	50K
Voltage transmitters (mV)	Millivolt transmitter(mV)	-10 to 75mV	5mV
		-100 to 100mV	5mV
		-100 to 500mV	6mV
		-100 to 2000mV	20mV

• Output

Output signal	4 to 20 mA
Signal on alarm	Underranging Linear drop to 3.8 mA
	Overranging linear rise to 20.8 mA
	Sensor break; sensor open-circuit 3.8 mA
Load	max.($V_{power\ supply}$-7.5 V) / 0.0208 A max.($V_{power\ supply}$-10.5 V) / 0.0208 A
Linearisation/transmission behaviour	Temperature linear, resistance linear, voltage linear
Galvanic isolation	U=2 KV AC (input/output)

• Power supply

Supply voltage (polarity protected)	U_b = 7.5 to 45 VDC (without display) U_b = 10.5 to 45VDC (with display)

• Performance characteristics

Response time	1 s		
Reference operating conditions	Calibration temperature: 23℃ (73.4˚F) ±5K		
Long term stability	≤ 0.05%/year		
Switchon delay	≤ 5s		
Influence of ambient	Negligible		
Load influence	Negligible		
Power supply influence	Negligible		
Self stabilty configuration	0 to 2%		
Filter configurating	0 to 160 μA		
Resolution	0.3 μA		
Maximum measured error		Type	Measurement accuracy
	Resistance thermometer (RTD)	Pt100, Ni100	0.2K or 0.08%
		Pt500, Ni500	0.5K or 0.20%
		Pt1000, Ni1000	0.3K or 0.12%
		Cu50	0.2K or 0.08%
		Cu100	0.3K or 0.12%
	Thermocouple (TC)	K, J, T, E	typ.0.5K or 0.08%
		N	typ.1.0K or 0.08%
		S, B, R	typ.2.0K or 0.08%
	Resistance transmitter(Ω)	0 to 400Ω	±0.1Ω or 0.08%
		0 to 2000Ω	±1.5Ω or 0.12%
		0 to 10000Ω	±7.5Ω or 0.20%
	Voltage transmitters (mV)	-10 to 75mV	±20μV or 0.08%
		-100 to 100mV	±20μV or 0.08%
		-100 to 500mV	±30μV or 0.08%
		-100 to 2000mV	±50μV or 0.08%

• Environment conditions

Ambient temperature limits	-40 to 85℃ (-40˚F to 185˚F) Without display -20 to 70℃ (-4˚F to 158˚F) With display
Storage temperature	-40 to 100℃ (-40˚F to 212˚F)
Condensation	Allowable
Degree of protection	IP 65
Shock and vibration resistance	4g/2 to 150Hz as per IEC 60 068-26
Electromagnetic compatibility(EMC)	Interference immunity and interference emission according to GB/T17626.2-1998, compliance with IEC 61000-4-3:1995.

Others

Display Type	Visible range 32.5X22.5mm; 5-digit 7-segment main display, digit height 8mm, 8-digit 14 segment additional display, digit height 5mm; 52 bars meter with 2% resolution
Display Range	-19999 ~ 99999
Materials	Housing : ABS
Weight	Approx. 1.8kg (with display)

Operations

• Smart Temperature transmitter with HART- protocol for converting various input signals into a scalable 4 to 20 mA analogue output signal

• Input

Resistance thermometers(RTD)
Thermocouples(TC)
Resistance transmitters(Ω)
Voltage transmitters(mV)