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## Golden Rules Co.,Ltd

High Performance Smart  
IP65

### KC-8200 Series TEMPERATURE TRANSMITTER



The nation's development item, 100% domestic goods, Patent **NO.** 10-1606497



# 13. SMART TEMPERATURE TRANSMITTER

## 13-7. Temp' Transmitter KC-8200 Series



General type  
KC-8200 Series

### Feature

- High reference accuracy:  $\pm 0.2\%$  F.S
- Display: 4-Digit LED
- Communication: RS-485 Modbus
- Certification: IP65
- Power: (16 ~ 26)V DC, 30mA, 0.8W
- Output signal: 4 - 20 mA, 2-wire 1 - 5V, 0 - 5V, 0 - 10V DC (3-Wire)
- Material: Housing - Aluminum, ALDV 12.1
- Temperature range: 0 to 1...600°C
- Size/Weight: W90 x H116 x D113 / Approx. 1.5kg
- PCB current consumption: less than 3mA
- Cell position measurement:  $\pm 1^\circ$  one side horizontally
- Overload: 0.1~1 Mpa
- operating temperature range
- Ambient temperature: -40 ~ 85°C
- LCD Meter Ambient Temperature : -30 ~ 80°C
- Humidity limit: 5-100% RH –
- Sensor Type: Sheath-RTD

### Application

The KC-8200 temperature transmitter can be connected to various control devices through a dedicated circuit that controls signal conversion, signal transmission processing, and current output, and has stable and reliable functions to measure temperature in various environments. Based on high precision circuit, the temperature sensor transmits stable temperature measurement and signal.

## Description

The KC-8200 Smart Temperature Transmitter is a microprocessor-based, high-performance transmitter with flexible input calibration and output, automatic calibration of ambient temperature and process variables, various parameter configurations, and communication with HART protocol. Depending on the application method, the range of application is very wide, such as measuring the temperature of liquids, gases or vapors. All data from the sensor is entered, modified and stored in EEPROM.

## Products Function

- ▶ Flexible sensor input: Pt100ohm, Thermocouple
- ▶ Various outputs: 4 ~ 20mA, 1-5V, 0-5V, RS-485
- ▶ Various parameter settings: zero/span, trim, unit, fail mode, etc.
- ▶ Self-diagnosis function: sensor, memory A/D converter, power, etc.
- ▶ Digital communication using RS-485 Modbus protocol
- ▶ Stable Zero and Span signal
- ▶ Robust and durable design
- ▶ Excellent corrosion resistance and friction resistance
- ▶ Shock and vibration protection
- ▶ High accuracy and temperature drift compensation

## Transmitter Description

The KC-8200 temperature transmitter can be easily configured on any host that supports the RS-485 Modbus protocol.

- ▶ Basic settings
  - Operating parameters.
  - 4~20mA point (Zero/Span)
  - Damping time: 0.25 to 60 seconds
- ▶ Calibration and trimming
  - Lower/Upper Range (Zero/Span)
  - Sensor zero trim
  - Zero adjustment

## Products Performance

### ► Zero and span adjustment limits

- The range limit for Zero and Span values is that the span must be greater than or equal to the minimum value. Ranges specified in Table 1.

### ► Output (analog current and digital data)

- LED display and ENG mode
- 2-wire 4-20mA, digital signal linear Process value, available on any host conforming to HART protocol

### ► Power supply and load requirements

- Requires external power supply. \* 250 ohm load to 17.5Vdc 550 ohm load max - 24Vdc max loop resistance =  $(E - 12) / 0.022$  (E = power supply voltage)
- Voltage range: 16 to 26 Vdc • Rated voltage: 24 Vdc  $\pm 30\%$  • Loop load 0 to 1500 ohms to operating 250 ohms -- HART Communications

### ► Storage temperature

- -40°C ~ 85°C (non-condensing)

### ► Process temperature limits (range codes and approval codes may affect limits)

- -40°C ~ 120°C (-104 ~ 248°F)

### ► Flexible sensor input

- Sheath-RTD 6.4mm, RTD 6.0mm
- Zero/Span, Trim, Unit, Fail-mode, etc.

### ► Self-diagnosis function

- Sensor, memory A/D converter, power supply, etc.

### ► Reliability

- Continuous self-diagnosis function
- Automatic ambient temperature compensation
- Fail-mode process function
- EEPROM write protection
- Equipment qualification
- Environmental qualifications

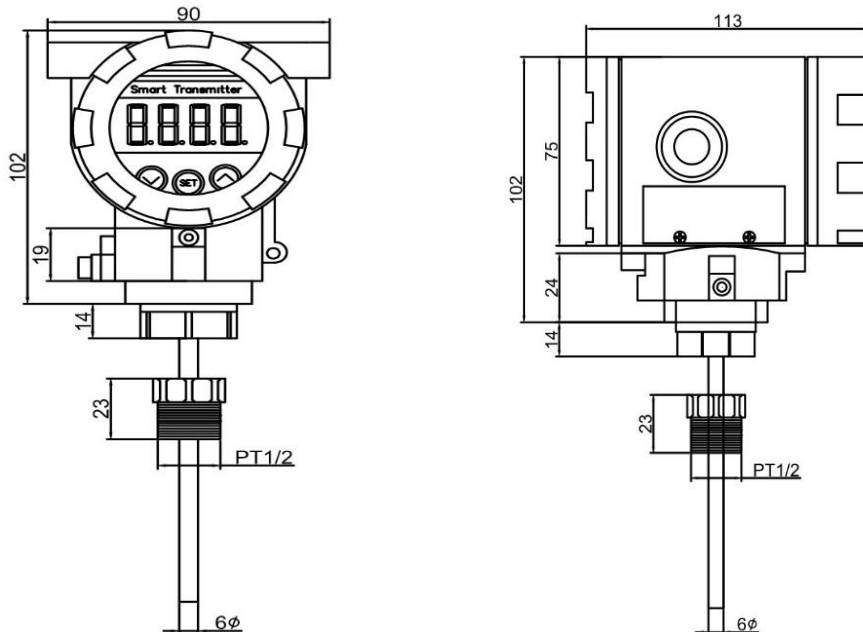
## Physical specifications

- ▶ Wetted material
  - Insulation sensor 316L SST
  - End connections and adapters 316 SST
- ▶ Non-contact material
  - Bolt 304 SST
  - Electronic housing aluminum (IP65)
  - Epoxy-polyester or polyurethane paint
  - Nameplate 304 SST

- ▶ Electrical connection
  - ½" PF
- ▶ Process connection
  - ½" PT or PF
  - ½-14 NPT on process adapter (optional)

Weight 1.5 kg (Standard - excluding options)

## Dimensional Drawing KC-8200 Series



The information contained herein is subject to change without notice.

## Order Code KC-8200 Series (Smart Temperature Transmitter)

KC-8200 –   –   –   –   – P –   – V –   –   –  

Type
C-conn'
P-conn'
T-Range
Power
Output
Display
S-length
Require
Option

1
2
3
4
5
6
7
8
9
10

Temp' type	Code 1
Sheath RTD 6.4	S
RTD 6.0	R
Agency approved, customer spec'	W

Input power	Code 5
DC 24 V ±10 %, 30 mA	2
Agency approved, customer spec'	W

Requirements	Code 9
Test Report (by Manufacturer)	T1
Calibration (by KOLAS)	T2
Material Certificate (Mill Sheet)	M1
Recorder, Indicator, Controller	W
Thermo Well (Drilled or Endclosed)	TW
Agency approved, customer spec'	W

Conduit conn'	Code 2
G(PF)1/2" Female	G
Agency approved, customer spec'	W

Output signal	Code 6
DC 4 ~ 20mA, 2-wire,	4
RS-485 (Option)	RS
Agency approved, customer spec'	W

Process conn'	Code 3
PT 1/2"	O
Agency approved, customer spec'	W

Display	Code 7
Digital Display (LCD)	DD
Agency approved, customer spec'	W

Option	Code 10
Agency approved, customer spec'	W

Temp' range	Code 4
0 ~ 100°C	1
0 ~ 200°C	2
0 ~ 300°C	3
0 ~ 400°C	4
0 ~ 500°C	5
0 ~ 600°C	6
Agency approved, customer spec'	W

Sensor length	Code 8
100L	1
200L	2
300L	3
400L	4
500L	5
Agency approved, customer spec'	W



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KC Q ISO 9001 : 2015

KC Q ISO 14001 : 2015

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