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Golden Rules Co.,Ltd

High Performance type IP65

KC-8100 Series SMART PRESSURE TRANSMITTER



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

13. SMART PRESSURE TRANSMITTER

13-3. Pressure Transmitter KC-8100 Series

Feature



General type_KC-8100 Series

- High reference accuracy: $\pm 0.075\%$ of calibrated span $\pm 0.2\%$ of F.S
- Long-term stability: $\pm 0.2\%$ URL per 24 months
- Repeatability: $\pm 0.1\%$ span high scalability (100 : 1)
- Display: LCD
- Measurement: gage/absolute pressure
- Communication: HART, RS-485
- Certification: IP65
- Power: (16 ~ 26)V DC, 30mA, 0.8W
- Output signal: 4 ~ 20 mA, 2-wire, 1-5V, 0-5V, 0-10V (3-Wire)
- Material: Housing - Aluminum, ALDV 12.1
- Wet Process – AISI 316L
- Pressure range: -100kpa... ~ 0 ~0.6kpa... 7Mpa
- Gauge Filling Fluid: Silicone Oil
- Size/Weight: W100 x H190 x D111 / Approx. 2.5kg
- PCB current consumption: less than 3mA
- Cell position measurement: $\pm 1^\circ$ one side horizontally
- Overload: 16~40 Mpa
- operating temperature range
- Ambient temperature: -40 ~ 85°C
- LCD Meter Ambient Temperature : -40 ~ 80°C
- Operating temperature range: -10 ~ 80°C
 - Thermal effect on zero: $\pm 0.05\%FS/^\circ C$
 - Thermal effect on span : $\pm 0.05\%FS/^\circ C$
 - Compensation temperature range: -10~70°C
- Humidity limit: 5-100% RH

Application

KC-8100 Seires pressure transmitter is designed and manufactured to measure hydraulic pressure, pneumatic pressure, gas, water, oil, etc. Robust silicon sensor design and stable Zero & Span signal can be applied to various industrial facilities.

Excellent corrosion resistance and friction resistance Shock and vibration protection High accuracy and temperature drift compensation

* The advantage is that the display angle can be adjusted arbitrarily when installed on vertical and lower pipes.

Description

KC-8100 Smart Pressure Transmitter is a microprocessor-based high-performance transmitter with flexible pressure calibration and output, automatic compensation of ambient temperature and process variables, various parameter configuration, and communication with HART protocol. Depending on the application method, the range of application is very wide, such as measuring the flow and pressure and level of liquids, gases or vapors. All data from the sensor is entered, modified and stored in EEPROM.

Products Function

- ▶ Flexible sensor input: GP, AP
- ▶ Various outputs: 4 ~ 20mA, RS-485, HART
- ▶ Various parameter settings: zero/span, trim, unit,
- ▶ Self-diagnosis function: sensor, memory A/D converter, power, etc.
- ▶ Digital communication using HART protocol
- ▶ Double diaphragm applied
- ▶ Stable Zero and Span signal
- ▶ Robust silicon sensor design
- ▶ Excellent corrosion resistance and friction resistance
- ▶ Shock and vibration protection
- ▶ High accuracy and temperature drift compensation

Transmitter Description

KC-8100 Pressure Transmitter Easy to configure on any host that supports HART protocol. " Basic setting

- Operating parameters.
- 4~20mA point (Zero/Span)
- Engineering units

- » Proofreading and Trimming
- Lower/Upper Range (Zero/Span)
- Sensor zero trim
- Zero adjustment
- transfer function
- self-reward

» Self-diagnosis, etc.

- CPU and analog module error detection
- Communication error
- Handling failure mode
- LCD display
- Temperature measurement of sensor module

Products Performance

» **Zero and span adjustment limits**

- Zero and Span value span must be greater than or equal to the minimum value. Ranges specified in Table 1.

» **Output (analog current and digital data)**

- LCD display and ENG mode, digital signal
- User configurable for 2-wire 4-20 mA, digital superimposed on 4-20 mA signal 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 ±30%
- Loop load 0 to 1500 ohms to operating 250 to 550 ohms -- HART Communications

» **Storage temperature**

- -40°C to 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**

- GP, AP, vacuum » Various parameter settings
- 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

» **Table 1 Range and sensor limits**

AP Measuring Range(bar)	System Pressure(bar)	Over Pressure(bar)	Filling
0~30	160	160	Silicone oil
0~100	200	200	Silicone oil
0~200	400	400	Silicone oil

Physical Specifications

» Wetted materials

- Insulation Diaphragm 316L SST, Monel, Tantalum, HAST-C
- Drain/vent valve 316 SST, HAST-C
- Flanges and adapters 316 SST (ASTMCF8M), HAST-C
- O-ring Viton, PTFE

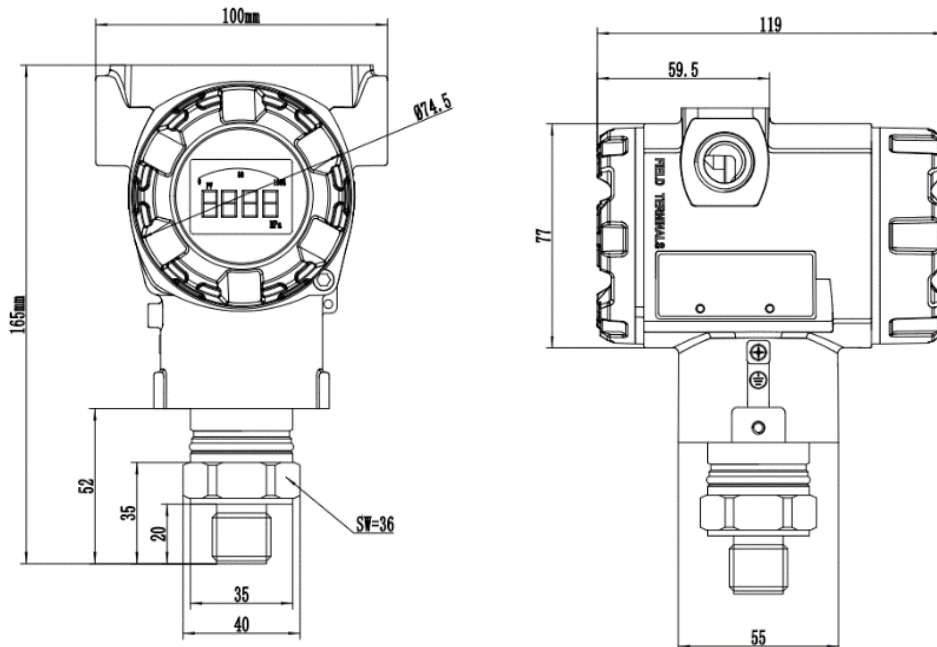
» Non-contact materials

- Fill fluid silicone oil or inert fill
- Bolt 304 SST
- Electronic housing aluminum or 316L SST (optional) flame retardant and Waterproof(IP67)
- Cover O-ring Buna-N
- Epoxy-polyester or polyurethane paint
- Mounting bracket with U-bolts 304SST (304SST) 2 inches for pipe
- Nameplate 304 SST

» Electrical Connections

- ½ PF conduit with M4 screw terminals » Process connection
- 1/4-18 NPT in 2.126 in. (54.0 mm) center standard flange
- 1/2-14 NPT on process adapter (optional) See last page drawing
- weight 3.51 kg (Standard - excluding options)
5 kg (SST housing - without option)

Dimensional Drawing KC-8100 Series II



Order Code KC-8100 Series (Smart Pressure Transmitter)

KC-8100 – – – – – – – – – – –

Type C-conn' P-conn' Span Power Output Display Accessory Require Option
 1 2 3 4 5 6 7 8 9 10

Pressure type	Code 1
Absolute	A
Gauge	G
Vacuum	V

Input power	Code 5
DC 24 V ±10 %, 30 mA	2

Requirements	Code 9
Test Report (by Manufacturer)	T1
Calibration (by KOLAS)	T2
Material Certificate (Mill Sheet)	M1
Oxygen Cleaning (Oil Free)	OX
Agency	W

Conduit conn'	Code 2
G(PF)1/2" Female	G
Agency	W

Output signal	Code 6
DC 4~20mA 2-wire, Hart	4
RS-485	RS

Process conn'	Code 3
PT 1/4"	0
PT 3/8"	R
PT 1/2"	O
Agency	W

Display	Code 7
Digital Display (LCD)	DD

Option	Code 10
Agency approved, customer specified	W

Span range	Code 4
-1 Bar ~ 1 Bar	1
5 Bar	2
10 Bar	3
20 Bar	4
20 Bar	5
30 Bar	6
50 Bar	7
Agency	W

Accessory	Code 8
Not Apply	J0
Diaphragm Seal	DS
Sanitary Seal	SS
Agency	W



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