

zSignalCon®

ISC Dual Channel Isolated Signal Subtraction Conditioner / Converter

Features :

- ▶ Programmable for various input signals and measuring range.
- ▶ Configurable without external Power Connected.
- ▶ Input :
 - Resistance thermometer (PT100)
 - Thermocouple (J,K,T,E,B,R,S,N,C)
 - Voltage/Current (mV/V/mA)
- ▶ The unique Math function : $OUTPUT = \frac{PV1 \times A + PV2 \times B}{C}$
 PV1 : Input 1 ; PV2 : Input 2
 A · B · C : Constant Factors are set by user
- ▶ When Subtraction (-) function is selected, calculation formula is as followings.
 OUTPUT=PV1XA+PV2XB
 PV1 : Input 1 ; PV2 : Input 2
 A · B : Constant Factor A or B<0 and C=1, $\sqrt{\quad}$: disable
- ▶ Outputs device :
 - ISC-S : Single Analog Output : 4~20 mA 、 0~10VDC ...
 - ISC-D : Dual Analog Outputs : 4~20 mA 、 0~10VDC ...
 - ISC-C : One Analog Output (OUT1) 4~20 mA 、 0~10VDC ...
with RS485 Com port : MODBUS-RTU (OUT2)

- ▶ High accuracy in total ambient temperature range.
- ▶ Fault signal on sensor break presettable.



Configuration

The zSignalCon® DIN Rail converter is user configurable with the zSignalwin® software and interface cable URC-1020 or handheld programmer. The zSignalwin® is user-friendly software. The latest release version can be downloaded free from website. Interface cable consist of interface converter and USB plug. It can be purchased separately from the zSignalCon® supplier. During configuration the converter can work alone without connecting to a power source.

Specification

| | |
|-------------------------------------|--|
| Input | Thermocouple (T/C) : industry standard thermocouple types J, K, T, E, B, R, S, N, C (ITS-90). Pt100 : Excitation 180uA. 2 or 3 wire connection (ITS-90 $\alpha = 0.00385$). Voltage : -60mVdc to 60mVdc or -10Vdc to 10Vdc. Current : 0-24mAdc |
| Accuracy | Refer to Table 1 Input Signal |
| A/D Resolution | 16 bits |
| Input Sampling Rate | <200 ms |
| Power Supply | DC 24V |
| Output | Current Output : 4~20mA (Resistive load 600Ω max) Continuous Voltage Output : 0~10V... (Resistive load 600Ω min) |
| Output Resolution | 0.6μA (15 bits) |
| Output Response Time | <200 ms |
| Common Mode Rejection Ratio (CMRR) | >80 dB |
| Electromagnetic Compatibility (EMC) | En 50081-2, En 50082-2 |
| Galvanic Isolation | 3.75 KV. between input and output |
| Operating Temperature | -10 to 50°C |
| Humidity | 0 to 90% RH |
| Dimension | 75mm(W)x87mm(H)x18.5mm(D) |

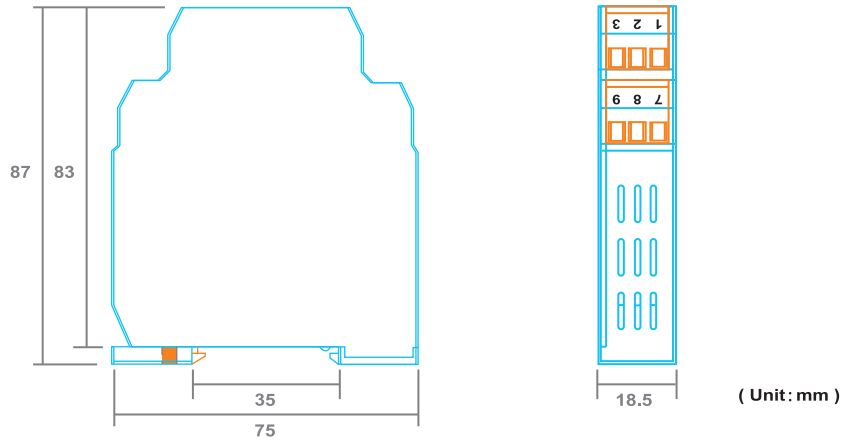
Table 1 Input Signal

| Input signal | Maximum Range | Accuracy |
|-----------------|----------------------------------|----------------|
| Thermocouple J | -50 to 1000 °C (-58 to 1832 °F) | ± 1°C |
| Thermocouple K | -50 to 1370 °C (-58 to 2498 °F) | ± 1°C |
| Thermocouple T | -270 to 400 °C (-454 to 752 °F) | ± 1°C |
| Thermocouple E | -50 to 700 °C (-58 to 1292 °F) | ± 1°C |
| Thermocouple B | 0 to 1750 °C (32 to 3182 °F) | ± 2°C (Note 1) |
| Thermocouple R | -50 to 1750 °C (-58 to 3182 °F) | ± 2°C |
| Thermocouple S | -50 to 1750 °C (-58 to 3182 °F) | ± 2°C |
| Thermocouple N | -50 to 1300 °C (-58 to 2372 °F) | ± 2°C |
| Thermocouple C | -50 to 1800 °C (-58 to 3272 °F) | ± 2°C |
| Pt 100 | -200 to 600 °C (-328 to 1112 °F) | ± 0.2°C |
| mV | -60mV to 60mV | ± 0.01mV |
| Voltage (Note2) | -10 to 10Vdc | ± 1mV |
| Current (Note2) | 0 to 24mAdc | ± 10μA |

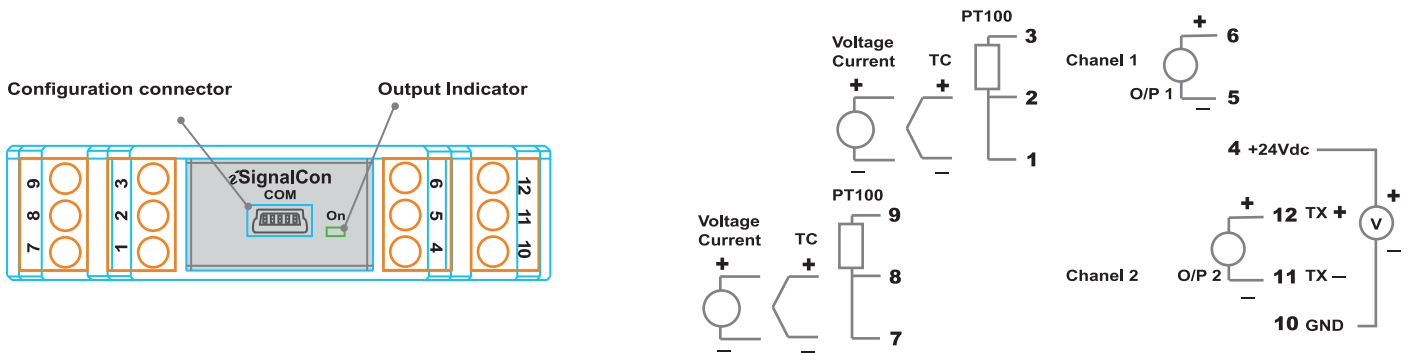
Note 1: Accuracy is not guaranteed between 0 and 400°C (0 and 752°F) for type B

Note 2: The internal DIP switch should be set

Dimension



Wiring Diagram



Ordering Information



| Output Device | Code |
|---------------------------------------|------|
| Single Analog Output | S |
| Dual Analog Outputs | D |
| One Analog output with RS485 com port | C |

| Output 1 | Code |
|----------|------|
| 4~20 mA | M |
| 0~10VDC | V |
| Other | O |

| Output 2 | Code |
|----------|------|
| None | N |
| 4~20 mA | M |
| 0~10 VDC | V |
| Other | O |
| RS-485 | C |

| Explosion Proof | Code |
|-----------------|------|
| YES | Y |
| NO | N |

• Please specify the following parameters if factory setting is requested.

| Math Function | Code | Input Signal | Code | Maximum Range | Constant Factor A,B Adjustable Range | A= | B= |
|---------------|------|----------------|------|-------------------------------|--------------------------------------|----|----|
| Subtraction | SB | Thermocouple J | J | -50 to 1000°C(-58 to 1832°F) | -128~127 | A= | B= |
| | | Thermocouple K | K | -50 to 1370°C(-58 to 2498°F) | | | |
| | | Thermocouple T | T | -270 to 400°C(-454 to 752°F) | | | |
| | | Thermocouple E | E | -50 to 700°C(-58 to 1292°F) | | | |
| | | Thermocouple B | B | 0 to 1750°C(32 to 3182°F) | | | |
| | | Thermocouple R | R | -50 to 1750°C(-58 to 3182°F) | | | |
| | | Thermocouple S | S | -50 to 1750°C(-58 to 3182°F) | | | |
| | | Thermocouple N | N | -50 to 1300°C(-58 to 2372°F) | | | |
| | | Thermocouple C | C | -50 to 1800°C(-58 to 3272°F) | | | |
| | | Pt100 | D | -200 to 600°C(-328 to 1112°F) | | | |
| | | mV | L | -60mV to 60mV | | | |
| | | Voltage | V | -10mV to 10Vdc | | | |
| | | Current | M | 0 to 24mAdc | | | |