

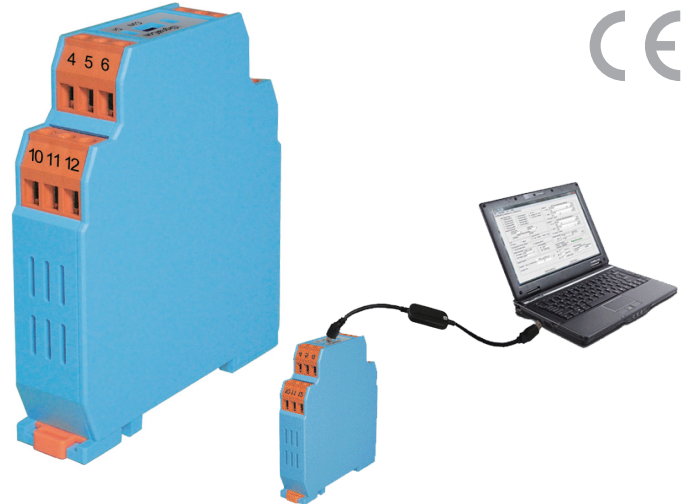
zSignalCon®

ISC Dual Channel Isolated Signal Addition 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 Addition (+) function is selected, calculation formula is as followings.
 OUTPUT=PV1XA+PV2XB
 PV1 : Input 1 ; PV2 : Input 2
 A · B : Constant Factor A,B>0 and C=1, √ : 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 α =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)

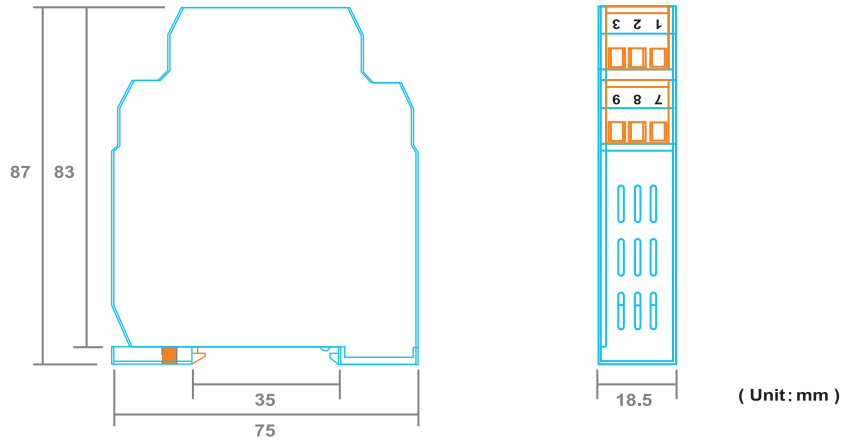
Table 1 Input Signal

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

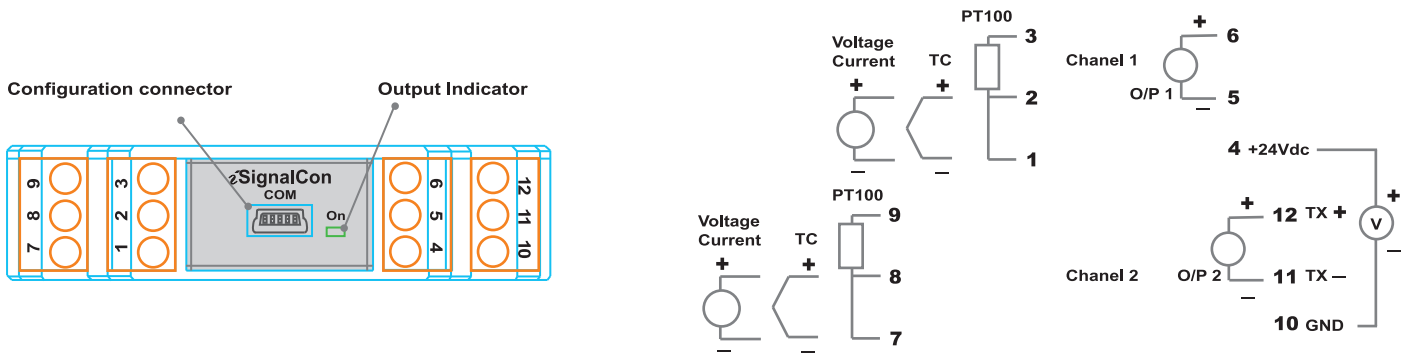
Note 1: Accuracy is not guaranteed between 0 and 400°C (0 and 752°F) for type B

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
4~20 mA	M
0~10VDC	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=
Addition	AD	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 24mA dc			