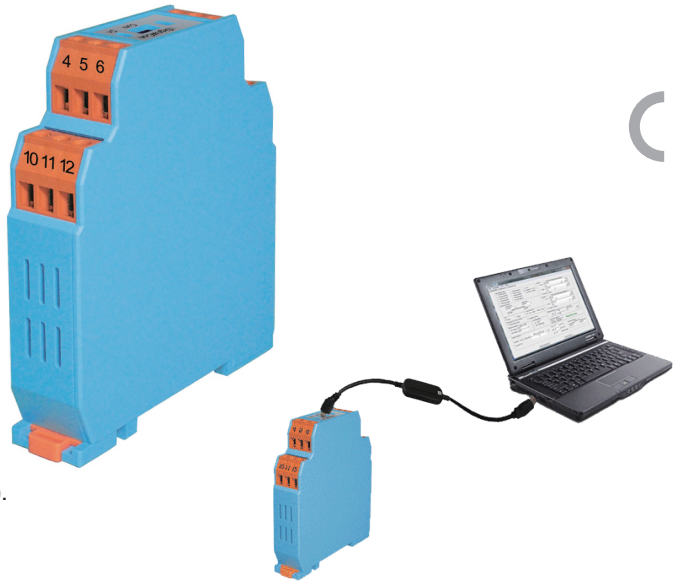
iSignalCon®

ISC 2-Channel Isolated Universal Signal Converter/Conditioner/Isolator

Features:

- The unique Math function.
  $f(PV_1, PV_2) = \sqrt{\frac{PV_1 \times A + PV_2 \times B}{C}}$
  PV1,PV2 is the measuring value of Channel 1 and Channel 2 separately. A,B,C is a constant set by user.
- The unique High/Low comparison output.
  The output 1 can scale to PV1 or PV2 whichever is higher/lower than the other.
- Programmable for various input signals and measuring range.
- Configurable without Power Connected.
- Full 3-way isolation for 1500 Vrms.
- DIN rail mount.
- Dual channel Input.
  Resistance thermometer (Pt100)
  Thermocouple (J,K,T,E,B,R,S,N,C)
  Voltage/Current transmitter (mV/V/mA)
- Dual 0/4 to 20 mA or 0~10V analogue output (ISC-D).
- RS485 communication interface with Modbus RTU protocol (ISC-C).
- Fault signal on sensor break presettable.



Configuration

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

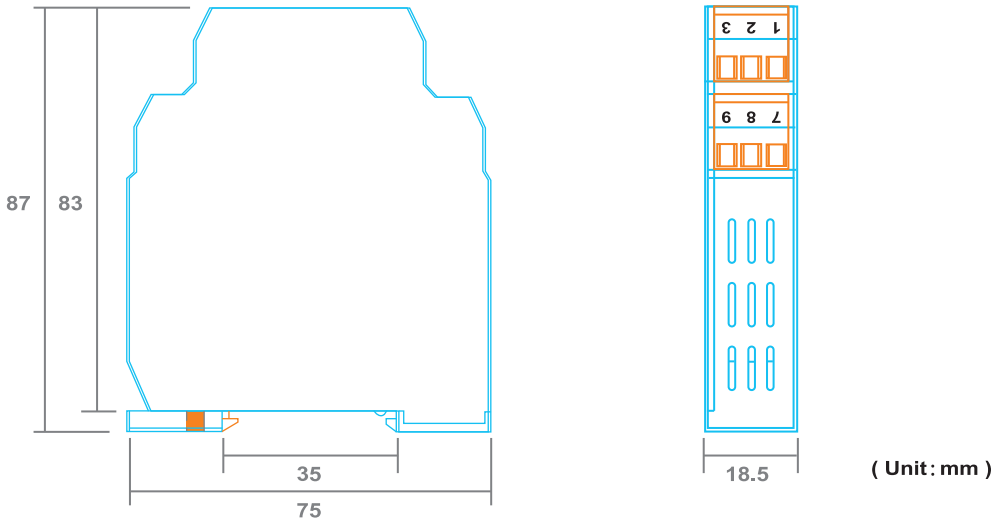
Specification	
Input	Thermocouple (T/C) : industry standard thermocouple types J, K, T, E, B, R, S, N, C (ITS-90).
	Pt100 : Excitation 180uA. 2 or 3 wire connection (ITS-90 α =0.00385).
	Voltage : -60mVdc to 60mVdc or –10Vdc to 10Vdc.
	Current : 0-24mAdc
Accuracy	Refer to Table 1 Input Signal
A/D Resolution	16 bits
Input Sampling Rate	<200 ms
Power Supply	DC 24V
Output	Current Output: 0/4~20mA (Resistive load 600Ω max)
	Continuous Voltage Output: 0~10V... (Resistive load 600Ω min)
Output Resolution	0.6 μA (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

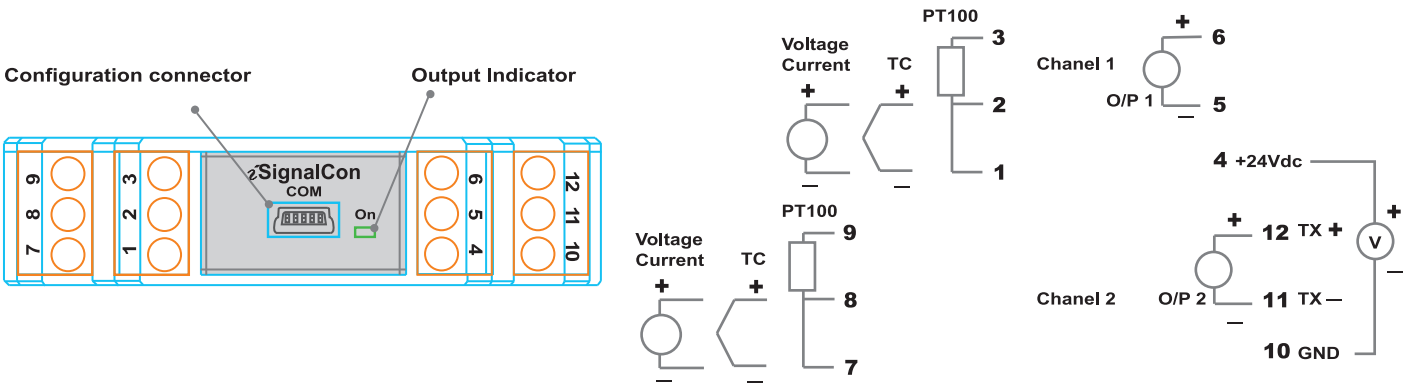
Input signal	Maximum Range	Accuracy
Thermocouple J	-50 to 1000 °C (-58 to 1832 °F)	± 1°C
Thermocouple K	-50 to 1370 °C (-58 to 2498 °F)	± 1°C
Thermocouple T	-270 to 400 °C (-454 to 752 °F)	± 1°C
Thermocouple E	-50 to 700 °C (-58 to 1292 °F)	± 1°C
Thermocouple B	0 to 1750 °C (32 to 3182 °F)	± 2°C (Note 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

ISC □ □

Output 1	Code
4~20 mA	M
0~10 VDC	V

Output 2	Code
4~20 mA	M
0~10 VDC	V
RS-485	C

The unit will come standard with PT100, -200~600°C, you can change the input Type/Rang using the free software "**Signalwin**® " with the configuration cable URC-1020, or you can contact us for non-standard Input/Rang setting.