

- Robust, High Resolution, Accurate Micro-Controller Based Design
- Slim size of 35mm for Single and Dual Outputs
- Versions Available for Variety of Input and Output Types
- **Optional**, 24VDC/30mA Excitation Supply for Transmitter. Isolated from Power, OP1 & OP2
- 1.5KV AC Isolation between Power Supply, Input, OP1 & OP2 (**OP2 available in ISOSIG-35D model**)
- High Resolution Input : 16-bit Resolution ADC
- High Resolution Output : 10,000 parts
- Programmable Burnout (Scale Up / Scale Down)
- Front Panel Zero / Span Adjustment through Multi-turn Trim-Pots
- Programmable Zero Offset for RTD / Thermocouple Inputs
- In-built Lead Resistance Compensation for RTD Inputs
- In-built Cold Junction Compensation for Thermocouple Inputs
- Versions Available for AC (85~265 VAC) & DC (20~32 VDC) Supply
- Din-Rail Mounting : 35(W) X 75(H) X 107(D)

**ISOSIG-35S**

Single Input - Single Output

**ISOSIG-35D**

Single Input - Dual Output

Specifications

Input	
Sensor Type (Factory Configurable)	Version 1 : RTD Pt100, J / K Thermocouple (Programmable Type & Range) Version 2 : T / R / S / B / N Thermocouple (Programmable Type & Range) Version 3 : 0 - 80 mV Version 4 : 0 - 5 V / 0 - 10 V / 1 - 5 V (Programmable Type) Version 5 : 0 - 20 mA / 4 - 20 mA / 0 - 10 mA (Programmable Type) Notes : (1) Specify Input Type & Range for factory setting for the ordered version. The Input Type & Range can be reset using Programming Tool. (2) Refer Table 1 for Min / Max Ranges for RTD Pt100 & Thermocouples.
Corrections	• Cold-Junction Compensation for Thermocouples (Accuracy Better than $\pm 1.5^{\circ}\text{C}$) • Lead Resistance Compensation for Pt100 (Upto 5Ω in each lead)
Linearisation	Software Look-up Table (Applicable for RTD Pt100 & Thermocouple Inputs)
Resolution	16-bit Sigma-Delta ADC RTD & Thermocouple : 0.1 $^{\circ}\text{C}$ Voltage, mV & mA : 30,000 parts
Protection	Complies with IEC 61000-4-2 level 4 : 15kV air discharge & 8kV contact discharge
Zero Offset	User Adjustable (Applicable for RTD Pt100 & Thermocouple Inputs)
Input Filter	First Order Low Pass RC Filter : Max. Cutoff 16Hz for mA & Voltage Input. Max. Cutoff 5Hz for mV, RTD & Thermocouples
Input Resistance	RTD, mV & TC : > 10M Ω Voltage : 200K Ω mA : 100 Ω shunt resistor (2V drop at 20 mA)
Accuracy	mA, mV, V : $\pm 0.2\%$ of reading Thermocouple : $\pm 0.2\%$ of reading $\pm 1.5^{\circ}\text{C}$ RTD : $\pm 0.2\%$ of reading $\pm 0.5^{\circ}\text{C}$

Output(s)				
Range		Output Range	Under / Over Range	Sensor Fault Up ScaleDown Scale
		0 to 10V	0 / 11V	12V0V
		1 to 5V	0.9 / 5.5V	6V0.8V
		0 to 5V	0 / 5.5V	6V0V
		0 to 20mA	0 / 22mA	23.5mA0mA
		4 to 20mA	3.8 / 22mA	23.5mA3.6mA
		0 to 10mA	0 / 11mA	12mA0mA
	Load	Voltage Output : Into 500Ω Min. Current Output : 700Ω Max. for 22mA		
Response Time	< 250 mS for step Input change (typical)			
Resolution	10,000 parts			
Accuracy	± 0.1% of FS			
Transmitter Excitation (Optional)				
Voltage	24VDC ± 3% / 30mA (Short Circuit Protected)			
Isolation	1.5KV AC Isolation between Power Supply, OP1 & OP2			
Electrical Isolation				
Isolation	1500V AC for 1 minute or 250V AC (354V DC) continuous between Input, Output & Power			
Power Supply				
Type	Switch Mode (SMPS)			
Line Voltage	(1) 85~264 VAC, 50/60Hz (2) 20~32 VDC, 24 VDC Nominal			
Consumption	6VA Max.			
Environmental (Ambient)				
Operating Range	0~55°C & 5~90%RH Non-condensing			
Storage Temperature	-10 to +70 °C			

TABLE 1	
Input Type	Range (Min. to Max.)
2 / 3-wire, RTD Pt100	-199 to +600°C
Type J Thermocouple (Fe-K)	0 to +960°C
Type K Thermocouple (Cr-Al)	-200 to +1376°C
Type T Thermocouple (Cu-Con)	-200 to +387°C
Type R Thermocouple (Pt / Pt-Rh13%)	0 to +1771°C
Type S Thermocouple (Pt / Pt-Rh10%)	0 to +1768°C
Type B Thermocouple	0 to +1826°C
Type N Thermocouple	0 to +1314°C

Electrical Wiring

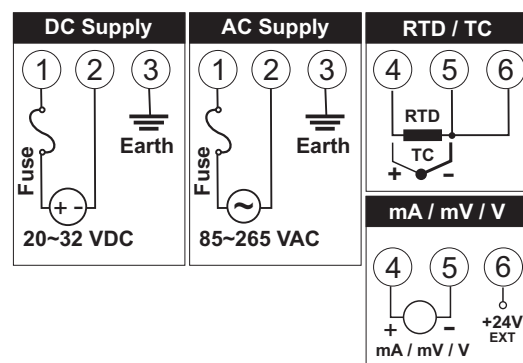
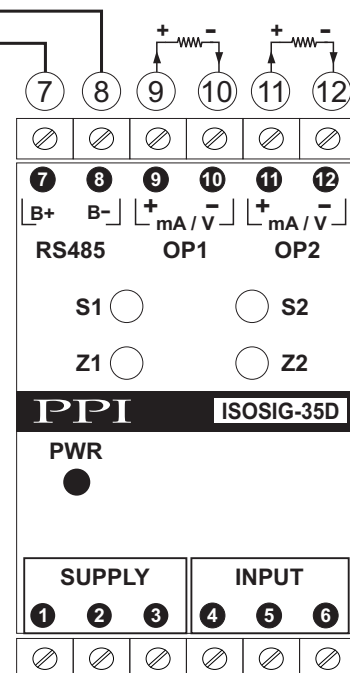
PC Configuration Tool



USB to RS485 Converter

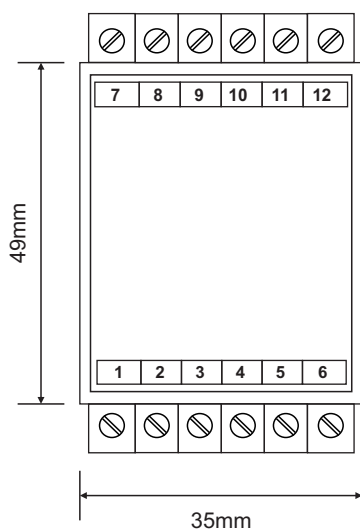


Isolator

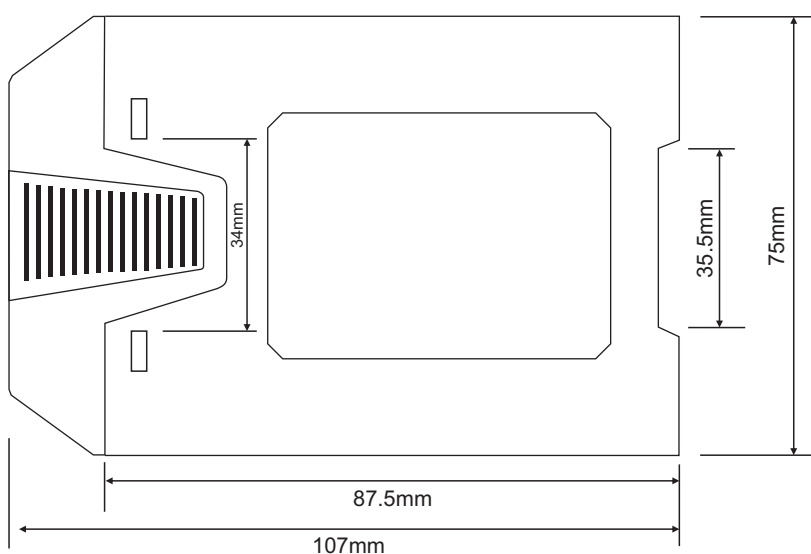


Mechanical Dimensions

Front View



Side View



Overall Dimensions : 35(W) X 75(H) X 107(D), mm

PC Configuration Tool

Configurable Parameters

- ❖ Input type within factory configured version
- ❖ Input Temperature Range for RTD Pt100 / Thermocouple Input
- ❖ Zero-Offset for RTD Pt100 / Thermocouple Input
- ❖ Output 1 & output 2 type within factory configured version
- ❖ Up Scale / Down Scale output current / voltage

Ordering Code

ISOSIG-35S

Input		Output		Power Supply		Transmitter Ext.	
S1	RTD Pt100, J / K Thermocouple	C	0 - 20mA /	AC	85~265 VAC	N	None
S2	T / R / S / B / N Thermocouple		4 - 20mA /	DC	20~32 VDC	24V	24VDC
S3	0 - 80 mV		0 - 10mA				
S4	0 - 5 V / 0 - 10V / 1 - 5V	V	0 - 5V /				
S5	0 - 20 mA / 4 - 20 mA / 0 - 10 mA		1 - 5V /				
			0 - 10V				

Example Code :

ISOSIG - S5 - C - DC-24V

Input : 0 - 20mA / 4 - 20mA / 0 - 10mA; **Output :** 0 - 20mA / 4 - 20mA / 0 - 10mA; **Power Supply :** 20~32 VDC;

Transmitter Excitation : 24VDC

Note : Specify Input Type, Input Range and Output (wherever applicable) for factory settings.

ISOSIG-35D

Input		Output 1		Output 2		Power Supply		Transmitter Ext.	
S1	RTD Pt100, J / K Thermocouple	C	0 - 20mA /	C	0 - 20mA /	AC	85~265 VAC	N	None
S2	T / R / S / B / N Thermocouple		4 - 20mA /		4 - 20mA /	DC	20~32 VDC	24V	24VDC
S3	0 - 80 mV		0 - 10mA		0 - 10mA				
S4	0 - 5 V / 0 - 10V / 1 - 5V	V	0 - 5V /	V	0 - 5V /				
S5	0 - 20 mA / 4 - 20 mA / 0 - 10 mA		1 - 5V /		1 - 5V /				
			0 - 10V		0 - 10V				

Example Code :

ISOSIG - S1 - V - V - AC - N

Input : RTD Pt100, J / K Thermocouple; **Output 1 :** 0 - 5V / 1 - 5V / 0 - 10V; **Output 2 :** 0 - 5V / 1 - 5V / 0 - 10V;

Power Supply : 85~265 VAC; **Transmitter Excitation :** None

Note : 1) Specify Input Type, Input Range and Output (wherever applicable) for factory settings.

2) 24VDC Excitation is not applicable to RTD and Thermocouple inputs