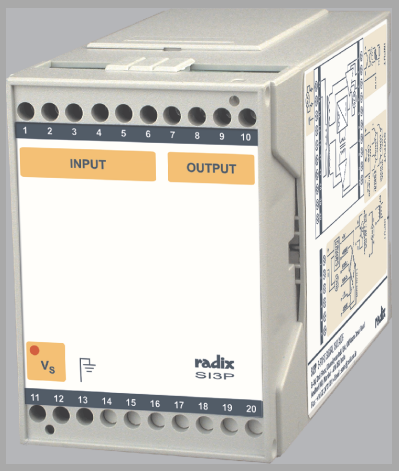
3-PORT SIGNAL ISOLATOR — SI3P



- Input : DC volts, 0/4~20 mA, Ohms, RTD, Thermocouples, AC Amps, AC volts, load cell, etc.
- Output : DC volts, 0/4~20 mA
- Supply : 12~36 V DC, 85~265 V AC / 50/60 hz
- Input/output/supply isolation : 1500 V AC / 1 min, 250 V AC continuous
- DINRAIL enclosure

GENERAL

SI3P is a 3-port signal isolator that accepts any one of the common process inputs and generates an isolated current or voltage output. It has exceptionally high accuracy and stability.

SPECIFICATIONS

All specifications at ambient of 25 °C, unless specified otherwise

INPUTS

Input types	Specify any one listed below
Thermocouple	B, E, J, K, R, S, T, N, etc.
RTD	Pt100, Pt200, Pt1000, 3-wire
DC Voltage	75 mV / 200 mV / 1 V / 10 V / 100 V / 300 V / 800 V etc. (FS)
DC Current	0~20 mA, 4~20 mA
Resistance	500Ω, 1 KΩ, 2 KΩ, 5 KΩ, 10KΩ (FS)
Special	0~1 A AC, 0~5 A AC, 0~250 V AC, load cell, etc.
Excitation supply for load cell	10V DC ± 5%, 30 mA nominal, for 350Ω bridge
Bridge Connection	4-wire or 6-wire (with provision for remote sensing)
Transmitter supply	18 V DC for 2-wire transmitter (provided if input type is DC current - 4~20 mA)
Input range	User specified

ADJUSTMENTS

Zero, span	Multiturn potentiometers through detachable panel

OUTPUTS

Output types	Current - 0~20 mA, 4~20 mA (Load 600 Ω max) Voltage - 0~1 V DC, 0~10 V DC (Load 1 mA max)
Input / Output relation	RTD - Temperature linear Other inputs - voltage linear (output is proportional to input signal - no linearisation of input is done)
Current limit	Current output - 25 mA Voltage output - 10 mA

ACCURACY

Input / output transfer accuracy	± 0.1% span (includes repeatability, hysterisis & non linearity)
Temperature effect on accuracy	See Table 1
Accuracy for different inputs	See Table 1

ISOLATION

Mutual isolation between input / output / supply	1.5 KV AC RMS / 1 minute, 250 V AC RMS continuous

POWER SUPPLY

Supply voltage	12~36 V DC 85~265 V AC, 50/60 hz

ENCLOSURE

Material	ABS plastic
Dimensions (in mm)	75(H) x 55(W) x 110(D)
Mounting	Snap on for 35 mm DIN rail to DIN 46277
Connection, single/ stranded wires	≤ 2.5 mm^2, AWG 14

TEMPERATURE, HUMIDITY

Ambient, operation	0 to 60 °C
Relative humidity	0 ~ 95%

TABLE 1

Input	Range	Accuracy (% of span)	Temperature effect on accuracy (% of span/°C)
DC Current	0~20 mA, 4~20 mA	± 0.1	± 0.01
DC Current	0~1 A DC, 0~5 A DC	± 0.25	± 0.01
DC Voltage	Upto 10 V DC	± 0.1	± 0.01
DC Voltage	> 10 V DC	± 0.25	± 0.01
AC Current	0~1 A AC, 0~5 A AC	± 0.5	± 0.01
AC Voltage	Any (<500 V AC)	± 0.5	± 0.01
RTD, Pt100, Pt50, etc.	Any	± 0.1	± 0.01
Thermocouple	Any	± 0.1 of span ± thermocouple non-linearity error	± 0.01
Load Cell	5mV~50mV (Excitation supply : 10V DC)	± 0.1	± 0.02 for 12~36 V DC supply ± 0.04 for 85~265 V AC supply

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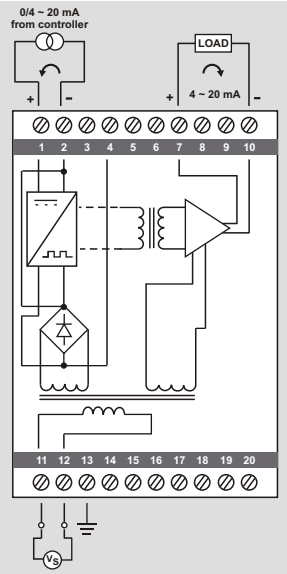
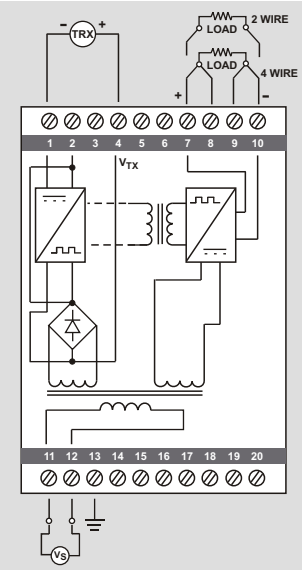
EXAMPLES OF CONNECTION DIAGRAMS

SI3P can be supplied with any combination of input/output/supply. Examples & options are given below.

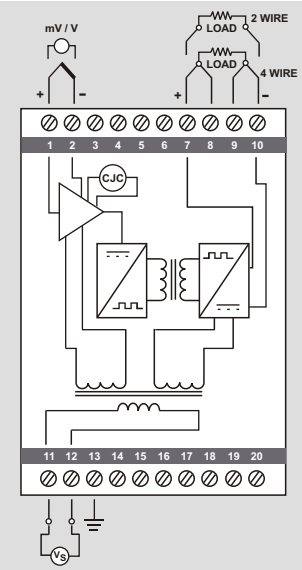
INPUT	4~20 mA
OUTPUT	4~20 mA



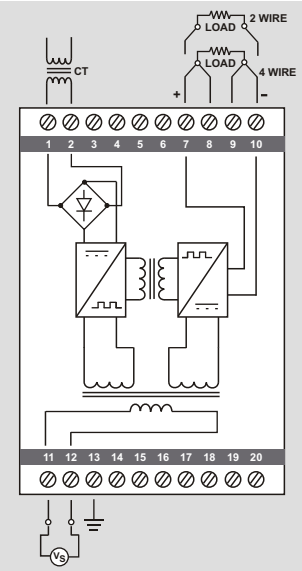
INPUT	2-wire transmitter with internal supply
OUTPUT	Millivolts, Volts



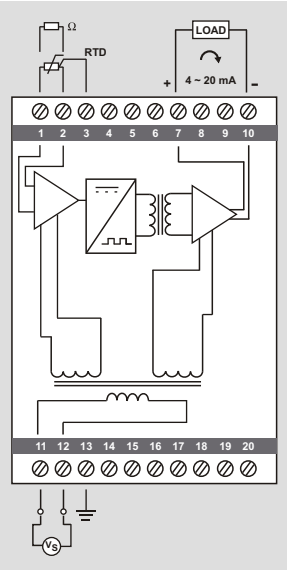
INPUT	Thermocouple, Millivolts, Volts
OUTPUT	Millivolts, Volts



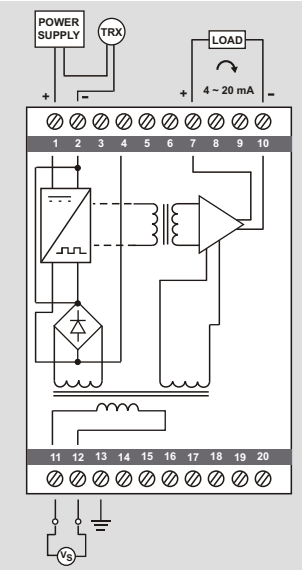
INPUT	AC current
OUTPUT	Millivolts, Volts



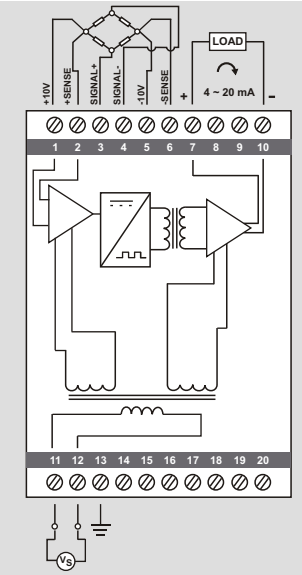
INPUT	Ohms, RTD
OUTPUT	4~20 mA



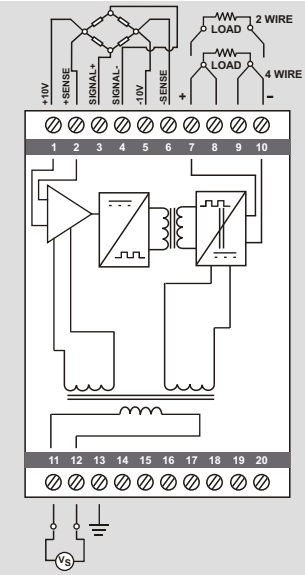
INPUT	2-wire Transmitter using external supply
OUTPUT	4~20 mA



INPUT	Load cell
OUTPUT	4~20 mA



INPUT	Load cell
OUTPUT	Millivolts, Volts



ORDERING INFORMATION

	Supply voltage	Input type	Output	Range
2115 01	85~265 V AC	4~20 mA	4~20 mA	NA
2115 02	12~36 V DC	4~20 mA	4~20 mA	NA
2115 03	85~265 V AC	0~10 V DC	0~10 V DC	NA
2115 04	12~36 V DC	0~10 V DC	0~10 V DC	NA
2115 05	85~265 V AC	4~20 mA	0~10 V DC	NA
2115 06	12~36 V DC	4~20 mA	0~10 V DC	NA
2115 07	85~265 V AC	0~10 V DC	4~20 mA	NA
2115 08	12~36 V DC	0~10 V DC	4~20 mA	NA
2115 09	85~265 V AC	0~1 A AC	4~20 mA	0~1 A AC
2115 10	85~265 V AC	0~5 A AC	4~20 mA	0~5 A AC
2115 11	85~265 V AC	0~1 KΩ	4~20 mA	0~1 KΩ (0~1000 Ω)
2115 12	85~265 V AC	0~5- KΩ	4~20 mA	0~5 KΩ (0~5000 Ω)
2115 13	85~265 V AC	Pt100, 3-wire	4~20 mA	0~400 °C

Ordering Options

SI3P can be supplied factory configured for user - specified input type and range
eg 0~75 mV DC, 0~250 mV DC, 0~500 V AC, 0~250 V AC, 0~1 V DC, 1~5 V DC, etc.

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