

SIGNAL ISOLATOR

3-PORT

0.1% accuracy

1500 V AC
isolation

22.5 mm wide
DIN rail enclosure



INTRODUCTION

SCC401 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.

FEATURES

- Input : 0/4~20 mA, Ohms, RTD, Thermocouples, etc.
- Output : 0/4~20 mA, 0~1/5/10 V DC
- Supply : 85~265 V AC / 50/60 hz OR 20~36 V DC

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SPECIFICATIONS

All specifications at ambient of 25 °C unless specified otherwise

INPUTS

Input types
Transmitter supply

See Table 1
18 V DC for 2-wire transmitter
(Provided if input type is DC current - 4~20 mA)
See Table 2

Input range limits

ADJUSTMENTS

Zero, span

Multiturn potentiometers

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,
hysteresis & non linearity)

Temperature effect on accuracy

See Table 3

Accuracy for different inputs

See Table 3

ISOLATION

Mutual isolation between
input / output / supply

1500 V AC RMS / 1 minute,
250 V AC RMS continuous

POWER SUPPLY

Supply voltage

85~265 V AC, 50/60 hz OR
20~36 V DC

Common mode rejection ratio

> 130 dB

ENCLOSURE

Material
Dimensions (in mm)
Mounting

Nylon 6 (PA66)
100(H) x 22.5(W) x 114(D)
Snap on for 35 mm DIN rail to
DIN 46277

Connection, single/stranded wires

≤ 2.5 mm², AWG 14

TEMPERATURE, HUMIDITY

Ambient, operation
Relative humidity

0 to 60 °C

0 ~ 95%

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TABLE 1

INPUT	OPTIONS	NOTES
Thermocouple	J, K, N	a) The range must be specified, eg 0 to 1000 °C b) The output is linear to input mV, NOT to temperature (there is no linearisation of thermocouple input) c) The minimum input span is 10mV (eg for 'K' T/C, 0~100 °C cannot be specified, as span is about 4 mV)
RTD	Pt100, Pt200, Pt500, Pt1000	a) The range must be specified, eg 0 to 400 °C b) The output is linear to temperature. RTD input is linearised. c) The minimum span is 25 °C
Other RTDs	Pt500, Pt600, etc	Please inquire with us
DC Millivolts	0~75 mV, 0~200 mV, 0~1000 mV	a) Ranges such as 0~250 mV, 0~300 mV, etc. can be given. b) The minimum span is 2 mV.
DC Volts	0~1V, 0~5V, 0~10V	a) Ranges such as 0~2V, 0~4V, etc can be given
DC mA	4~20 mA, 0~20 mA	a) Ranges such as 0~1 mA, 10~50 mA, etc. can be given b) The minimum span is 1 mA.
Resistance	0~500Ω, 0~1KΩ, 0~5K, 0~10KΩ, 0~15KΩ	a) Ranges such as 0~600 Ω, 0~2K, etc. can be given.
Potentiometer	100Ω (FS) to 1MΩ (FS)	

TABLE 2

INPUT	RANGE LIMITS		MINIMUM SPAN
	LOW	HIGH	
Thermocouple K	-100 °C	1200 °C	250 °C
Thermocouple J	-100 °C	760 °C	200 °C
Thermocouple N	-100 °C	1200 °C	350 °C
Pt100, Pt50, Pt1000 (DIN43760 OR IEC751)	-200 °C	850 °C	25 °C
DC Millivolts	0 mV	1000 mV	2 mV
DC Volts	0 V	10 V	1 V
Resistance	0 Ω	15 KΩ	100 Ω
DC Milliamps	0	50 mA	1 mA
Potentiometer (3-wire)	100 Ω (FS)	1 MΩ (FS)	100 Ω

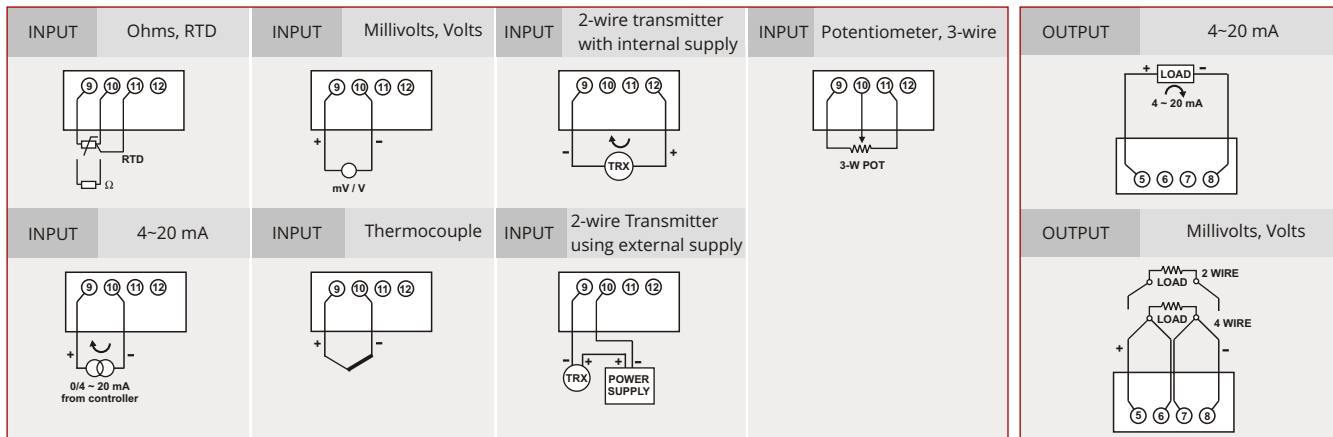
TABLE 3

INPUT	RANGE	ACCURACY (% OF SPAN)	TEMPERATURE EFFECT ON ACCURACY (% OF SPAN/°C)
DC Current	0~20 mA, 4~20 mA	± 0.1	± 0.02
DC Voltage	Upto 10 V DC	± 0.1	± 0.02
RTD (Pt100, Pt50, etc.)	Any	± 0.1	± 0.02
Thermocouple	Any	± 0.1% of span ± thermocouple non-linearity error	± 0.02
Potentiometer	Any	± 0.2	± 0.02

**Effect of lead wire resistance : 0.015% of span / Ω lead wire resistance (each lead)
a) Measured with 10KΩ potentiometer b) For max lead resistance of 100Ω (each lead)
For lower potentiometer resistance the error will be larger. Eg. for 1KΩ pot, the error is 0.12% of span / Ω lead wire resistance (each lead)

INPUT & OUTPUT CONNECTIONS

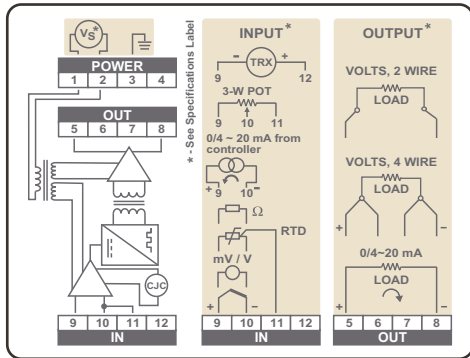
SCC401 can be supplied with any combination of input/output. Examples & options are given below.



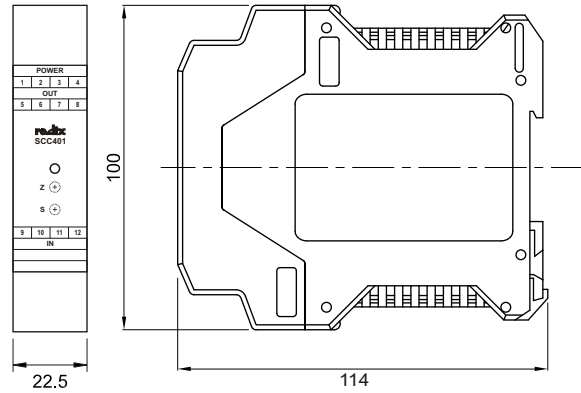
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ELECTRICAL CONNECTIONS



DIMENSIONS



ORDERING INFORMATION

2336 - □ - □ - □ - □
A B C

Product code	A	Supply voltage	B	Input	C	Output
2336	1	20-36 V DC	01	4-20 mA	01	4-20 mA DC
	2	85-265 V AC	02	0-20 mA	02	0-20 mA DC
			03	0-75 mV	03	0-50 mV DC
			04	0-100 mV	04	0-1 V DC
			05	0-1 V DC	05	0-5 V DC
			06	0-5 V DC	06	0-10 V DC
			07	0-10 V DC		
			08	*Pt100		
			09	*J		
			10	*K		
			11	*Ω		

* Please specify input range

Low Scale	Hi Scale	Unit

Example

Order code for 0-400 °C, Pt100, 4-20mA o/p, SMPS supply = **2336-2-08-01**

Low Scale	Hi Scale	Unit
0	400	°C

Preferred Order Codes

Order code	Supply voltage	Input type	Output
2336-2-01-01	85-265 V AC	4-20 mA	4-20 mA DC
2336-1-01-01	20-36 V DC	4-20 mA	4-20 mA DC
2336-2-07-06	85-265 V AC	0-10 V DC	0-10 V DC
2336-1-07-06	20-36 V DC	0-10 V DC	0-10 V DC
2336-2-01-06	85-265 V AC	4-20 mA	0-10 V DC
2336-1-01-06	20-36 V DC	4-20 mA	0-10 V DC
2336-2-07-01	85-265 V AC	0-10 V DC	4-20 mA DC
2336-1-07-01	20-36 V DC	0-10 V DC	4-20 mA DC
2336-2-08-01	85-265 V AC	Pt100, 3-wire	4-20 mA DC

Range	
Low	High
0	400

Non-standard Inputs

Input	Remark
Pt50	
Pt200	
Pt500	
Pt1000	
0-500 μA	
0-1 mA	
0-4 mA	
VAC	See SCC402
AAC	See SCC402
VDC	10-1000 VDC : See SCC402
ADC	0.1-5 ADC : See SCC402
Other	Specify details

Non-standard Outputs

Output	Remark
0-40 mV	
0-100 mV	
K/T/C	
Loop powered, 4-20 mA	
Other	Specify details

SCC401 can be supplied with a variety of non-standard inputs & outputs. Please give details. Minimum order quantity and/or minimum order value may apply.

ENQUIRIES

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