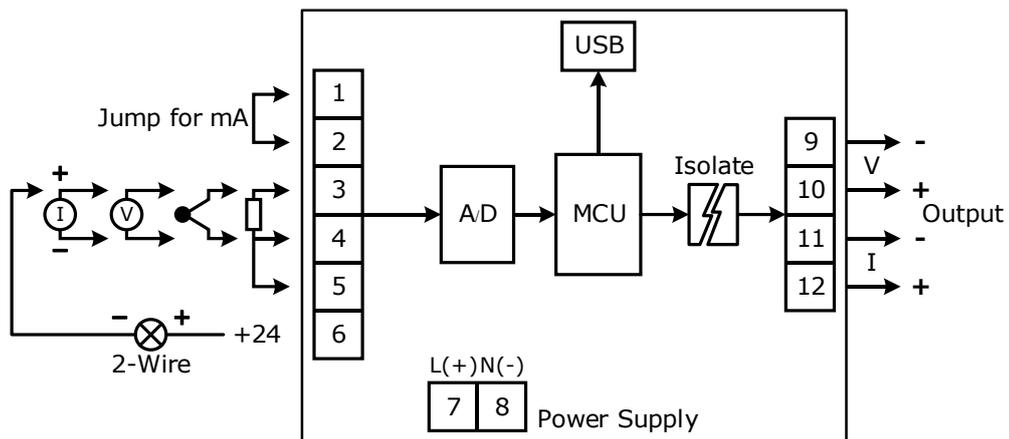


# Universal Signal Conditioner SC20



- Programmable Input
- Isolated Input, Output and Power Supply
- Universal Conversions
- 4 - 20 mA, 0 - 10 VDC, 0 - 5 VDC Transmitter Output
- High Accuracy (16 Bits)
- Low Cost
- Easy to Install

**Universal Signal Conditioner SC20** A signal conditioner is a device that converts one type of electronic signal into a another type of signal. Its primary use is to convert a signal that may be difficult to read by conventional instrumentation into a more easily read format.



## Specifications

### USB Interface

**Compliance:** USB 1.1/2.0

**Connector:** USB Type Mini-A (Female)

**Speed:** 12 Mbps (Full-Speed USB)

**Class:** CDC

### Analog Input

**Number of Channel:** 1 Channel

**Input Type:** Programmable Input

#### Input Range:

Thermocouple: R, S, K, E, J, T, B

RTD: Cu10, PT100, PT1000

Resistance: 0 to 600  $\Omega$ , 0 to 1.2 K $\Omega$ ,  
0 to 4 K $\Omega$

Voltage (mVDC): 0 to 80, 0 to 150

Voltage (VDC): 0 to 1, 0 to 5, 0 to 10,  
0 to 15, 0 to 30

Current: 4 to 20 mA, 0 to 20 mA,  
0 to 40 mA

**Loop Powered:** 24 VDC (Source 2-Wire)

**ADC Resolution:** 16 Bits

**Input Impedance:** Refer to **Table 1**

### Analog Output

**Number of Channel:** 1 Channel

**Output Type:** Current, Voltage  
(Programmable Output)

#### Output Range:

Current: 4 to 20 mA

Voltage: 0 to 5, 1 to 5, 0 to 10 VDC

#### Output Load Resistance:

Current: Max. 1000  $\Omega$  Load

Voltage: Min. 600  $\Omega$  Load (10 VDC)

**Isolation Voltage:** 500 VAC, Between  
Input Output and Power Supply

### Power Requirements

**Power Supply:** 12 to 24 VDC  
(85 to 230 VAC Optional)

### Power Consumption

**Standby:** 155 mA @ 12 VDC

### Environmental Limits

**Operating Temperature:** 0 to 55  $^{\circ}\text{C}$

**Operating Humidity:** 5 to 95% RH

**Storage Temperature:** 0 to 70  $^{\circ}\text{C}$

### Physical Characteristics

**Dimension:** W20 x H100 x D118 mm.

**Mounting:** DIN Rail

### Warranty

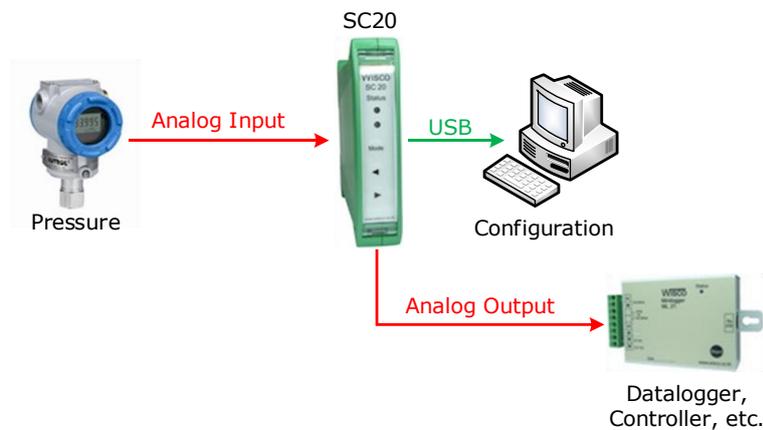
**Warranty Period:** 5 Year

**Ordering Information:** Specify Power Supply

Example SC20/12to24VDC

### Package Checklist

1. SC20
2. USB Cable



**Table 1.** Shown Accuracy and Resolution Each Input Type

Code	Input Type	Measuring Range	Resolution	Accuracy (%FS) (Temp. 25 °C)	Input Impedance	
0	Not Use	-	-	-	-	
1	Thermocouple	<b>R</b>	0.0 - 1700.0 °C	1.5 °C	±0.2%(3.4°C)	280 KΩ
2		<b>S</b>	0.0 - 1700.0 °C	1.5 °C	±0.2%(3.4°C)	280 KΩ
3		<b>K</b>	(-)250.0 - 1300.0 °C	0.2 °C	±0.2%(2.6°C)	280 KΩ
4		<b>E</b>	0.0 - 1000.0 °C	0.1 °C	±0.2%(2.0°C)	280 KΩ
5		<b>J</b>	(-)200 - 700.0 °C	0.15 °C	±0.2%(1.4°C)	280 KΩ
6		<b>T</b>	(-)250 - 400.0 °C	0.2 °C	±0.2%(0.8°C)	280 KΩ
7		<b>B</b>	600.0 - 1800.0 °C	1 °C	±0.2%(3.6°C)	280 KΩ
8	RTD	<b>Cu10</b>	0.0 - 150 °C	1 °C	±0.1%(1.5°C)	-
9		<b>Pt100</b>	(-)200.0 - 800.0 °C	0.15 °C	±0.1%(0.8°C)	-
10		<b>Pt1000</b>	(-)200.0 - 800.0 °C	0.1 °C	±0.1%(0.8°C)	-
11	Resistor (ohm)	<b>600</b>	0.0 - 600.0 Ω	0.06 Ω	±0.01%(0.06 Ω)	-
12		<b>1200</b>	0.0 - 1200.0 Ω	0.06 Ω	±0.02%(0.24 Ω)	-
13		<b>4000</b>	0.0 - 4000.0 Ω	0.1 Ω	±0.02%(0.8 Ω)	-
14	Voltage (mV)	<b>80</b>	0.0 - 80.0 mV	8 μV	±0.1%(5 μV)	280 KΩ
15		<b>150</b>	0.0 - 150.0 mV	8 μV	±0.02%(30 μV)	280 KΩ
16	Voltage (V)	<b>0-1</b>	0.0 - 1.0 V	30 μV	±0.05%(500 μV)	1 MΩ
17		<b>0-5</b>	0.0 - 5.0 V	2 mV	±0.04%(2 mV)	1 MΩ
18		<b>0-10</b>	0.0 - 10.0 V	2 mV	±0.04%(2 mV)	1 MΩ
19		<b>0-15</b>	0.0 - 15.0 V	2 mV	±0.02%(3 mV)	1 MΩ
20		<b>0-30</b>	0.0 - 30.0 V	2 mV	±0.033%(10 mV)	1 MΩ
21	Current (mA)	<b>4-20</b>	4.0 - 20.0 mA	3 μA	±0.01%(5 μA)	100 Ω
22		<b>0-20</b>	0.0 - 20.0 mA	3 μA	±0.01%(5 μA)	100 Ω
23		<b>0-40</b>	0.0 - 40.0 mA	12 μA	±0.05%(0.0 A)	100 Ω