

# Signal Conditioners

## Current/Voltage Signal Conditioners

### Active Converter, 3-Way

- Universally adjustable using DIP switch
- 931S Configurator to assist with DIP switch selection, download at [www.ab.com](http://www.ab.com)
- Voltage supply 20...230V AC/DC
- Low power loss
- Adjustable transmission frequency

### 931S-C4C5D-BC

Specifications	<b>Active Converter, 3 Way</b>	
Wiring Diagram		
Standards Compliance	UL 508, CSA C22.2 No. 142-M1987, EN 50178:1997, EN 61000-6-1:2007, EN 61000-6-2: 2005, EN 61000-6-3:2007, EN 61000-6-4:2007	
Certifications	cULus (NRAQ/7.E113724), CE	
<b>Input Ratings</b>		
Voltage	± 20mV...± 200V	
Current	± 0.1 mA...± 100 mA	
Input Resistance (voltage/current)	1 MΩ / < 5 mA: approx. 100 Ω; >5 mA: approx. 5 Ω	
Input	Passive	
<b>Output Ratings</b>		
Voltage	0...±10V	
Current	0...±20 mA	
Load Impedance (voltage/current)	≥ 1 kΩ / ≤ 600 Ω	
Accuracy	< 0.1% of final value	
Temperature Coefficient	≤ 60 ppm/K end value	
Offset Current/Voltage	20 μA / 10 mV	
Step Response Time	1 ms/ 100 ms (switchable)	
Adjustment Range, Zero Point	± 25% of measuring range of chosen output range	
Adjustment Range, Amplification	0.33...3.30 x final value of selected output range	
Offset Potentiometer	100%, -50%, 0%, 50%, 100% of measuring range	
Cut-off Frequency (-3 dB)	> 10 kHz/ < 10 Hz	
Output	Active	
<b>General Specifications</b>		
Supply Voltage	22...230V AC/DC +10 %/ 48...62 Hz	
Power Consumption	approx. 1 W	
Operating Temperature	-10 °C...+70 °C	
Storage Temperature	-40 °C...+85 °C	
Default Settings	0...10V / 0...10V / 10Hz	
Rated Insulation Voltage	600V	
Impulse Withstand Voltage	5kV, 1.2/50 μs (IEC 255-4)	
Isolation Voltage Input - Output	4kV <sub>eff</sub>	
Surge Category	III	
Pollution Severity	2	
Connection Type	Screw	
L x W x D (mm)	92.4 x 12.5 x 112.4	
Signal Conditioner	Cat. No.	Pkg. Quantity
	<b>931S-C4C5D-BC</b>	1

### Switch position/setting options

Input Input range	Switch							
	S1				S2			
	1	2	3	4	1	2	3	4
0 ... ±60 mV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±100 mV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±150 mV	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±300 mV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±500 mV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±1 V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±5 V	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±10 V	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±100 V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ± ~0.3 mA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±1 mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±5 mA	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±10 mA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±20 mA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±50 mA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 ... ±20 mA*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\*Offset conversion not calibrated

Switch S2		4
calibrated ranges		<input checked="" type="checkbox"/>
Span-pot. activated: input x 0.33 ... x 3.30		<input type="checkbox"/>

Output Output range	Switch				
	S1			S3	
	5	6	7	1	2
0 ... ±10 V	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2 ... 10 V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±5 V	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1 ... 5 V	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0 ... ±20 mA	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 ... 20 mA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Offset (in % of output voltage)	S1			S2
	8	9	10	5
0 %	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-100 %	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-50 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
+50 %	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
+100 %	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Zero pot. activated: additional ±25 %

Switch S3		3
Bandwidth 10 kHz		<input type="checkbox"/>
Bandwidth 10 Hz		<input checked="" type="checkbox"/>
Set range can be documented on side of housing.		

■ = on  
□ = off

