

931 Signal Conditioners

Precise Process Measurement and Control

Features and Benefits

- Helps protect your expensive control system from transients and noise
- Eliminates ground loop/noise-induced errors in process measurements through high levels of galvanic isolation
- Cost effective signal conversion to solve a signal mismatch between field device and I/O
- Eliminates signal degradation of critical process measurement during transmission
- Converts thermocouple/RTD measurements economically
- Accurately reproduces the signal using latest transformer and optical technologies
- Reduces the need to run expensive cables to transfer signals to control system
- Enables dedicated local display through signal splitting
- Rated for hazardous areas
- Extensive certifications for global use including: UL/CSA/cULus, CE, ATEX, IECEx, FM, DNV-GL, KC, RCM, Class 1 Div 2



Designed to Save Space, Time and Cost while Providing Top Performance

The new Allen-Bradley® 931 Nano Signal Conditioners provide optimal signal isolation, conversion and amplification.

Critical process measurements such as temperature, pressure, flow, level, weight, speed, frequency, current or voltage in your continuous or batch production process are exposed to noise and harsh environmental conditions that result in erroneous signal. These Signal Conditioners help protect your measurements and provide a more reliable signal so your processes can run efficiently.

These DIN rail-mounted analog signal conditioners are compatible with all types of integrated PLC and DCS I/O systems. They can also be integrated with PlantPAx® DCS to leverage a single control platform for batch, drives, motion control, process and safety.

Signal Conditioners are commonly used in food and beverage production, water treatment, chemical processing, energy and power plants, steel production, oil and gas, and pharmaceutical industries.

931 Nano Series

Thoughtful design

- Space-saving 6 mm housing
- Easy onboard configuration
- Angled terminals for ease of wiring

Isolate and convert numerous signals

- Analog: 0/4...20 mA, 0/1/2...10V
- Bipolar: ± 10 mA, ± 20 mA and -11.5...+11.5V
- Thermocouple: B, E, J, K, L, N, R, S, T, U, W3, W5, LR
- RTD: Pt10/20/50/100/200/250/300/400/500/1000, Ni50/100/120/1000
- Linear resistance: 0 Ω ...10000 Ω
- Potentiometer: 10 Ω ...100 k Ω

High performance

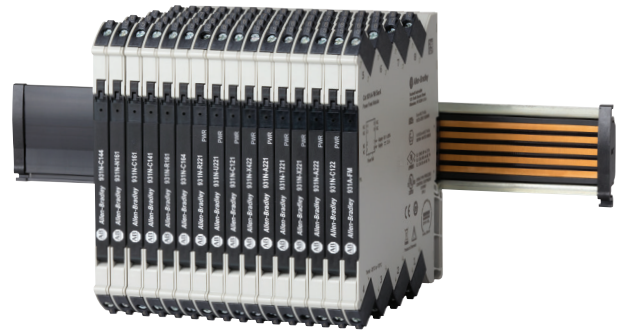
- High galvanic isolation: 2.5 kV AC
- High accuracy: 0.05%
- Fast response time for all analog signals: <5/7 ms
- Low power consumption
- Sensor and signal error detection

Reduced wiring time

- Power rail option reduces supply wiring
- One feed module powers up to 75 devices

Extensive global certifications

- UL/CSA, CE, ATEX, IECEx, FM, DNV-GL, KC, RCM, Hazardous Area (Class 1 Div 2/Zone 2)



Product Selection

Catalog No.	Input						Output			Channel	Power
	0/4...20 mA	0/1/2...10V	$\pm 10/\pm 20$ mA, ± 11.5 V	TC, J, K	PT100	Universal	0/4...20 mA	0/1/2...10V	$\pm 10/\pm 20$ mA		
931N-C121	•						•			1	24V DC
931N-C122	•						•			Splitter	24V DC
931N-C141	•						•			1	Input Loop
931N-C144	•						•			2	Input Loop
931N-C161	•						•			1	Output Loop
931N-C164	•						•			2	Output Loop
931N-A221	•	•					•	•		1	24V DC
931N-A222	•	•					•	•		Splitter	24V DC
931N-X221			•				•	•		1	24V DC
931N-X422			•				•	•	•	Splitter	24V DC
931N-T221				•			•	•		1	24V DC
931N-R161					•		•			1	Output Loop
931N-R221					•		•	•		1	24V DC
931N-N161				•	•		•			1	Output Loop
931N-U221	•	•	•	•	•	•	•	•		1	24V DC

931 Accessories

Power Bus DIN System

Description	Part
Power Feed Module	931A-FM
Power Bus 35x7.5	931A-CS
Power Bus 35x15	931A-CL
Support 35x7.5	931A-SS
Support 35x15	931A-SL
Bus Circuit Layer	931A-PC
Cover Plate	931A-CP
Right End Plate	931A-RP
Left End Plate	931A-LP

- Eliminates the need to wire devices to power supply
- Provides up to 2.5 A
- One feed module powers up to 75 signal conditioners
- Redundant power can be achieved with two feeds at opposite ends



Configuration Cable

Description	Part
USB Cable	931A-CB*

*Assists in the configuration of devices with DTM files.

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