

Migration Solutions

931 Signal Conditioners

Why Upgrade or Migrate?

The new signal conditioners were designed to save valuable panel space, installation time and cost while improving performance. The latest developments in technology have been enabled to design more powerful, versatile and efficient products. The new products were designed to make installation easier and quicker with various design features such as angled terminals, onboard configuration and status display. The new 931N portfolio also carries extensive certifications and approvals including UL, CSA, CE, ATEX, IECEx, FM, DNV-GL, KC, RCM, Hazardous Area (Class 1 Div 2/Zone 2).

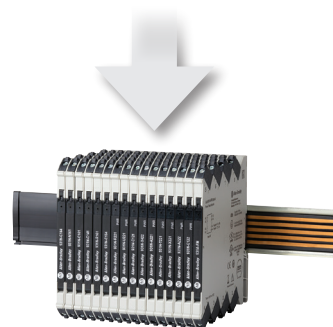
The new Nano series signal conditioners are extremely slim at 6.1mm width and offer an excellent performance in terms of galvanic isolation, accuracy, response time, and power dissipation. Products in this family can isolate, convert, split and amplify a broad range of signal types. There are products with dual channels, input and output loop powered options. The Nano series products have a power DIN rail option which eliminates the need to wire every device for power supply.

Isolate, convert, split and amplify 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



931H High-Density
931S Standard
931U Universal



931 Nano

Identify, Mitigate and Help Eliminate the Risk of Automation Obsolescence

In today's economy, it is necessary to have migration solutions that help you to achieve increased productivity and lessen your risk of maintaining your legacy equipment. You need to work with a supplier that has the product, service and industry knowledge to partner with you on an upgrade strategy that will help you maximize your competitive advantage.

Rockwell Automation and its partners will work with you to outline a plan that fits your application needs and long-term goals. We can help you migrate all at once or in phases, at the pace that is comfortable for you and fits your budget.

With your goals in mind, Rockwell Automation has developed a migration strategy that will allow you to quickly and easily migrate to the 931 Nano and Smart Signal Conditioners.

Product Lifecycle

Use the [Product Lifecycle Status](#) search tool on the web to find specific lifecycle information by catalog number.



- ACTIVE: Most current offering within a product category.
- ACTIVE MATURE: Product is fully supported, but a newer product or family exists. Gain value by migrating.
- END OF LIFE: Discontinued date announced – actively execute migrations and last time buys. Product generally orderable until the discontinued date.¹
- DISCONTINUED: New product no longer manufactured or procured. Repair/exchange services may be available.²

¹ Outages on specific items may occur prior to the Discontinued date. ² Limited stock may be available in run-out mode, regionally.

Bulletin 931 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 reliably transfer signals to control system
- Enables dedicated local display through signal splitting

Bulletin 931 Features

- Space savings from slim 6.1 mm products
- Eliminates the need to wire devices to power supply
- One feed module powers up to 75 signal conditioners
- Easy onboard configuration
- High accuracy: 0.05%
- High galvanic isolation: 2.5 kV AC
- Fast response <5/7 ms (>100 Hz signal bandwidth) for analog signals, <30 ms for temperature measurements
- Angled terminals for ease of wiring
- NAMUR NE21 Compliant, top measurement performance in harsh EMC environment
- NAMUR 43 Functional Range, 0...23 mA enabling sensor/signal error detection
- 2/3/4 way Isolation, Dual Channel, and Loop Power Options
- Flexible supply voltage
- Universal input options
- Extensive global certifications: UL/CSA/cULus, CE, ATEX, IECEx, FM, DNV-GL, KC, RCM, Class 1 Div 2/Zone 2

931 Nano Series Signal Conditioner Migration Table

New Product	Replaces	Input	Output	Power	Channel
931N-C141	931H-A1A1N-IP	0(4)...20 mA (P)	0(4)...20 mA (A)	Input Loop	1
931N-A221	931H-A2A2N-DC	4...20 mA (A)	4...20 mA (A)	24V DC	1
931N-A221	931H-C2C2D-DC	0...10V, 0(4)...20 mA (P)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-R221	931H-P2C1D-DC	PT100 (A)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-R161	931H-P2A2N-OP	PT100 (A)	4...20 mA (P)	Output Loop	1
931N-T221	931H-T1C1D-DC	TC J (P)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-T221	931H-T2C1D-DC	TC K (P)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-C121	931S-A1A1N-DC	0(4)...20 mA (P)	0(4)...20 mA (A)	24V DC	1
931N-C141	931S-A1A1N-IP1	0(4)...20 mA (P)	0(4)...20 mA (A)	Input Loop	1
931N-C144	931S-A1A1N-IP2	0(4)...20 mA (P)	0(4)...20 mA (A)	Input Loop	2
931N-C121	931S-A2A2N-DC	4...20 mA (P)	4...20 mA (A)	24V DC	1
931N-C161	931S-C1A2D-OP	0...10V, 0(4)...20 mA (P)	4...20 mA (P)	Output Loop	1
931N-A221	931S-C3C3J-DC	0...22 mA / 0...10V (A/P)	0...22 mA / 0...10V (A)	12...60V DC	1
931N-U221	931S-P1C2D-DC	PT100, Ni100, Pot, Res. (A)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-U221	931S-T9C2D-DC	TC K,J,T,E,N,R,S,B (P)	0...10V, 0(4)...20 mA (A)	24V DC	1
931N-U221	931U-C9C7C-BC	Universal (All Signals)	0...±10V, 0...20 mA, Relay (A)	18...264V AC/DC	Splitter

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