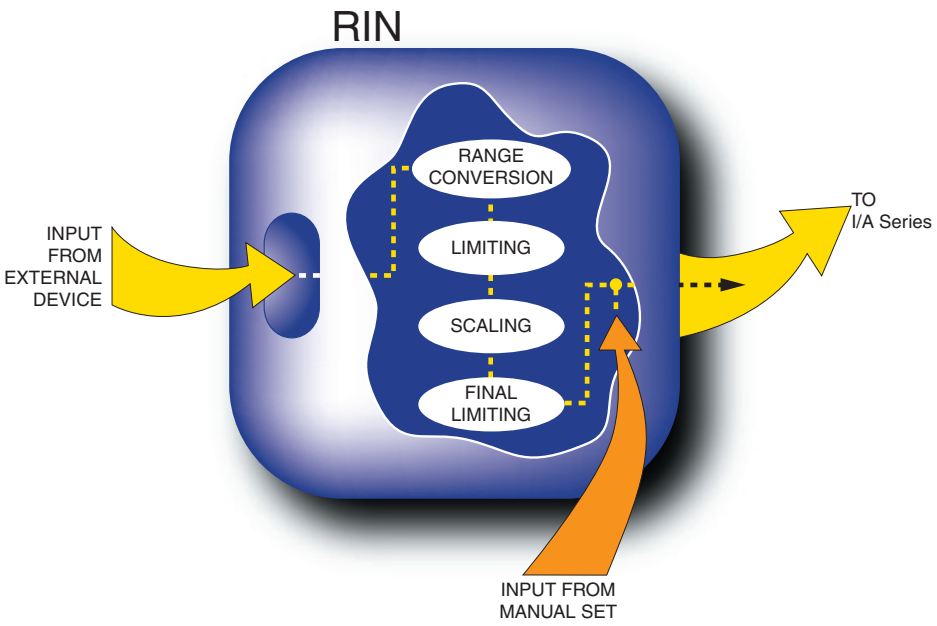
Foxboro Evo™ Process Automation System

Product Specifications

Foxboro by Schneider Electric

PSS 31S-3RIN

Real Input (RIN) Block



The Real Input (RIN) block is a Distributed Control Interface (DCI) block. (DCI blocks support connectivity of I/A Series control stations to various bus resident devices via a general purpose interface.) The RIN block receives one analog value from an external device. It presents that value, after input processing, at parameter RINP, whether the block mode is Auto or Manual. An additional parameter, MEAS, is provided for use as the block output to the control strategy. The MEAS value is the same as that of RINP when the block is in Auto mode. When the block is in Manual mode, MEAS is independent of RINP, and can be used for manual sets.

OVERVIEW

The RIN block is used in applications where the external device provides the analog data value to the I/A Series system for use in a Display Manager, FoxView™ display, or connection to a Foxboro control strategy. The raw value from the external device is first scaled into the I/A Series system normalized raw count range specified by the configured Signal Conditioning Index (SCI).

It is then limited to prevent excursions beyond the upper or lower span limits of that range. The limited I/A Series system normalized raw count value is converted into engineering units by a proportionality calculation. After a final limiting calculation, the result, in engineering units, is made available in parameter Real Input (RINP).

RINP contains the value, after input processing, read from the external device address specified by parameter Point Number (PNT_NO) at all times, whether the mode is Auto or Manual. In Auto, this value is copied to parameter Block Output (MEAS). In Manual, it is not copied to MEAS, and you may set the value of MEAS.

The RIN block provides alarming upon detection of a fault in the operational status of the Fieldbus Module or input channel and a range of alarming features (out-of-range and high/low or high-high/low-low absolute alarming of the conditioned measurement output).

For previous processors or CP270s with earlier versions of I/A Series software, the RIN block does not provide any alarm detection or reporting capability.

FEATURES

- Support for operator sets in Manual
- Specification of external device source point as device-specific string
- Input value scaled into I/A Series system normalized raw count range before further processing
- Input in I/A Series system normalized raw count converted to engineering units.

ADDITIONAL FEATURES

- Bad-input-point detection. The RIN block detects errors in the operational status of the Fieldbus Module or input channel, and provides a badpoint indicator for optional alarming.
- Bad-input-point alarming, out-of-range alarming, and high/low or high-high/low-low absolute alarming of the conditioned measurement output signal. The outputs include alarm indicator signals and user-defined alarm messages.
- Inhibiting of block alarm messages.
- Indication of the alarm level (1 to 5) and alarm type of the highest-priority active alarm for the block.
- Delayed alarming. A configurable timer delays alarm detection or return-to-normal messages for a specific alarm to reduce the number of alarm messages generated when a block parameter crosses back and forth over an alarm limit.
- Output is clamped within the range defined between the high and low output limits ± output span variance.
- Filtering (first-order lag, Butterworth and two-sample average) applied to the signal before it is set into the RINP output.
- Available raw value read directly from the ECB before any form of signal conditioning, characterization, scaling, clamping or filtering is applied.
- Workstation lock. Set requests to any of the block's parameters (subject to the usual access rules) may be restricted to a specific workstation which locks the block.
- Timestamp for the latest change in the conditioned measurement output is recorded.
- Quality Status output parameter provides a single source for the block's value record status, block status, and alarm status.

Foxboro®

by Schneider Electric

Invensys Systems, Inc
10900 Equity Drive
Houston, TX 77041
United States of America
http://www.invensys.com

Global Customer Support
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424
Website: https://support.ips.invensys.com

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