EcoStruxure™

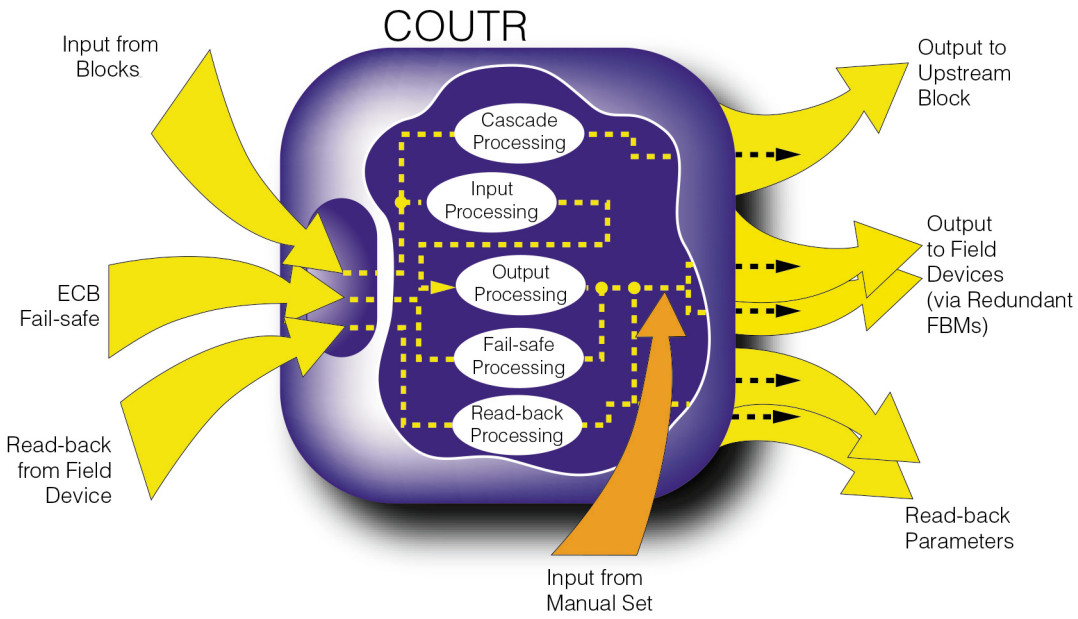
Foxboro™ DCS

Redundant Contact Output (COUTR) Block

PSS 41S-3COUTR

Product Specification

March 2019



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Legal Information

Overview

The Redundant Contact Output block (COUTR) provides the control strategy with optionally pulsed output capability for a single digital point directed to two redundant EcoStruxure™ Foxboro™ DCS Fieldbus Modules (FBMs).

The COUTR block (*Figure 1, page 4*) is a digital contact output block that acquires a single input from the control strategy and sends the value to the addressed redundant FBMs.

- Run in simulation mode, which is accomplished by automatically writing the block output to the FBM readback parameters
- Choose a pulsed output with a variable pulse width
- Automatically transition to Manual mode when the connected points in both FBMs are reported to be in the Failsafe state
- Generate a Bad I/O indication and message when both of the connected readback values have bad status
- Enable bad alarm options to function in Manual mode
- Re-alarm the active block alarms when the realarm timer expires
- Use the last good value when block input is bad or out-of-service
- Notify upstream blocks in the event of an open cascade
- Propagate errors, causing abnormal conditions of the block input from the control strategy to result in an error status of the COUTR block output

Features

Key features of the COUTR block are:

- Capability to send a digital output to redundant FBMs
- Compares the requested output value with the readback value to verify that requested output was successfully transmitted to the FBM
- Manual or Auto control of the output, which can be initiated by an operator, a host process, or another block
- Capability to inhibit bad alarm detection and/or messages
- Identification of the highest priority among current alarms
- Re-alarming of active block alarms when the alarm priority is changed
- Fail-safe support
- Loop identifier for identifying the loop or process unit that contains the block
- Workstation lock to help ensure block integrity by restricting write access to block parameters
- Owner identifier for allocating control blocks to applications

Block Operation

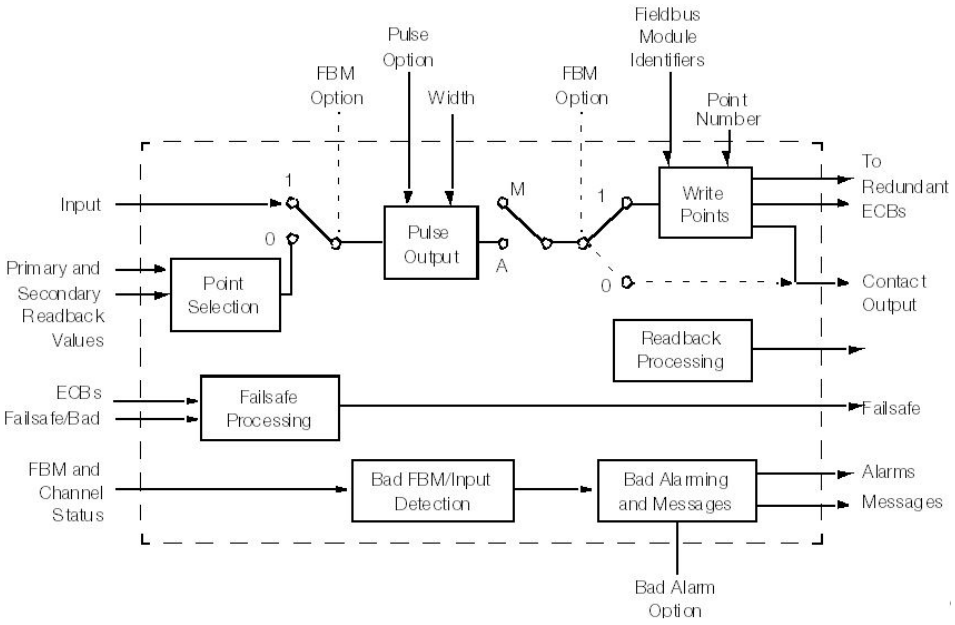
The COUTR block receives an input from an upstream control block addressed to two redundant FBMs. Each control cycle, the block updates two specific points on the redundant FBMs with fresh data. Two additional parameters store confirmed values that are read back from the field devices via the FBMs.

You can select a sustained output that follows the block input or a pulsed output with a selectable pulse width. The block also supports bad alarming and cascade initialization to alert upstream blocks of the COUTR block's state.

The COUTR block can run in simulation mode, which allows you to test your control scheme without I/O hardware connections. In this mode, the block output is automatically written to both FBM readback parameters, simulating actual values read back from FBMs. One of the simulated readback values is used as block input in the next execution cycle.

The redundancy logic of the block automatically handles output initialization and re-initialization. When the block is initialized, a signal is read back from the primary FBM if healthy, otherwise from the secondary module.

Figure 1. COUTR Block Functional Diagram



Messages and Alarms

The COUTR block can be configured to generate a bad alarm when one or both of the connected output values are bad. Bad alarms are generated for each output value independently when its status is bad. These alarms contain a user-specified Bad Alarm Text string, and indicate which of the output values has bad status.

The delayed alarming feature reduces the number of nuisance alarms as a block parameter crosses over an alarm limit multiple times in a short period.

Principal Parameters

Inputs:

- Input from block (Boolean)
- Readback values from redundant FBMs (Boolean)
- FBM point number (String)
- Primary FBM name (String)
- Secondary FBM name (String)
- Manual/Auto control mode switching (Boolean)

Outputs:

- Contact output (Boolean)
- Readback values (Boolean)
- Bad I/O alarm indicator (Boolean)

Additional Features

- 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.

⚠ **WARNING**: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.p65warnings.ca.gov/.

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As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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