



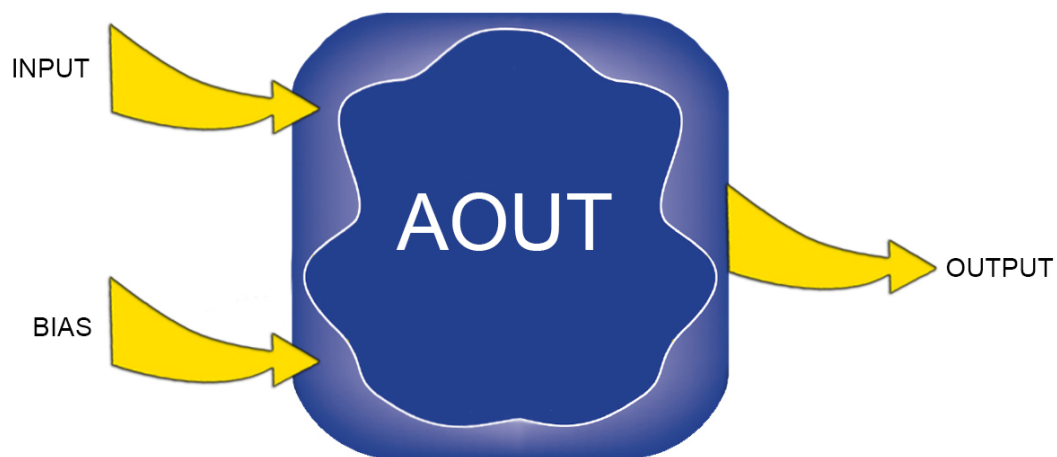
Foxboro™ DCS

Analog Output (AOUT) Block

PSS 41S-3AOUT

Product Specification

April 2019



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Overview

The Analog Output (AOUT) block is a single channel analog output block for scaling an analog output to a field device.

The real input (*Figure 1, page 4*) is summed with the bias parameter, and the resultant value is converted to raw counts according to a user-specified signal conditioning index. The output is clamped within the range defined between the high and low output limits $\pm$ output span variance. The block updates the EcoStruxure™ Foxboro™ DCS Fieldbus Module (FBM) on a change-driven basis, and the FBM converts the output count value to analog via a 12-bit digital-to-analog conversion.

Bad detection of a FBM output point is based on the FBM status. If the FBM status is incorrect, the raw counts are not written to the FBM and the quality tag of the output (bad point parameter) is activated.

The raw counts, read back from the FBM, are converted back to engineering units, using the inverse conversion algorithm of the specified signal conditioning index. This value is used as part of the back calculation of the input. This parameter normally sources the connection to an upstream "back-calculation-input" parameter of a control block in a cascaded scheme to provide bumpless transfer of control.

An AOUT detail display provides the output value as well as other block information for operator interface to the block.

Supervisory Control

Supervisory Control (SSC) allows a user's application program to perform supervisory control over the AOUT block's measurement. SSC can be enabled/ disabled by an operator, or enabled by the supervisory application program at a control block group or control block level. If SSC is enabled in the control block, the back calculated value status requests the application program initialization. The application program must send the supervisory measurement to the block periodically. While SSC is enabled, the operator cannot set the control block parameters associated with the local setpoint. If the operator asserts fallback or if a supervisory application program failure is detected, the control block falls back to a configured fallback mode (Manual or Auto).

Standard Features

- Auto/Manual control of the output
- Initialization and back-calculation parameters for proper coordination of cascaded schemes
- Bad output point detection and readback
- Bias and gain scaling of input
- Output bounded between user-specified limits

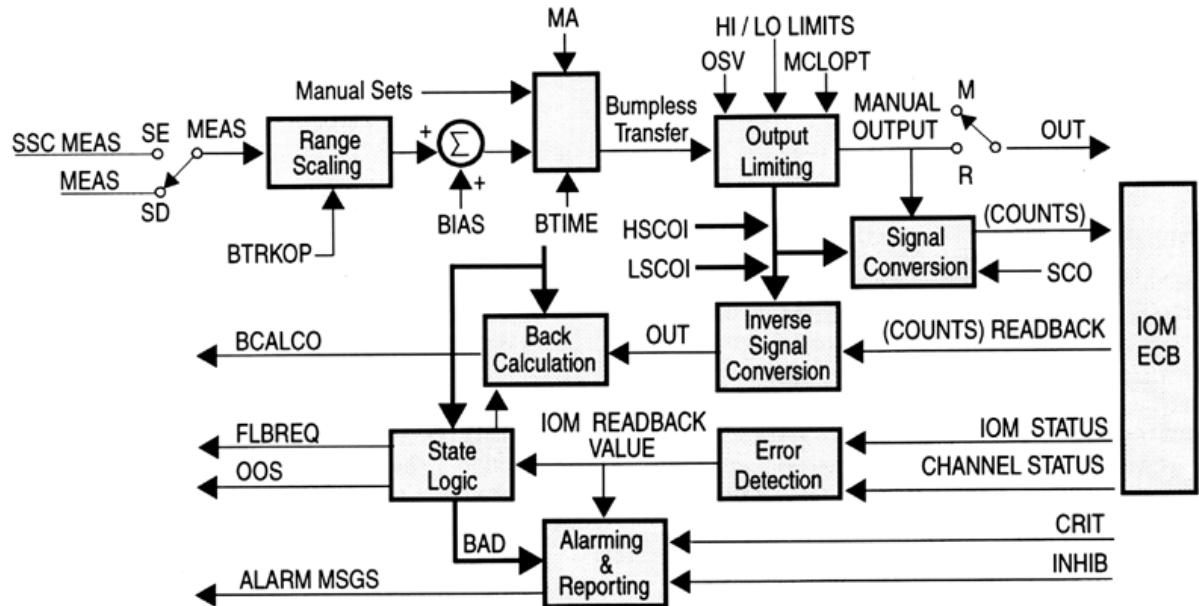
Options

- Bias tracking when in manual
- Output clamping in manual
- Auto/Manual override
- Bad point alarming
- Selectable signal conditioning:

Conditioning Index	Signal Conditioning
0	No conditioning
1	0 to 64,000 counts linear
2	1,600 to 64,000 counts linear (0 to 10 V dc)
3	12,000 to 64,000 counts linear (4 to 20 mA)

- Workstation lock access allows write access to only the Display Manager that owns the lock.
- Loop identifier allows the user to identify the loop or process unit that contains the block.
- Supervisory Control (SSC) of the block's measurement.

Figure 1. AOUT Block Signal Flow Diagram



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.
- Detection of fail-safe mode in the FBM, during which the block switches its input to a user-selected source for safety.

 **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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