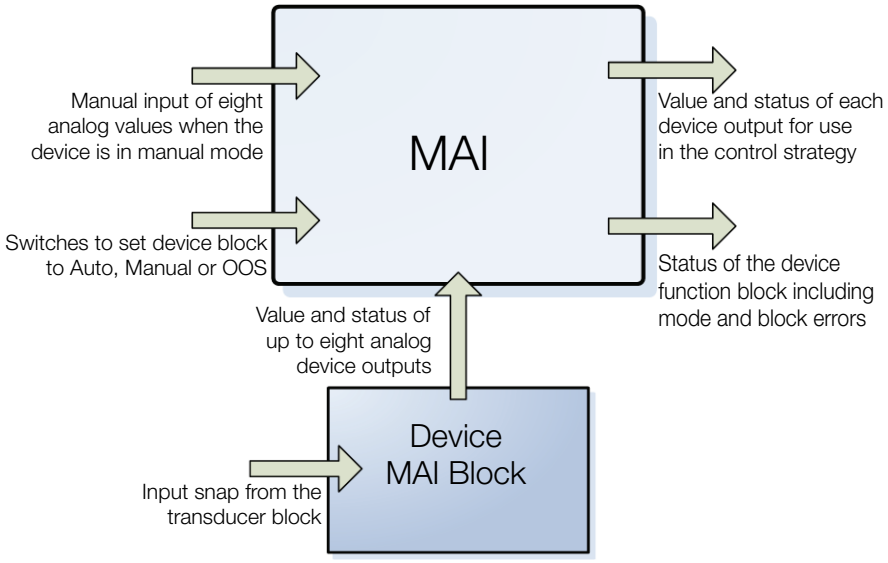
I/A Series® Software

PSS 21S-3Q12 B4

Multiple Analog Input (MAI) Block



The Multiple Analog Input (MAI) block enables the control strategy to read up to eight analog values from an MAI device function block operating in a FOUNDATION fieldbus™ H1 device.

OVERVIEW

Multiple Analog Input (MAI) provides an interface between the control processor and a remote I/O system or other FOUNDATION fieldbus H1 device that supports multiple analog inputs. The MAI blocked is linked with a multiple analog input function block operating in the H1 device (the device function block).The MAI block is supported on the Field Control Processor (FCP270) and the Z-module Control Processor (ZCP270) when the H1 device is connected to the control station by a FOUNDATION fieldbus Redundant Interface Module (FBM228).

The MAI block integrates the linked device function block into the I/A Series system. On initialization, user-configured parameters in the MAI block are written to key configurable parameters in the device function block. During normal operation, the MAI block's OUT*n* (where *n* is 1 through 8) and OUTST*n* parameters hold the value and status, respectively, of the device *OUT*_n parameters. When the block is not in simulation mode, the PV*n* parameters reflect the value and status of the device *OUT*_n parameters. When the block is in simulation mode, PV*n* is settable and is used to change the OUT*n* value.

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The MAI block also provides access to a variety of operational and diagnostic information via client/server connections with the parameters that are included in Views 1, 2, and 4 of the device block. The values read from these parameters are displayed in the block detail displays and are available for connection to other I/A Series blocks.

FEATURES

The MAI block provides the following features:

- Acquires the status and value of up to eight published outputs (*OUT_1* through *OUT_8*) from a multiple analog input device function block

  Access to the device outputs can be individually configured for either a publisher/subscriber connection or a client/server connection.
- Time stamps value and status changes
- Accesses the parameters in the device function block's View 1, View 2 and View 4 using change-driven and periodic client/server connections
- Ensures that changes in the device function block's process values and error conditions are continuously available for display and connection to the control strategy
- Provides for the configuration of selected device block parameters from the I/A Series system and management of the device configuration in the control database
- Enables users to set the mode of the device function block to Automatic, Manual or Out of Service (OOS)
- Provides alarm reporting for Bad I/O for each device block output
- Supports simulation of device block output within the control station.

PRINCIPAL PARAMETERS

Input

- 8 analog values from the device function block's OUT*n* parameters
- Mode switches to change the device function block mode to Auto, Manual or OOS

Output

- Value and status from each of eight analog outputs from the H1 device when the device function block is in Auto mode, or from operator input when the device function block is in manual mode
- Time stamp for each of the eight analog outputs
- Device function block operational status including mode, block errors, and alarm conditions

Device Function Block Configuration

- Parameters configured in the MAI block are downloaded to the H1 device to set the block tag and description, transducer channel, permitted and target modes, and strategy description.

SUPPORT

The MAI block is supported on the FCP270 and ZCP270 when the H1 device is connected to the control station by an FBM228. Refer to following product specification sheets for details:

- *Field Control Processor 270 (FCP270)* (PSS 21H-1B9 B3)
- *Z-Module Control Processor 270 (ZCP270)* (PSS 21H-1B10 B3)
- *FOUNDATION fieldbus Redundant Interface Module (FBM228)* (PSS 21H-2Z28 B4)

The MAI block is configured using the Block Configurator in the InFusion™ Engineering Environment (IEE) as described in *InFusion Enterprise Control System: Implementing FOUNDATION fieldbus* (B0750BC) or with the I/A Series Configuration Component (IACC) software as described in *Implementing FOUNDATION fieldbus on the I/A Series System* (B0700BA).

33 Commercial Street
Foxboro, MA 02035-2099
United States of America
www.foxboro.com
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424
or contact your local Foxboro
representative.
Facsimile: 1-508-549-4999

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