GEH-6723P

Mark* VIeS Safety Control

Functional Safety Manual

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For public disclosure

5.2 YDIA

5.2.1 YDIA Compatibility

The YDIA I/O pack contains an internal processor board.

- The YDIAS1A contains a BPPB processor board. This processor has a limited component lifecycle, with support up to firmware V04.06 only.



Attention

From the ToolboxST application, do not upgrade YDIAS1A to firmware above V04.06. YDIAS1A is not supported in firmware V05.00 and later.

- The YDIAS1B contains a BPPC processor board that is supported by firmware V05.01 or later with ControlST Software Suite version 6.01 or later.



Attention

YDIAS1A and YDIAS1B I/O pack versions cannot be mixed on the same T-type terminal board.

All YDIA I/O packs in a TMR or DUAL set must be the same hardware form.

The YDIA I/O pack is compatible with seven discrete contact input terminal boards, including the TBCI boards and STCI boards.

I/O Pack Redundancy	Terminal Board
Simplex, Dual, or TMR	TBCIS1, S2, S3
Simplex only	STCIS1A, S2A, S4A, and S6A

Module redundancy refers to the number of I/O packs used in a signal path, as follows:

- Simplex uses one I/O pack with one or two network connections.
- Dual uses two I/O packs with one network connection on each.
- TMR uses three I/O packs with one network connection on each.

5.2.2 Parameters

Parameter	Description	Choices
ContactInput	Mark a specific contact input as Used or Unused.	Used, Unused
SignalInvert	Inversion makes signal true if contact is open	Normal, Invert
SeqOfEvents	Record contact transitions in sequence of events	Enable, Disable
DiagVoteEnab	Enable voting disagreement diagnostic	Enable, Disable
Signal Filter	Contact input filter in milliseconds	Zero, Ten, Twenty, Fifty, Hundred

5.2.3 Inputs

Input	Direction	Type
Contact01	Input	BOOL
↓	↓	↓
Contact24	Input	BOOL

5.2.4 Variables

Note The following variable names are displayed differently depending on redundancy of I/O pack (R, S, or T) and if this is a PDIA or YDIA pack.

Variable	Description	Direction	Type
L3DIAG_PDIA_x L3DIAG_YDIA_x	I/O diagnostic indication, where x is R, S, or T	Input	BOOL
LINK_OK_PDIA_x LINK_OK_YDIA_x	I/O link okay indication, where x is R, S, or T		BOOL
ATTN_PDIA_x ATTN_YDIA_x	I/O attention indication, where x is R, S, or T		BOOL
IOPackTmpr_x	I/O pack temperature, where x is R, S, or T		REAL
PS18V_PDIA_x PS18V_YDIA_x	I/O 18 V power supply indication, where x is R, S, or T		BOOL
PS28V_PDIA_x PS28V_YDIA_x	I/O 28 V power supply indication, where x is R, S, or T		BOOL

5.2.5 YDIAS1A Configuration

YDIA Module

Configuration	Description	Select Option ✓ or Enter Value
I/O pack redundancy		Simplex Dual TMR
Hardware group		Distributed I/OGroup
Terminal board	Terminal board type/form/barcode	
I/O pack configurations	Pack form/TB Connector/IONet	

Parameters Tab

Parameters	Description	Select Option ✓ or Enter Value
SystemLimits	Enable or disable system limit	Enable Disable

Application Digital Input Tab (repeat for 24 inputs)

Input	Description	Select Option ✓ or Enter Value
ContactInput		Used Not Used
SignalInvert	Inversion makes signal true if contact is open. Do not rely on the SignalInvert property of digital inputs to invert the value. Implement this operation in the application code with the input connected to a NOT block.	Normal Invert
SeqOfEvents	Record contact transitions in sequence of events	Enable Disable
DiagVoteEnab	Enable voting disagreement diagnostic	Enable Disable
SignalFilter	Contact input filter in milliseconds	Zero Ten Twenty Fifty Hundred