Mark* VIe Modbus Master Communication Module Summary Sheet

The Mark* VIe Modbus Master (Serial Communication) module provides Modbus Master protocol from the Gateway controller to other devices via Serial or Ethernet media. The Modbus Master module consists of two orderable parts: the Serial Communication IS420PSCAH1B I/O pack and the Simplex Serial Communication Input/Output (I/O) IS410SSCAH2A terminal board. The module is only available in a Simplex configuration.

Modbus Master Module

The Modbus Master module supports six serial transceiver channels, each of which can be individually configured to comply with RS-232, RS-422, or RS-485 half-duplex requirements. Jumpers on the SSCA terminal board are used to set up the termination scheme for the selected communication mode. Up to six channels can be configured for Serial Modbus Master service.

Additionally, the PSCA I/O pack can use one of two Ethernet ports to support the Ethernet TCP Modbus Master protocol. The Ethernet Modbus implementation follows the open Modbus/TCP specification for a Class 1 device.

The following table provides the specifications for the IS410SSCAH2A terminal board. For more information on the PSCA I/O pack and the SSCA terminal board, refer to the *Mark VIeS Functional Safety Systems for General Market Volume II System Guide for General-purpose Applications* (GEH-6855_Vol_II), the chapter *PSCA Serial Communication Module*.

For more information on the Mark VIe Gateway controller, refer to the *Mark VIe and Mark VIeS Functional Safety UCSC Controller Summary Sheet* (GEI-100867).

SSCA Terminal Board with PSCA I/O Pack Specifications

Item	IS410SSCAH2A Terminal Board
Product Name	Mark VIe Serial Communication
Life-cycle Status	Active
I/O Pack Redundancy	Simplex
I/O Pack	IS420PSCAH1B (qty 1) (order separately)
Number of Channels	6 Independently configured serial Modbus Master channels
	1 Ethernet Modbus Master channel (with Simplex IONet configuration)
Communication Choices	RS-232 mode
	RS-422 mode
	RS-485 mode, half-duplex only
	Ethernet Modbus Master mode
Ethernet Modbus Master Mode	Number of Ethernet Modbus stations: 18 max
	Configurable transfer rate: 0.5, 1, 2, or 4 Hz
	Supported function codes: 1 to 7, 15, and 16
RS-232C Mode	Cable distance: 15 m (50 ft)
	Communication rate: up to 115.2 kbps
RS-422 Mode	Cable distance: 305 m (1000 ft)
	Communication rate: up to 115.2 kbps
	Number of drops: 8 max
RS-485 Mode	Cable distance: 305 m (1000 ft)
	Communication Rate: up to 375 kbps
Termination Resistors	Jumper selectable between open or 121 Ω

Item	IS410SSCAH2A Terminal Board
RS-232C Return Path Ground	Jumper selectable between resistive ground of 100 Ω or 1 MΩ
Field Wiring Terminal Block	Euro Style Box-type terminal blocks
Field Wiring	24 AWG min, 12 AWG max
Diagnostic Fault Detection	Power-up self test, continuous monitoring of internal power supplies, and incorrect terminal board check
I/O Pack DC Control Power	24 / 28 V dc at 10 W max
I/O Pack DC Power Connector	Micro Mate-N-Lok receptacle (AMP 1445022-3)
I/O Pack Construction	Aluminum case
I/O Pack Health	Visual status LEDs, circuit health variables available to control logic
Termination Module Dimensions (includes cover and I/O pack) (H x W x D)	17.0 x 15.7 x 15.3 cm (6.7 x 6.2 x 6.0 in)
Safety Rated	No
Hazardous Locations Capability	Class 1, Div 2 / Class 2, Zone 2 / ATEX For ratings and further details, refer to the *Mark VIeS Functional Safety System Equipment in Hazardous Locations (HazLoc) Instruction Guide* (GEH-6861).
G3 Compliant	Yes
Ambient Operational Temperature	-40 to 70°C (-40 to 158 °F)
Storage Temperature	-40 to 85°C (-40 to 185 °F)
Mounting Method	DIN-rail mounted
I/O Pack Replacement Part Number	IS420PSCAH1B
Terminal Board Part Number	IS410SSCAH2A
Module Replacement Part Number	151X1202YE04PP01BL

IS420PSCAH1B I/O Pack

IS410SSCAH2A Terminal Board