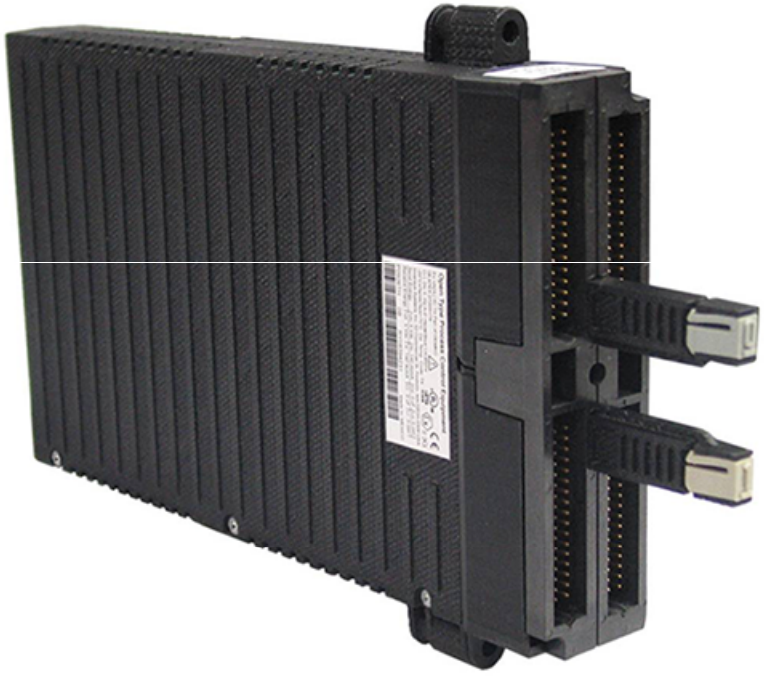
Foxboro™ DCS

Termination Assembly Adapter Modules for 100 Series Upgrade

PSS 41H–2W4

Product Specification

August 2019



www.schneider-electric.com

Legal Information

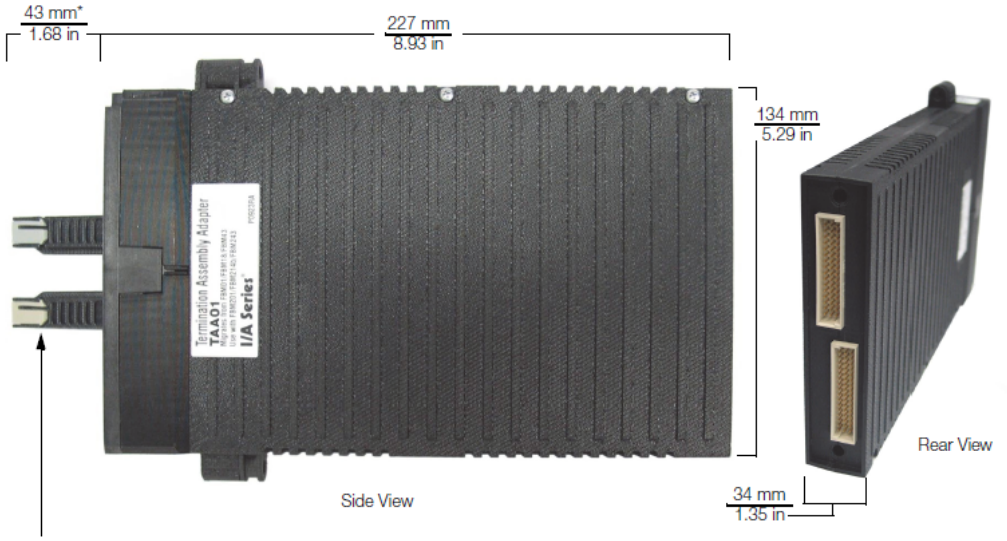
Overview

The Termination Assembly Adapter (TAA) modules for the 100 Series Fieldbus Module Upgrade subsystem are installed in the new conversion mounting structures to mount the Termination Cable Assemblies (TCAs) formerly used by the 100 Series Fieldbus Modules (FBMs). TAAs facilitate communications between the Foxboro™ DCS 200 Series FBMs and the original 100 Series FBMs' field I/O wiring, via the termination connectors on these existing TCAs.

TAAs are available as either passive or active. Passive units pass signals, unmodified, via wiring from the termination connector (i.e., nosecone attachment point) to the rear backplane connector. Active TAAs modify the field signals (such as by providing signal conditioning and channel isolation) before sending them to their associated 100 Series conversion mounting structure.

Figure 1 shows the dimensions of a TAA module. All TAAs use this same housing and have the same dimensions.

Example Termination Assembly Adapter (TAA) Module



Termination connector (i.e. nosecone) on 100 Series Termination Cable Assembly (TCA) is attached here.

* When attached, TCA also increases TAA height to 159 mm (6.27 in).

Features

- Support for a variety of signals and power
- Easy installation in existing 100 Series mounting structures
- Support for existing Termination Cable Assemblies (TCAs) - no need to replace field wiring
- Active TAAs provide built-in signal conditioning and channel isolation

LED Indicators

When the termination connector on a 100 Series Termination Cable Assembly is attached to a TAA, a green LED on its front is illuminated when 24 V dc power is supplied to the TAA.

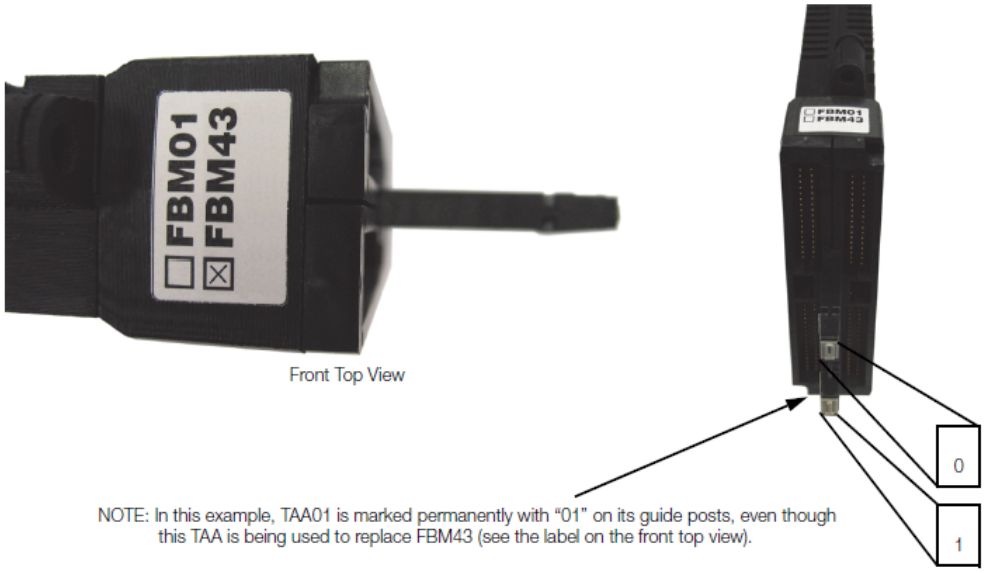
The red LED at the bottom of the connector is not used since its functionality is not supported by the 200 Series Foxboro™ Fieldbus Modules. The status LEDs on the termination connector are functional for digital signals and indicate the state of these signals.

TAA Labels

Certain TAAs, listed in "*Available TAA Modules*", support the replacement of multiple 100 Series FBMs. For example, TAA01 is used to replace FBM01 or FBM43. Thus, it can accept the Termination Cable Assemblies from any of these FBMs attached to its front.

For convenience, a label is mounted on the top of these TAAs to indicate which 100 Series FBM the TAA is substituting. *Figure 2* shows an example of this label, which has entries for FBM01 or FBM43 with checkboxes for each FBM. Installers mark the appropriate checkbox to indicate which FBM is being replaced with this TAA, and which Termination Cable Assembly should be used with this TAA. We recommend that installers use permanent markers such as a Sharpie® pen (or equivalent) when marking the checkboxes.

Example Termination Assembly Adapter (TAA) Module Label



NOTE: In this example, TAA01 is marked permanently with "01" on its guide posts, even though this TAA is being used to replace FBM43 (see the label on the front top view).

Available TAA Modules

Table 1 lists the available TAA modules to use with each 200 Series FBM type when the FBM's associated field wiring was attached formerly to the termination connector (nosecone) on a100 Series FBM's Termination Cable Assembly.

Available Termination Assembly Adapter (TAA) Modules

TAA Module	Used to Upgrade Original 100 Series FBM	Upgrade 200 Series FBM	TAA Description	200 Series FBM(s) Described in PSS
TAA01	FBM01	FBM201, or FBM214b	*TAA01 Specifications, page 11*	PSS 31H-2Z1 PSS 31H-2Z14
	FBM43	FBM243	*TAA01 Specifications, page 11*	PSS 31H-2Z43
TAA02	FBM02	FBM202	*TAA02 Specifications, page 12*	PSS 31H-2Z2
	FBM36			
TAA03A	FBM03A	FBM203	*TAA03A Specifications, page 13*	PSS 31H-2Z3
	FBM33A	FBM203c	*TAA03A Specifications, page 13*	PSS 31H-2Z3
TAA03B	FBM03B	FBM203d	*TAA03B Specifications, page 14*	PSS 31H-2Z3
	FBM33B	FBM203d	*TAA03B Specifications, page 14*	PSS 31H-2Z3
TAA04	FBM04	FBM204, or FBM244	*TAA04 Specifications, page 15*	PSS 31H-2Z4 PSS 31H-2Z44
TAA05	FBM05	FBM208b	*TAA05 Specifications, page 16*	PSS 31H-2Z8
TAA06	FBM06	FBM206b	*TAA06 Specifications, page 17*	PSS 31H-2Z6

Available Termination Assembly Adapter (TAA) Modules (Continued)

TAA Module	Used to Upgrade Original 100 Series FBM	Upgrade 200 Series FBM	TAA Description	200 Series FBM(s) Described in PSS
TAA07	FBM07A/07B (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM217	*TAA07 Specifications, page 18*	PSS 31H-2Z17
	FBM07A/07B (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM219	*TAA07 Specifications, page 18*	PSS 31H-2Z19
TAA08	FBM08 (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM217	*TAA08 Specifications, page 22*	PSS 31H-2Z17
	FBM08 (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expander)	FBM219	*TAA08 Specifications, page 22*	PSS 31H-2Z19
TAA09	FBM09A/09B/09C/09D (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM238	*TAA09 Specifications, page 25*	PSS 31H-2Z38
	FBM09A/09B/09C/09D (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM239	*TAA09 Specifications, page 25*	PSS 31H-2Z39
TAA10	FBM10 (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM238	*TAA10 Specifications, page 31*	PSS 31H-2Z38
	FBM10 (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM239	*TAA10 Specifications, page 31*	PSS 31H-2Z39

Available Termination Assembly Adapter (TAA) Modules (Continued)

TAA Module	Used to Upgrade Original 100 Series FBM	Upgrade 200 Series FBM	TAA Description	200 Series FBM(s) Described in PSS
TAA11	FBM11 (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM238	*TAA11 Specifications, page 35*	PSS 31H-2Z38
	FBM11 (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM239	*TAA11 Specifications, page 35*	PSS 31H-2Z39
TAA12	FBM12A (Expansion)/ FBM12B (Expansion)	FBM217, or FBM238	*TAA12 Specifications, page 39*	PSS 31H-2Z17 PSS 31H-2Z38
TAA13	FBM13 (Expansion)	FBM217, or FBM238	*TAA13 Specifications, page 40*	PSS 31H-2Z17 PSS 31H-2Z38
TAA14	FBM14A (Expansion)/ FBM14B (Expansion)/ FBM14C (Expansion)/ FBM14D (Expansion)	FBM219, or FBM239	*TAA14 Specifications, page 41*	PSS 31H-2Z19 PSS 31H-2Z39
TAA15	FBM15 (Expansion)	FBM219, or FBM239	*TAA15 Specifications, page 42*	PSS 31H-2Z19 PSS 31H-2Z39
TAA16	FBM16 (Expansion)	FBM219, or FBM239	*TAA16 Specifications, page 43*	PSS 31H-2Z19 PSS 31H-2Z39
TAA17	FBM17A/FBM17B/ FBM17C/FBM17D	FBM227	*TAA17 Specifications, page 44*	PSS 31H-2Z27
TAA18	FBM18	FBM243	*TAA18 Specifications, page 51*	PSS 31H-2Z43
TAA20	FBM20 (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM217	*TAA20 Specifications, page 52*	PSS 31H-2Z17
	FBM20 (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM219	*TAA20 Specifications, page 52*	PSS 31H-2Z19

Available Termination Assembly Adapter (TAA) Modules (Continued)

TAA Module	Used to Upgrade Original 100 Series FBM	Upgrade 200 Series FBM	TAA Description	200 Series FBM(s) Described in PSS
TAA21	FBM21 (Expansion)	FBM217, or FBM238	*TAA21 Specifications, page 55*	PSS 31H-2Z17 PSS 31H-2Z38
TAA24	FBM24A/24B/24C (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM217	*TAA24 Specifications, page 56*	PSS 31H-2Z17
	FBM24A/24B/24C (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM219	*TAA24 Specifications, page 56*	PSS 31H-2Z19
TAA25	FBM25A (Expansion)/ FBM25B (Expansion)/ FBM25C (Expansion)	FBM217, or FBM238	*TAA25 Specifications, page 59*	PSS 31H-2Z17 PSS 31H-2Z38
TAA26	FBM26A/26B/26C (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM238	*TAA26 Specifications, page 60*	PSS 31H-2Z38
	FBM26A/26B/26C (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM239	*TAA26 Specifications, page 60*	PSS 31H-2Z39
TAA27	FBM27A (Expansion)/ FBM27B (Expansion)/ FBM27C (Expansion)	FBM219, or FBM239	*TAA27 Specifications, page 65*	PSS 31H-2Z19 PSS 31H-2Z39
TAA37	FBM37	FBM215 (HART), or FBM237	*TAA37 Specifications, page 66*	PSS 31H-2Z15 PSS 31H-2Z37
TAA39	FBM39	FBM243b	*TAA39 Specifications, page 67*	PSS 31H-2Z43

Available Termination Assembly Adapter (TAA) Modules (Continued)

TAA Module	Used to Upgrade Original 100 Series FBM	Upgrade 200 Series FBM	TAA Description	200 Series FBM(s) Described in PSS
TAA41	FBM41A/41C (Main) with FBM12A/B, FBM13, FBM21 or FBM25A/B/C (Expansion)	FBM238	*TAA41 Specifications, page 68*	PSS 31H-2Z38
	FBM41A/41C (Main) with FBM14A/B/C/D, FBM15, FBM16, FBM27A/B/C or FBM42A/C (Expansion)	FBM239	*TAA41 Specifications, page 68*	PSS 31H-2Z39
TAA42	FBM42A (Expansion)/ FBM42C (Expansion)	FBM219, or FBM239	*TAA42 Specifications, page 72*	PSS 31H-2Z19 PSS 31H-2Z39
TAA44	FBM44	FBM243b	*TAA44 Specifications, page 73*	PSS 31H-2Z43
TAA46	FBM46	FBM246b	*TAA46 Specifications, page 74*	PSS 31H-2Z46

TAA01 Specifications

The TAA01 module supports communications for the following 100 Series FBMs:

- FBM01 - replaced by FBM201 or FBM214b
- FBM43 - replaced by FBM243

Functional Specifications

I/O Connection	The TAA01 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RA

TAA02 Specifications

The TAA02 module supports communications for FBM02 and FBM36, which have been replaced by FBM202.

Functional Specifications

I/O Connection	The TAA02 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RB

TAA03A Specifications

The TAA03A module supports communications for the following 100 Series FBMs:

- FBM03A - replaced by FBM203
- FBM33A - replaced by FBM203c

Functional Specifications

I/O Connection	The TAA03A provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RC

TAA03B Specifications

The TAA03B module supports communications for the FBM03B or FBM33B, when these FBMs are replaced by FBM203d.

Functional Specifications

I/O Connection	The TAA03B provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0924GX

TAA04 Specifications

The TAA04 module supports communications for the FBM04, which is replaced by FBM204, or for HART communications, FBM244.

Functional Specifications

I/O Connection	The TAA04 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RD

TAA05 Specifications

The TAA05 module supports communications for the FBM05, which is replaced with the FBM208b.

Functional Specifications

I/O Connection	The TAA05 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RE

TAA06 Specifications

The TAA06 module supports communications for the FBM06, which is replaced by the FBM206b.

Functional Specifications

I/O Connection	The TAA06 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RF

TAA07 Specifications

The TAA07 Main module functions either as a 16-channel dc voltage monitor as FBM07A (replaced by FBM217) or as a 16-channel contact sensor as FBM07B (replaced by FBM219). It is capable of supporting a single expansion module to support additional features. Typically, the TAA07 is used with the TAA12 Expansion module, which also functions as a contact sensor or dc voltage monitor. TAA12 is discussed in *TAA12 Specifications, page 39*. The TAA07 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA07 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus. The TAA07 and TAA12 inputs are isolated in pairs.

The TAA07 independently connects to the Fieldbus.

The TAA07's associated FBM217 or FBM219 is capable of executing any one of the application programs identified in the following schedule:

- When the TAA07 is used alone or in conjunction with an expansion module that interfaces field input signals only, the FBM217 executes either either the Digital I/O, Sequence of Events Monitor, Pulse Count Inputs, or Ladder Logic program. The configurable option for each program is Input Filter Time.
- When the TAA07 is used in conjunction with an expansion module that interfaces field input and output signals, the FBM219 executes either the Digital I/O or Ladder Logic program. The configurable options for each program are Input Filter Time, Fail Safe Configuration, Fail Safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

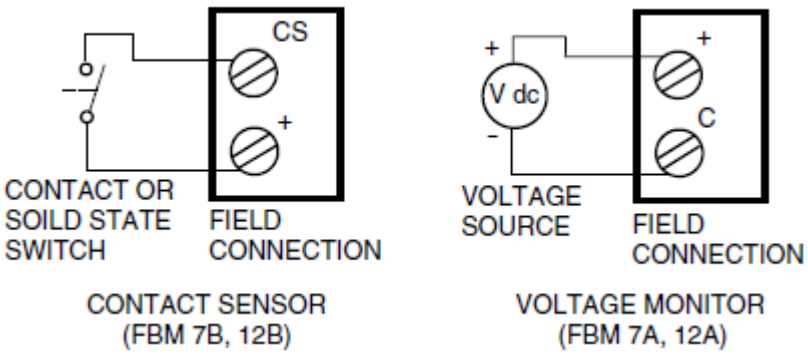
Functional Specifications

Input	Capacity • 16 independent channels
Filter Time	Configurable (4, 8, 16, or 32 ms)
Isolation	Input to Ground • The module will withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground. Input Pair to Input Pair • The module will withstand, without damage, a potential of 1250 V ac applied for one minute between pairs of channels. Channels are paired and share a common return; isolation is between pairs of channels.

	Channel Inputs • Inputs are isolated in pairs (e.g., channels 1 and 2 are isolated from channels 3 and 4). When inputs are used with hazardous voltages (greater than 60 V dc), both channels of a pair must be used with hazardous voltages. Hazardous and non-hazardous voltages must not be mixed within a channel pair. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that the channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, violates electrical safety codes and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 7 W (maximum) • Main Module Plus Expansion Module ◦ 12 W (maximum)
Heat Dissipation	Main Module Only • 12 W (maximum) Main Module Plus Expansion Module • 22 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 16 LEDs (1 per channel)
Field Termination Connections (1)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)

Contact Sensor Function (see *Figure 3*)	Input • Range (each channel) ◦ Contact open (off) or closed (on) • Open-Circuit Voltage ◦ 24 V dc ±10% • Short-Circuit Current ◦ 2.5 mA (maximum) • ON-State Resistance ◦ 1 k Ω (maximum) • OFF-State Resistance ◦ 100 k Ω (minimum)
Voltage Monitor Function (see *Figure 3*)	Input (2) • ON-State Voltage ◦ 15 to 130 V dc • OFF-State Voltage ◦ 0 to 5 V dc • Current ◦ 2.2 mA (typical) at 5 to 130 V dc Source Resistance Limits • ON-State ◦ 1 k Ω (maximum) at 15 V dc • OFF-State ◦ 100 k Ω (minimum) at 130 V dc
(1) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding Local Enclosures, Field Enclosure 4, and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for Local Enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only. (2) For CSA and FM rated versions with CM series part numbers, input voltage must be less than 60 V dc.	

Input Configurations (TAA07)



Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RG

TAA08 Specifications

The TAA08 Main module functions as a 16-channel 120 V ac monitor as FBM08 (replaced by FBM217 or FBM219). It is capable of supporting a single expansion module to support additional features. Typically, the TAA08 is used with the TAA13 Expansion module, which also functions as a 120 V ac monitor. TAA13 is discussed in *TAA13 Specifications, page 40*. The TAA08 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA08 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus (signal conditioning and channel isolation). It independently connects to the Fieldbus.

The TAA08's associated FBM217 or FBM219 is capable of executing any one of the application programs identified in the following schedule:

- When the TAA08 is used alone or in conjunction with an expansion module that interfaces field input signals only, the FBM217 executes either the Digital I/O, Sequence of Events Monitor, Pulse Count Inputs, or Ladder Logic program. The configurable option for each program is Input Filter Time.
- When the TAA08 is used in conjunction with an expansion module that interfaces field input and output signals, the FBM219 executes either the Digital I/O or Ladder Logic program. The configurable options for each program are Input Filter Time, Fail Safe Configuration, Fail Safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Functional Specifications

Input	Capacity • 16 independent channels ON-STATE VOLTAGE (3) • 79 to 132 V ac OFF-STATE VOLTAGE (3) • 0 to 20 V ac CURRENT • 2.2 mA (typical) at 20 to 132 V ac
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 79 V ac OFF-State • 100 kΩ (minimum) at 132 V ac

Isolation	The module will withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that the channels are intended for permanent connection to voltages of this level. Connection of these channels to voltages higher than those stated in the “Input” specification will violate electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 5 W (maximum) • Main Module Plus Expansion Module ◦ 7 W (maximum)
Filter Time	Configurable (4, 8, 16, or 32 ms)
Heat Dissipation	Main Module Only • 11 W (maximum) Main Module Plus Expansion Module • 18 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 16 LEDs (1 per channel)
Field Termination Connections (4)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)

(3) OFF-ON and ON-OFF transitions occur between 20 and 79 V ac.

(4) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding Local Enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for Local Enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.

Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RH

TAA09 Specifications

The TAA09 Main module provides the following input and output functions for digital field signals.

INPUT FUNCTIONS - 8 channels used collectively for either:

- Contact sensing only (as FBM09C/09D)
- dc voltage monitoring only (as FBM09A/09B)

OUTPUT FUNCTIONS - 8 channels used collectively for either:

- dc output switching with an external source only, e.g., to control powering of various external loads (as FBM09A/09C)
- dc output switching with an internal source only, e.g., to power external solid state relays or other similar devices (as FBM09B/09D)

It is capable of supporting a single expansion module to support additional features. Typically, the TAA09 is used with the TAA14 Expansion module, which has the same functionality as the TAA09. TAA14 is discussed in *TAA14 Specifications, page 41*. The TAA09 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA09 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus. It independently connects to the Fieldbus. Its inputs and outputs are isolated in pairs.

When the TAA09 is used alone or in conjunction with any expansion module, its associated FBM238 or FBM239 executes either the digital I/O or ladder logic application program. The configurable options for each program are Input Filter Time, Fail-Safe Configuration, Fail-Safe Fallback, and Sustained or Momentary Outputs.

If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable. Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

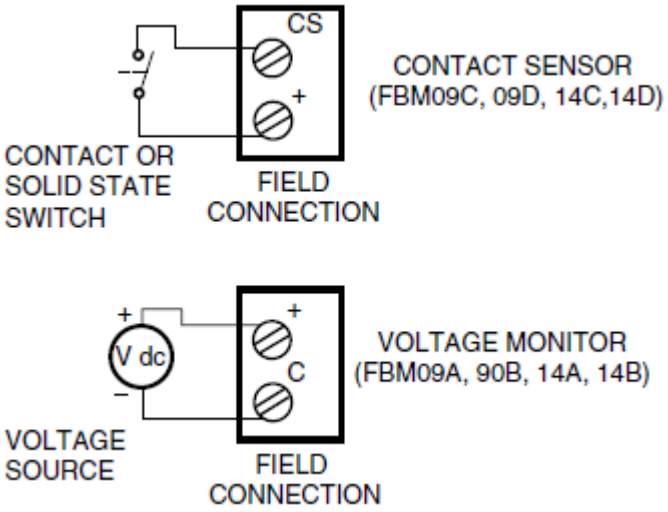
Functional Specifications

Isolation	The module will withstand, without damage, a potential of 1250 V ac applied for one minute between the following points. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Connection of channels to voltages in excess of those specified under the “Input Functions” and “Output Functions” sections of this specification violates electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.** Input to Ground • 1250 V ac Output to Ground • 1250 V ac Input to Output • 1250 V ac Input Pair to Input Pair • 1250 V ac (between adjacent pairs of channels; each pair of channels shares a common return) Output Pair to Output Pair • 1250 V ac (between adjacent pairs of channels; each pair of channels shares a common return) Channel Inputs • Inputs are isolated in pairs (e.g., channels 1 and 2 are isolated from channels 3 and 4). When inputs are used with hazardous voltages (greater than 60 V dc), both channels of a pair must be used with hazardous voltages. Hazardous and nonhazardous voltages must not be mixed within a channel pair.
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 8 W (maximum) • Main Module Plus Expansion Module ◦ 11 W (maximum)
Heat Dissipation	Main Module Only • 11 W (maximum) Main Module Plus Expansion Module • 18 W (maximum)

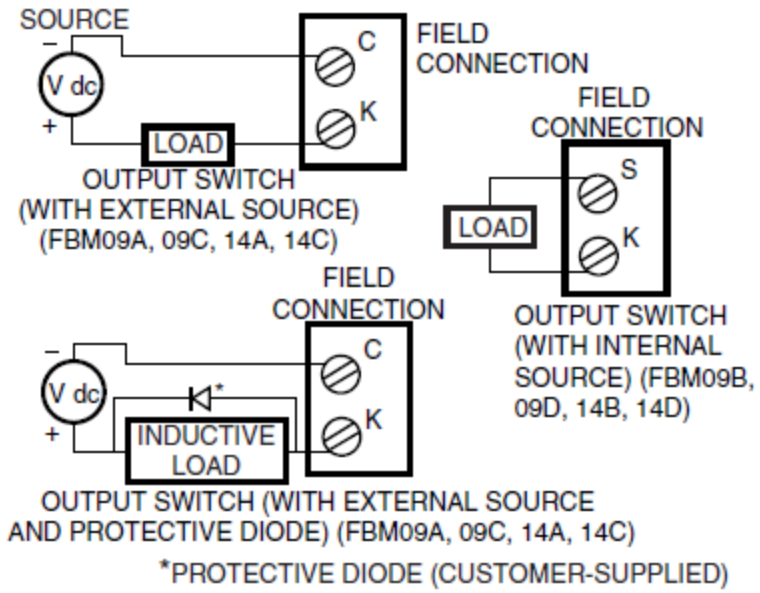
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 8 LEDs (1 per channel) Output Channel Status • 8 LEDs (1 per channel)
Field Termination Connections(5)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 8 independent channels Filter Time • Configurable (4, 8, 16, or 32 ms)
Contact Sensor (see *Figure 4*)	Range (each channel) • Contact open (off) or closed (on) Open-Circuit Voltage • 24 V dc ±10% Short-Circuit Current • 2.5 mA (maximum) ON-State Resistance • 1 k Ω (maximum) OFF-State Resistance • 100 k Ω (minimum)
Voltage Monitor(6) (see *Figure 4*)	On-State Voltage • 15 to 130 V dc Off-State Voltage • 0 to 5 V dc Current • 2.2 mA (typical) at 5 to 130 V dc
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 79 V ac OFF-State • 100 kΩ (minimum) at 132 V ac

Output Functions	Capacity • 8 independent channels
Output Switch (with external source) (see *Figure 5*)	Applied Voltage • 60 V dc (maximum) Load Current • 0.5 A (maximum) Shorted-Load Duration • Indefinite (duty cycle current limit on overload) On-State Voltage Drop • 0.5 V (typical) at 0.5 A On-State Current Limit • 0.75 A (typical) Off-State Leakage Current • < 100 µA (typical) • 1.0 mA (maximum) Inductive Loads • Require a protective diode connected across the load (see Figure 5 diagram with protective diode). Diode must be capable of conducting the maximum expected load current and have a voltage rating greater than 1.3 times the supply voltage.
Output Switch (with internal source) (see *Figure 5*)	Output Voltage (no load) • 11Vdc ±2 Vdc Source Resistance • 660 Ω (nominal) Shorted-Output (On-State) Duration • Indefinite Off-State Leakage Current • < 100 µA (typical) • 0.5 mA (maximum)
(5) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding the Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for the Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only. (6) For CSA and FM rated versions with CM series part numbers, input voltage must be less than 60 V dc.	

Input Configurations (TAA09)



Output Configurations (TAA09)



Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RJ

TAA10 Specifications

The TAA10 Main module provides 8 input channels for 120 V ac voltage monitoring and 8 output channels for 120 V ac output switching with current overload protection. It is capable of supporting a single expansion module to support additional features. Typically, the TAA10 is used with the TAA15 Expansion module, which also shares its functionality. TAA15 is discussed in *TAA15 Specifications, page 42*. The TAA10 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA10 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus.

The TAA10's associated FBM238 or FBM239 executes either the Digital I/O or Ladder Logic application program. The configurable options for each program are Input Filter Time, Fail Safe Configuration, Fail Safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable. Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Automatic Restart from Overload

- If an overload is sensed (either inrush or steady state current exceeded), the TAA circuitry will open for 64.5 line cycles and then retry again. This operation will continue indefinitely for outputs only. Overloads exceeding 50 A will cause damage to the modules.

Functional Specifications

Isolation	The module will withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of this level. Connection of these channels to voltages higher than those stated in the "Voltage Monitor" and "Output Switch" sections of this module's specification will violate electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • 11 W (maximum)
Heat Dissipation	25 W (maximum)

Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 8 LEDs on TCA (1 per channel) Output Channel Status • 8 LEDs on TCA (1 per channel)
Field Termination Connections(7)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 8 independent channels Filter Time • Configurable (4, 8, 16, or 32 ms)
Voltage Monitor (Input Channels)	On-State Voltage(8) • 79 to 132 V ac Off-State Voltage(8) • 0 to 20 V ac Current • 2.2 mA (typical) at 20 to 132 V ac
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 79 V ac OFF-State • 100 kΩ (minimum) at 132 V ac
Output Functions	Capacity • 8 independent channels

Output Switch (Output Channels)	Voltage Range • 79 to 132 V ac Nominal Voltage • 120 V ac, 50/60 Hz Current • 2 A (maximum) per channel; 12 A (maximum) per module Off-State Leakage • 3 mA (maximum)) Inrush Current • Overload sensing provided ◦ 24 A peak 10 ms (1/2 cycle) ◦ 12 A rms 20 ms (1 cycle) ◦ 3.5 A rms for 1 s • Short circuits that result in greater than 50 A peak current will result in damage to the module. If a 50 A current is possible, external fusing is recommended.(9) Holding Current • No min required On-State Voltage Drop • 0.4 V @ 1 A Automatic Restart From Overload • Approximately 1 second after overload sensed.

(7) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding Local Enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for Local Enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.

(8) OFF-ON and ON-OFF transitions occur between 20 and 79 V ac.

(9) Fuse rating must be appropriate for the inrush current characteristics of this TAA.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RK

TAA11 Specifications

The TAA11 Main module provides eight input channels for 240 V ac voltage monitoring and eight output channels for 240 V ac output switching with current overload protection (same as FBM11). It is capable of supporting a single expansion module to support additional features. Typically, the TAA11 is used with the TAA16 Expansion module, which also has the same functionality as the TAA11. The TAA16 is discussed in *TAA16 Specifications, page 43*. The TAA11 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA11 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus, including signal conditioning and channel isolation. It independently connects to the Fieldbus.

When the TAA11 is used alone or in conjunction with any expansion module, its associated FBM238 or FBM239 executes either the Digital I/O or Ladder Logic application program. The configurable options for each program are Input Filter Time, Fail-safe Configuration, Fail-safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable. Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Automatic Restart from Overload

- If an overload is sensed (either inrush or steady state current exceeded), the TAA circuitry opens for 64.5 line cycles and then retries again. This operation continues indefinitely for outputs only. Overloads exceeding 25 A causes damage to the module.

Functional Specifications

Isolation(10)	The module can withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground, or 600 V ac between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Connection of channels to voltages in excess of those specified under the “Input Functions” and “Output Functions” sections of this specification violates electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 7 W (maximum) • Main Module Plus Expansion Module ◦ 11 W (maximum)

Heat Dissipation	Main Module Only • 12 W (maximum) Main Module Plus Expansion Module • 20 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 8 LEDs (1 per channel) Output Channel Status • 8 LEDs (1 per channel)
Field Termination Connections(11)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 8 independent channels Filter Time • Configurable (4, 8, 16, or 32 ms)
Voltage Monitor	On-State Voltage • 164 to 264 V ac(12) Off-State Voltage • 0 to 40 V ac(12) Current • 2.2 mA (typical) at 40 to 264 V ac
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 164 V ac OFF-State • 100 kΩ (minimum) at 264 V ac
Output Functions	Capacity • 8 independent channels

Output Switch	Voltage Range • 164 to 264 V ac Nominal Voltage • 240 V ac, 50/60 Hz Current • 1 A (maximum) per channel; • 7 A (maximum) per module Off-State Leakage Current • 2.5 mA (maximum) Inrush Current • Overload sensing provided ◦ 12 A peak 10 ms (1/2 cycle) ◦ 6 A rms 20 ms (1 cycle) ◦ 1.7Arms for 1s • Short circuits that result in greater than 25 A peak current cause damage to the module. If a 25 A current is possible, external fusing is recommended.(13) Holding Current • No min required On-State Voltage Drop • 0.6 V @ 0.5 A Approximate Restart From Overload • Approximately 1 second after overload sensed.

(10) To meet CSA Ordinary Location personnel safety standards, the channel-to-channel voltage must not exceed 300 V rms. This means that the I/O channels must be wired to the same branch voltage.

(11) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.

(12) OFF-ON and ON-OFF transitions occur between 40 and 164 V ac.

(13) Fuse rating must be appropriate for the inrush current characteristics of this FBM.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RL

TAA12 Specifications

The TAA12 Expansion module, when used with a Main module listed in Table 1, functions as a 16-channel dc voltage monitor (as FBM12A) or as a 16-channel contact sensor (as FBM12B). It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus. Its inputs are isolated in pairs.

Typically, it is used in conjunction with the TAA07 Main module, discussed in *TAA07 Specifications, page 18*.

The TAA12 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA07 Specifications, page 18* for the functional specifications for the TAA12 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RM

TAA13 Specifications

The TAA13 Expansion module, when used with a Main module listed in Table 1, functions as a 16-channel 120 V ac monitor (as FBM13). It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus (signal conditioning and channel isolation).

Typically, it is used in conjunction with the TAA08 Main module, discussed in *TAA08 Specifications, page 22*.

The TAA13 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA08 Specifications, page 22* for the functional specifications for the TAA13 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RN

TAA14 Specifications

The TAA14 Expansion module, when used with a Main module listed in *Table 1, page 6*, provides the following input and output functions for digital field signals.

INPUT FUNCTIONS - 8 channels used collectively for either:

- Contact sensing only (as FBM14C/14D)
- dc voltage monitoring only (as FBM14A/14B)

OUTPUT FUNCTIONS - 8 channels used collectively for either:

- dc output switching with an external source only, e.g., to control powering of various external loads (as FBM14A/14C)
- dc output switching with an internal source only, e.g., to power external solid state relays or other similar devices (as FBM14B/14D)

Typically, it is used in conjunction with the TAA09 Main module, discussed in *TAA09 Specifications, page 25*.

The TAA14 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus. Its inputs and outputs are isolated in pairs.

It connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA09 Specifications, page 25* for the functional specifications for the TAA14 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RP

TAA15 Specifications

The TAA15 Expansion module, when used with a Main module listed in *Table 1, page 6*, provides 8 input channels for 120 V ac voltage monitoring and 8 output channels for 120 V ac output switching with current overload protection. It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus.

Typically, it is used in conjunction with the TAA10 Main module, discussed in *TAA10 Specifications, page 31*.

The TAA15 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA10 Specifications, page 31* for the functional specifications for the TAA15 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RQ

TAA16 Specifications

The TAA16 Expansion module, when used with a Main module listed in *Table 1, page 6*, provides eight input channels for 240 V ac voltage monitoring and eight output channels for 240 V ac output switching with current overload protection (same as FBM16). It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus, including signal conditioning and channel isolation.

Typically, it is used in conjunction with the TAA11 Main module, discussed in *TAA11 Specifications, page 35*.

The TAA16 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA11 Specifications, page 35*for the functional specifications for the TAA16 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RR

TAA17 Specifications

The TAA17 module provides the following input and output functions for analog and digital field signals.

For analog signals:

- INPUT FUNCTIONS – four channels used collectively for either:
  - dc voltage measuring only (as FBM17A/B/C/D)
  - Slidewire (position) sensing only (as FBM17A/B/C/D)
- OUTPUT FUNCTIONS – two channels used for driving positioners, controllers or remote indicators.

For digital signals:

- INPUT FUNCTIONS – four channels used collectively for either:
  - Contact sensing only (as FBM17C/17D)
  - dc voltage monitoring only (as FBM17A/17B)
- OUTPUT FUNCTIONS – four channels used collectively for either:
  - dc output switching with an external source only, e.g., to control powering of various external loads (as FBM17A/17C)
  - dc output switching with an internal source only, e.g., to power external solid state relays or other similar devices (as FBM17B/17D)

The TAA17 performs the signal conversion required to interface these analog and digital (i.e. on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus, including signal conditioning and channel isolation. In addition, its associated FBM227 executes the Analog and Digital I/O, DPIDA, or MDACT application programs.

The configurable options for each analog program are Input Resolution, Fail-safe Configuration (Hold/Fallback), and Output Fail-safe Fallback Data. The configurable options for each digital program are Input Filter Time, Fail-safe Configuration, Fail-safe Fall Back, and Sustained or Momentary Outputs.

If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Functional Specifications

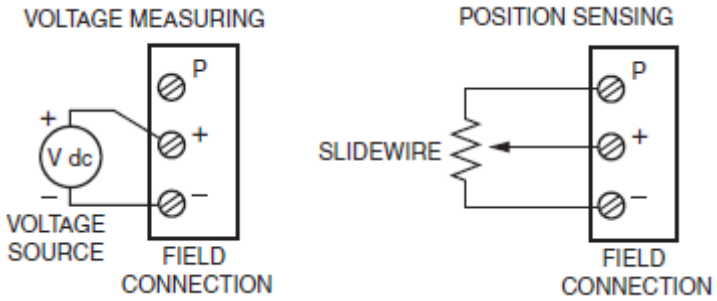
Isolation	The module withstands, without damage, a potential of 600 V ac on the analog channels or 1250 V ac on the digital channels (see notes below) applied for one minute between the following points. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Connection of channels to voltages in excess of those specified under the “Input Functions” and “Output Functions” sections of this specification violates electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.** **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** Digital inputs are isolated in pairs (e.g., channels 1 and 2 are isolated from channels 3 and 4). When inputs are used with hazardous voltages (greater than 60 V dc), both channels of a pair must be used with hazardous voltages. Hazardous and nonhazardous voltages must not be mixed within a channel pair. **Failure to follow these instructions will result in death or serious injury.** Analog Input to Ground • 600 V ac Analog Output to Ground • 600 V ac Analog Input to Output • 600 V ac Digital Input Pair to Input Pair(14) • 1250 V ac Digital Output Pair to Output Pair(14) • 1250 V ac Digital Input Pair to Output Pair(14) • 1250 V ac
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • 11 W (maximum)
Heat Dissipation	9 W (maximum)

Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Digital Input Channel Status • 4 LEDs (1 per channel) Digital Output Channel Status • 4 LEDs (1 per channel)
Field Termination Connections(15)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions (Analog)	Capacity • 4 independent channels Configurable Specifications • See Table 2 below Voltage Measuring • See *Figure 6, page 48* Range (each channel) • -0.2 to 10.2 V dc Rated Mean Accuracy (each channel) • ±0.025% of span Slidewire (Position) Sensing • See *Figure 6, page 48* Excitation Reference Voltage • 10 V dc ±2% Excitation Reference Current • 10 mA (maximum) Slidewire Resistance • 1 k Ω to 100 k Ω (nominal)
Input Functions (Digital)	Capacity • 4 independent channels Filter Time • Configurable (4, 8, 16, or 32 ms)

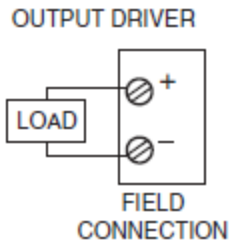
Contact Sensor (see *Figure 8, page 49*)	Range (each channel) • Contact open (off) or closed (on) Open-Circuit Voltage • 24 V dc ±10% Short-Circuit Current • 2.5 mA (maximum) ON-State Resistance • 1 k Ω (maximum) OFF-State Resistance • 100 k Ω (minimum)
Voltage Monitor (see *Figure 8, page 49*)	On-State Voltage • 15 to 130 V dc Off-State Voltage • 0 to 5 V dc Current • 2.2 mA (typical) at 5 to 130 V dc
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 15 V ac OFF-State • 100 kΩ (minimum) at 130 V ac
Output Functions (Analog)	Capacity • 2 independent channels Range (each channel) • -0.2 to 10.2 V dc Current (each channel) • 2 mA (maximum) Rated Mean Accuracy (each channel) • ±0.05% of span Settling Time • 150 ms maximum (to 1% of final value for 10 to 90% step change) Linearity Error • ±0.025% of span Resolution • 12 bits
Output Functions (Digital)	Capacity • 4 independent channels

Output Switch (with external source) (see *Figure 9, page 49*)	Applied Voltage • 60 V dc (maximum) Load Current • 0.5 A (maximum) Shorted-Load Duration • Indefinite (duty cycle current limit on overload) On-State Current Limit • 0.75 A (typical) Off-State Leakage Current • < 100 µA (typical) • 1.0 mA (maximum) Inductive Loads • Require a protective diode connected across the load (see *Figure 5, page 29* diagram with protective diode). Diode must be capable of conducting the maximum expected load current and have a voltage rating greater than 1.3 times the supply voltage.
Output Switch (with internal source) (see *Figure 9, page 49*)	Output Voltage (no load) • 11Vdc ±2 Vdc Source Resistance • 660 Ω (nominal) Shorted-Output (On-State) Duration • Indefinite Off-State Leakage Current • < 100 µA (typical) • 0.5 mA (maximum)
(14) Within the digital channel pairs, each of the two channels shares a common power supply and return. (15) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.	

Analog Input Configurations (TAA17)



Analog Output Configuration (TAA17)



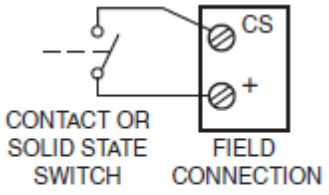
Configurable Specifications for Analog Input Channels

Conversion Time (Seconds)	Settling Time[a] (Seconds)	Linearity Error[b] (% of Range)	Resolution Bits
0.1	0.3	0.013	12
0.2	0.5	0.008	13
0.5	1.1	0.005	14
1.0	2.1	0.005	15

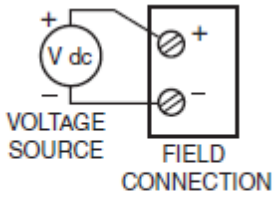
(a) Output value settles within a 1% band of steady state for a 10 to 90% input step change.

(b) Monotonic (signal used for Fieldbus communications either increases or remains the same for increasing analog input signals).

Digital Input Configurations (TAA17)

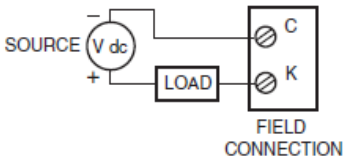


CONTACT SENSOR
(FBM 17C, 17D)

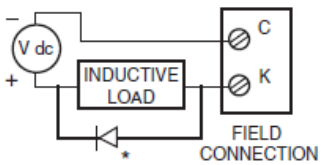


VOLTAGE MONITOR
(FBM 17A, 17B)

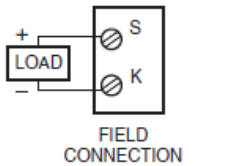
Digital Output Configurations (TAA17)



OUTPUT SWITCH
(WITH EXTERNAL SOURCE)
(FBM 17A, 17C)



OUTPUT SWITCH
(WITH EXTERNAL SOURCE
AND PROTECTIVE DIODE)
(FBM 17A, 17C)



OUTPUT SWITCH
(WITH INTERNAL SOURCE)
(FBM 17B, 17D)

Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RS

TAA18 Specifications

The TAA18 module supports communications for the FBM18, which is replaced by FBM243.

Functional Specifications

I/O Connection	The TAA18 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0924QA

TAA20 Specifications

The TAA20 Main module functions as a 16-channel 240 V ac voltage monitor (as FBM20). It is capable of supporting a single expansion module to support additional features. Typically, the TAA20 is used with the TAA21 Expansion module, which also functions as an ac voltage monitor. TAA21 is discussed in *TAA21 Specifications, page 55*. The TAA20 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA20 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus, including signal conditioning and channel isolation. It independently connects to the Fieldbus.

The TAA20's associated FBM217 or FBM219 is capable of executing any one of the application programs identified in the following schedule:

- When the TAA20 is used alone or in conjunction with an expansion module that interfaces field input signals only, The FBM217 executes the Digital I/O, Sequence of Events Monitor, Pulse Count Inputs, or Ladder Logic program. The configurable option for each program is input filter time.
- When the TAA20 is used in conjunction with an expansion module that interfaces field input and output signals, the FBM219 executes either the Digital I/O or Ladder Logic program. The configurable options for each program are Input Filter Time, Fail-safe Configuration, Fail-safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Functional Specifications

Isolation(16)	The module can withstand, without damage, a potential of 1500 V ac applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, will violate electrical safety codes and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 5 W (maximum) • Main Module Plus Expansion Module ◦ 7 W (maximum)

Heat Dissipation	Main Module Only • 12 W (maximum) Main Module Plus Expansion Module • 20 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 16 LEDs (1 per channel)
Field Termination Connections(17)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 16 independent channels Filter Time • Configurable (4, 8, 16, or 32 ms) On-State Voltage(18) • 164 to 264 V ac Off-State Voltage(18) • 0 to 40 V ac Current • 2.2 mA (typical) at 40 to 264 V ac
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 164 V ac OFF-State • 100 kΩ (minimum) at 264 V ac

(16) To meet CSA Ordinary Location personnel safety standards, the channel-to-channel voltage must not exceed 300 V rms. This means that the I/O channels must be wired to the same branch voltage.

(17) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding local enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for local enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.

(18) OFF-ON and ON-OFF transitions occur between 40 and 164 V ac.

Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RU

TAA21 Specifications

The TAA21 Expansion module, when used with a Main module listed in *Table 1, page 6*, functions as a 16-channel 240 V ac voltage monitor (as FBM21). It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input signals from the field sensors to the redundant Fieldbus, including signal conditioning and channel isolation.

Typically, it is used in conjunction with the TAA20 Main module, discussed in *TAA20 Specifications, page 52*.

The TAA21 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA20 Specifications, page 52* for the functional specifications for the TAA21 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RV

TAA24 Specifications

The TAA24 Main module functions as a 15- or 16-channel contact sensor with (as FBM24C) or without a power supply (as FBM24B), or as a 16-channel dc voltage monitor (as FBM24A). It is capable of supporting a single expansion module to support additional features. Typically, the TAA24 is used with the TAA25 Expansion module, which has the same functionality as the TAA24. The TAA25 is discussed in *TAA25 Specifications, page 59*. The TAA24 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA24 performs the signal conversion required to interface digital input signals from the field sensors to the redundant Fieldbus, including signal conditioning. It independently connects to the Fieldbus.

The TAA24's associated FBM217 or FBM219 is capable of executing any one of the application programs identified in the following schedule:

- When the TAA24 is used alone or in conjunction with an expansion module that interfaces field input signals only, the FBM217 executes the Digital I/O, Sequence of Events Monitor, Pulse Count Inputs, or Ladder Logic program. The configurable option for each program is Input Filter Time.
- When the TAA24 is used with an expansion module that interfaces field input and output signals, the FBM219 executes either the Digital I/O or Ladder Logic program. Configurable options for each program are Input Filter Time, Fail-safe Configuration, Fail-safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

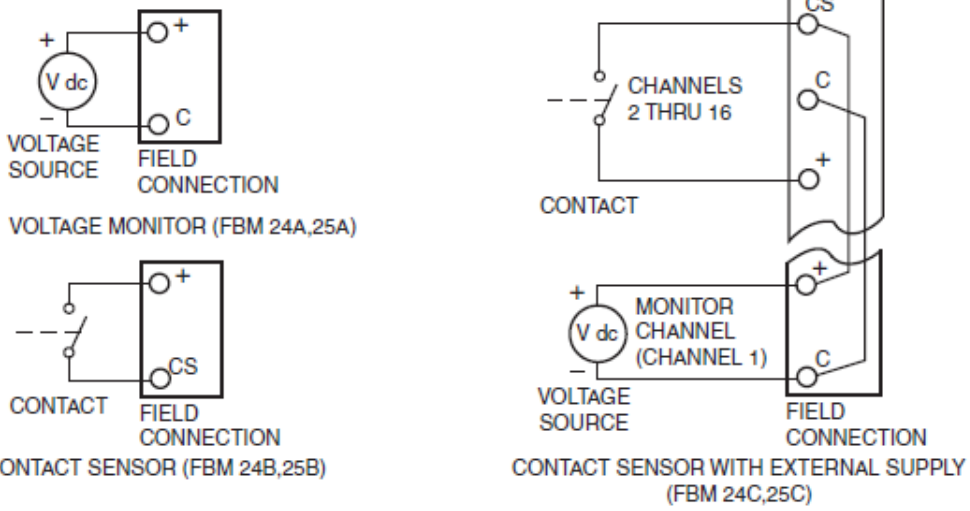
Functional Specifications

Isolation(19)	The module can withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground. FBM24A and FBM25A will withstand, without damage, a potential of 1250 V ac applied for one minute between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, will violate electrical safety codes and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 8 W (maximum) • Main Module Plus Expansion Module ◦ 5 W (maximum)
Heat Dissipation	Main Module

	• 15 W (maximum) Expansion Module • 12 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 16 LEDs (1 per channel)
Field Termination Connections[20]	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 16 independent channels (15 for contact sensor with external supply) Filter Time • Configurable (4, 8, 16, or 32 ms)
Contact Sensor (see *Figure 10, page 58*)	Open-Circuit Voltage • 48 V dc nominal Short-Circuit Current • 2.5 mA ±20% ON-State Resistance • 1 k Ω (maximum) OFF-State Resistance • 100 k Ω (minimum) External Contact Supply Voltage Range • 48 V dc to 150 V dc
Voltage Monitor (see *Figure 10, page 58*)	On-State Voltage • 33 to 150 V dc Off-State Voltage • 0 to 10 V dc Current • 2.5 mA (typical) at 10 to 150 V dc

Source Resistance Limits	ON-State • 1 kΩ (maximum) at 33 V ac OFF-State • 100 kΩ (minimum) at 150 V ac
(19) TAA24 inputs (i.e., input to input) are not isolated. (20) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding local enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for local enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.	

Input Configurations (TAA24)



Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RW

TAA25 Specifications

The TAA25 Expansion module, when used with a Main module listed in *Table 1, page 6*, functions as a 15- or 16-channel contact sensor with (as FBM25C) or without a power supply (as FBM25B), or as a 16-channel dc voltage monitor (as FBM25A). It performs the signal conversion required to interface digital input signals from the field sensors to the redundant Fieldbus, including signal conditioning and channel isolation.

Typically, it is used in conjunction with the TAA24 Main module, discussed in *TAA24 Specifications, page 56*.

The TAA25 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA24 Specifications, page 56* for the functional specifications for the TAA25 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RX

TAA26 Specifications

The TAA26 Main module provides the following input and output functions for digital field signals.

INPUT FUNCTIONS – 7 or 8 channels used collectively for:

- Contact sensing with external supply only (as FBM26C)
- Contact sensing only (as FBM26B)
- dc voltage monitoring only (as FBM26A)

OUTPUT FUNCTIONS – 8 channels used for:

- dc output switching with an external source only, e.g., to control powering of various external loads (as FBM26A/B/C)

It is capable of supporting a single expansion module to support additional features. Typically, the TAA26 is used with the TAA27 Expansion module, which provides the same functionality as the TAA26. TAA27 is discussed in “TAA27 SPECIFICATIONS” on page 52. The TAA26 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA26 performs the signal conversion required to interface digital electrical input/output signals between the field sensors/actuators and the redundant Fieldbus, including signal conditioning and channel isolation. The expandable main module independently connects to the Fieldbus.

When the TAA26 is used alone or in conjunction with any expansion module, its associated FBM238 or FBM239 executes either the Digital I/O or Ladder Logic application program. The configurable options for each program are Input Filter Time, Fail-safe Configuration, Fail-safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable. Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Automatic Restart From Overload

- If an overload is sensed (either inrush or steady state current exceeded), the FBM238 or FBM239 opens for approximately one second and then retries again. This operation continues indefinitely for outputs only.

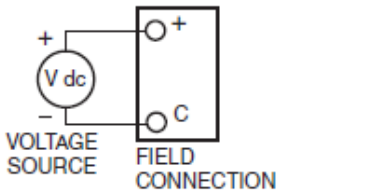
Functional Specifications

Isolation	The module can withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Connection of channels to voltages in excess of those specified under the “Input Functions” and “Output Functions” sections of this specification violates electrical safety code requirements and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**

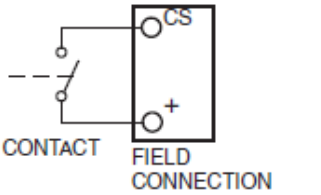
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module ◦ 8 W (maximum) • Expansion Module ◦ 5 W (maximum)
Heat Dissipation	Main Module • 15 W (maximum) Expansion Module • 12 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 8 LEDs (1 per channel) Output Channel Status • 8 LEDs (1 per channel)
Field Termination Connections[21]	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Input Functions	Capacity • 8 independent channels (7 for contact sensor with external supply) Filter Time • Configurable (4, 8, 16, or 32 ms)
Contact Sensor (see *Figure 11, page 63*)	Open-Circuit Voltage • 48 V dc nominal Short-Circuit Current • 2.5 mA ±20% ON-State Resistance • 1 k Ω (maximum) OFF-State Resistance • 100 k Ω (minimum) External Contact Supply Voltage Range • 48 to 150 V dc

Voltage Monitor (see *Figure 11, page 63*)	On-State Voltage • 33 to 150 V dc Off-State Voltage • 0 to 10 V dc Current • 2.5 mA (typical) at 10 to 150 V dc
Source Resistance Limits	ON-State • 1 kΩ (maximum) at 33 V dc OFF-State • 100 kΩ (minimum) at 150 V dc
Output Functions	Capacity • 8 independent channels
Output Switch (see *Figure 12, page 63*)	Applied Voltage • 150 V dc (maximum) Load Current • Steady State ◦ 2 A dc (maximum), 12 A dc (maximum) for all channels • Inrush ◦ 20 A dc (maximum) for 20 ms (maximum), I x t = 400 mA x seconds for I < 20 A Shorted-Load Duration • Indefinite (switch shuts off for 1 sec. nominal on overload) On-State Voltage Drop • 0.4 V (typical) at 1A Off-State Leakage Current • 2 mA (maximum) Inductive Loads • Require a protective diode connected across the load (see *Figure 12, page 63* diagram with protective diode). Diode must be capable of conducting the maximum expected load current and have a voltage rating greater than 1.3 times the supply voltage.
(21) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding the Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for the Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.	

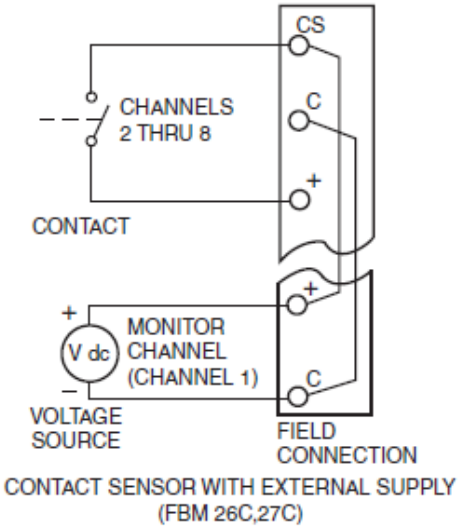
Input Configuration (TAA26)



VOLTAGE MONITOR (FBM 26A,27A)

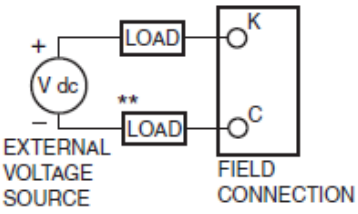


CONTACT SENSOR (FBM 26B,27B)



CONTACT SENSOR WITH EXTERNAL SUPPLY (FBM 26C,27C)

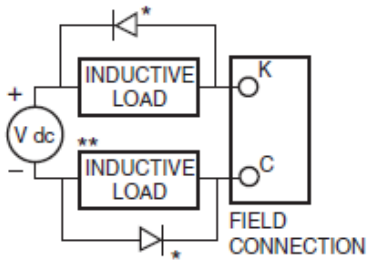
Output Configuration (TAA26)



OUTPUT SWITCH WITH EXTERNAL SOURCE

*PROTECTIVE DIODE (CUSTOMER SUPPLIED)

**OPTIONAL LOCATION



OUTPUT SWITCH WITH EXTERNAL SOURCE (OUTPUT PROTECTION CONFIGURATION FOR INDUCTIVE LOADS)

Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RY

TAA27 Specifications

The TAA27 Expander module, when used with a Main module listed in *Table 1, page 6*, provides the following input and output functions for digital field signals.

INPUT FUNCTIONS – 7 or 8 channels used collectively for:

- Contact sensing with external supply only (as FBM27C)
- Contact sensing only (as FBM27B)
- dc voltage monitoring only (as FBM27A)

OUTPUT FUNCTIONS – 8 channels used for:

- dc output switching with an external source only, e.g., to control powering of various external loads (as FBM27A/B/C)

It performs the signal conversion required to interface digital electrical input/output signals between the field sensors/actuators and the redundant Fieldbus, including signal conditioning and channel isolation.

Typically, it is used in conjunction with the TAA26 Main module, discussed in *TAA26 Specifications, page 60*.

The TAA27 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA26 Specifications, page 60* for the functional specifications for the TAA27 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923RZ

TAA37 Specifications

The TAA37 module supports communications for the FBM37, which is replaced by FBM237, or for HART communications, FBM215.

Functional Specifications

I/O Connection	The TAA37 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0924EP

TAA39 Specifications

The TAA39 module supports communications for the FBM39, which is replaced by FBM243b.

Functional Specifications

I/O Connection	The TAA39 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923SE

TAA41 Specifications

The TAA41 Main module provides high current capability on output channels and isolation on a per channel basis. It provides the following input and output functions for digital field signals.

INPUT FUNCTIONS - 8 channels used collectively for either:

- Contact sensing only (as FBM41C)
- dc voltage monitoring only (as FBM41A)

OUTPUT FUNCTIONS - 8 channels used for:

- dc output switching with an external source only at high current ratings, e.g., to control powering of various external loads (as FBM41A/C)

It is capable of supporting a single expansion module to support additional features. Typically, the TAA41 is used with the TAA42 Expansion module, which has the same functionality as the TAA41. The TAA42 is discussed in *TAA42 Specifications, page 72*. The TAA41 may be used with the Expansion modules listed in *Table 1, page 6* as well.

The TAA41 performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus, including signal conditioning and channel isolation. The TAA41 independently connects to the Fieldbus.

When the TAA41 is used alone or in conjunction with any expansion module, its associated FBM238 or FBM239 executes either the Digital I/O or Ladder Logic application program. The configurable options for each program are Input Filter Time, Fail Safe Configuration, Fail Safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable. Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

Automatic Restart from Overload

- If an overload is sensed (either inrush or steady state current exceeded), the FBM238 or FBM239 will open for 64.5 line cycles and then retry again. This operation will continue indefinitely for outputs only. Overloads exceeding 50 A will cause damage to the module.

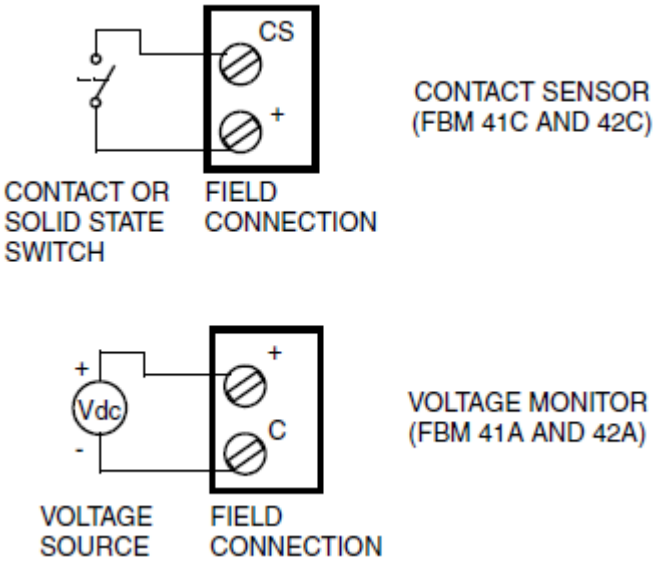
Functional Specifications

Isolation	The module will withstand, without damage, a potential of 600 V ac applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠DANGER** **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH** This does not imply that these channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, will violate electrical safety codes and may expose users to electric shock. **Failure to follow these instructions will result in death or serious injury.**

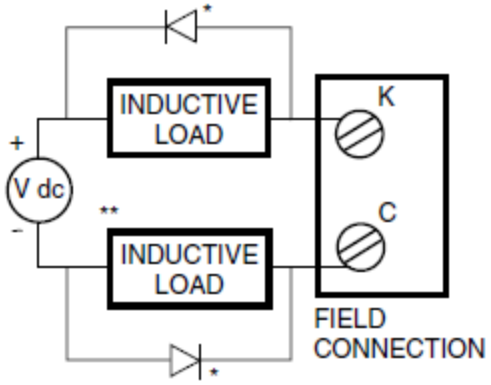
Power Requirements	Input Voltage Range (Redundant) • 24 V dc +5%, -10% Consumption • Main Module Only ◦ 9 W (maximum) • Main Module Plus Expansion Module ◦ 15 W (maximum)
Heat Dissipation	Main Module Only • 13 W (maximum) Main Module Plus Expansion Module • 23 W (maximum)
Indicators (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED) Input Channel Status • 8 LEDs (1 per channel) Output Channel Status • 8 LEDs (1 per channel)
Field Termination Connections(22)	Discrete Wire Blocks • 32 screw-clamp terminals (2 blocks using 16 terminals per block) Plug Connector Block • 34-pin connector. Mates with: ◦ Burndy® MSD 34 PM 118 (plug with bar-type cable clamp) ◦ Burndy MSD 34 PM 124 (plug with clam shell hood) ◦ Burndy MSD 34 PM 824 (plug with suitcase hood) ◦ or equivalent Direct Connection Block • 32 screw-clamp terminals
Communication	Via the redundant Fieldbus (main module only)
Output Functions	Capacity • 8 independent and isolated channels

Output Switch (see *Figure 14*)	Applied Voltage • 60 V dc (maximum) Load Current • Steady State ◦ 2.25 A dc (maximum) per channel, 12 A dc (maximum) total for all channels • Inrush ◦ 10 A dc (maximum) for 20 ms (maximum) per channel Shorted-Load Duration • Indefinite (switch shuts off for 1 sec. nominal on overload) On-State Voltage Drop • 0.4 V at 1A Off-State Leakage Current • 0.5 mA (maximum) Inductive Loads • Require a protective diode connected across the load (see *Figure 14* diagram with protective diode). Diode must be capable of conducting the maximum expected load current and have a voltage rating greater than 1.3 times the supply voltage
(22) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding local enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for local enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.	

Input Configurations (TAA41)



Output Configurations (TAA41)



* PROTECTIVE DIODE (CUSTOMER SUPPLIED) FOR INDUCTIVE LOADS

** OPTIONAL LOCATION

OUTPUT SWITCH WITH EXTERNAL SOURCE

Environmental Specifications

	Operating	Storage
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923SC

TAA42 Specifications

The TAA42 Expansion module provides high current capability on output channels and isolation on a per channel basis. It provides the following input and output functions for digital field signals.

INPUT FUNCTIONS - 8 channels used collectively for either:

- Contact sensing only (as FBM42C)
- dc voltage monitoring only (as FBM42A)

OUTPUT FUNCTIONS - 8 channels used for:

- dc output switching with an external source only
- At high current ratings, e.g., to control powering of various external loads (as FBM42A/C)

It performs the signal conversion required to interface these digital (i.e., on/off state) electrical input/output signals from/to the field sensors/actuators to/from the redundant Fieldbus, including signal conditioning and channel isolation.

Typically, it is used in conjunction with the TAA41 Main module, discussed in *TAA41 Specifications, page 68*.

The TAA42 connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

Functional Specifications

Refer to the Functional Specifications in *TAA41 Specifications, page 68* for the functional specifications for the TAA42 module.

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923SD

TAA44 Specifications

The TAA44 module supports communications for the FBM44, which has been replaced by FBM243b.

Functional Specifications

I/O Connection	The TAA44 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	
NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.		

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0923SG

TAA46 Specifications

The TAA46 module supports communications for the FBM46, which has been replaced by FBM246b.

Functional Specifications

I/O Connection	The TAA46 provides a passive I/O connection between the Termination Cable Assembly of its replaced 100 Series FBM and the 100 Series conversion mounting structure.
Indicator (Mounted On Termination Cable Assembly)	Operational Status • One green light-emitting diode (LED)
Communication	Via the redundant Fieldbus

Environmental Specifications

	Operating	**Storage**
Temperature	0 to 60°C (32 to 140°F)	-40 to +70°C (-40 to +158°F)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-300 to +3,000 m (-1,000 to +10,000 ft)	-300 to +12,000 m (-1,000 to +40,000 ft)
Contamination	Class G3 (Harsh) as defined in ISA Standard S71.04	

NOTE: The environmental ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

Physical Specifications

Mounting	Installable in the 100 Series conversion mounting structures listed in *100 Series Conversion Mounting Structures* (PSS 41H-2W8).
Weight	1 kg (2.2 lb)
Part Number	P0924SN

Related Product Documents

Document Number	Description
PSS 31H-2S200	*Standard 200 Series Subsystem Overview*
PSS 41H-2W100	*100 Series Fieldbus Module Upgrade Subsystem Overview*
PSS 41H-2CERTS	*Standard and Compact 200 Series I/O - Agency Certifications*
PSS 31H-2W3	*Standard 200 Series Power Supply - FPS400-24*
PSS 41H-2FPS	*200 Series Power Supplies - FPS240-24 and FPS120-24*
PSS 41H-2W8	*100 Series Conversion Mounting Structures*
B0400FA	*Standard and Compact 200 Series Subsystem User's Guide*
B0700BQ	*100 Series Fieldbus Module Upgrade User's Guide*

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/.

Schneider Electric Systems USA, Inc.
38 Neponset Avenue
Foxborough, Massachusetts 02035–2037
United States of America

Global Customer Support: https://pasupport.schneider-electric.com

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

PSS 41H-2W4, Rev A