EcoStruxure™

Foxboro™ DCS

Foxboro DCS H3 Series Fieldbus Modules for Honeywell TDC 3000 System Migration

PSS 41H-4FBMHON

Product Specification

November 2023

Schneider Electric™

https://www.se.com

Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

Overview

Plants with obsolete supported control systems can be upgraded quickly to the EcoStruxure™ Foxboro™ DCS system. The migration strategy is straightforward — remove obsolete I/O modules and replace them with Foxboro DCS H3 Series I/O modules that are form and fit replacements. The replacements perform native Foxboro DCS functions, providing full power and functionality to the plant. A significant advantage of this migration approach is that the cutover time is reduced from days to hours, restoring the plant to full operation much more quickly than with other methods.

The Foxboro DCS H3 Series Fieldbus Modules (FBM) family provides a migration path from Honeywell process input and output (I/O) components to Foxboro DCS display, control, and supervisory functions. This can save the significant cost of total system replacement by preserving existing process interface and wiring, and reducing installation effort, engineering, and process down time.

No additional communication devices or multi-vendor communication software licensing is required.

The Foxboro DCS H3 Series FBM family replaces typical Honeywell I/O devices. Once integrated, the process is controlled entirely by the advanced Foxboro DCS algorithm set.

The H3 Series product includes appropriate connectors to enable integration of original process signals to the Foxboro DCS while keeping the existing field interface and wiring. It provides access to all process signals connected to the system by providing the connection between the field terminations and the Foxboro H3 Series DCS. All process signals become fully integrated into the Foxboro DCS.

Operator functions and engineering configuration are accomplished by the Foxboro DCS at any Foxboro DCS Control workstation. Because all process values become part of the Foxboro DCS, all configuration data is maintained by the system as native Foxboro DCS configurations.

This migration path provides plant operations with all the power and flexibility of the Foxboro DCS. All process values can be used plant wide for control, display, history, alarming, and information management from a single vendor source.

Features

- Foxboro DCS H3 Series FBMs plug directly into existing supported control and I/O card files
- Migration from proprietary DCS to a state-of-the-art open Foxboro DCS
- Advanced Foxboro DCS control with single point of configuration
- More direct control performance than any gateway device can offer
- Single vendor service and supply

Control Core Services software v9.6 (or later) and Control Editors v7.3 (or later) are required for the H3 Series compatible DCS Fieldbus Modules described in this document.

Fundamental Principle

Schneider Electric believes that it is only acceptable to interface with competing manufacturers' operating systems in two ways:

- Through high level public gateways
- At the lowest level, directly to field devices, without communicating with proprietary buses or components

The Schneider Electric migration product offerings adhere to this principle.

Product Descriptions

The H3 Series migration solution consists of new interface to existing supported field terminations, which are completed at low voltage 24 V nominal power. (See the individual Termination Assembly (TA) specifications for their specific interface levels.) This allows migration to Foxboro DCS control, display, and application products while retaining original termination panels and field I/O wiring. All the original process I/O capabilities and control functions are replaced by direct Foxboro DCS control processor scanning and control.

Foxboro DCS H3 Series FBMs plug directly into existing supported card files (nests) in place of existing I/O cards. These transfer process measurement and output signals to and from a Foxboro DCS control processor (CP). The CP provides control in place of existing controllers.

Field Termination Assemblies (FTAs)

Foxboro DCS remote Fieldbus (HART) communications signals must be isolated and repeated to a local Fieldbus media for use with the DCS FBMs. Supported field termination units and cables are interfaced at low voltage power.

Table 1 - Custom H3 Series FTAs

Part Number	Model Code	Description
RH102CS	H3FTAB-16AI	16 Channel Analog Input with HART Simplex and Redundant
RH102CV	H3FTAB-16AO	16 Channel Analog Output with HART Simplex and Redundant

Table 1 - Custom H3 Series FTAs (Continued)

Part Number	Model Code	Description
RH107AC	H3FTAA-16AI	16 Channel Analog Input with HART Simplex Size A
RH107AF	H3FTAA-08AO	8 Channel Analog Output with HART Simplex Size A

Local Fieldbus connections are accomplished using existing backplane wiring or quick disconnect connectors on each unit. The remote Fieldbus connects using an appropriate quick disconnect terminal block on each unit. This allows the remote Fieldbus to be disconnected for servicing while maintaining remote Fieldbus continuity.

H3 Series System Migration

You can migrate to Foxboro DCS control by replacing Process Manager (PM), Advanced Process Manager (APM), and High Performance Process Manager (HPM) modules and I/O Processor (IOP) cards with Foxboro DCS H3 Series Fieldbus Modules (FBMs) and H3 Series Field Termination Assemblies.

DCS H3 Series FBMs operate in conjunction with the Foxboro control processor. These modules replace the functions performed by the control card and I/O Processor cards in the Process Manager equipment rack.

Table 2 - DCS H3 Series Fieldbus Modules

Part Number	Model Code	Description	Equivalent 200 Series FBM	H3 Series FTA (Part Numbers)[a]
RH101XE	H3M207b-32	Digital Input 32 Channel contact closure Simplex and Redundant Interfaces to existing units at 24 VDC	FBM207b	
RH101XF	H3M207-32	Digital Input 32 Channel voltage monitor Simplex and Redundant 15 to 30 VDC - voltage monitor	FBM207	
RH101XG	H3M214b-16	16 Channel HART Simplex and Redundant, group and channel isolated, 4 to 20 mA analog input signal, alone or with HART signal superimposed (2 x FBM214b) 0-5 V and 1-5 V supported with typical FTAs **NOTE:** HART requires the use of 16 Channel HART Custom RH102CS and RH107AC FTAs.	FBM214b	RH102CS RH107AC
RH101XH	H3M215-16	4 to 20 mA Analog Output, 16 Channel Simplex and Redundant HART (2 x FBM215) **NOTE:** HART requires the use of the RH102CV FTA.	FBM215	RH102CV
RH102CJ	H3M215-16H	4 to 20 mA Analog Output, 16 Channel Simplex	FBM215	
RH102CL	H3M215-08	4 to 20 mA Analog Output, 8 Channel Simplex HART (1 x FBM215) **NOTE:** HART requires the use of the RH107AF FTA.	FBM215	RH107AF
RH101XJ	H3M242-32	32 Channel Discrete Output, Simplex and Redundant (2 x FBM242) Each output is galvanically isolated; group isolated	FBM242	
RH101XK	H3M240-16	16 Channel Simplex 16 discrete outputs Output channels have readback	FBM240	
(a) For a list of supported Field Termination Assemblies, see the TVDA document B0825BK.				

In addition, a H3M Blank Module (RH107AH) is available to fill empty module slots.

Specifications for DCS H3 Series Fieldbus Modules

Functional Specifications – Common to All Foxboro DCS H3 Series FBMs

Table 3 - Basic Specifications Common to All Foxboro DCS FBMs Listed in this Document

Calibration Requirements	Calibration of the modules is not required.
Communication	Redundant IEEE P1118 Fieldbus
Process I/O Capacity	**Field Control Processor 280 (FCP280)**: 128 Foxboro DCS FBMs maximum (depending on scan periods). • Up to 15 H3 Series Migration card files in one 15-way nest • Up to four card files per FCP280

Table 4 - Power Consumption and Power Dissipation for Foxboro DCS H3 Series Module and Field Termination Assembly (FTA) Pairs

Part Number	H3 Series Modules	H3 Series FTAs Used	Power Consumption for DCS FBM and FTA Pair (in Watts)	Power Dissipation for DCS FBM and FTA Pair (in Watts)
RH101XE	H3M207b-32		15	3
RH101XF	H3M207-32		3	3
RH101XG	H3M214b-16 (4-20 mA)		16	12
RH101XG	H3M214b-16	RH102CS (HART — Size B)	18	12
RH101XG	H3M214b-16	RH107AC (HART — Size A)	18	11
RH101XH	H3M215-16 (HART)	RH102CV	15	11
RH101XJ	H3M242-32		4	4
RH101XK	H3M240-16		17	17
RH102CJ	H3M215-16H (4-20 mA)		15	11
RH102CL	H3M215-08 (4-20 mA)		8	7
RH102CL	H3M215-08 (HART)	RH107AF	8	5

H3M207-32 and H3M207b-32 (Digital Input) Functional Specifications

Input Channel (32 Channels)	Designed to be compatible with Digital Input FTAs
Accuracy	Pulse Count

	No missing pulses for pulse rate 0 to 250 Hz
Filter/Debounce Time	Configurable (No Filtering, 4, 8, 16, or 32 ms)
Voltage Monitor Function - Input	• Input: Logic One, On-State Voltage: 15 to 60 VDC Logic Zero, Off-State Voltage: 0 to 5 VDC Current: 1.4 mA (typical) at 5 to 60 VDC • Source Resistance Limits: Logic One, On-State: 1 kΩ (maximum) at 15 VDC Logic Zero, Off-State: 100 kΩ (minimum) at 60 VDC
Contact Sensor Function - Input	• Range (Each Channel): Contact open (off) or closed (on) • Open-Circuit Voltage: 24 VDC ±15%
Short-Circuit Current	3.2 mA (typical)
Logic One, ON-State Resistance	1.0 kΩ (maximum)
Logic Zero, OFF-State Resistance	100 kΩ (minimum)
Isolation	Each channel is galvanically isolated from all other channels and ground. The module withstands, without damage, a potential of 600 VAC applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠WARNING** **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, violates electrical safety codes and may expose users to electric shock. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**
Power Requirements	• Input Voltage: 24 VDC • Consumption and Heat Dissipation: See Functional Specifications – Common to All Foxboro DCS H3 Series FBMs, page 8.
Loop Power Supply Protection	Current limited at 3.2 mA (typical)
Regulatory Compliance: Electromagnetic Compatibility (EMC)	• *European EMC Directive 2014/30/EU* and *UK Regulation 2016 No. 1091*: Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
Regulatory Compliance: Product Safety	• *European Low Voltage Directive 2014/35/EU*, *Explosive Atmospheres (ATEX) directive 2014/34/EU*, *UK Regulation 2016 No. 1101*, and *UKEX Regulation 2016 No. 1107*: DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).

RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.
Calibration Requirements	Calibration of the module is not required.

H3M214b-16 (HART Input) Functional Specifications

Field Device Channels	• Supported HART Instruments: HART instruments compliant to Version 5, 6, or 7 of the HART specifications may be used. • Interface: 16 channel isolated channels • Communication to the Device: Point-to-point, primary/secondary, asynchronous, half-duplex, at 1200 baud. • Detected error Checking: Parity on each byte, and one CRC check byte on each message. • Speed: 2 messages per second • Fastest Allowed ECB Block Period: 100 msec - However, it is recommended that you see the *Sizing Guidelines and Excel Workbook* appropriate for your Control Processor to determine the optimal loading for a 100 msec Block Processing Cycle (BPC). • Maximum Distance (FBM214b to Field Device): Meets HART FSK physical layer specification HCF_SPEC-54, Revision 8.1 [up to 3030 m (10000 ft)]. **NOTE:** The maximum allowable distance decreases when the loop is operated through an intrinsic safety barrier. The maximum distance of the field device from the FBM is a function of compliance voltage, wire gauge and voltage drop at the device. • Current Inputs: ◦ Sense Resistor: 250 Ω ± 0.05% ◦ Total Input Resistance Including Redundancy Adapter: 250 Ω nominal ◦ Analog Accuracy (Includes Nonlinearity): ±0.075% of full scale ◦ Temperature Coefficient: 50 ppm/ºC ◦ Resolution: 15 bits ◦ Update Rate: 100 ms ◦ Integration Time: 500 ms ◦ Common Mode Rejection: >100 db at 50 or 60 Hz ◦ Normal Mode Rejection: >35 db at 50 or 60 Hz
Field Device Channels (Cont.)	• Input Resistance ◦ Externally Powered:

<table>
<tr><td></td><td>
282 Ω
◦ Internally Powered:
302 Ω
• Loop Power Supply Protection:
The H3M214b-16 provides an individually isolated current limited loop supply for each channel. All input loop supplies are limited by design to less than 37 mA.
• FBM Internal Power for Field Device:
Per channel isolated 24 VDC ±10% supply. Loop supply output impedance is 20 Ω.
• System Software:
Requires Foxboro DCS Control Core Services v9.6 or later.
• Isolation:
The individual channel inputs and loop supplies are galvanically isolated from each other, ground and module logic. The module's isolation is designed to withstand, without damage, a common mode potential of 600 VAC applied for one minute between the isolated input circuits and ground, or between a given channel and any other channel.
⚠⚠WARNING
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, violates electrical safety codes and may expose users to electric shock.
Failure to follow these instructions can result in death, serious injury, or equipment damage.
</td></tr>
<tr><td>Input Channel (16 Channels)</td><td>
0 to 5 VDC, 1 to 5 VDC, 4 to 20 mA
• Rated Mean Accuracy:
±0.075% with 50ppm
</td></tr>
<tr><td>Power Requirements</td><td>
• Input Voltage Range:
24 VDC + 5% - 10%
• Consumption and Heat Dissipation:
See Functional Specifications – Common to All Foxboro DCS H3 Series FBMs, page 8.
</td></tr>
<tr><td>Regulatory Compliance: Electromagnetic Compatibility (EMC)</td><td>
• European EMC Directive 2014/30/EU and UK Regulation 2016 No. 1091:
Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
</td></tr>
<tr><td>Regulatory Compliance: Product Safety</td><td>
• European Low Voltage Directive 2014/35/EU and Explosive Atmospheres (ATEX) directive 2014/34/EU, UK Regulation 2016 No. 1101, and UKEX Regulation 2016 No. 1107:
DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in Standard and Compact 200 Series Subsystem User's Guide (B0400FA).
</td></tr>
</table>

RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.
Calibration Requirements	Calibration of the module is not required.

H3M215-08, H3M215-16, and H3M215-16H (Analog Output) Functional Specifications

Field Device Channels	• (H3M215-08 and H3M215-16 Only) Supported HART Instrument Types: HART instruments compliant to Version 5, 6, or 7 of the HART specifications may be used • Interface: 8 or 16 isolated output channels • (H3M215-08 and H3M215-16 Only) Communications to the Device: Point-to-point, primary/secondary, asynchronous, half-duplex, at 1200 baud • Detected Error Checking: Parity on each byte, and one CRC check byte on each message • Speed: 2 messages per second • Fastest Allowed ECB Block Period: 100 msec - However, it is recommended that you see the *Sizing Guidelines and Excel Workbook* appropriate for your Control Processor to determine the optimal loading for a 100 msec Block Processing Cycle (BPC). • Maximum Distance (H3M215-08, H3M215-16, or H3M215-16H to Field Device): (H3M215-08 and H3M215-16 Only) Meets HART FSK physical layer specification HCF_SPEC-54, Revision 8.1 [up to 3,030 m (10,000 ft)] **NOTE:** The maximum allowable distance decreases when the loop is operated through an intrinsic safety barrier. The maximum distance of the field device from the module is a function of compliance voltage (19 VDC at 20.4 mA), wire and load resistance, and voltage drop at the field device. • Current Outputs: ◦ Analog Accuracy (Includes Linearity): ±0.05% of span (between 4 mA and 20 mA) ◦ Output Load: 750 Ω maximum ◦ Maximum Rate of Change: 20 mA in 60 milliseconds ◦ Resolution: 13 bits • Loop Power Supply Protection: Each channel is channel-to-channel galvanically isolated, current limited, and voltage regulated. All analog outputs are limited by their design to about 25 mA. If the output FET shorts, the output current could increase up to 100 mA. In normal operation the module outputs a constant current into a 0 to 750 Ω load. • Isolation: The channels are galvanically isolated (both optical and transformer isolation) from each other, and from ground and module logic. The module withstands, without damage, a potential of 600 VAC applied for one minute between the isolated channels and earth (ground).

	⚠⚠WARNING **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, violates electrical safety codes and may expose users to electric shock. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**
Power Requirements	• Input Voltage: 24 VDC +5%, -10% • Consumption and Heat Dissipation: See Functional Specifications – Common to All Foxboro DCS H3 Series FBMs, page 8.
Regulatory Compliance: Electromagnetic Compatibility (EMC)	• *European EMC Directive 2014/30/EU* and *UK Regulation 2016 No. 1091*: Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
Regulatory Compliance: Product Safety	• *European Low Voltage Directive 2014/35/EU*, *Explosive Atmospheres (ATEX) directive 2014/34/EU*, *UK Regulation 2016 No. 1101*, and *UKEX Regulation 2016 No. 1107*: DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).
RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.
Calibration Requirements	Calibration of the module is not required.

H3M240-16 (Digital Output) Functional Specifications

Output Channel (16 Channels)	Designed to be compatible with Discrete Output FTAs • Applied Voltage: 60 VDC (maximum) • Load Current: 2.0 A (maximum) • Off-State Leakage Current: 0.10 mA
Filter/Debounce Time[(a)]	Configurable (No Filtering, 4, 8, 16, or 32 ms)
Inductive Loads	Module output might require a protective diode or metal oxide varistor (MOV) connected across the inductive load.
Channel Isolation	Each channel is galvanically isolated from all other channels and earth (ground). The module withstands, without damage, a potential of 600 VAC applied for one minute between any channel and ground, or between a given channel and any other channel.

	⚠⚠WARNING **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, violates electrical safety codes and may expose users to electric shock. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**
Power Requirements	• Input Voltage Range: 24 VDC + 5% - 10% • Consumption and Heat Dissipation: See Functional Specifications – Common to All Foxboro DCS H3 Series FBMs, page 8.
Regulatory Compliance: Electromagnetic Compatibility (EMC)	• *European EMC Directive 2014/30/EU* and *UK Regulation 2016 No. 1091*: Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
Regulatory Compliance: Product Safety	• *European Low Voltage Directive 2014/35/EU*, *Explosive Atmospheres (ATEX) directive 2014/34/EU*, *UK Regulation 2016 No. 1101*, and *UKEX Regulation 2016 No. 1107*: DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in the *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).
RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.
Calibration Requirements	Calibration of the module is not required.
[a] Digital filtering available for 200 Series FBM or competitive migration modules with version 1.25H or later firmware.	

H3M242-32 (Digital Output) Functional Specifications

Output Channel (16 Channels)	Designed to be compatible with Discrete Output FTAs
Applied Voltage	21 to 27 VDC (maximum)
Load Current	0.25 A (maximum) per channel
Load Current-In-Rush	8 A (maximum) for 20 ms per channel at 30°C. 6.4 A (maximum) for 20 ms per channel at 70°C.
On-State Voltage Drop	0.2 V (maximum) at 2.25 A
Off-State Leakage Current	0.10 mA (maximum)
Inductive Loads	Module output might require a protective diode or metal oxide varistor (MOV) connected across the inductive load.
Output Channel Isolation	Each channel is galvanically isolated from all other channels and earth (ground). The module withstands, without damage, a potential of 600 VAC

	applied for one minute between any channel and ground, or between a given channel and any other channel. **⚠⚠WARNING** **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, violates electrical safety codes and may expose users to electric shock. **Failure to follow these instructions can result in death, serious injury, or equipment damage.**
Power Requirements	• Input Voltage Range: 24 VDC + 5% - 10% • Consumption and Heat Dissipation: See Functional Specifications – Common to All Foxboro DCS H3 Series FBMs, page 8.
Regulatory Compliance: Electromagnetic Compatibility (EMC)	• *European EMC Directive 2014/30/EU* and *UK Regulation 2016 No. 1091*: Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
Regulatory Compliance: Product Safety	• *European Low Voltage Directive 2014/35/EU*, *Explosive Atmospheres (ATEX) directive 2014/34/EU*, *UK Regulation 2016 No. 1101*, and *UKEX Regulation 2016 No. 1107*: DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).
RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.
Calibration Requirements	Calibration of the module is not required.

Environmental Specifications for DCS H3 Series Fieldbus Modules

	Operating	Storage
Temperature	+32 to +122°F (0 to +50°C)	-40 to +158°F (-40 to +70°C)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-1,000 to +10,000 ft (-300 to +3,000 m)	-1,000 to +40,000 ft (-300 to +12,000 m)
Vibration	7.5 m/s^2 (0.75 g) from 5 to 500 Hz	
Compliance	Green Premium compliant	

Physical Specifications for DCS H3 Series Fieldbus Modules

Mounting	Mounts in a Process Manager equipment rack
Weight	25.6 oz (727 g) approximate
Dimensions - Modules	• Height: 10.9 in (277 mm) • Width: 1.2 in (30 mm) • Depth: 12.2 in (310 mm)
Part Numbers	• H3M207-32: RH101XF • H3M207b-32 RH101XE • H3M214b-16: RH101XG • H3M215-08: RH102CL • H3M215-16 RH101XH • H3M215-16H RH102CJ • H3M240-16: RH101XK • H3M242-32 RH101XJ

Specifications for H3 Series Field Termination Assemblies (FTAs)

Functional Specifications for H3 Series FTAs

Regulatory Compliance: Electromagnetic Compatibility (EMC)	• *European EMC Directive 2014/30/EU* and *UK Regulation 2016 No. 1091*: Meets: EN61326-1:2013 Class A Emissions and Industrial Immunity Levels
Regulatory Compliance: Product Safety	• *European Low Voltage Directive 2014/35/EU*, *Explosive Atmospheres (ATEX) directive 2014/34/EU*, *UK Regulation 2016 No. 1101*, and *UKEX Regulation 2016 No. 1107*: DEMKO certified as Ex ec IIC T5 for use in certified Zone 2 enclosure when connected to specified processor modules as described in *Standard and Compact 200 Series Subsystem User's Guide* (B0400FA).
RoHS Compliance	Complies with European RoHS Directive 2011/65/EU, including amending Directives 2015/863 and 2017/2102, and UK Regulation 2012 No. 2032.

Environmental Specifications for H3 Series FTAs

	Operating	**Storage**
Temperature	+32 to +122°F (0 to +50°C)	-40 to +158°F (-40 to +70°C)
Relative Humidity	5 to 95% (noncondensing)	5 to 95% (noncondensing)
Altitude	-1,000 to +10,000 ft (-300 to +3,000 m)	-1,000 to +40,000 ft (-300 to +12,000 m)
Vibration	7.5 m/s^2 (0.75 g) from 5 to 500 Hz	
Compliance	Green Premium compliant	

Physical Specifications for H3 Series FTAs

Table 5 - H3 Series FTA I/O Terminal Specifications

I/O Terminal	Terminal Size
Clamping range, minimum	0.0002 in^2 (0.13 mm^2)
Clamping range, maximum	0.0039 in^2 (2.5 mm^2)
Wire connection cross section AWG, minimum	AWG 28
Wire connection cross section AWG, maximum	AWG 14
Solid, minimum H05(07) V-U	0.0003 in^2 (0.2 mm^2)
Solid, maximum H05(07) V-U	0.0039 in^2 (2.5 mm^2)
Flexible, minimum H05(07) V-K	0.0003 in^2 (0.2 mm^2)
Flexible, maximum H05(07) V-K	0.0039 in^2 (2.5 mm^2)
W. plastic collar ferrule, DIN 46228 pt 4, minimum	0.0003 in^2 (0.2 mm^2)
W. plastic collar ferrule, DIN 46228 pt 4, maximum	0.0023 in^2 (1.5 mm^2)
W. wire end ferrule, DIN 46228 pt 1, minimum	0.0003 in^2 (0.2 mm^2)
W. wire end ferrule, DIN 46228 pt 1, maximum	0.0023 in^2 (1.5 mm^2)
Plug gauge in accordance with EN 60999 a x b; ø	0.0945 in x 0.0591 in (2.4 mm x 1.5 mm) ; 0.0945 in (2.4 mm)

H3FTAA-08AO Physical Specifications

Mounting	Mounts in an FTA Mounting Channel in the back of an enclosure
Weight	10.9 oz (309 g) approximate
Dimensions - Modules	• Height: 2.1 in (53 mm) • Width: 4.8 in (121 mm) • Depth: 6.0 in (153 mm)
Part Number	• H3FTAA-08AO: RH107AF

H3FTAA-16AI Physical Specifications

Mounting	Mounts in an FTA Mounting Channel in the back of an enclosure
Weight	10.9 oz (309 g) approximate

Dimensions - Modules	• Height: 2.1 in (53 mm) • Width: 4.8 in (121 mm) • Depth: 6.0 in (153 mm)
Part Number	• H3FTAA-16AI: RH107AC

H3FTAB-16AI Physical Specifications

Mounting	Mounts in an FTA Mounting Channel in the back of an enclosure
Weight	16.3 oz (461 g) approximate
Dimensions - Modules	• Height: 2.1 in (53 mm) • Width: 4.8 in (121 mm) • Depth: 12.1 in (308 mm)
Part Number	• H3FTAB-16AI: RH102CS

H3FTAB-16AO Physical Specifications

Mounting	Mounts in an FTA Mounting Channel in the back of an enclosure
Weight	16.3 oz (461 g) approximate
Dimensions - Modules	• Height: 2.1 in (53 mm) • Width: 4.8 in (121 mm) • Depth: 12.1 in (308 mm)
Part Number	• H3FTAB-16AO: RH102CV

⚠ **WARNING**: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.p65warnings.ca.gov/.

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

PSS 41H-4FBMHON, Rev A