Foxboro FBM214 P0914XQ

Installation & Commissioning Guide

Foxboro FBM214 P0914XQ is a hart communication input module for 4 to 20 mA measurement with bidirectional HART messaging. It operates with the HART termination assembly, loop power and I/A Series database and provides eight HART-capable input loops.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Provides eight HART-capable input loops for its hart communication input module function.

Feature 2

Handles 4 to 20 mA measurement with bidirectional HART messaging through the documented Foxboro system path.

Feature 3

Works with the HART termination assembly, loop power and I/A Series database.

Feature 4

A dedicated FSK modem supports digital communication with each connected HART device.

VERIFIED DATA SNAPSHOT

Input channels	8 group-isolated analog inputs
Analog signal	4 to 20 mA
Digital communication	HART FSK superimposed on the analog signal
Conversion	Analog-to-digital conversion for each loop

SYSTEM RELATIONSHIP

HART transmitter → **4-20 mA loop** → **FBM214 input** → **Control database**

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Pre-installation readiness

READINESS GATE

Identity

Compare the complete marking with the approved work order and installed record.

System match

Confirm the receiving channel, mating components and controlled configuration.

Physical condition

Inspect mounting surfaces, connectors, terminals, cable and support hardware.

Work controls

Apply authorized isolation, bypass, access and restoration procedures.

TECHNICAL PROFILE FOR THE WORK

Input channels

8 group-isolated analog inputs

Analog signal

4 to 20 mA

Digital communication

HART FSK superimposed on the analog signal

Conversion

Analog-to-digital conversion for each loop

Channel power

Common isolated supply or controlled external supply

IMPORTANT NOTICE

Resolve every unmatched interface, configuration or receiving-system condition before removal or installation.

SOURCE AND WORK CONTROLS

Manufacturer source	Invensys, I/A Series FBM214 HART Communication Input Interface Module, PSS 21H-2Z14 B4; P0914XQ is identified as the legacy FBM214 part number in B0400FA.
Evidence boundary	Technical statements are limited to the identified product or applicable manufacturer family.
Selection control	Use the complete ordering string and verify the installed system before purchase or installation.

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Installation sequence

CONTROLLED WORK STEPS

01	Match the complete FBM214 P0914XQ marking to the work order and installed position before removal.
02	Confirm the HART termination assembly, loop power and I/A Series database before disconnecting any interface.
03	Keep 4 to 20 mA measurement with bidirectional HART messaging within the documented electrical or pneumatic range.
04	Record terminal designations, polarity, common, shield and cable routing before disconnection.
05	Inspect mounting, connector keying, terminal condition and retention hardware before installation.
06	Restore the controlled database, range, alarm, filter and fail-state settings before energization.
07	Review local indicators and controller diagnostics during the controlled startup sequence.
08	Prove the intended response across eight HART-capable input loops and record the acceptance result before release.

CONNECTION RECORD

As found	Photograph and label every connection and installed orientation before removal.
Mechanical	Record mounting position, support, clearance and connector engagement.
Electrical	Record polarity, common, shield, channel assignment and cable route.
Configuration	Preserve approved settings, scaling, alarm logic and acceptance limits.
As left	Record the final physical condition and any controlled deviation.

HART transmitter → **4-20 mA loop** → **FBM214 input** → **Control database**

WORK HOLD POINTS

Before removal	Identity, position, wiring, orientation and controlled settings recorded.
Before connection	Mating interfaces, condition and routing reviewed.
Before power-up	Mechanical work, wiring, shielding and configuration independently checked.
Before release	Static value, dynamic response and protection behavior accepted.

Commissioning and functional proof

COMMISSIONING SEQUENCE

Initial state

Observe status at power-up and check for unexpected fault or alarm indication.

Static value

Verify the expected bias, gap, loop, contact or channel value for the application.

Dynamic response

Apply the approved machine or test stimulus and confirm response and scaling.

Protection path

Verify the configured alarm, relay, data or receiving-system behavior.

APPLICATION-SPECIFIC EVIDENCE

System maintenance

Restores the documented hart communication input module function in an existing Foxboro control system.

Signal-path service

Supports controlled testing of 4 to 20 mA measurement with bidirectional HART messaging at the assigned system position.

Planned replacement

Provides an exact-identity replacement path after the HART termination assembly, loop power and I/A Series database has been verified.

Commissioning

Allows the responsible engineer to prove configuration, diagnostics and response for eight HART-capable input loops.

ACCEPTANCE RECORD

Identity	Complete marking and final installed position recorded.
Physical inspection	Mounting, connectors, terminals and routing checked.
Channel status	Expected status and configured measurement confirmed.
Functional test	Required output or protection response demonstrated.
Restoration	Bypasses removed and operating state approved.

COMMISSIONING QUESTIONS

What signals can Foxboro FBM214 P0914XQ receive?	Each channel accepts a 4 to 20 mA analog input with optional HART FSK communication superimposed.
How many HART devices can be connected?	Eight input channels are provided, each with its own HART communication path.

Release record and technical references

CLOSEOUT QUESTIONS

What isolation arrangement is used by FBM214?	The eight input channels are group isolated from ground and module logic.
How may the field devices be powered?	The common isolated module supply may power the loops, or an approved external supply may be used with the required crosstalk controls.
Why is a Cable Balun required for some external supplies?	It reduces channel crosstalk when a common external source powers multiple HART loops.
Which HART values should be checked during commissioning?	Verify the analog primary value, digital device identity, diagnostics and bidirectional command response.
Is P0914XQ the current FBM214 part number?	It is the legacy FBM214 ordering code; newer documentation also lists later FBM214 part-number executions.
What prevents an incorrect HART-module substitution?	Match the complete P0914XQ identity, isolation architecture, termination assembly, loop power and database configuration.

RELATED MODELS FOR INSTALLATION PLANNING

Siemens 6ES5434-4UA11	Installation-planning reference. Review the complete ordering string before selection.
Siemens 6ES5420-4UA12	Installation-planning reference. Compare the required interface and system position.
Siemens 6ES5312-5CA11	Installation-planning reference. Confirm the execution independently for the intended task.

MANUFACTURER SOURCE AND FINAL CONTROL

Manufacturer source	Invensys, I/A Series FBM214 HART Communication Input Interface Module, PSS 21H-2Z14 B4; P0914XQ is identified as the legacy FBM214 part number in B0400FA.
Evidence boundary	Technical statements are limited to the identified product or applicable manufacturer family.
Selection control	Use the complete ordering string and verify the installed system before purchase or installation.

IMPORTANT NOTICE	Release the equipment only after the responsible site authority accepts the recorded result.

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