Foxboro CP30B

Installation & Commissioning Guide

Foxboro CP30B is a control processor 30 style b for control, alarm and Fieldbus data. It operates with the Style B processor enclosure, Nodebus and Fieldbus arrangement and provides a single module or two CP30B modules as a fault-tolerant pair.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Provides a single module or two CP30B modules as a fault-tolerant pair for its control processor 30 style b function.

Feature 2

Handles control, alarm and Fieldbus data through the documented Foxboro system path.

Feature 3

Works with the Style B processor enclosure, Nodebus and Fieldbus arrangement.

Feature 4

The paired version uses two modules of the same CP30B type.

VERIFIED DATA SNAPSHOT

Processor style	Control Processor 30, Style B
Control functions	Regulatory, logic, timing and sequential control
Local Fieldbus	Up to 24 FBMs over a redundant bus
Fiber extension	Overall Fieldbus length up to 20 km

SYSTEM RELATIONSHIP

Fieldbus I/O → **Foxboro processor** → **Control execution** → **Nodebus services**

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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

Processor style

Control Processor 30, Style B

Control functions

Regulatory, logic, timing and sequential control

Local Fieldbus

Up to 24 FBMs over a redundant bus

Fiber extension

Overall Fieldbus length up to 20 km

Diagnostics

Power-up, run-time/watchdog and off-line tests

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 Hardware Control Processor 30 Style B, PSS 21H-1B4 B3.
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 CP30B marking to the work order and installed position before removal.
02	Confirm the Style B processor enclosure, Nodebus and Fieldbus arrangement before disconnecting any interface.
03	Keep control, alarm and Fieldbus data 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 a single module or two CP30B modules as a fault-tolerant pair 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.

Fieldbus I/O → **Foxboro processor** → **Control execution** → **Nodebus services**

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 control processor 30 style b function in an existing Foxboro control system.

Signal-path service

Supports controlled testing of control, alarm and Fieldbus data at the assigned system position.

Planned replacement

Provides an exact-identity replacement path after the Style B processor enclosure, Nodebus and Fieldbus arrangement has been verified.

Commissioning

Allows the responsible engineer to prove configuration, diagnostics and response for a single module or two CP30B modules as a fault-tolerant pair.

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 identifies Foxboro CP30B as the Style B execution?	The manufacturer document names it Control Processor 30, Style B and specifies CP30B modules for both positions in a fault-tolerant pair.
Which processing duties are assigned to CP30B?	Regulatory, logic, timing, sequential control, data acquisition and alarm functions are supported.

Release record and technical references

CLOSEOUT QUESTIONS

How far can the documented fiber Fieldbus extend?	The overall fiber-optic Fieldbus length can reach 20 km under the specified architecture.
What redundancy is provided by the processor pair?	Two modules operate in parallel with separate Nodebus and Fieldbus connections.
Which front-panel feature supports maintenance?	A recessed reset button permits the module to be rebooted without removal.
What should be checked after a watchdog indication?	Review processor messages, Fieldbus status and the controlled diagnostics before considering replacement.
Can a CP30 be inserted in place of CP30B without an engineering review?	No. Confirm the Style B enclosure, pairing and project hardware requirements.
What is required before releasing a restored CP30B station?	Verify all assigned I/O, alarm reporting and control execution in both single and configured fault-tolerant states.

RELATED MODELS FOR INSTALLATION PLANNING

Foxboro AD916AE FBM203	Installation-planning reference. Review the complete ordering string before selection.
Foxboro AD916AG FBM204	Installation-planning reference. Compare the required interface and system position.
Westinghouse 1C31223G01	Installation-planning reference. Confirm the execution independently for the intended task.

MANUFACTURER SOURCE AND FINAL CONTROL

Manufacturer source	Invensys, I/A Series Hardware Control Processor 30 Style B, PSS 21H-1B4 B3.
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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