Foxboro CP30

Installation & Commissioning Guide

Foxboro CP30 is a control processor 30 for control execution and Fieldbus data. It operates with the assigned Nodebus and Fieldbus connections and provides one processor module or an optional fault-tolerant pair.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Provides one processor module or an optional fault-tolerant pair for its control processor 30 function.

Feature 2

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

Feature 3

Works with the assigned Nodebus and Fieldbus connections.

Feature 4

A recessed reset control permits a controlled reboot without removing the module.

VERIFIED DATA SNAPSHOT

Control functions	Regulatory, logic, timing and sequential control
I/O connections	FBMs, FBCs and supported migration integrators
Local Fieldbus	Up to 24 FBMs over a redundant bus
Extended Fieldbus	Up to 64 FBMs through Fieldbus Isolators

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

Control functions

Regulatory, logic, timing and sequential control

I/O connections

FBMs, FBCs and supported migration integrators

Local Fieldbus

Up to 24 FBMs over a redundant bus

Extended Fieldbus

Up to 64 FBMs through Fieldbus Isolators

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, PSS 21H-1B2 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 CP30 marking to the work order and installed position before removal.
02	Confirm the assigned Nodebus and Fieldbus connections before disconnecting any interface.
03	Keep control execution 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 one processor module or an optional 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 function in an existing Foxboro control system.

Signal-path service

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

Planned replacement

Provides an exact-identity replacement path after the assigned Nodebus and Fieldbus connections has been verified.

Commissioning

Allows the responsible engineer to prove configuration, diagnostics and response for one processor module or an optional 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

Which control functions run in Foxboro CP30?	It performs regulatory, logic, timing and sequential control.
Which I/O families can CP30 coordinate?	The processor supports Fieldbus Modules, Fieldbus Cluster I/O and the listed migration-integrator families.

Release record and technical references

CLOSEOUT QUESTIONS

How many FBMs can connect on the local Fieldbus?	The redundant local bus supports up to 24 FBMs, excluding expansion modules.
What changes in a fault-tolerant CP30 configuration?	Two processor modules operate in parallel with separate Nodebus and Fieldbus connections.
Which diagnostics run on the processor?	Power-up self-checks, continuous run-time/watchdog checks and off-line diagnostics are provided.
How is a controlled reboot initiated?	Use the recessed front reset control according to the approved operating procedure.
What must be preserved before processor replacement?	Record the station identity, Nodebus and Fieldbus paths, control configuration and fault-tolerant pairing.
What demonstrates a successful return to service?	Confirm processor status, I/O communication, alarm handling and execution of the assigned control blocks.

RELATED MODELS FOR INSTALLATION PLANNING

Bently Nevada 24701-28-10-XX-149-03-XX MOD:323933-00-02	Installation-planning reference. Review the complete ordering string before selection.
Bently Nevada 24701-28-05-XX-104-03-XX MOD:323933-00-02	Installation-planning reference. Compare the required interface and system position.
Bently Nevada 24701-28-05-XX-025-04-XX MOD:323933-30-02	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, PSS 21H-1B2 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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