Foxboro CP40B

Installation & Commissioning Guide

Foxboro CP40B is a control processor 40 style b for high-capacity process control and I/O coordination. It operates with the Style B enclosure and its controlled network and Fieldbus interfaces and provides a single CP40B or matched CP40B fault-tolerant pair.

PRODUCT ROLE AND VERIFIED FEATURES

Feature 1

Provides a single CP40B or matched CP40B fault-tolerant pair for its control processor 40 style b function.

Feature 2

Handles high-capacity process control and I/O coordination through the documented Foxboro system path.

Feature 3

Works with the Style B enclosure and its controlled network and Fieldbus interfaces.

Feature 4

Front indicators report processor startup status and support diagnostic interpretation.

VERIFIED DATA SNAPSHOT

Processor style	Control Processor 40, Style B
Control functions	Regulatory, logic, timing and sequential control
Performance	Fast processor with large block capacity
Fault tolerance	Two CP40B modules in parallel

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 40, Style B

Control functions

Regulatory, logic, timing and sequential control

Performance

Fast processor with large block capacity

Fault tolerance

Two CP40B modules in parallel

Communications

Separate Nodebus and Fieldbus paths for the pair

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 40 Style B, PSS 21H-1B5 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 CP40B marking to the work order and installed position before removal.
02	Confirm the Style B enclosure and its controlled network and Fieldbus interfaces before disconnecting any interface.
03	Keep high-capacity process control and I/O coordination 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 CP40B or matched CP40B 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 40 style b function in an existing Foxboro control system.

Signal-path service

Supports controlled testing of high-capacity process control and I/O coordination at the assigned system position.

Planned replacement

Provides an exact-identity replacement path after the Style B enclosure and its controlled network and Fieldbus interfaces has been verified.

Commissioning

Allows the responsible engineer to prove configuration, diagnostics and response for a single CP40B or matched CP40B 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 modules form a fault-tolerant CP40B station?	Both positions use CP40B modules operating in parallel.
What performance features define CP40B?	The Style B processor provides a fast CPU and large memory capacity for increased block processing.

Release record and technical references

CLOSEOUT QUESTIONS

Which field communication paths are duplicated?	The fault-tolerant pair has separate Nodebus and Fieldbus connections.
How does CP40B report a startup problem?	Red and green front indicators reflect the result of power-up self-check phases.
What continuous diagnostic mechanism is used?	Run-time checks and a watchdog timer monitor processor functions during operation.
Can CP40B be selected from the CP40 name alone?	No. The Style B identity, enclosure and project compatibility must all be confirmed.
What configuration evidence should be saved before removal?	Preserve the control database, station identity, network interfaces, Fieldbus allocation and fault-tolerant pairing.
What acceptance test covers the complete processor path?	Confirm both network paths, Fieldbus I/O, alarm notification and representative regulatory and sequence blocks.

RELATED MODELS FOR INSTALLATION PLANNING

Bently Nevada 135489-03	Installation-planning reference. Review the complete ordering string before selection.
Bently Nevada 330103-00-05-50-12-00	Installation-planning reference. Compare the required interface and system position.
Bently Nevada 330103-00-04-05-02-05	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 40 Style B, PSS 21H-1B5 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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