

CP451-10 S2

CENTUM VP Field Control Unit Processor Module

Yokogawa CP451-10 S2 is a CP451 processor-module execution for the AFV10S or AFV10D CENTUM VP Field Control Unit. It executes field-control functions and participates in the documented redundant processor arrangement.

BRAND	Yokogawa	FAMILY	Yokogawa CENTUM VP AFV10S / AFV10D Field Control Unit
PART	CP451-10 S2	SYSTEM ROLE	Executes the CENTUM VP field-control application

APTER POWER SALES
TEAM

WHATSAPP / PHONE
+86 180 3023 5313
EMAIL sales13@apterp
ower.com
WEBSITE
www.apterpower.com



CP451-10 S2

MANUFACTURER SOURCE RECORD

Field Control Unit AFV10S / AFV10D General Specifications
Yokogawa GS 33K50E30-50E, 4th Edition, 1 April 2013

Product Overview

SYSTEM FUNCTION

Yokogawa CP451-10 S2 is a CP451 processor-module execution for the AFV10S or AFV10D CENTUM VP Field Control Unit. It executes field-control functions and participates in the documented redundant processor arrangement.

FUNCTION 1

Executes the CENTUM VP field-control application

FUNCTION 2

Supports a two-processor redundant FCU arrangement

FUNCTION 3

Coordinates configured ESB and ER bus node-unit communications

FUNCTION 4

Maintains battery-backed control memory during an approved outage

System Components

COMPONENT	DOCUMENTED ROLE
Host / carrier	Yokogawa CENTUM VP AFV10S / AFV10D Field Control Unit
Primary interface	Executes the CENTUM VP field-control application
Engineering context	The processor operates with the AFV10S or AFV10D FCU, associated power modules and configured ESB or ER bus interfaces. Commissioning includes identity, partner-module state, control software, Vnet/IP path, node-unit recognition and controlled process-function verification.
Commissioning duty	Complete controlled loop, sequence and diagnostic tests before process release.

TECHNICAL NOTE

Install CP451-10 S2 in the assigned AFV10S or AFV10D processor position and match the partner module, FCU configuration and CENTUM VP software release. After replacement, verify redundant synchronization, Vnet/IP communications, node-unit status and the retained control application before process release.

Technical Data

PARAMETER	VALUE	PARAMETER	VALUE
Processor module	CP451	Redundant configuration	Two CP451 modules
Host FCU	AFV10S / AFV10D	Vnet/IP interface	Dual-redundant
Processor	VR5432, 133 MHz	Maximum node units	14 per FCU
Main memory	32 Mbyte	Maximum ESB node units	9 per FCU
Memory backup	Battery; maximum 72 hours	Style requirement for SEM	Style 2 or later
Battery recharge	Minimum 48 hours		

Related Products on Apter Power

MODEL	SYSTEM ROLE	APTER POWER PAGE
PW404-S1	power supply module	View PW404-S1 page
A2EE1A-T	system component	View A2EE1A-T page
VF702	interface module	View VF702 page
SB311-S1	SOE interface module	View SB311-S1 page
ANB10D-427-CU2T	ESB node unit	View ANB10D-427-CU2T page
EC402-51	ESB bus coupler module	View EC402-51 page
EB401-50-S1	ER bus interface module	View EB401-50-S1 page
ALF111-S50-S1	FOUNDATION Fieldbus module	View ALF111-S50-S1 page

ENGINEERING BOUNDARY

Confirm CP451-10 S2, AFV10S or AFV10D host, processor partner, hardware style, power modules, Vnet/IP network, ESB/ER interfaces, CENTUM VP software and database versions, time synchronization, SEM requirement and controlled process-test results before commissioning.

Applications and Precautions

Common Applications

CENTUM VP process-control execution

Runs field-control strategies for an AFV10-series control station.

Redundant controller maintenance

Restores one CP451 processor position while preserving the approved partner state.

Distributed I/O coordination

Coordinates configured ESB or ER bus node units through the FCU architecture.

Sequence-of-events support

Supports SEM use when the installed FCU hardware meets the documented style requirement.

Product Precautions

- 1

Confirm the full CP451-10 S2 marking, hardware style and assigned AFV10 FCU.
- 2

Place the controlled process and redundant partner in the approved maintenance state.
- 3

Back up the CENTUM VP control database and record active diagnostics.
- 4

Use ESD controls and isolate the affected processor position according to Yokogawa procedure.
- 5

Inspect the FCU connector and verify the partner CP451 module identity.
- 6

Restore the approved software, database and communication configuration.
- 7

Verify redundant synchronization, Vnet/IP paths and all configured node units.
- 8

Complete controlled loop, sequence and diagnostic tests before process release.

IMPORTANT NOTICE

Confirm CP451-10 S2, AFV10S or AFV10D host, processor partner, hardware style, power modules, Vnet/IP network, ESB/ER interfaces, CENTUM VP software and database versions, time synchronization, SEM requirement and controlled process-test results before commissioning.

ACCEPTANCE CHECK	REQUIRED EVIDENCE
Identity	CP451-10 S2
Configuration	Verify redundant synchronization, Vnet/IP paths and all configured node units.
Functional release	Complete controlled loop, sequence and diagnostic tests before process release.

Engineer FAQ

Q1 What exact function does CP451-10 S2 perform as a CENTUM VP Field Control Unit Processor Module?

It executes the CENTUM VP field-control application and participates in the documented redundant processor pair.

Q3 Which connection checks are required for CP451-10 S2?

Verify the FCU processor connector, partner module and ESD-controlled replacement procedure.

Q5 Which diagnostic evidence should be reviewed for CP451-10 S2?

Review processor redundancy, Vnet/IP, node-unit, memory and application diagnostics.

Q7 How should CP451-10 S2 be commissioned after installation?

Synchronize the processor pair, prove communications and complete controlled process-function tests.

Q2 Which host system must be confirmed before installing CP451-10 S2?

Confirm the documented Yokogawa CENTUM VP AFV10S / AFV10D Field Control Unit host and the complete CP451-10 S2 marking before work.

Q4 How should the installed configuration for CP451-10 S2 be preserved?

Restore the approved CENTUM VP project, database, network and node-unit definitions.

Q6 What must be recorded before replacing CP451-10 S2?

Record the complete marking, style, partner identity, software/database releases and diagnostic baseline.

Q8 Which model-specific limitation applies to CP451-10 S2?

SEM use requires AFV10-series hardware at style 2 or later.

MANUFACTURER SOURCE RECORD

Field Control Unit AFV10S / AFV10D General Specifications
Yokogawa GS 33K50E30-50E, 4th Edition, 1 April 2013

APTER POWER SALES TEAM

WHATSAPP / PHONE +86 180 3023 5313
EMAIL sales13@apterpower.com
WEBSITE www.apterpower.com



CP451-10 S2