General Specifications

GS 33M50E60-40E

Models AFS40S, AFS40D
AFG40S, AFG40D
Field Control Unit
Duplexed Field Control Unit
(for FIO, with Cabinet)

CENTUM VP

■ GENERAL

This GS covers the hardware specifications for the Field Control Unit (FCU) which is the intelligence part in the Field Control Station (FCS).

■ HARDWARE SPECIFICATIONS

For the installation specifications and the environmental conditions common to the systems, refer to “System Overview” (GS 33M01A10-40E).

Processor
VR5432 (133 MHz)

Main Memory Capacity
AFS40S, AFS40D: 16 Mbyte
AFG40S, AFG40D: 32 Mbyte

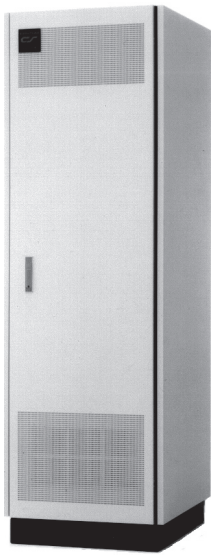
Memory Protection During Power Failure
Battery
Battery Back-up for Main Memory: Max. 72 hours
Battery Recharge Time: Min. 48 hours

FCU Status Contact Output
Three terminals (NC, NO, C)
Contact Points open or closed during FCU failure
Contact Rating:
Rated voltage: 250 V AC, max. 30 V DC
Rated current: Max. 2 A
Rated power supply: Max. 125 VA

Communication Interface
V net interface: Dual-redundant
ESB bus interface: Dual-redundant or single

No. of Node Units Connectable
Local Node units: Max.10/FCU
Remote Node units:
Max. 9/FCU
Max. 8/ER Bus
When both Local and Remote Node units used:
Max.10/FCU

However, when using “Remote Node Expanded” FCS database type at FCU model AFG40S or AFG40D, No. of Node comes to be shown below.
Local Node units: Max.10/FCU
Remote Node units:
Max.14/FCU
Max. 8/ER Bus
When both Local and Remote Node units used:
Max.15/FCU



[FCU with Cabinet]

Mounting Restrictions
Max. No. of 9 Node units can be installed in a cabinet. (Front side: 5, Rear end: 4)

When a Node unit is to be used under the temperature environment (0 to 40 ˚C), the Max. number is ten per cabinet. (Front side: 5, Rear end: 5)

Weight
Approx. 250 kg (excluding nodes)
Approx. 400 kg (at maximum node installation)

Power Supply
(specify with Suffix Codes)
Voltage: 100–120 V AC, Frequency: 50/60 Hz
Voltage: 220–240 V AC, Frequency: 50/60 Hz
Voltage: 24 V DC

Electric Power Consumption
100-120 V AC: 1800 VA (at max. node installation)
220-240 V AC: 2100 VA (at max. node installation)
24 V DC: 53 A (at max. node installation)

Connection
Power Supply: M6 screw terminal connection
(dual power system possible)
Grounding: M8 bolt terminal connection
Contact Output: M4 screw terminal connection

Paint Color
Main body: Frosty white (Munsell No. 2.5 Y 8.4/1.2)
Channel base: Spring black (Munsell No. 3.3PB2.5/0.5)

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Tel: 81-422-52-5634 Fax: 81-422-52-9802

GS 33M50E60-40E

1st Edition Feb. 4, 2008(YK)

Channel Base Option Specification

Channel base with hole for cable: (Option Code: /CH)
A hole for cables, 300 (length) by 40 (width) mm is opened at the rear of the channel base (with filler plate at time of delivery).

IP Protection Rating

IP20

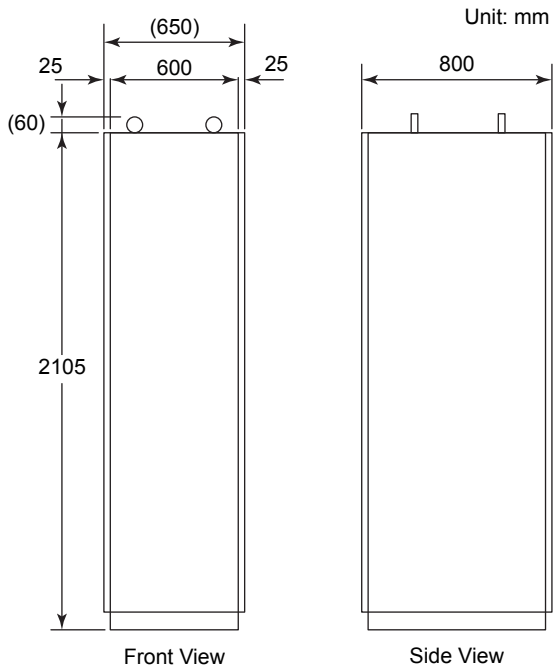
Regulatory Compliance

For the detailed information of following standards, see Integrated Production Control System CENTUM VP System Overview (GS 33M01A10-40E).

Safety Standards
- [CSA] (for 100-120 V AC power supply)
- [CE Mark] (for 220-240 V AC power supply)

EMC Conformity Standards
- [CE Mark] (for 220-240 V AC and 24 V DC power supply)
- [C-Tick Mark] (for 220-240 V AC and 24 V DC power supply)

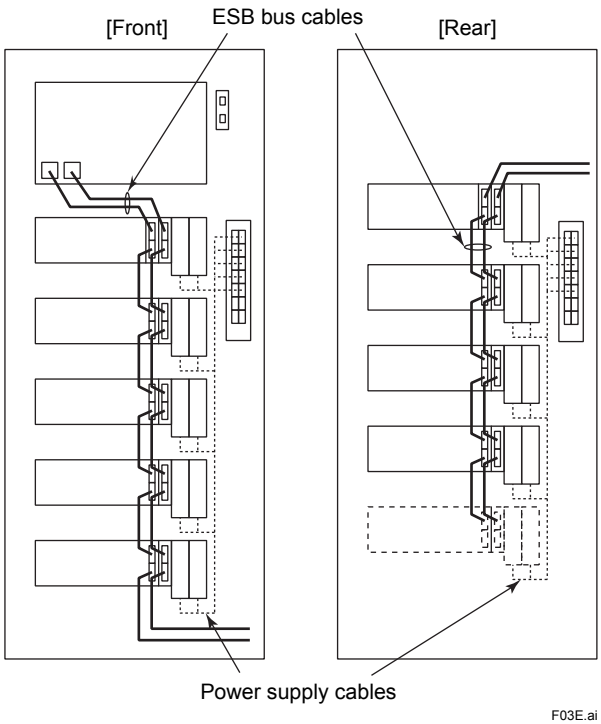
■ EXTERNAL DIMENSIONS



■ HARDWARE CONFIGURATION

The max. no. of Node Unit (NU) installable is as follows.

Front side of cabinet: Five units
Rear end of cabinet: Four units



Configuration example of nodes and installation positions within the cabinet.

■ MODELS AND SUFFIX CODES

Field Control Unit (with Cabinet)

		Description
Model	AFS40S	Field Control Unit (for FIO, with Cabinet)
Suffix Codes	-H	Standard Type (Main Memory 16 Mbyte)
	2	Dual-Redundant V net, Single ESB bus
	4	Dual-Redundant V net, Dual-Redundant ESB bus
	1	Always 1
	1	100–120 V AC power supply
	2	220–240 V AC power supply
	4	24 V DC power supply
	3	LFS1300 Basic software license for Control Function for Standard Field Control Station (for FIO, for CP345)
Option Codes	/□□-S81	Node Unit for Single ESB Bus and Single power supply (*2)
	/□□-S82	Node Unit for Single ESB Bus and Dual-Redundant power supply (*2)
	/□□-D82	Node Unit for Dual-Redundant ESB Bus and Dual-Redundant power supply (*2)
	/CH	Channel Base with cable hole (*1)
	/CE	with CE Mark and C-Tick Mark

*1: AFS40S with this option code (/CH) dose not have CE Mark or C-Tick Mark.
*2: Fill the installation quantity in the □□. Total no. installable is 9. When node units are be used under the temperature environment (0 to 40 ˚C), the total number installable is ten. The mix of -S81, -S82, -D82 is impossible.
ESB bus cables and connector units are mounted to these Node units.

Duplexed Field Control Unit (with Cabinet)

		Description
Model	AFS40D	Duplexed Field Control Unit (for FIO, with Cabinet)
Suffix Codes	-H	Standard Type (Main Memory 16 Mbyte)
	4	Dual-Redundant V net, Dual-Redundant ESB Bus
	E	Dual-Redundant V net, Dual-Redundant ESB Bus with SOE interface (*1)
	1	Single power supply
	2	Dual power supply
	1	100–120 V AC power supply
	2	220–240 V AC power supply
	4	24 V DC power supply
	3	LFS1300 Basic software license Control Function for Standard Field Control Station (for FIO, for CP345)
Option Codes	/□□-D82	Node Unit for Dual-Redundant ESB Bus and Dual-Redundant power supply (*3)
	/CH	Channel Base with cable hole (*2)
	/CE	with CE Mark and C-Tick Mark

*1: Please order one terminator (Model YCB128) required on the IRIG-B branch unit at the FCS that comes at the end of the RS-422 time synchronization link.
*2: AFS40D with this option code (/CH) dose not have CE Mark or C-Tick Mark.
*3: Fill the installation quantity in the □□. Total no. installable is 9. When node units are to be used under the temperature environment (0 to 40 ˚C), the total number installable is ten.
ESB bus cables and connector units are mounted to these Node units.

Field Control Unit (with Cabinet)

		Description
Model	AFG40S	Field Control Unit (for FIO, with Cabinet)
Suffix Codes	-H	Standard Type (Main Memory 32 Mbyte)
	2	Dual-Redundant V net, Single ESB bus
	4	Dual-Redundant V net, Dual-Redundant ESB bus
	1	Always 1
	1	100–120 V AC power supply
	2	220–240 V AC power supply
	4	24 V DC power supply
	3	LFS1330 Basic software license for Control Function for Enhanced Field Control Station (for FIO, for CP345)
Option Codes	/□□-S81	Node Unit for Single ESB Bus and Single power supply (*2)
	/□□-S82	Node Unit for Single ESB Bus and Dual-Redundant power supply (*2)
	/□□-D82	Node Unit for Dual-Redundant ESB Bus and Dual-Redundant power supply (*2)
	/CH	Channel Base with cable hole (*1)
	/CE	with CE Mark and C-Tick Mark

*1: AFG40S with this option code (/CH) dose not have CE Mark or C-Tick Mark.
*2: Fill the installation quantity in the □□. Total no. installable is 9. When node units are to be used under the temperature environment (0 to 40 ˚C), the total number installable is ten. The mix of -S81, -S82, -D82 is impossible.
ESB bus cables and connector units are mounted to these Node units.

Duplexed Field Control Unit (with Cabinet)

		Description
Model	AFG40D	Duplexed Field Control Unit (for FIO, with Cabinet)
Suffix Codes	-H	Standard Type (Main Memory 32 Mbyte)
	4	Dual-Redundant V net, Dual-Redundant ESB Bus
	E	Dual-Redundant V net, Dual-Redundant ESB Bus with SOE interface (*1)
	1	Single power supply
	2	Dual power supply
	1	100–120 V AC power supply
	2	220–240 V AC power supply
	4	24 V DC power supply
	3	LFS1330 Basic software license Control Function for Enhanced Field Control Station (for FIO, for CP345)
Option Codes	/□□-D82	Node Unit for Dual-Redundant ESB Bus and Dual-Redundant power supply (*3)
	/CH	Channel Base with cable hole (*2)
	/CE	with CE Mark and C-Tick Mark

*1: Please order one terminator (Model YCB128) required on the IRIG-B branch unit at the FCS that comes at the end of the RS-422 time synchronization link.
*2: AFG40D with this option code (/CH) dose not have CE Mark or C-Tick Mark.
*3: Fill the installation quantity in the □□. Total no. installable is 9. When node units are to be used under the temperature environment (0 to 40 ˚C), the total number installable is ten.
ESB bus cables and connector units are mounted to these Node units.

Side Panels for Cabinet

		Description
Model	ACB2P	Side Panels for Cabinet

Note: Two panels are necessary when mounting on both sides of the cabinet.

■ SOFTWARE REQUIREMENT

For AFS40S and AFS40D, LFS1300 Control Function for Standard Field Control Station (for FIO) is required, and for AFG40S and AFG40D, LFS1330 Control Function for Enhanced Field Control Station (for FIO) is required. Specify these control functions with suffix code.

For the specifications of LFS1300 and LFS1330, refer to GS 33M15C30-40E and GS 33M15C40-40E, respectively.

■ ACCESSORIES AND SPARE PARTS

The spare parts listed below are provided with the FCU.

Parts Names	Parts Numbers	Description	Quantity	Remarks
Fuse	S9528VK	1.6 A 125 V Fast blow (F)	1	For Fan
Filter	T9070CB	–	2	For Doors

■ RELATED PRODUCTS

Model AKT211 Connection Kit for Cabinet

■ ORDERING INFORMATION

Specify model and suffix codes.

■ TRADEMARK

- CENTUM is a registered trademark of Yokogawa Electric Corporation.
- Other company and product names appearing in this document are trademarks or registered trademarks of their respective holders.