

General Specifications

GS 33J60E60-01EN

A2BE1D, A2FU1, A2FU2
 Base Plate (for FCU)
 HKU Interface Unit
 Primary Power Distribution Unit (for FCU)



[Release 6]

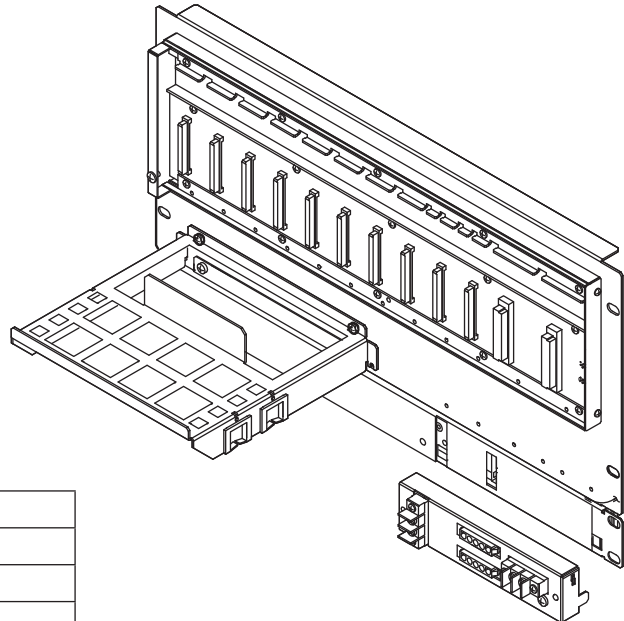
■ GENERAL

Base Plate (for FCU) constitutes Field Control Unit (FCU) with each function module such as Power Supply Module, Processor Module, Bus Interface Module and I/O Module.

In addition, Base Plate (for FCU) selects an external interface by combining with HKU Interface Unit (A2FU1) or Primary Power Distribution Unit (A2FU2).

■ STANDARD SPECIFICATIONS

For the installation specifications and the environmental conditions common to the systems, refer to "Integrated Production Control System CENTUM VP System Overview" (GS 33J01A10-01EN).



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● Slots and Corresponding Modules

Slot	Module
P1 to P2(*1)	Power Supply Module
C1 to C2(*2)	Processor Module
IO1 to IO8	Bus Interface Module, I/O Module
Connector for external unit connection (*3)	HKU Interface Unit (A2FU1) Primary Power Distribution Unit (A2FU2)

- *1: To install Power Supply Module as a single configuration, it must be installed in slot P1.
- *2: To install Processor Module as a single configuration, it must be installed in slot C1.
- *3: Select a connector depending on the application.

● Selecting Control Function

The FCU constituted by A2BE1D can use Control Functions described in the table below for Field Control Station. Select a Control Function depending on the application.

Control Function	System
VP6F1700 (For AFV30□.AFV40□)	FIO System
VP6F1800 (For A2FV50□)	N-IO System
VP6F1900 (For A2FV70□)	RIO System Up Grade

● Memory Protection During Power Failure

A battery for memory protection during power failure is installed on the Processor Module. For detail, refer to "Processor Module" (GS 33J60E30-01EN).

● Communication Interface

Communication Interface is installed on the Processor Module. For detail, refer to "Processor Module" (GS 33J60E30-01EN).

● Power Supply

Voltage: 100-120 V AC, Frequency: 50/60 Hz
 Voltage: 220-240 V AC, Frequency: 50/60 Hz
 Voltage: 24 V DC
 Connection:

External Unit	Connection
A2FU1	Exclusive connector Primary power is input into Power Supply Module. For detail, refer to "Power Supply Module" (GS 33J60E70-01EN).
A2FU2	M4 screw terminal connection

● **Power Consumption**

100-120 V AC: 200 VA
 220-240 V AC: 230 VA
 24 V DC: 5.5 A

Note: These are the values at the maximum installation capacity of A2BE1D.

● **Weight**

A2BE1D: Approx. 3.5kg
 A2FU□: Approx. 0.2kg

● **Mounting**

19-inch Rack Mounting:
 Rack mount (M5x8 screws)
 Insulation bush (accessory)

● **HKU Interface (A2FU1)**

When A2FU1 is installed on A2BE1, FCU fault contact is output from the HKU. It enables the monitoring of environmental conditions of the cabinet connected the HK bus and displays the operating status of the HKU, as well as system alarms on the HIS.

● **READY Contact Output (A2FU2)**

When A2FU2 is installed on A2BE1, FCU fault contact is output from READY Contact.

2 terminals (NC, C)

Contact Points open during FCU failure

Contact Rating: 30 V DC, max. 0.3 A

Connection: M4 screw terminal connection

● **Connecting A2FU1 or A2FU2**

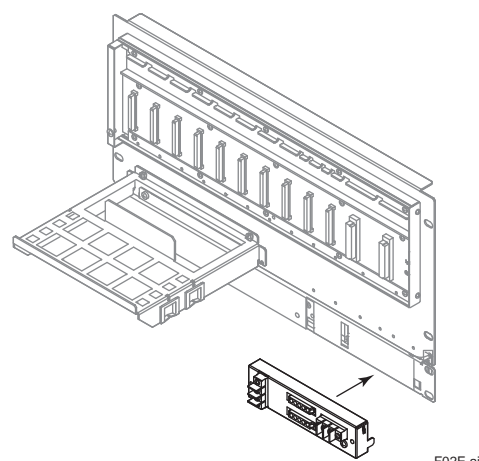
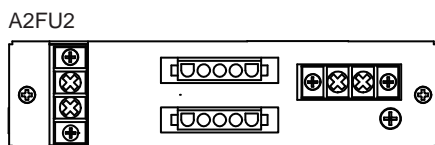
A2BE1D must be used in combination with A2FU1 or A2FU2 depending on the application.

The following table describes the functions and connection methods.

Model	Name	Function
A2FU1 (*1) (*2)	HKU Interface Unit	A2FU1 has an interface connector which can be connected to ACUKT1, ACUKT2, A2CUKT3 and A2CUKT4. (Internal HK bus)
A2FU2	Primary Power Distribution Unit (for FCU)	A2FU2 has an input interface and a READY Contact Output.

*1: A2FU1 can be used only with Control Function is VP6F1700(For AFV30□.AFV40□) or VP6F1900 (For A2FV70□).

*2: FCU does not comply with explosion protection standards and marine standards when A2FU1 is selected. For detail, refer to "Integrated Production Control System CENTUM VP System Overview" (GS 33J01A10-01EN).



● Module Configuration

Power Supply Module (PW481, PW482, or PW484): 2 modules for dual-redundant configuration (*1) (*2) (*3)

Processor Module (CP471): 2 modules for dual-redundant configuration (*3) (*4)

I/O Module (*5): Each 2 modules for dual-redundant configuration and total Max. 8

- *1: To install Processor Modules as a dual-redundant configuration, Power Supply Modules must be installed in both slots P1 and P2.
- *2: To install Power Supply Module as a single configuration, it must be installed in slot P1.
- *3: Dual-redundant configuration is enabled by installing 2 identical modules with the same model code.
- *4: To install Processor Module as a single configuration, it must be installed in slot C1.
- *5: I/O Modules that can be installed for each Control Function are different. For detail, refer to “● Installation Restrictions”.

● Installation Restrictions

Installing I/O Modules in the FCU has restrictions depending on the Control Function used.

Control Function VP6F1700(For AFV30□, AFV40□)

- To connect the FIO Node Unit or Optical ESB Bus Repeater Unit to the FCU, install the ESB Bus Coupler Module (EC401 or EC402) in slots 7 and 8 of the FCU. For the dual-redundant configuration of the Processor Modules, EC401 or EC402 must be installed in both slots 7 and slot 8. In a single configuration of ESB Bus, EC401 or EC402 must be installed in slot 7 and keep slots 8 empty.
- To install the FIO Node Unit in a remote location, use the Optical ESB Bus Repeater Master Module (ANT401 or ANT411) to connect them with an optical fiber cable. To install the Optical ESB Bus Repeater Master Module in the FCU, install a pair of modules in slots 1 to 6 in order from the right to the left according to the number of branches. In a single configuration, install the individual modules in slots 1, 3, and 5 in order from the right to the left. For details, refer to “Optical ESB Bus Repeater Module” (GS 33J60F51-01EN/GS 33J60F52-01EN).

For limitations and precautions related to the installation of I/O Modules, refer to “FIO System Overview” (GS 33J60A10-01EN).

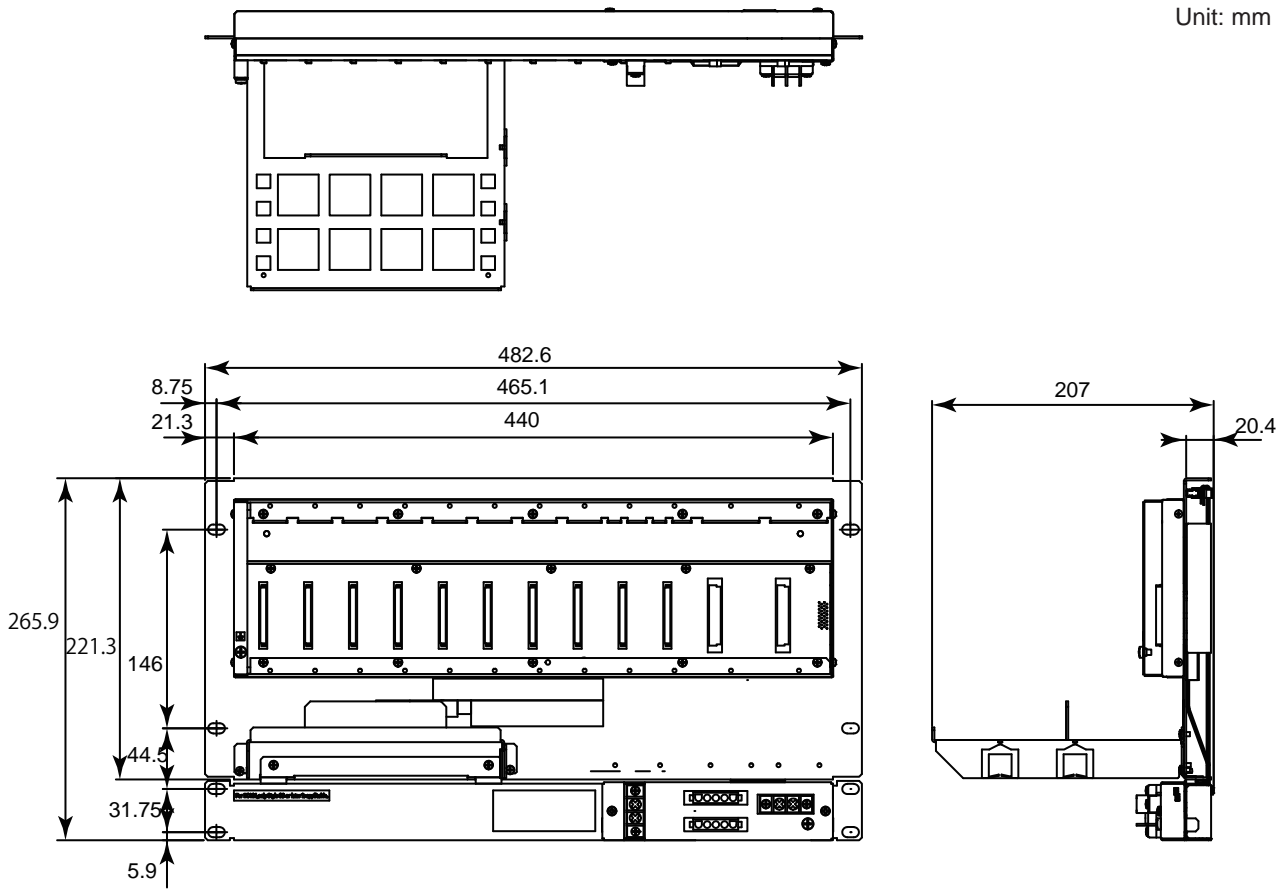
Control Function VP6F1800(For A2FV50□) and VP6F1900(For A2FV70□)

- The following modules can be installed in FCU. For details, refer to the GS of each module. [Communication Modules (ALR111, ALR121, ALE111, ALF111, ALP121, A2LP131, and A2LP141), ESB Bus Coupler Modules (EC401 and EC402), N-ESB Bus Coupler Modules (A2EN402 and A2EN404), and Optical ESB Bus Repeater Modules (ANT401 and ANT411)]
- When using EC401 or EC402 ESB bus coupler module, install them in slots 7 and 8 of the FCU. ESB Bus Coupler Modules (EC401/EC402) shall always be used in a dual-redundant configuration.
- A pair of ANT401 or ANT411 Optical ESB Bus Repeater Master Modules is to be installed in an odd-number slot and the one on the right of the slots 1 to 6 according to the number of branches. Optical ESB Bus Coupler Modules (ANT401/ANT411) shall always be used in a dual-redundant configuration.
- A pair of A2EN402 or A2EN404 N-ESB Bus Coupler Modules is to be installed in an odd-number slot and the one on the right of the slots 1 to 8 according to the number of branches. Note that the pair of A2EN402/A2EN404 cannot be installed in slots 7 and 8 of the FCU when EC401/EC402 are installed (as these modules occupy slots 7 and 8). N-ESB Bus Coupler Modules (A2EN402/A2EN404) shall always be used in a dual-redundant configuration.
- A single configuration or dual-redundant configuration can be selected for the Communication Modules (ALR111, ALR121, ALE111, ALF111, ALP121, and A2LP141). The PROFINET Communication Module (A2LP131) is always used in a single configuration with only 1 module.

For limitations and precautions related to the installation of I/O Modules, see “N-IO System Overview” (GS 33J62A10-01EN).

EXTERNAL DIMENSION

Unit: mm



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Nominal tolerances :
 Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
 The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 mm.

SOFTWARE REQUIREMENT

A separate software license is required for A2BE1D.
 For details, refer to the corresponding GS of the Control Function.

Control Function	GS No	GS Title	System
VP6F1700	GS 33J15C10-01EN	VP6F1700 Control Function for Field Control Station (for AFV30□/AFV40□)	FIO System
	GS 33J15A10-01EN	VP6F3100 Project I/O License	
VP6F1800	GS 33J15C15-01EN	VP6F1800 Control Function for Field Control Station (for AFV50□)	N-IO System
	GS 33J15A10-01EN	VP6F3100 Project I/O License	
VP6F1900	GS 33J15C20-01EN	VP6F1900 Control Function for Field Control Station (for AFV70□)	RIO System up grade
	GS 33J15A10-01EN	VP6F3100 Project I/O License	

STANDARD ACCESSORIES

A2BE1D includes the following accessories.

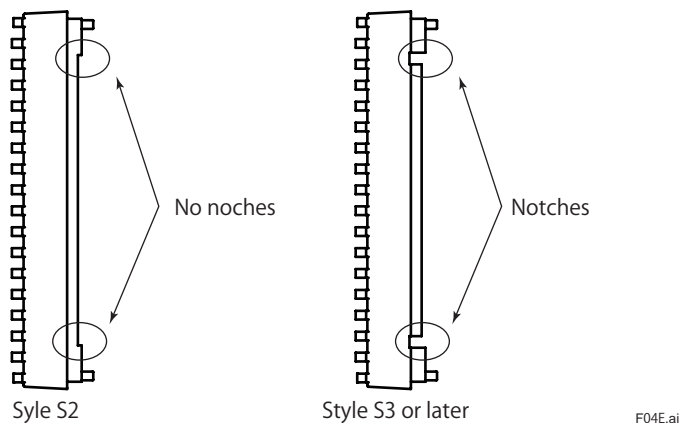
Part Name	Part Number	Quantity	Remarks
Insulating bush	S9049PM	8	Accessory

■ RELATED PRODUCTS

Protect the empty slots where no Module is installed by using a Dummy Cover.

Model	Description
ADCV01	Dummy Cover (for Processor Module (*1), I/O Module)
ADCV02	Dummy Cover (for Power Supply Module)

*1: Style S2 cannot be used for Processor Module. For details about the differences of style, refer to the following drawings.



■ MODEL AND SUFFIX CODES

Base Plate (for FCU)

Model	Description	
A2BE1D	Base Plate (for FCU)	
Suffix Codes	-S	Standard type
	0	With no explosion protection
	1	With explosion protection
	0	Basic type
	1	With ISA Standard G3 option
0	Always 0	

Note: To meet the safety standards and EMC standards, the unit must be installed in a keyed metallic cabinet.

HKU Interface Unit

Model	Description	
A2FU1	HKU Interface Unit	
Suffix Codes	0	Basic type
	1	With ISA Standard G3 option
	0	Always 0

Note: To meet the safety standards and EMC standards, the unit must be installed in a keyed metallic cabinet.

Note: When used in combination with ACUKT□ or A2CUKT□, connect A2FU1 to A2BE1D.

Primary Power Distribution Unit (for FCU)

		Description
Model	A2FU2	Primary Power Distribution Unit (for FCU)
Suffix Codes	-1	100 - 120 V AC power supply
	-2	220 - 240 V AC power supply
	-4	24 V DC power supply
	1	Always 1
	0	Basic type
	1	With ISA Standard G3 option
	0	Always 0

Note: To meet the safety standards and EMC standards, the unit must be installed in a keyed metallic cabinet.

■ APPLICABLE STANDARDS

Refer to the GS “Integrated Production Control System CENTUM VP System Overview” (GS 33J01A10-01EN).

■ ORDERING INFORMATION

Specify the model and suffix code(s).

For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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