

# General Specifications

ACB51  
I/O Expansion Cabinet  
(for AFV30□/AFV40□)



GS 33J60K10-01EN

[Release 6]

## ■ GENERAL

The ACB51 I/O Expansion Cabinet is used to install an ESB Bus Node Unit, Optical ESB Bus Node Unit, and Unit for Optical ESB Bus Repeater Module. It can be installed beside a Field Control Unit (AFV40□) or separately. Node units and other units can be installed at the front and rear of the cabinet.

AFV30□, AFV40□, ACB51, ANB10□, ANB11□, and ANT10U can also be constructed by combining the Base Plate and each module. Refer to "FIO System Overview" (GS 33J60A10-01EN).

## ■ HARDWARE SPECIFICATIONS

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

### ● Installable Units

ESB Bus Node Unit: ANB10□  
Optical ESB Bus Node Unit: ANB11□  
Unit for Optical ESB Bus Repeater Module: ANT10U

### ● Maximum Number of Units that can be Installed in Cabinet

The maximum number of installable units is 12 (6 at the front and 6 at the rear).  
The maximum number of units that can be installed with option codes is 9.  
Only one Optical ESB Bus Node Unit (ANB11□) can be installed.

### ● Number of Node Fan Units to be Installed

The required number of node fan units varies depending on the total number of ESB bus node units, optical ESB bus node units, and units for the optical ESB bus repeater module to be installed in the cabinet.

Total Number of Units (*1)	Number of Node Fan Units
0 to 4	0 (*2)
5	1
6 - 10	2
11	3
12	4

\*1: ESB Bus Node Units, Optical ESB Bus Node Units, and Units for Optical ESB Bus Repeater Module

\*2: The option does not need to be specified.

### ● Function of House Keeping Unit (HKU)

A House Keeping Unit (HKU) is standard hardware component provided with ACB51.

Temperatures and fans in the cabinet can be monitored on HIS by connecting AFV40□ and ETBC to the HK bus (AKBHKU or optical ESB bus).

Cable: HK Bus cable (AKBHKU)

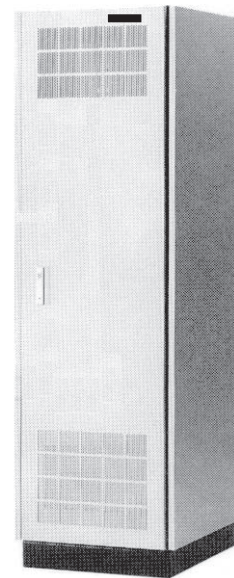
Units that can be connected HKU of AFV40□: HKU of ACUKT1, ACUKT2, AFV40□, ACB51, or XL-Cabinet.

Maximum number of connectable cabinets (\*1): 9/FCU

Total maximum length of cable: 100 m (\*2)

\*1: The maximum number of connectable ETBC units is 6/FCU

\*2: The each section connected in a daisy chain with HK bus.



### ● Fan Alarm Contact Output

Three terminals (NC, NO, C) Contact Rating:

Rated voltage: 250 V AC/30 V DC or less

Rated current: 2 A

Rated power: 125 VA or less

### ● Power Supply

Voltage: 100-120 V AC, Frequency: 50/60 Hz

Voltage: 220-240 V AC, Frequency: 50/60 Hz

Voltage: 24 V DC

Specify with suffix code

### ● Power Consumption

100-120 V AC: 2500 VA (when the maximum number of nodes is installed)

220-240 V AC: 2860 VA (when the maximum number of nodes is installed)

24 V DC: 71 A (when the maximum number of nodes is installed)

### ● Weight

Approx. 380 kg (when the maximum number of nodes is installed)

### ● Connection

Power Supply: M6 screw terminal connection (Dual power supply is also possible)

Grounding: M8 bolt terminal connection

Contact Output: M4 screw terminal connection

### ● Paint Color

Basic Color: Frosty white (Munsell No. 2.5Y8.4/1.2)

Channel Base: Spring black (Munsell No. 3.3PB2.5/0.5)

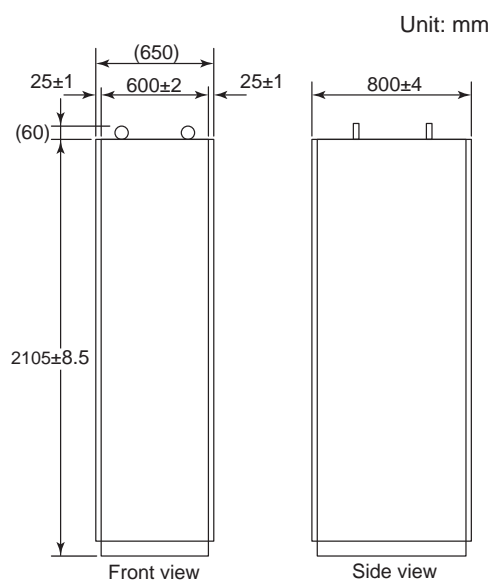
### ● Channel Base with Hole for Cable: (Option Code: /CH)

A hole for cables measuring 300 mm in length by 40 mm in width is opened at the rear of the channel base (with a filler plate at the time of delivery).

### ● IP Protection Rating

IP20 (When ACB2P Side Panels are installed on both sides of the cabinet)

## ■ EXTERNAL DIMENSIONS



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## ● Unit Installation Example

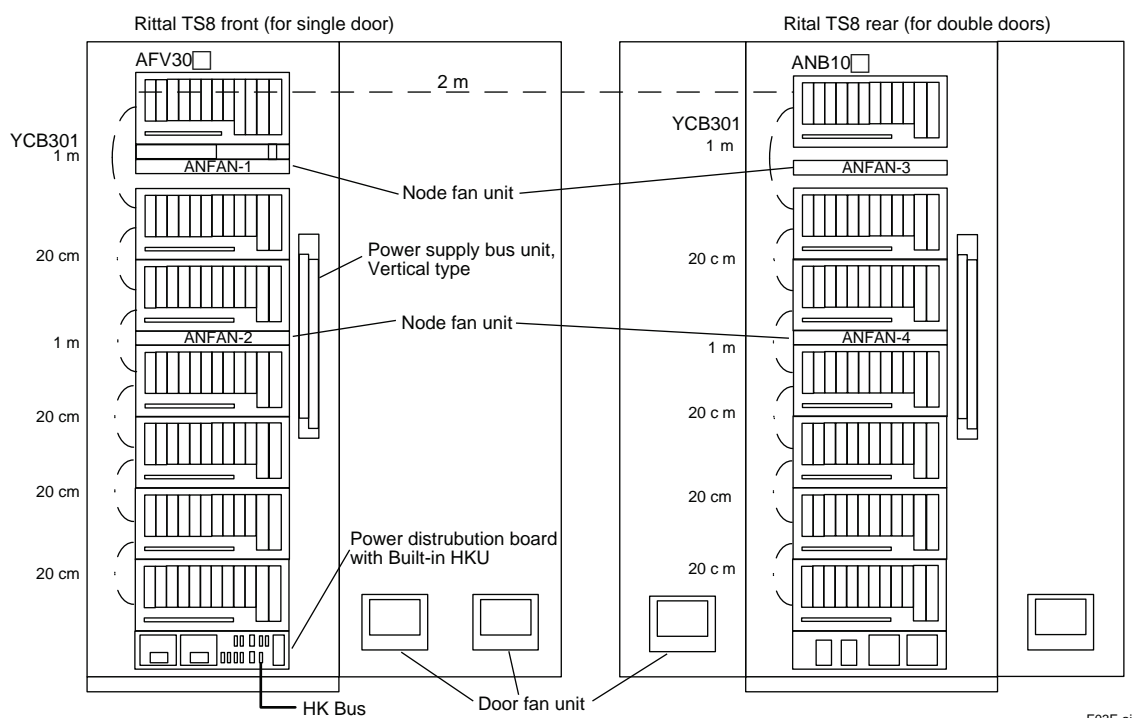
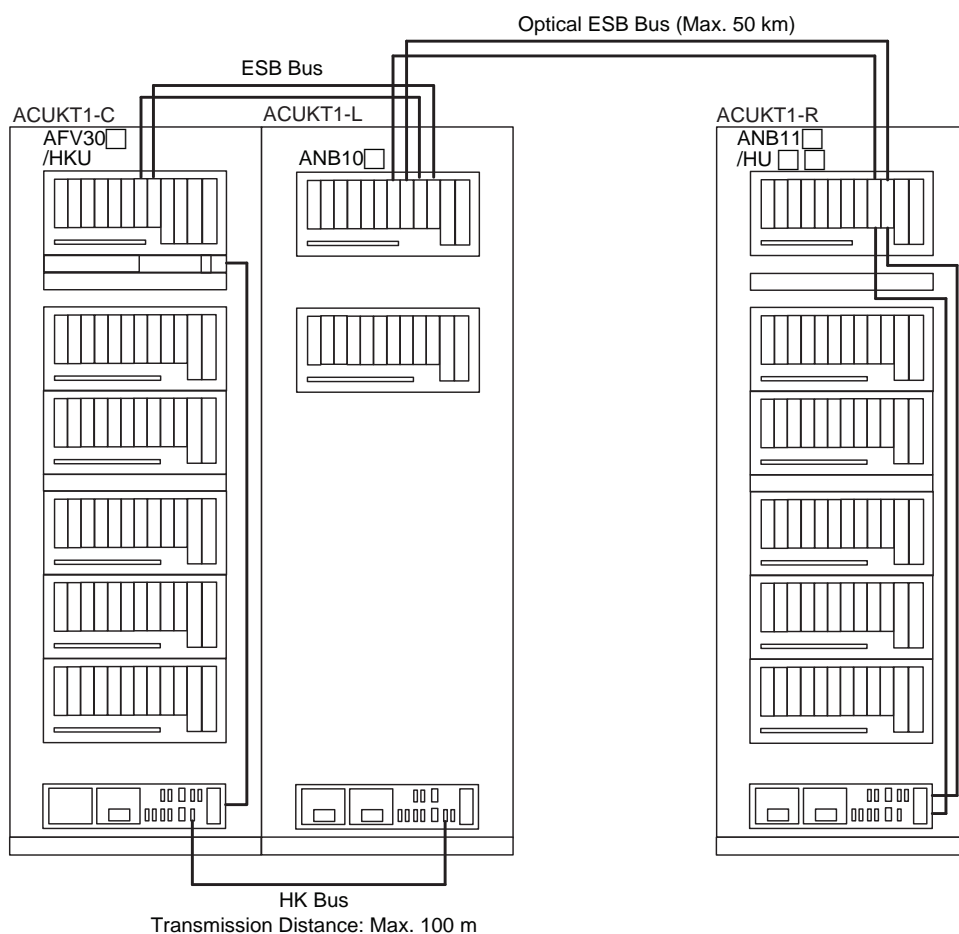


Figure: Example of ACB51-H12□0/1-D2A/8-D2C/2-FAN

## ● HK Bus Connection Example



## ■ Models and Suffix Codes

### I/O Expansion Cabinet (for AFV30□/AFV40□)

		Description
<b>Model</b>	ACB51	I/O Expansion Cabinet (for AFV30□/AFV40□)
<b>Suffix Codes</b>	-H	With HKU
	1	Front/Rear for node unit mounting
	2	Front: for node unit mounting Rear: 19-inch rack equipment mounting (*3)
	1	Single power system
	2	Dual power system
	1	100-120 V AC power supply
	2	220-240 V AC power supply
	4	24 V DC power supply
<b>Option Codes</b>	2	Always 2 (R6.01 or later)
	/1-S1D	"Node unit for Single ESB Bus with 5 km Optical Repeater Single power supply module [Model: ANB11S-A□5] (*1)
	/1-S1E	Node unit for Single ESB Bus with 5 km - 50 km Optical Repeater Single power supply module [Model: ANB11S-C□5] (*1)
	/1-S2D	Node unit for Single ESB Bus with 5 km Optical Repeater Dual-redundant power supply module [Model: ANB11S-B□5] (*1)
	/1-S2E	Node unit for Single ESB Bus with 5 km - 50 km Optical Repeater Dual-redundant power supply module [Model: ANB11S-D□5] (*1)
	/1-D2D	Node unit for Dual-redundant ESB Bus with 5 km Optical Repeater Dual-redundant power supply module [Model: ANB11D-B□5] (*1)
	/1-D2E	Node unit for Single ESB Bus with 5 km - 50 km Optical Repeater Dual-redundant power supply [Model: ANB11D-D□5] (*1)
	/□-S1F	Node unit for Single ESB Bus Single power supply [Model: ANB10S-3□5] (*1)
	/□-S2F	Node unit for Single ESB Bus Dual-redundant power supply [Model: ANB10S-4□5] (*1)
	/□-D2F	Node unit for Dual-redundant ESB Bus Dual-redundant power supply [Model: ANB10D-4□5] (*1)
	/□-T1A	Unit for Optical ESB Bus repeater Module Single power supply [Model: ANT10U-3□5] (*1)
	/□-T2A	Unit for Optical ESB Bus repeater Module Dual-redundant power supply [Model: ANT10U-4□5] (*1)
	/□-FAN	Node fan unit [Model: ANFAN-□0] (*2)
	/CH	Channel base with cable hole (*3)
	/CE	With CE Marking, RCM, EAC Marking, KC Marking, Morocco Compliance Marking (C <sub>p</sub> Marking), and UAE RoHS, and UKCA Marking
	/ATDOC	Explosion Protection Manual (*4)

Note: Install units in the cabinet from the upper front space in the following order: ANB11□, ANB10□, and ANT10U.

The connector units for ESB bus and ESB Bus Cables (YCB301) between the node units in the cabinet are all installed. However, the ESB bus cable between the ANT10U and node unit is not connected.

Note: To perform communication between cabinets, the HKUs of the cabinets must be connected with the HK Bus Cable (AKBHKU). (However, an HK bus cable is not required to connect cabinets via the optical ESB bus.)

Note: If the terminal board is installed but the power supply or the like is not needed, select ACB41-S3000.

Note: The existing ACB51-□□□□0 for CENTUM VP R5 can be used with CENTUM VP R6.01 or later.

\*1: Specify the number of units (1 to 9) in □ as needed.

The maximum number of units (ANB11□, ANB10□, and ANT10U) that can be installed in the cabinet is 9.

To connect to ANB10□ and ANT10U in this cabinet from the ESB Bus Coupler Module (EC402) in FCU of another cabinet via the ESB bus, it is possible to connect only to the ESB bus on either the upper or lower side of the ESB bus connector of EC402.

To install different types of units in the same cabinet, only the following combinations of units can be installed.

- /1-S1D, /□-S1F, /□-T1A      • /1-S2D, /□-S2F      • /1-D2D, /□-D2F, /□-T2A
- /1-S1E, /□-S1F, /□-T1A      • /1-S2E, /□-S2F      • /1-D2E, /□-D2F, /□-T2A

\*2: The node fan unit should be specified as follows depending on the total number of units (ANB11□, ANB10□, and ANT10U) that are to be installed in the cabinet.

- 0 to 4 units: Do not specify      • 5 units: /1-FAN      • 6 to 10 units: /2-FAN
- 11 units: /3-FAN      • 12 units: /4-FAN

\*3: If /CH is specified, ACB51 does not comply with CE Marking, RCM, EAC Marking, KC Marking, C<sub>p</sub> Marking, UAE RoHS, and UKCA Marking.

\*4: Select the option code "/ATDOC" to follow the ATEX Directive and UKEX Regulation for use in potentially explosive atmospheres.

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**Side Panel for Cabinet**

		Description
Model	ACB2P	Side Panels for Cabinet

Note: 2 panels are necessary when attaching to both sides of the cabinet.

**■ RELATED PRODUCTS**

Model AKT211 Connection Kit for Cabinet

**■ APPLICABLE STANDARDS**

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

**■ ORDERING INFORMATION**

Specify models, suffix codes, and option codes when ordering.

**■ TRADEMARK ACKNOWLEDGMENT**

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