

# General Specifications

Model A2NN30D  
Node Interface Unit (for N-IO)



GS 33J62F10-01EN

[Release 6]

## ■ GENERAL

The Node Interface Unit (NIU) has an interface function that allows a Field Control Unit (FCU) to communicate with an I/O unit for N-IO and an interface function that allows NIUs to communicate each other. Furthermore, the NIU supplies power to the I/O unit for N-IO. Refer to the GS "N-IO System Overview" (GS 33J62A10-01EN) together with this GS.

## ■ STANDARD SPECIFICATIONS

For the installation environment for this product, refer to the GS "N-IO System Overview" (GS 33J62A10-01EN).

### ● Module Configuration

24 V DC Output Power Supply Units  
(A2PW503 or A2PW504): 2  
N-ESB Bus Modules (A2EN501): 2

### ● N-ESB Bus Interface

Uplink : 1 port / N-ESB Bus Module  
(for N-ESB bus or optical ESB bus)  
Downlink: 1 port / N-ESB Bus Module  
(for N-ESB bus or optical ESB bus)

### ● Number of I/O Unit for N-IO Connections

Up to 6 units / NIU

### ● External Alarm Input Function

The NIU has an external alarm input terminal for an external device and an alarm is displayed as a system alarm on a Human Interface Station (HIS).

Input terminal: Pressure clamp terminal (2-pin)

Input signal: Voltage input (\*1)

ON voltage 18 to 26.4 V

OFF voltage 5.0 V or less

Input current (when 24 V input): 2.4 mA±20%

Cable thickness: 0.5 to 2.5 mm<sup>2</sup> (AWG 20 to 14) (\*2)

\*1: The withstanding voltage between the input signal and system is 500 V AC for 1 minute.

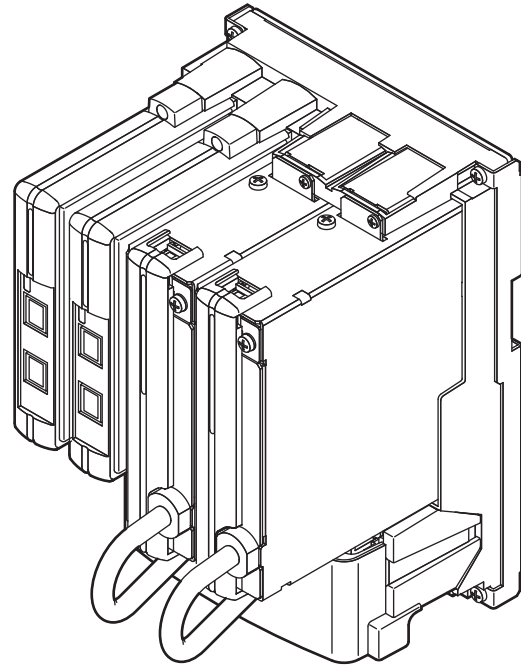
\*2: For the cable termination process, refer to the section "Signal Cable for A2BN3D" of the GS "Field Connection Specifications (for N-IO)" (GS 33J62A20-01EN).

### ● Maintenance Function

The NIU has a Micro-USB maintenance port for maintenance.

The Setting of the node address is possible with a NIU Node Number Setting tool. (\*1)

\*1: NIU Node Number Setting tool is stored in the software medium for CENTUM VP R6



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### ● Installation Method

Specified by suffix code.

DIN rail mount type

Wall mount type (M4 x 4 screws)

### ● Supply Power

Specified by suffix code.

Voltage: 100 to 240 V AC, frequency: 50/60 Hz

Voltage: 24 V DC

### ● Withstanding voltage

Between Input and Output terminal:

3000 V AC, for 1 minute (100 to 240 V AC)

500 V AC, for 1 minute (24 V DC)

Between Input and Ground terminal:

1500 V AC for 1 minute (100 to 240 V AC)

500 V AC for 1 minute (24 V DC)

### ● Insulation resistance

Between Input and Output /Ground terminal :

50 MΩ or more at 500 V DC.

## ● Power Supply Input Connection

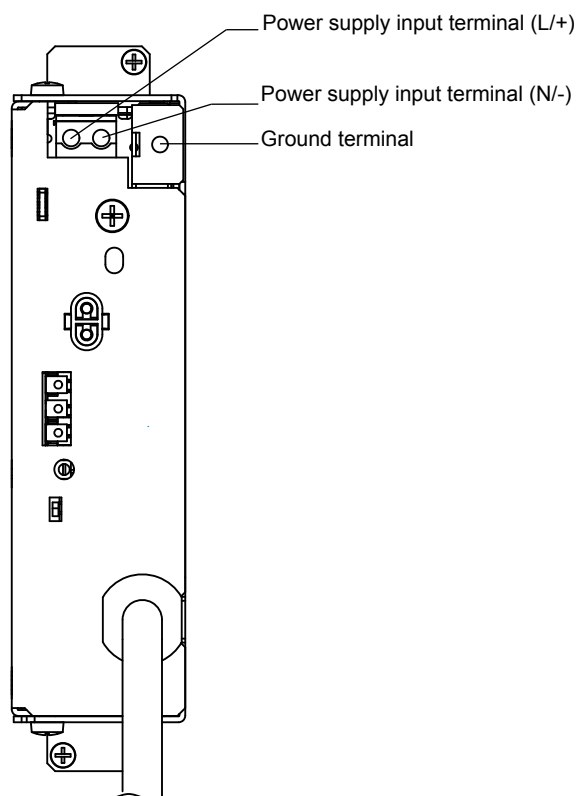
Use the dedicated power supply input cable included with the main unit by connecting it to the Power Supply Bus Unit, Vertical Type (AEPV7D) (Style S2 or later). The operating temperature range is different between this product and the Power Supply Bus Unit, Vertical Type (AEPV7D) so be careful when installing them.

Node Interface Unit (A2NN30D): 0 to 60 °C (-40 to 70 °C optional temperature environment)

Power Supply Bus Unit, Vertical Type (AEPV7D): -20 to 70 °C

If you do not use the dedicated cable, you need to supply power to the power supply input terminal of the following power supply unit.

For the cable termination process, refer to the TI "CENTUM VP Installation Guidance" (TI 33J01J10-01EN).



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Terminal	Connection	For A2PW503	For A2PW504
Power supply input terminal (L/+)	Pressure clamp terminal	AC input (L)	DC input (+)
Power supply input terminal (N/-)	Pressure clamp terminal	AC input (N)	DC input (-)
Ground terminal	M4 screws	Protective grounding	Functional grounding

## ● Power Consumption

100 to 240 V AC input: 190 V A

24 V DC input: 150 W

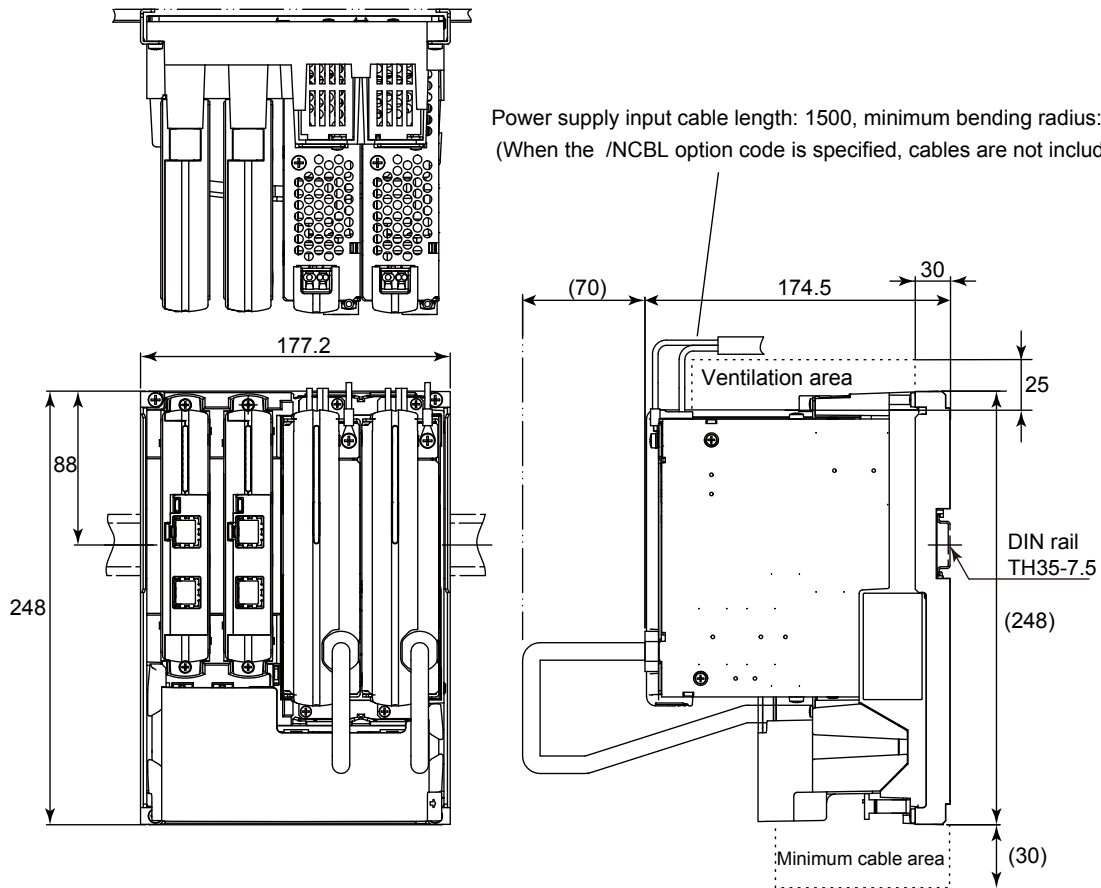
## ● Weight

Approx. 4.2 kg (configuration maximum value)

## ■ EXTERNAL DIMENSIONS

A2NN30D-□□□□0□□□□□ (DIN rail mount type)

Unit: mm



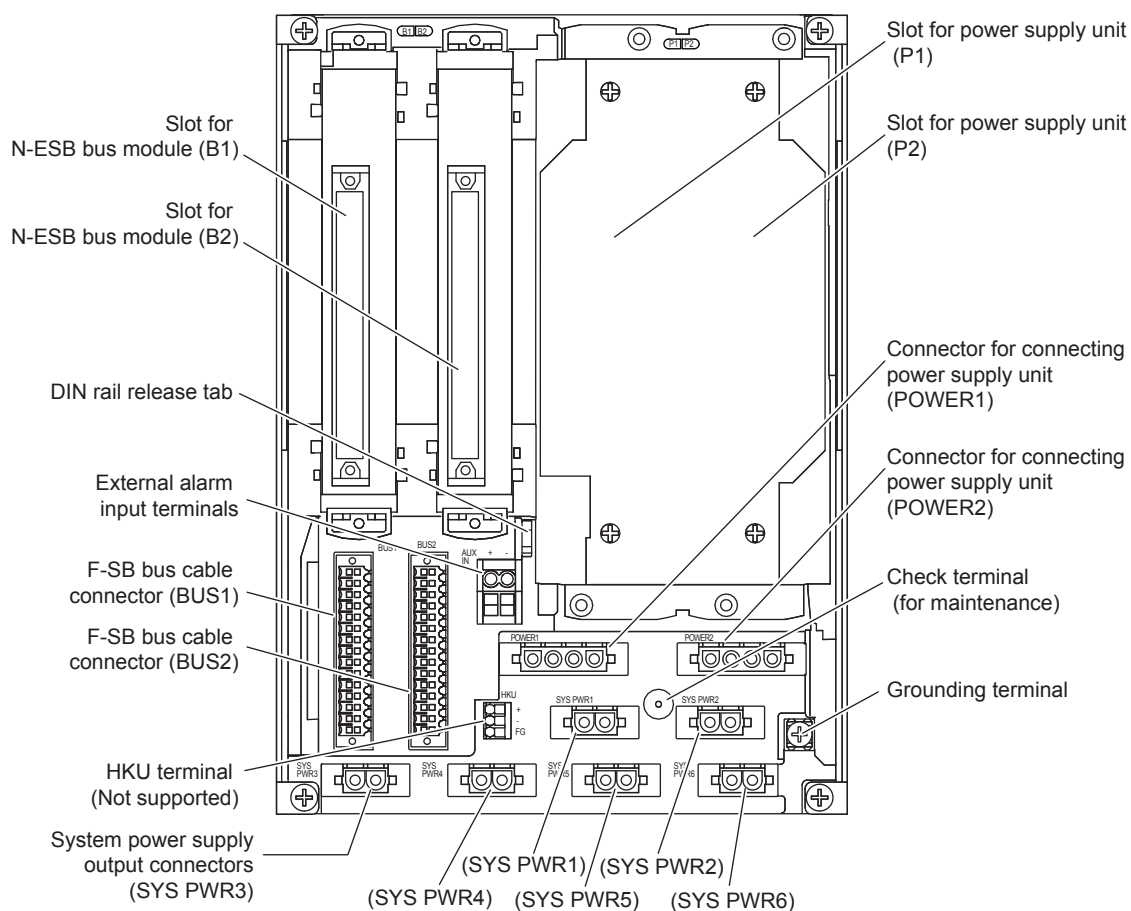
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### Nominal Tolerances:

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is  $\pm 0.8$  mm, while its combination of nominal tolerance is  $\pm 1.5$  mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

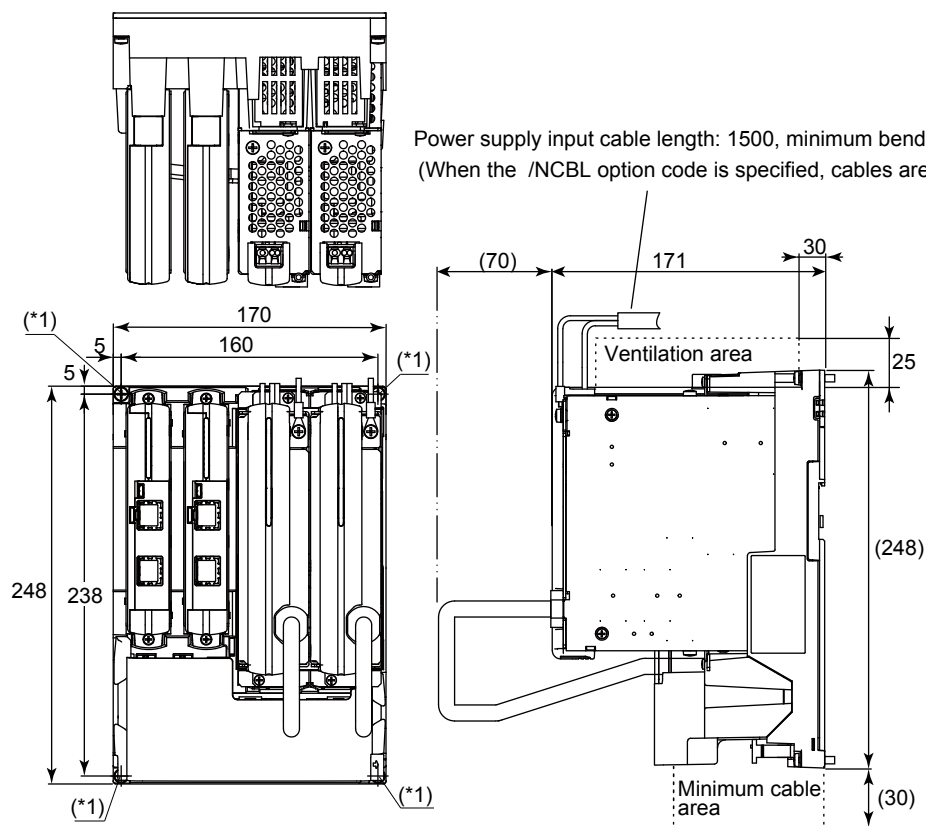
The name of each part of the Node interface Unit is shown in the following figure



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**A2NN30D-□□□1□□□□ (Wall mount type)**

Unit: mm



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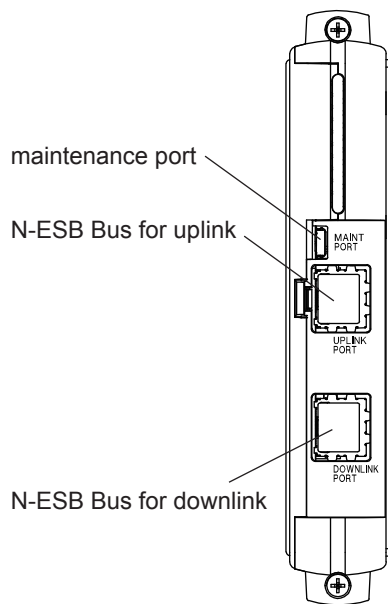
\*1: M4 screws for Wall mount type: effective screw length 6 mm x 4.

**Nominal Tolerances :**

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is  $\pm 0.8$  mm, while its combination of nominal tolerance is  $\pm 1.5$  mm.

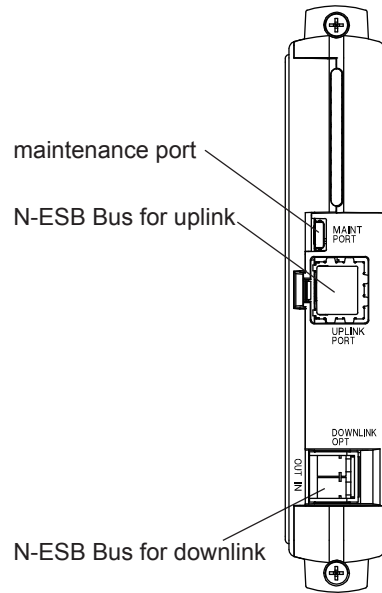
When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

## Details on the N-ESB Bus Modules



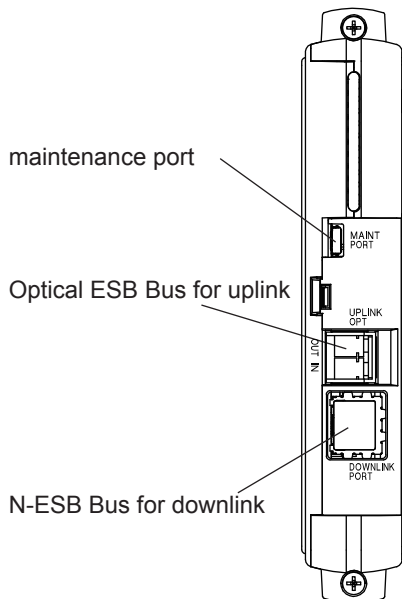
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A2NN30D-00000000  
(N-ESB Bus for uplink,  
N-ESB Bus for downlink)



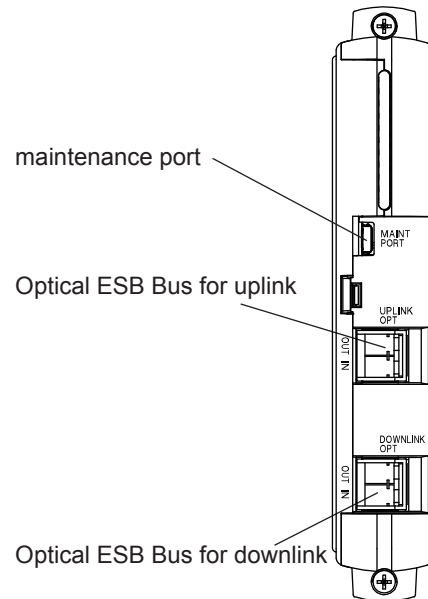
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A2NN30D-00000100  
(N-ESB Bus for uplink,  
Optical ESB bus (0 to 5 km) for downlink)  
A2NN30D-00000200  
(N-ESB Bus for uplink,  
Optical ESB bus (5 to 50 km) for downlink)



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A2NN30D-00001000  
(Optical ESB Bus (0 to 5 km) for uplink,  
N-ESB Bus for downlink)  
A2NN30D-00002000  
(Optical ESB Bus (5 to 50 km) for uplink,  
N-ESB Bus for downlink)



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A2NN30D-00001100  
(Optical ESB bus (0 to 5 km) for uplink,  
Optical ESB bus (0 to 5 km) for downlink)  
A2NN30D-00002100  
(Optical ESB bus (5 to 50 km) for uplink,  
Optical ESB bus (0 to 5 km) for downlink)  
A2NN30D-00001200  
(Optical ESB bus (0 to 5 km) for uplink,  
Optical ESB bus (5 to 50 km) for downlink)  
A2NN30D-00002200  
(Optical ESB bus (5 to 50 km) for uplink,  
Optical ESB bus (5 to 50 km) for downlink)

## ■ MODEL AND SUFFIX CODES

### Node Interface Unit (for N-IO)

		Description
<b>Model</b>	A2NN30D	Node Interface Unit (for N-IO)
<b>Suffix Codes</b>	-4	Dual-redundant Communication, Dual-redundant power supply
	3	24 V DC output power supply (100 to 240 V AC input)
	4	24 V DC output power supply (24 V DC input)
	0	Always 0
	0	DIN rail mount type
	1	Wall mount type
	0	Always 0
	0	N-ESB Bus for uplink
	1	Optical ESB Bus(0 - 5 km) for uplink
	2	Optical ESB Bus(5 - 50 km) for uplink
	0	N-ESB Bus for downlink
	1	Optical ESB Bus(0 - 5 km) for downlink
	2	Optical ESB Bus(5 - 50 km) for downlink
	0	With no explosion protection
	1	With explosion protection
	0	Basic type
	1	With ISA Standard G3 option
	2	With temperature (-40 to 70 °C) option
	3	With ISA Standard G3 option and temperature (-40 to 70 °C) option
<b>Option Codes</b>	/NCBL	With no power supply cable (*1)
	/ATDOC	Explosion Protection Manual (*2)

\*1: An input cable for the power supply unit.

\*2: Select the option code "/ATDOC" to follow the ATEX Directive when any of N-IO components are used for explosion protection.

## ■ APPLICABLE STANDARDS

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

## ■ ORDERING INFORMATION

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

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

## ■ TRADEMARKS

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