General Specifications

PW601, PW602, AEP9D
24 V DC Output Power Supplies
Secondary Power Supply Bus Unit

CENTUM VP

GS 33J60K30-01EN

[Release 6]

■ GENERAL

This GS covers the hardware specifications of the 24 V DC Output Power Supply (PW601, PW602) which supplies power to a Fieldbus power supply or a digital module of FIO, and covers also the hardware specifications of the Secondary Power Supply Bus Unit (AEP9D) which branch received electricity from 24 V DC power supply (PW60□, etc.) to equipment installed in the cabinet. Up to 4 of dedicated power supply units can be installed to PW601 and PW602. The necessary number of unit depends on the power supply capacity to be used. Two power supply units are connected in parallel for dual-redundant configuration.

■ STANDARD SPECIFICATIONS

For common installation environmental conditions and conforming standards, see the GS "Integrated Production Control System CENTUM VP System Overview" (GS 33J01A10-01EN). The specifications for one power supply unit to be installed in PW601 or PW602 is provided in the below.

● Electrical Specifications of 24 V DC Output Power Supply (PW601, PW602)

Item	Description	
Model	**PW601**	**PW602**
Input power supply voltage	100 to 120 V AC 50/60 Hz	220 to 240 V AC 50/60 Hz
Input power supply voltage tolerance	90 to 132 V AC	198 to 264 V AC
Max. input current power consumption (*1)	2.6 A 220 VA	1.25 A 220 VA
Rated output voltage	24 V DC ±5 %	24 V DC ±5 %
Environment temperature	0 to 60 °C	
Rated output current (temperature environment 0 to 50°C)	6 A (total of 1st output and 2nd output)	6 A (total of 1st output and 2nd output)
Rated output current (temperature environment 50 to 60°C)	4 A (total of 1st output and 2nd output)	4 A (total of 1st output and 2nd output)
Withstanding voltage	between input and FG terminal: 1500 V AC	between input and FG terminal: 1500 V AC
READY contact output	Contact rating: within 30 V DC, 0.1 A, Two terminals (NC, C), When power supply unit is abnormal, contact opens	
Output holdup time	20 ms	20 ms
Indication	READY LED (green): It lights up when normal	
Life span (overhaul cycle)	8 years (temperature environment 40 °C)	8 years (temperature environment 40 °C)
Weight	Approx. 6.0 kg (for PW601-S10) Approx. 8.0 kg (for PW601-S20) Approx. 9.0 kg (for PW601-S30) Approx. 11 kg (for PW601-S40)	Approx. 6.0 kg (for PW602-S10) Approx. 8.0 kg (for PW602-S20) Approx. 9.0 kg (for PW602-S30) Approx. 11 kg (for PW602-S40)

*1: This is the value for 1 unit.

● Electrical Specifications of Secondary Power Supply Bus Unit (AEP9D)

Item	Description
Model	**AEP9D**
Input power supply voltage	24 V DC
Withstanding voltage	500 V AC, for one minute
Max. input current / AEP9D	30 A
Max. input current /port	10 A
Weight	Approx. 1.8 kg

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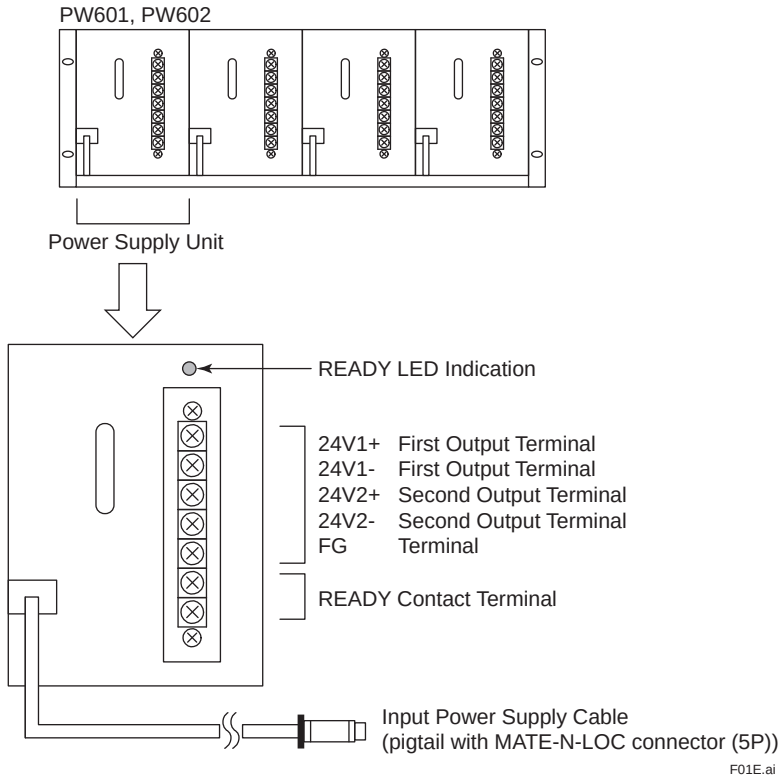
GS 33J60K30-01EN

5th Edition May 26, 2023 (YK)

■ NAME OF EACH PART

● 24 V DC Output Power Supply (PW601, PW602)

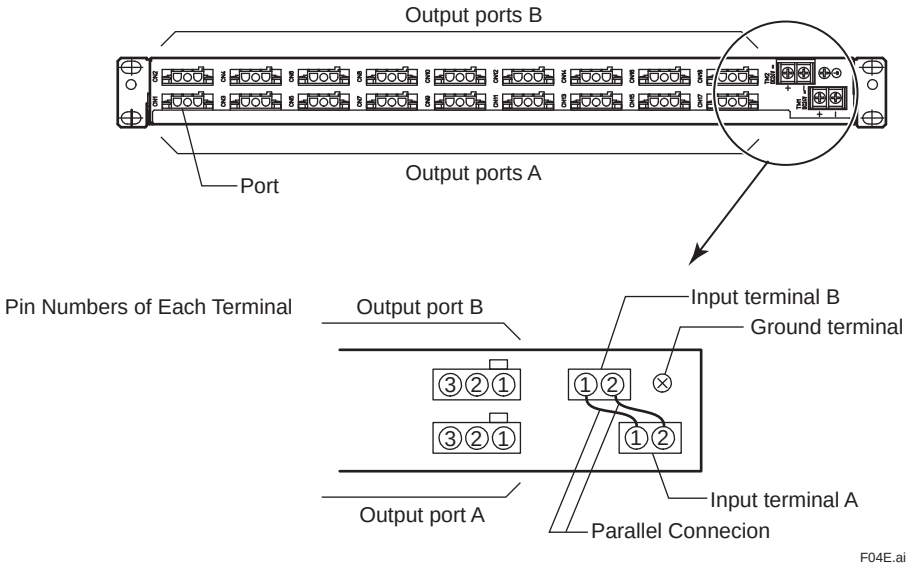


● Secondary Power Supply Bus Unit (AEP9D)

The dual-line input terminals of Secondary Power Supply Bus Unit (AEP9D) receive transmitted electricity separately, then the received electricity is branched into 9 outputs for respective lines.

In the following figure, nine “A” output ports correspond to input terminal A and nine “B” output ports correspond to input terminal B.

If input terminals A and B are connected in parallel (pin nos. 1 to 1 and 2 to 2), a single power line can then be branched into 18 outputs.



Correspondence Between Pin Numbers and Signals

Terminal	Pin Number	Model
		AEP9D-4□
Input Terminals A and B	1	+ (24P)
	2	– (24N)
Ground Terminal		Functional ground
Output Ports A and B (18-ports) MATE-N-LOK Connector (3 pins)	1	Functional ground
	2	– (24N)
	3	+ (24P)

Power Supply Cable for Secondary Power Supply Bus Unit

Part Number	Description	Correspondence between terminal pin numbers and cables	
		Black	White
S9728UV	For AEP9D-4□, 2 m, one side untreated	3	2

Connector

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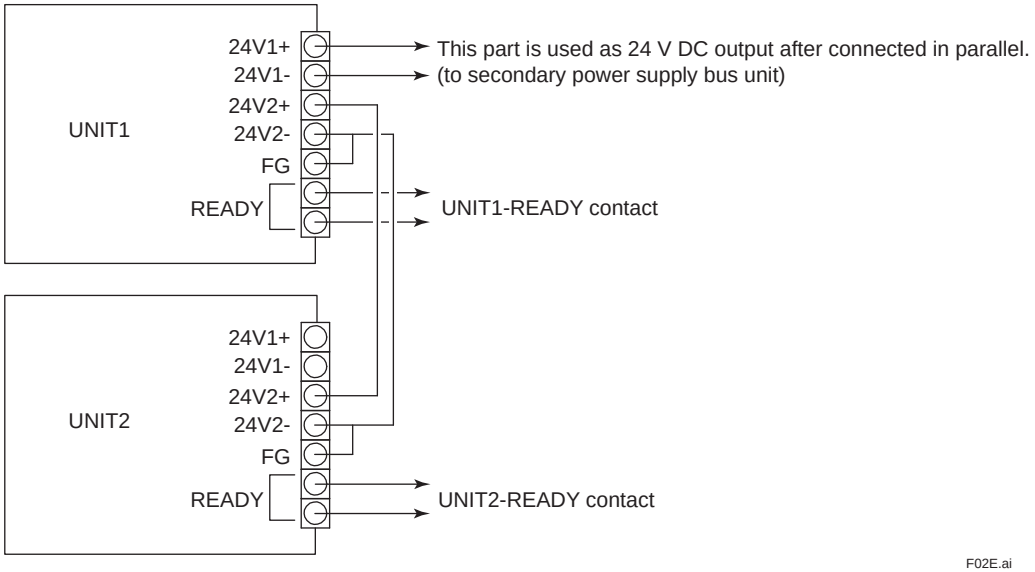
■ DUAL-REDUNDANT CONFIGURATION (PW601, PW602)

Using two power supply units supports dual-redundant configuration. To make dual-redundant configuration, two units are wired in outside of unit.



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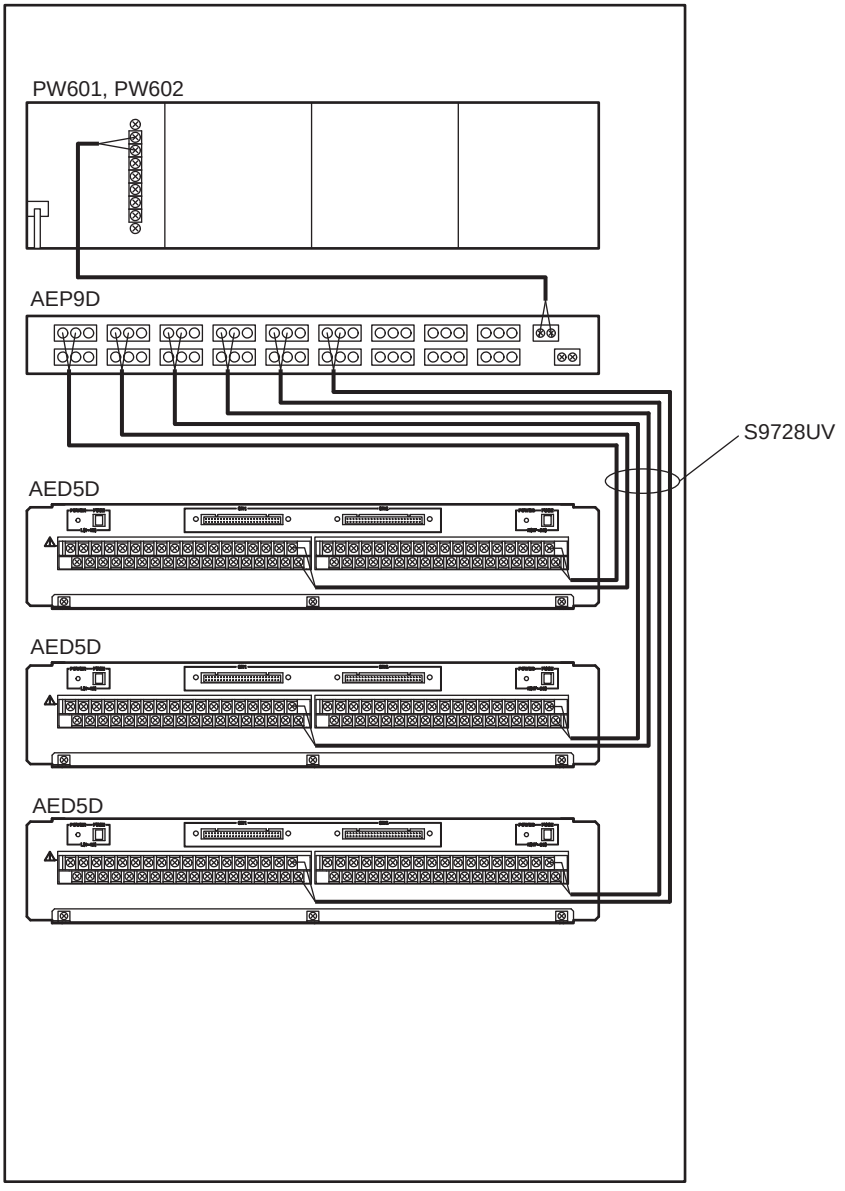
■ REPLACEMENT PROCEDURE OF BROKEN DUPLICATED PW601 AND PW602

1. Disconnect input power cable (mate-n connector) of broken power supply unit from Primary PDU.
2. Detach terminal block of broken power supply unit. A terminal block is screwing up 2 points, the upper and the lower part of a terminal block. Remove these 2 screws.
3. Detach the broken power unit. And attach the new power unit.
4. Attach the terminal block to new power unit.
5. Connect input power unit cable (mate-n connector) of new power supply unit to Primary PDU.

■ EXAMPLE OF INSTALLATION

The following example is for installing PW601 or PW602; Terminal Board for Dual-Redundant Digital (AED5D); Secondary Power Supply Bus Unit (AEP9D) to a dedicated cabinet. The Secondary Power Supply Bus Unit (AEP9D) can distribute the output of PW601 or PW602 in dual lines. Use the Power Supply Cable (S9728UV, one side untreated) to connect the Secondary Power Supply Bus Unit (AEP9D) and power supply input terminals of each terminal board. Use a solderless terminal depends on the device to be connected when using this cable.



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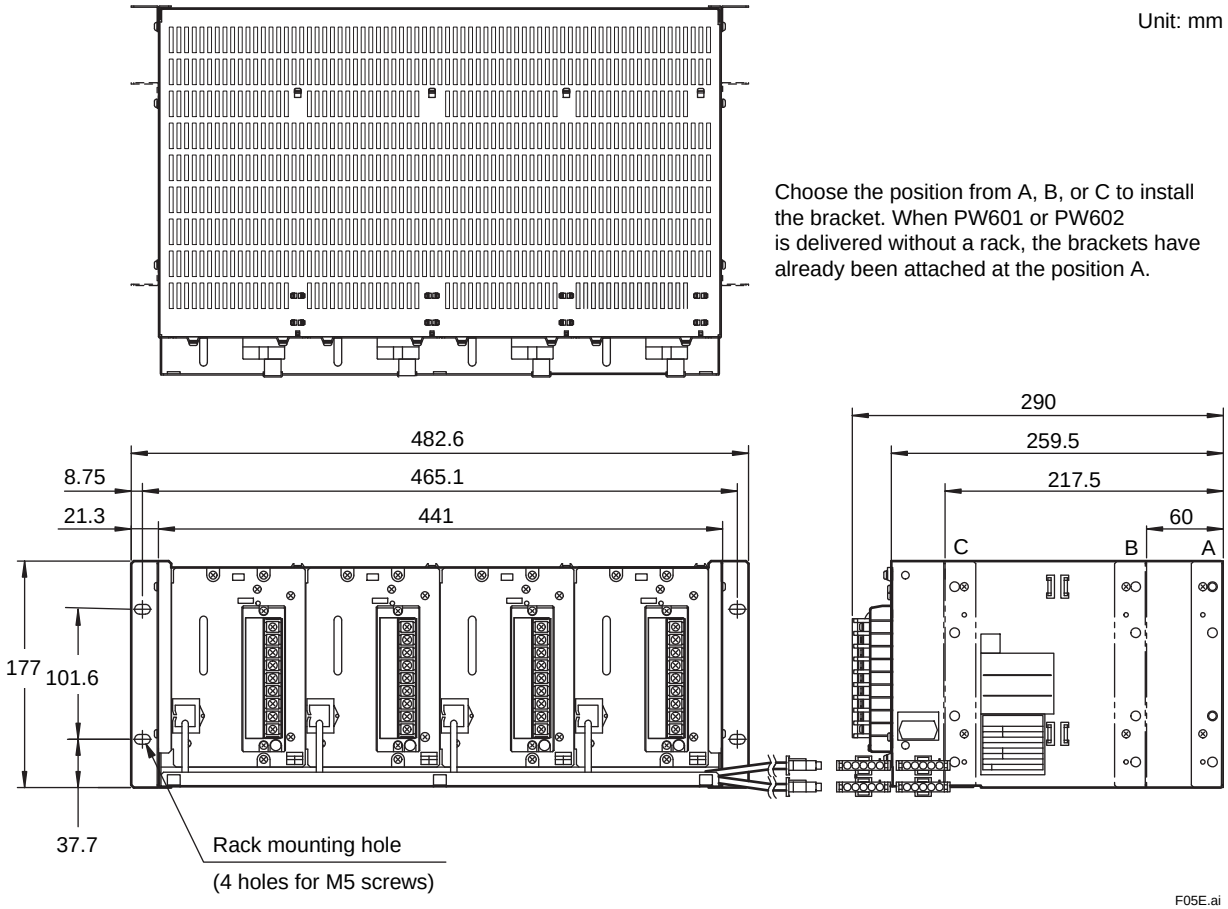
■ EXTERNAL DIMENSIONS

● 24 V DC Output Power Supply (PW601, PW602)

Unit: mm



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Choose the position from A, B, or C to install the bracket. When PW601 or PW602 is delivered without a rack, the brackets have already been attached at the position A.

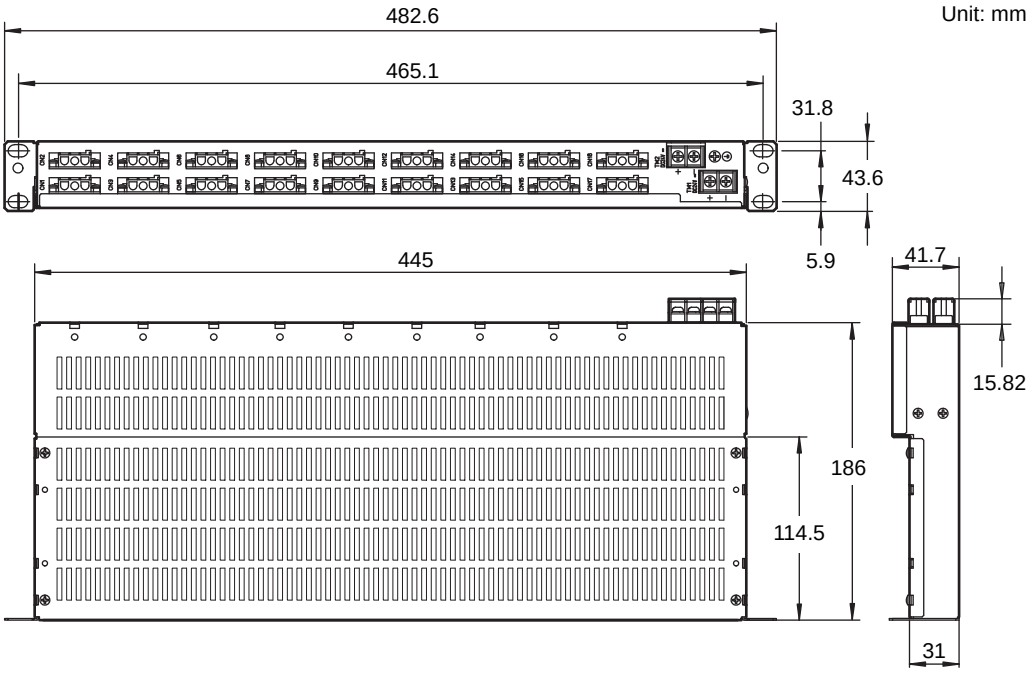
Nominal Tolerances :

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

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

● Secondary Power Supply Bus Unit (AEP9D)

Unit: mm



Nominal Tolerances :

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

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

■ MODELS AND SUFFIX CODES

24 V DC Output Power Supply (100 V - 120 V AC Input)

		Description
Model	PW601	24 V DC Output Power Supply (100 V - 120 V AC Input)
Suffix Codes	-S	Standard type
	1	Power supply unit x 1
	2	Power supply unit x 2
	3	Power supply unit x 3
	4	Power supply unit x 4
	0	Always 0

24 V DC Output Power Supply (220 V - 240 V AC Input)

		Description
Model	PW602	24 V DC Output Power Supply (220 V - 240 V AC Input)
Suffix Codes	-S	Standard type
	1	Power supply unit x 1
	2	Power supply unit x 2
	3	Power supply unit x 3
	4	Power supply unit x 4
	0	Always 0

Secondary Power Supply Bus Unit

		Description
Model	AEP9D	Secondary Power Supply Bus Unit
Suffix Codes	-4	24 V DC input
	5	Basic type with no explosion protection
	6	With ISA Standard G3 option and no explosion protection
	E	Basic type with explosion protection
	F	With ISA Standard G3 option and explosion protection

■ APPLICABLE STANDARDS

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

■ ORDERING INFORMATION

Specify models and suffix codes when ordering.
For selecting the right products for explosion protection, please refer to TI 33Q01J30-01E without fail.

■ RELATED PRODUCTS

The following part is included in the PW60☐ as a part, however, in case a spare part is required, place an order by the following part number.

Product name	Part number	Recommended Replacement Interval	Remarks
Spare power supply unit for PW601 (100-120 V AC)	S9889UK	8 years	Average ambient temperature 40 °C or less
Spare power supply unit for PW602 (220-240 V AC)	S9890UK	8 years	Average ambient temperature 40 °C or less

■ TRADEMARK ACKNOWLEDGMENT

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