General Specifications

I/O Adaptors (for N-IO)

CENTUM VP

GS 33J62F30-01EN

[Release 6]

■ GENERAL

This General Specifications (GS) describes the hardware specifications of I/O adaptors that enable extended functions setting for analog digital I/O module (A2MMM843) and the digital I/O module (A2MDV843); such as I/O signal conversion and isolation can be set by the channels. The adaptors are used by mounting to the base plate for adaptor (A2BN3D).

■ STANDARD SPECIFICATIONS

For the installation environmental standards and combination of base plates, I/O modules, I/O adaptors, and I.S. barriers for mounting of this product, refer to the GS “N-IO System Overview” (GS 33J62A10-01EN).

Type of I/O adaptor

Model	Name	Extended function
A2SAM105	Current input/voltage input adaptor	Current input, voltage input, and isolated channels (*1)
A2SAM505	Current output/voltage output adaptor	Current output, voltage output, and isolated channels (*1)
A2SAT105	mV/TC/RTD input adaptor	mV input, TC input, RTD input, and isolated channels (*1)
A2SAP105	Pulse input signal adaptor (0 to 10 kHz)	Contact ON/OFF, voltage pulse, current pulse, and isolated channels
A2SDV105	Digital input adaptor (24 V DC voltage input, dry contact input)	Voltage input, dry contact input, and isolated channels (*2)
A2SDV505	Digital output adaptor (24 V DC, current source: 0.5 A)	24 V DC/0.5 A output, current source, and isolation (*3)
A2SDV506	Relay output adaptor (24 V DC, dry contact output: 0.5 A)	24 V DC/0.5 A relay contact (dry contact NO/NC), and isolated channels
A2SMX801	Pass-through I/O signal adaptor	Used for the basic functions of I/O, and non-isolated (*4)
A2SMX802	Pass-through I/O signal adaptor (with field power output)	Used for the basic functions of I/O, and non-isolated (*1) (*4) (*5)

Accessory for I/O adaptor

Model	Name	Extended function
A2EXR001	Shunt Resistor Unit (For A2SAP105)	Shunt Resistor, 4-channel.

Note: For mounting I/O adaptors, refer to ”LIMITATIONS AND PRECAUTIONS FOR INSTALLATION” in the GS of “N-IO System Overview” (GS 33J62A10-01EN).
Note: For signal connection to the base plate for adaptor (A2BN3D) using an I/O adaptor, refer to the TI “CENTUM VP installation guidance” (TI 33J01J10-01EN).

*1: Supported by CENTUM VP R6.04 or later.
*2: Isolated from respective I/O modules, Isolated channels except field power line.
*3: Isolated from an I/O module, but not isolated among channels.
*4: Non-isolated from an I/O module.
*5: When the A2SMX802 is mounted, channels among A2SDV105, A2SDV505, and A2SMX801 are not isolated.

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● Current input/voltage input adaptor

Item	Specifications	
Model	A2SAM105	
Input signal	Voltage input	Current input
Rated input range (maximum guaranteed accuracy range)	0 to 10 V DC	4 to 20 mA DC
Input resistance	1 MΩ at power-on 100 kΩ or higher at power-off	320 Ω (20 mA) to 640 Ω (4 mA) at power-on (*1) 100 kΩ or higher at power-off (*2)
Allowable input voltage/current	0 to 30 V DC	0 to 25 mA DC (*2) (*3)
Transmitter power supply	—	15.0 V DC min (20mA) 24.0 V DC max (0mA)
Accuracy	±4 mV (23°C ±2°C) ±8 mV (0°C to 60°C) ±12 mV (-40°C to 70°C)	±12 μA (23°C ±2°C) ±24 μA (0°C to 60°C) ±40 μA (-40°C to 70°C)
Data update period	For A2SAM105 alone : 2 ms (*4)	
Maximum Current consumption	24 V DC system power supply: 42 mA 5 V DC internal power supply: 10 mA (*5)	
Withstanding voltage	Between input signal and system: 1500 V AC for 1 minute, 42 V DC (*6) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC	
Mounting	Mounted on the base plate for adaptor (A2BN3D)	
HART communication function	—	HART7 is supported (*7)
Input signal setting	Input signals and input signal ranges are set by the software.	
Setting of 2-wire or 4-wire transmitter	—	Can be set
Weight	0.10 kg or less	
Current limitation	—	40 mA or lower (2-wire type)

Note: A2MMM843 style 2 or later must be used in combination.

*1: The module's input resistance viewed from the terminals is as calculated as below:
240 Ω + (voltage drop in the input protection circuit / current value).
*2: When A2SAM105 is powered off or overcurrent is detected, the current input loop becomes open.
*3: Operation when A2SAM105 detects over current depending on style is different.
Style S1 : When over current is detected and the protection circuit operates, the system alarm (Adaptor Fail) is notified to HIS.
Style S2 or later : When over current is detected and the protection circuit operates, the system alarm (Adaptor Fail) is not notified to the HIS. The abnormal state is detected as IOP (input open).
*4: The data update cycle is max.10 ms, when the A2SAM105 is used with this I/O module.
*5: The internal power supply is a power supply which draws power from the I/O module.
*6: For the withstanding voltage when connecting to a field power supply, refer to the GS "Base plates (for N-IO)" (GS 33J62F40-01EN).
*7: Up to 5 HART communication field devices (e.g. transmitter) can be connected to A2SAM105 by multi-drop connection. A2SAM105 can drive up to 24 mA including inrush current of field devices.
For details of HART communication, refer to the GS "I/O modules (for N-IO)" (GS 33J62F20-01EN).

● Current output/voltage output adaptor

Item	Specifications	
Model	A2SAM505	
Output signal	Voltage output	Current output
Rated input range (maximum guaranteed accuracy range)	0 to 10 V DC	4 to 20 mA DC
Output resistance	1 Ω or lower	—
Allowable load resistance	10 kΩ or higher	0 to 750 Ω (20 mA), 0 to 600 Ω (23 mA)
Output range	-0.3 to 10.3 V DC	1 to 23 mA DC
Output voltage limit	—	25.5 V DC or lower
Output open detection	—	0.65 mA or lower
Accuracy	±12 mV (23°C ±2°C) ±24 mV (0°C to 60°C) ±36 mV (-40°C to 70°C)	±48 µA (23°C ±2°C) ±64 µA (0°C to 60°C) ±80 µA (-40°C to 70°C)
Data update period	For A2SAM505 alone : 2 ms (*1)	
Maximum Current consumption	24 V DC system power supply: 38 mA 5 V DC internal power supply: 10 mA (*2)	
Withstanding voltage	Between output signal and system: 1500 V AC for 1 minute, 42 V DC (*3) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC	
Mounting	Mounted on the Base Plate for Adaptor (A2BN3D)	
HART communication function	—	HART7 is supported(*4)
Output signal setting	Output signals and output signal ranges are set by the software.	
Weight	0.10 kg or less	
Current limitation	15 mA or lower	23 mA or lower

Note: A2MMM843 style 2 or later must be used in combination.

*1: The data update period is max. 10 ms, when the A2SAM505 is used with this I/O module.
*2: The internal power supply is a power supply which draws power from the I/O module.
*3: For the withstanding voltage when connecting to a field power supply, refer to the GS “Base plates (for N-IO)” (GS 33J62F40-01EN).
*4: For details of HART communication, refer to the GS “I/O modules (for N-IO)” (GS 33J62F20-01EN).

● mV/thermocouple/RTD input adaptor

Item	Specifications			
Model	A2SAT105			
Input signal	mV	Thermocouple (*1) ・ JIS C 1602, IEC 60584-1 (ITS-90) Type J, K, E, B, R, S, T, N(*2)	RTD (3-wire type) (*3) ・ JIS C 1604, IEC 60751 (ITS-90) Pt100, Pt200, Pt500 (*4) ・ DIN 43760-1987 : Ni100 ・ Minco : Ni120	3-wire potentiometer
Input range	-50 to 150 mV	-50 to 150 mV	400 Ω range : 0 to 400 Ω 2000 Ω range: 0 to 2000 Ω	Total resistance: ・ 100 to 2000 Ω Span resistance: ・ 50% or higher of the total resistance (*5)
Allowable input voltage	-0.5 to 4.0 V DC (between terminals A and B)		—	
Input resistance	1 MΩ (at power-on), 10 kΩ (at power-off)		—	
Accuracy rating	±20 uV	±20 uV	400 Ω range : ±0.08 Ω 2000 Ω range : ±0.40 Ω	±0.2 %
Data update period	For A2SAT105 alone : 124 ms (*6)			
Signal source resistance	1000 Ω or lower		150 Ω or lower (wiring resistance per wire)	
RJC accuracy	—	±1.0 °C (*7) (*8)	—	
Measuring current	—		400 Ω range : 1.0 mA 2000 Ω range : 0.2 mA	—
Burnout detection	Select from UP, DOWN, or OFF			
Burnout detection time	60 s or lower			
Burnout detection current	0.1 μA			
Withstanding voltage	Between input signal and system: 1500 V AC for 1 minute, 42 V DC (*9) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC			
Mounting	Mounted on the Base Plate for Adaptor (A2BN3D)			
Maximum Current consumption	24 V DC system power supply: 12 mA 5 V DC internal power supply: 10 mA (*10)			
Input linearization	None	Available	Available	None
Influence of signal source resistance/wiring resistance (burnout is OFF)	For 1 kΩ signal source resistance: Input conversion ±20 μV or lower		For wiring resistance 10 Ω of terminals A and C: Input conversion ±40 mΩ or lower (wiring of terminals A and C must have the same resistance)	—
Influence by Drift due to ambient temperature change	For 10 °C change: ±20 μV		For 10 °C change: 400 Ω range : ±0.16 Ω 2000 Ω range : ±0.8 Ω	For 10 °C change: ±0.4% of span
Input signal setting	Input signals and input signal ranges are set by the software setting.			
Weight	0.10 kg or less			
Current limitation	—		1.5 mA or lower	

Note: A2MMM843 style 2 or later and A2BN3D style 2 or later must be used in combination.
Note: Do not use a multi-core cable in common with a digital-input/output signal. The accuracy of A2SAT105 is interfered by capacitive coupling.

*1: For using a thermocouple input, A2SAT105 must be mounted on the A2BN3D-□□□□1.
*2: Type B does not perform reference junction compensation.
*3: 400 Ω range is applicable for input range of Pt100, Ni100, or Ni120. 2000 Ω range is applicable for input range of Pt200 or Pt500.
*4: A2SAT105 also supports JIS C 1604: 1989 JPt100.
*5: The permissible input range is defined as 0 to 30 kΩ; however, using the A2SAT105 within the input range is suggested for maintaining the accuracy rating.
*6: The data update cycle is max. 132 ms, when the A2SAT105 is used with the I/O module.

*7: When the measuring temperature is under 0 ºC, multiply the following coefficient (K) with the above value.

$$K = \frac{\text{(Thermo-electromotive force per degree at 0 °C)}}{\text{(Thermo-electromotive force per degree at measured temperature)}}$$

*8: The reference junction compensation accuracy varies depending on the ambient temperature.

Temperature environment	Reference junction compensation accuracy
-40 to 0 °C	±1.5 °C
0 to 50 °C	±1.0 °C
50 to 70 °C	±1.5 °C

When A2SAM105, A2SAM505, A2SAP105, A2SDV505, A2SDV506, A2SMX802 are mounted on the adjacent channels, or a heating device is placed directly under the base plate for adaptor without heat shield, the reference junction compensation accuracy is ±1.5 °C. The reference junction temperature sensor is mounted on the base plate for adaptor (A2BN3D).

*9: For the withstanding voltage when connecting a field power supply, refer to the GS “Base plates (for N-IO)” (GS 33J62F40-01EN).

*10: The internal power supply is a power supply which draws power from the I/O module.

● Pulse input signal adaptor (for 0 to 10 kHz)

Item	Specifications
Model	A2SAP105
Input signal	2-wire type: Contact ON/OFF, voltage pulse, current pulse (possible to supply transmitter power supply) 3-wire type: Power-supply-type voltage pulse
Input frequency	0 to 10 kHz (*1)
Minimum input pulse width	40 μs or higher
Input signal level	Contact input Relay contact, transistor contact Open/close detection level Open: 100 kΩ or higher Close: 200 Ω or lower Contact capacity: 15 V DC/15 mA or higher (when supplying 12 V DC) 30 V DC/30 mA or higher (when supplying 24 V DC) Voltage/current pulse input (Current input is converted to voltage) VH (high level): 3 to 24 V DC VL (low level): -1 to 8 V DC VH - VL (Swing width): 3V or higher Signal source resistance 1 kΩ or lower
Shunt resistance	External (220 Ω, 510 Ω, or 1.02 kΩ), 4 kΩ, or OFF are selectable (*2)
Filter	Filter for eliminating chattering can be set (*3)
Pull-up resistance	68 kΩ (12 V DC or 24 V DC)
Transmitter power supply	Can be selected from 24 V DC or 12 V DC 12 V DC ± 1.2 V DC/35 mA or lower 24 V DC ± 2.4 V DC/24 mA or lower (Output current limitation: 40 mA DC or lower) (*4)
Maximum current consumption	24 V DC system power supply: 50 mA 5 V DC internal power supply: 10 mA (*5)
Withstanding voltage	Between input signal and system: 1500 V AC for 1 minute, 42 V DC (*6) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)
Weight	0.10 kg or less
Data update period	For A2SAP105 alone: 2 ms (*7)
Current limitation	40 mA or lower

*1: Connection for the following frequencies in the case of receiving dry contact signal.
0 to 800 Hz : Connect the input signal between B and C terminals.
0 to 5 kHz : Connect the input signal between A and B terminals.
0 to 10 kHz : Connect the input signal between A and B terminals then connect shunt resistor unit (model: A2EXR001) between C and D terminals.
For details of A2EXR001 connection, refer to “CENTUM VP Installation Guidance” (TI 33J01J10-01EN).

*2: When receiving dry contact signal inputs with 0 to 10 kHz input frequencies or current pulse signal inputs by using pulse input signal adaptors, shunt resistor unit (model: A2EXR001) must be used.
For details of A2EXR001 connection, refer to “CENTUM VP Installation Guidance” (TI 33J01J10-01EN).

Input signal type		Shunt Resistor Unit	Resistance value of Shunt Resistor Unit
Voltage pulse		Not required	—
Dry contact signal	0 to 800 Hz	Not required	—
	0 to 5 kHz	Not required	—
	0 to 10 kHz	required	1.02 kΩ
Current pulse		required	220 Ω, 510 Ω, or 1.02 kΩ are selectable

*3: Chattering can be eliminated when the pulse input signal is a dry contact (e. g. mechanical relay) up to 10 Hz.
*4: When A2SAP105 is powered off or overcurrent is detected, the current input loop becomes open.
*5: The internal power supply is a power supply which draws power from the I/O module.
*6: For the withstanding voltage when connecting to a field power supply, refer to the GS “Base Plates (for N-IO)” (GS 33J62F40-01EN).
*7: The sum of the data update cycle of I/O modules becomes max.10 ms of delay.

● Shunt Resistor Unit (For A2SAP105)

Item	Specifications
Model	A2EXR001 (*1)
Connection	Pressure clamp terminal (A2EXR001-S000) Spring clamp terminal (A2EXR001-S001)
Mounting	Wall mount type (With 2 M4 screws)
Number of channels	4 channels
Resistance	220 Ω / 510 Ω / 1.02 kΩ (use 2 pieces of 510 Ω)
Tolerance	±5 % (per resistor)
Maximum power consumption	3 W (per unit)
Weight	0.30 kg or less

*1: For details on mounting, refer to the TI “CENTUM VP installation guidance” (TI 33J01J10-01EN). Handle a shunt resistor with care as it may become high in temperature. Use a cover to prevent from touching the resistor directly to avoid being burned.

● Digital input adaptor (24 V DC voltage input, dry contact input)

Item	Specifications
Model	A2SDV105
Input format	Voltage input and dry contact input
Rated input voltage	24 V DC (voltage input)
Input current (at rated input voltage)	6 mA ±1.2 mA
Input ON voltage	18 to 26.4 V DC (voltage input)
Input OFF voltage	5.0 V DC or lower (voltage input)
Field voltage rating	24 V DC ±2.4 V DC (contact input), current capacity: 10 mA or higher (*1)
Input ON resistance	1 kΩ or lower (contact input)
Input OFF resistance	50 kΩ or higher (contact input)
Maximum allowable input voltage	30.0 V DC
Withstanding voltage	Between input signal and system: 1500 V AC for 1 minute, 42 V DC (*2) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC (*3) (*4)
Maximum current consumption	24 V DC system power supply: Unused 5 V DC internal power supply: 14 mA (*5)
Input response time	For A2DV105 alone: 150 µs In combination with the I/O module: Up to 22 ms
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)
Weight	0.10 kg or less
Current limitation	20 mA or lower (contact input)

*1: Current capacity in normal operation per A2SDV105. The current capacity is 20 mA when the circuit is grounded.
*2: For the withstanding voltage when connecting a field power supply, refer to the GS “Base Plates (for N-IO)” (GS 33J62F40-01EN).
*3: Channels among A2SDV105 and A2SDV505 are Isolated channels except field power line.
A2SMX802 is not isolated channel.
*4: The following shows the permissible potential difference in common mode.
Between dry contact inputs: Not isolated
Between voltage inputs: 30 V for 1 minute
Between voltage input and dry contact input: 30 V for 1 minute
*5: The internal power supply is a power supply which draws power from the I/O module.

● Digital output adaptor (24 V DC, current source: 0.5 A)

Item	Specifications
Model	A2SDV505
Output format	Current source
Field power supply rating	24 V DC ±2.4 V DC, current capacity: 0.55 A or higher (*1)
Voltage drop	1 V or lower (*2)
Leak current maximum value when output off	1 mA or lower
Maximum load current	500 mA (including rush current) (*3)
Load resistance range	48 Ω or higher
Maximum current consumption	24 V DC system power supply: Unused 5 V DC internal power supply: 18 mA (*4)
Withstanding voltage	Between output signal and system: 1500 V AC for 1 minute, 42 V DC (*5) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC (*6)
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)
Output response time	For A2SDV505 alone: 5 ms In combination with the I/O module: Up to 17 ms
Weight	0.10 kg or less
Current limitation	0.8 A or lower

*1: Current capacity in normal operation per A2SDV505. The current capacity is 0.8 A when the circuit is shorted.
*2: Voltage drop includes that from the field power supply input terminal to the field connection terminal via the module.
*3: When driving an inductive load, a diode must be connected.
*4: The internal power supply is a power supply which draws power from the I/O module.
*5: For the withstanding voltage when connecting a field power supply, refer to the GS “Base Plates (for N-IO)” (GS 33J62F40-01EN).
*6: Channels among A2SDV105, A2SDV505, and A2SMX802 are not isolated.

● Relay output adaptor (24 V DC, dry contact output: 0.5 A)

Item	Specifications
Model	A2SDV506
Rated applied voltage	24 V DC
Maximum load	Resistance load: 24 V DC/0.5 A, 30 V DC/0.5 A Inductive load: 24 V DC/0.5 A, 30 V DC/0.4 A (*1)
Maximum voltage	Resistance load: 30 V DC, inductive load: 30 V DC
Maximum current	Resistance load: 0.5 A DC (including rush current), Inductive load: 0.5 A DC (including rush current)
Output format	NC/NO (*2)
Withstanding voltage	Between output signal and system: 1500 V AC for 1 minute, 42 V DC (*3) Between I/O adaptors: 500 V AC for 1 minute, 42 V DC
Relay switching life	Resistance load: 100,000 open/close cycles (at maximum load) Inductive load: 100,000 open/close cycles (at maximum load)
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)
Weight	0.10 kg or less
Relay operating time	For A2SDV506 alone: 8 ms or lower (bouncing is not included) In combination with the I/O module: Up to 20 ms
Relay recovery time	For A2SDV506 alone: 20 ms or lower (bouncing is not included) In combination with the I/O module: Up to 32 ms
Maximum current consumption	24 V DC system power supply: Unused 5 V DC internal power supply: 8 mA (*4)

Note: Replacement is not recommended while current flows through the terminals, because the connectors of the base plate and the module may be damaged or deteriorate. Turn off the field signal externally before replacing this module.
Note: The operating temperature range is -40 to 70°C. When mounted on the same base plate with A2SAP105, A2SAM105 or A2SAM505 the operating temperature range is -40 to 60°C.

*1: When driving an inductive load, a diode must be connected in parallel with the load.
*2: Normal state, the status output is OFF.
*3: For the withstanding voltage when connecting a field power supply, refer to the GS “Base plates (for N-IO)” (GS 33J62F40-01EN).
*4: The internal power supply is a power supply which draws power from the I/O module.

● Pass-through I/O signal adaptor

Item	Specifications	
Model	A2SMX801-S□□0	A2SMX801-S□□1
I/O signal	Signals from a field device are output to I/O module as is. Signals from I/O module are output to the field device as is. (*1)	
Protection	—	With protection (*2)
Input/output resistance	—	7 Ω max
Maximum Current consumption	No current is consumed	
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)	
Weight	0.10 kg or less	

*1: By using the adaptor in combination with the base plate with a protection function, the influence of the excess voltage status caused by wrong wiring or such can be minimized to the adaptor itself and prevent other channels from failing. For more details, refer to “N-IO system overview” (GS 33J62A10-01EN).
*2: When driving an inductive load, a diode must be connected.

● Pass-through I/O signal adaptor (with field power output)

Item	Specifications
Model	A2SMX802 (*1)
I/O signal	Signals from a field device are output to I/O module as is. Signals from I/O module are output to the field device as is. (*2)
Protection	With protection (*3)
Input / output resistance	7 Ω max
Field power supply rating	24 V DC ±2.4 V DC, current capacity: 0.55 A or higher (*4)
Voltage drop	1 V or lower (*5) (*6)
Maximum load current	500 mA (Maximum inrush current 1 A) (*7)
Maximum Current consumption	No current is consumed
Mounting procedure	Mounted on the base plate for adaptor (A2BN3D)
Weight	0.10 kg or less
Current limitation	1.6 A or lower

*1: When the A2SMX802 is mounted, channels among A2SDV105, A2SDV505, and A2SMX801 are not isolated.
*2: When driving an inductive load, a diode must be connected.
*3: By using the adaptor in combination with the base plate with a protection function, the influence of the excess voltage status caused by wrong wiring or such can be minimized to the adaptor itself and prevent other channels from failing. For more details, refer to “N-IO system overview” (GS 33J62A10-01EN).
*4: Current capacity in normal operation per A2SMX802. The current capacity is 1.6 A when the circuit between C and B terminal or between C and D terminal is shorted.
*5: Voltage drop includes that from the field power supply input terminal to the field connection terminal via the module.
*6: When the A2SDV505 digital output adaptor is mounted on the same base plate, the field power supply output may include maximum 0.6 V of ripple.
*7: When using the digital output function in the style of current sink output, refer to the specification of I/O module (GS 33J62F20-01EN) for I/O signal specifications current.

● Filed digital output voltage when field power supply is in use

The table below shows the output terminal voltage of the base plate (A2BN3D) of which digital output function is operated by using field power supply.

Table Digital output terminal voltage when field power is in use

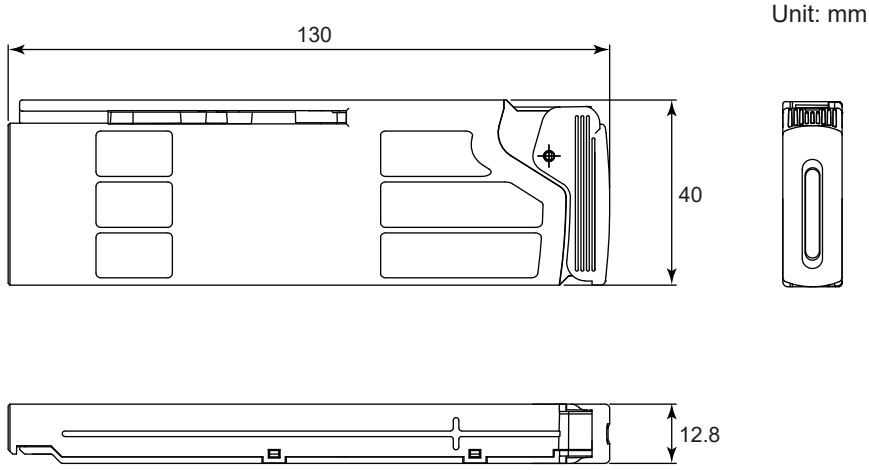
Model name	A2SDV505-□□□□		A2SMX801-□□□0 (*1)		A2SMX801-□□□1 (*1)		A2SMX802-□□□□ (*1)	
	Min. [V] (*2)	Max. [V]	Min. [V] (*3)	Max. [V]	Min. [V] (*3)	Max. [V]	Min. [V] (*3)	Max. [V]
Field power supply terminal input voltage (24V-10 %)	20.6	21.6	19.6	21.6	18.9	21.6	17.9	21.6
Field power supply terminal input voltage (24V±0 %)	23.0	24.0	22.0	24.0	21.3	24.0	20.3	24.0
Field power supply terminal input voltage (24V+10 %)	25.4	26.4	24.4	26.4	23.7	26.4	22.7	26.4

*1: In case the I/O module outputs signals in the form of the current sink output of the digital output function.
*2: Maximum load current 500 mA
*3: Maximum load current 100 mA

■ EXTERNAL DIMENSIONS

● Adaptor

Unit: mm



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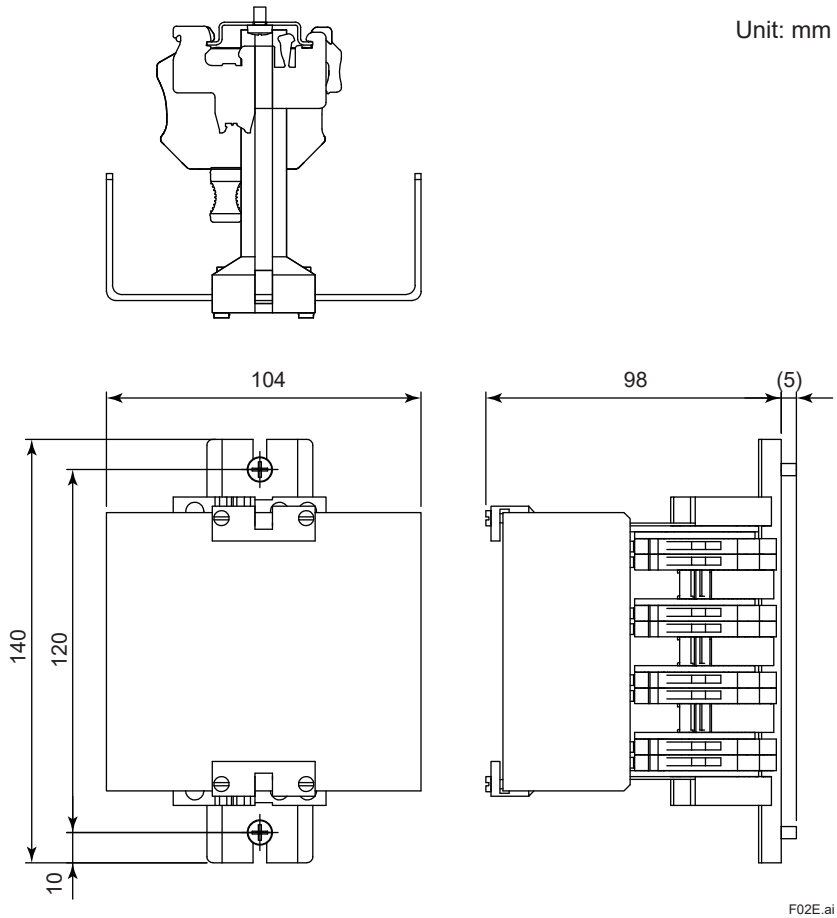
● Shunt resistor unit

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.

■ MODELS AND SUFFIX CODES

Current input/voltage input adaptor

		Description
Model	A2SAM105	Current input/voltage input adaptor
Suffix Codes	-H	With digital communication (HART protocol)
	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
	0	Always 0

Current output/voltage output adaptor

		Description
Model	A2SAM505	Current output/voltage output adaptor
Suffix Codes	-H	With digital communication (HART protocol)
	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
	0	Always 0

mV/TC/RTD input adaptor

		Description
Model	A2SAT105	mV/TC/RTD input adaptor
Suffix Codes	-S	Standard type
	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
	0	Always 0

Pulse input signal adaptor

		Description
Model	A2SAP105	Pulse input signal adaptor (0 to 10 kHz)
Suffix Codes	-S	Standard type
	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
	0	Always 0

Digital input adaptor

		Description
Model	A2SDV105	Digital input adaptor (24 V DC voltage input, dry contact input)
Suffix Codes	-S	Standard type
	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
	0	Always 0

Digital output adaptor

		Description
Model	A2SDV505	Digital output adaptor (24 V DC, current source: 0.5 A)
Suffix Codes	-S	Standard type
	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
	0	Always 0

Relay output adaptor

		Description
Model	A2SDV506	Relay output adaptor (24 V DC, dry contact output: 0.5 A)
Suffix Codes	-S	Standard type
	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
	0	Always 0

Pass-through I/O signal adaptor

		Description
Model	A2SMX801	Pass-through I/O signal adaptor
Suffix Codes	-S	Standard type
	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
	0	With no protection
	1	With protection

		Description
Model	A2SMX802	Pass-through I/O signal adaptor (With field power output)
Suffix Codes	-S	Standard type
	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
	0	Always 0

Shunt Resistor Unit

		Description
Model	A2EXR001	Shunt resistor unit (For A2SAP105)
Suffix Codes	-S	Standard type
	000	For pressure clamp terminal
	001	For spring clamp terminal
	0	With no explosion protection (*1)
	1	With explosion protection (*1)
	3	With ISA standard G3 option and temperature (-40 to 70 °C) option
	0	Always 0

*1: When using the no explosion protection option for A2SAP105-S0□□, select A2EXR001-S□□□0□□
When using the explosion protection option for A2SAP105-S1□□, select A2EXR001-S□□□1□□

■ 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.

■ TRADEMARKS

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