Yokogawa ADV551-P60

32-Channel 24V DC Digital Output Module

Yokogawa ADV551-P60 drives discrete field loads from a CENTUM FIO control system through 32 current-sink transistor outputs. It serves status-output duties and, with the P function, pulse-width or time-proportioning ON/OFF control where the configured output pattern permits. Output-status display helps identify channel state at the module. ADV551-P60 is a DC transistor-output card, so load current, external field supply and the required point-mode pattern must be checked before treating it as a suitable replacement.



Technical Specifications

Product Identity	
Manufacturer	Yokogawa
Complete model	ADV551-P60
Dimensions (W × H × D)	32.8 × 130 × 107.5 mm; module only
Functional Configuration	
Function	Digital transistor output; current sink
Channels	32; common every 16 channels
Performance & Power	
External supply	20.4–26.4 V DC
Maximum load current	100 mA per channel at 26.4 V DC
ON voltage drop	2 V or less
OFF leakage current	0.1 mA or less
Output response	Status-only ≤3 ms; mixed status/pulse ≤10 ms
Pulse width	8 ms–7200 s
Pulse-width resolution	8 ms, plus maximum 1 ms ON/OFF delay
Maximum current consumption	700 mA at 5 V DC; 60 mA from external supply
Environment	
Protection option	Output-status display version without explosion protection

Selected original manufacturer pages follow on pages 3–6.

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Compatibility & Selection Guide

System compatibility. ADV551-P60 belongs to CENTUM FIO and uses the supported system point-mode patterns. When an odd-numbered output is assigned pulse-width or time-proportioning operation, the next output cannot use a different type. One pattern is restricted to direct-connected nodes and excludes dual redundancy. Match the configured pattern, redundancy arrangement, hardware Style and termination before replacement.

Wiring & Installation Reference

Signal and connection checks

Field supply. 20.4–26.4 V DC · Verify polarity and common grouping

Output load. ≤100 mA per channel · Current-sink transistor output

DC relay. Diode required · Fit suitable relay suppression

Module fit and configuration

Confirm the system position.. Match the field control unit, node type, complete module code and existing configuration before replacement.

Match termination and dimensions.. Use the specified terminal/cable interface and check the module envelope against the installed assembly.

Verify the configured function.. Match -P60, sink-output load and configured point-mode pattern; check paired-channel and redundancy restrictions before replacement.

Installation precautions. Connect a diode when driving a DC relay. Check the complete point-mode pattern and redundancy restrictions, not only the individual channel setting.

View connection specifications (PDF) · PDF page 3 | View mounting dimensions (PDF) · PDF page 5

Manufacturer sources: Digital I/O Modules (for FIO).

● Digital Output Modules

The Digital Output Modules output 32-channel or 64-channel transistor contact signals.
The ADV551 and ADV561 can be used in dual redundant configuration.

Item	Specifications	
Model	**ADV551**	**ADV561**
Number of output channels	32	64
Rated applied voltage	24 V DC	24 V DC
External power supply rating	24 V DC, 50 mA	24 V DC, 100 mA
External power supply voltage range	20.4 to 26.4 V DC	20.4 to 26.4 V DC
Output ON voltage maximum value	2 V DC	2 V DC
Leak current maximum value when output OFF	0.1 mA	0.1 mA
Output format	Current sink	Current sink
Maximum load current (*1)	100 mA/channel, 26.4 V	100 mA/channel, 26.4 V
Withstanding voltage	Between output signal and system: 2 kV AC, For 1 minute Between commons: 500 V AC, For 1 minute, common minus (–) side every 16-channel (*2)	
Functions		
Status output	ON/OFF status output function	ON/OFF status output function
Pulse width output	One-shot pulse width output function	One-shot pulse width output function
Time-proportioning output	Time-proportioning ON/OFF	Time-proportioning ON/OFF
Output response time	3 ms or less (for status output) 10 ms or less (for mixed status and pulse outputs)	
Pulse width	8 ms to 7200 s	
Pulse width resolution	8 ms, but ON/OFF delay of maximum 1 ms is added	
Maximum current consumption	700 mA (5 V DC) 60 mA (external power supply)	700 mA (5 V DC) 120 mA (external power supply)
Weight	Approx. 0.20 kg	Approx. 0.30 kg
External connection	Pressure clamp terminal, Dedicated cable (AKB331), MIL connector cable	Dedicated cable (AKB337), MIL connector cable

*1: Connect a diode when driving DC relay.
*2: The withstanding voltage for using a dedicated cable is 500 V AC (between output signal and system).
The withstanding voltage for using MIL connector cable depends on the electrical specifications of its cable.

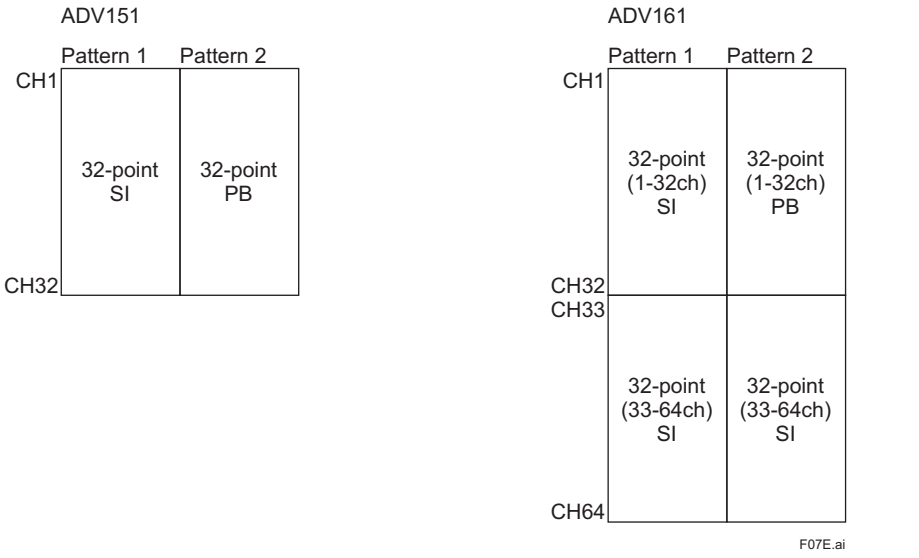
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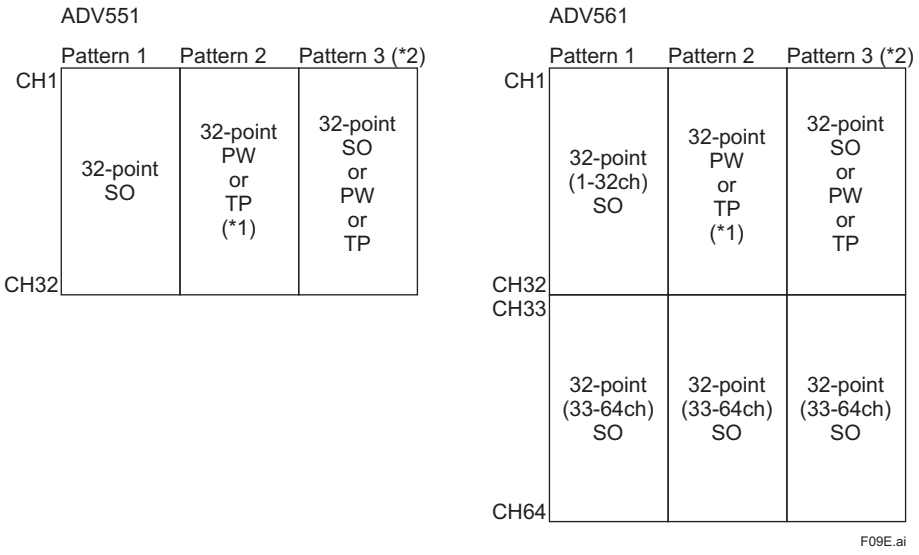
● Function Assignment in Digital Modules

Select the patterns for assigning functions channel-by-channel in digital modules.
The following table lists the correspondence between the module types and point modes.

Table: Correspondence Between the Module Types and Point Modes

Point Mode	Module Type
SI	Status input
PB	Pushbutton input
SO	Status output
PW	Pulse width output
TP	Time-proportioning ON/OFF output





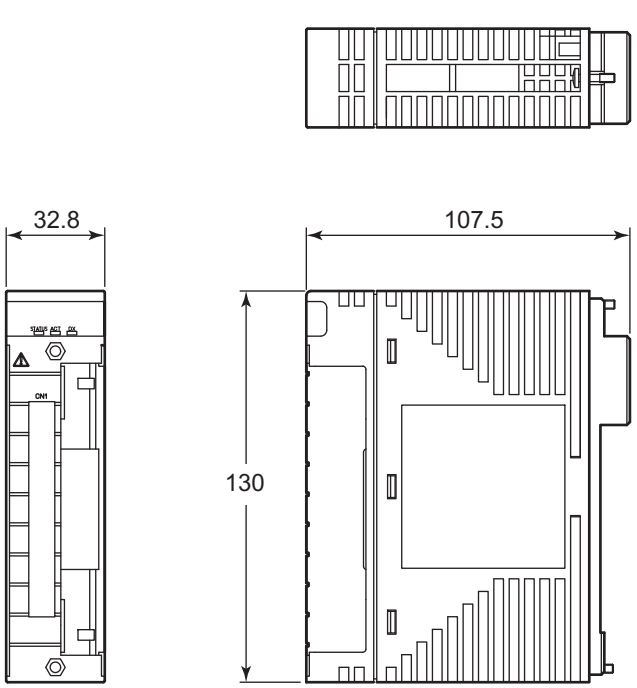
*1: If an odd-numbered terminal is specified as PW or TP, the next terminal cannot be specified as a different type.
*2: This pattern applies only for direct-connected nodes. Dual redundancy is not possible.

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■ EXTERNAL DIMENSIONS

● ADV151, ADV551 Digital I/O Module

Unit: mm



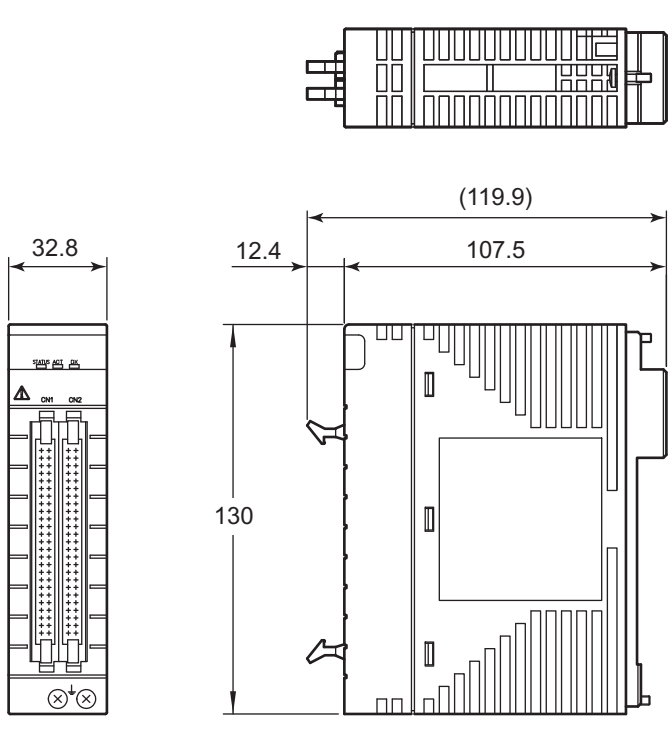
Nominal Tolerances :

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.

● ADV161, ADV561 Digital I/O Module

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.

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■ MODELS AND SUFFIX CODES

Digital Input Module

		Description
Model	ADV151	Digital Input Module (32-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pushbutton input
	-E	With SOE capture (*1)
	5	Without status display; with no explosion protection
	6	With status display; with no explosion protection
	E	Without status display; with explosion protection
	F	With status display; with explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/D5A00	With KS Cable Interface Adapter for 32-channel digital [Model: ATD5A-00]
	/B5S00	With Pressure Clamp Terminal Block for Digital Input [Model: ATB5S-00]
	/B5S10	With Pressure Clamp Terminal Block for Digital Input (surge absorber) [Model: ATB5S-10]
	/B5D00	With Dual Pressure Clamp Terminal Block for Digital Input [Model: ATB5D-00]
	/B5D10	With Dual Pressure Clamp Terminal Block for Digital Input (surge absorber) [Model: ATB5D-10]
	/CCC01	With Connector Cover for MIL Cable [Model: ACCC01]

*1: Please refer to GS 33J30D10-01EN when using it.

		Description
Model	ADV161	Digital Input Module (64-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pushbutton input
	5	Without status display; with no explosion protection
	E	Without status display; with explosion protection
	0	Basic type
	1	With ISA Standard G3 option

Digital Output Module

		Description
Model	ADV551	Digital Output Module (32-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pulse width output function/time-proportional output function
	5	Without status display; with no explosion protection
	6	With status display; with no explosion protection
	E	Without status display; with explosion protection
	F	With status display; with explosion protection
	0	Basic type
	3	With ISA Standard G3 option and temperature (-20 to 70 °C) option
Option Codes	/D5A00	With KS Cable Interface Adapter for 32-channel Digital [Model : ATD5A-00]
	/D5S00	With Pressure Clamp Terminal Block for Digital Output [Model : ATD5S-00]
	/D5S10	With Pressure Clamp Terminal Block for Digital Output (surge absorber) [Model : ATD5S-10]
	/D5D00	With Dual Pressure Clamp Terminal Block for Digital Output [Model : ATD5D-00]
	/D5D10	With Dual Pressure Clamp Terminal Block for Digital Output (surge absorber) [Model : ATD5D-10]
	/CCC01	With Connector Cover for MIL Cable [Model : ACCC01]

		Description
Model	ADV561	Digital Output Module (64-channel, 24 V DC, Isolated)
Suffix Codes	-P	With pulse width output function/time-proportional output function
	5	Without status display; with no explosion protection
	E	Without status display; with explosion protection
	0	Basic type
	1	With ISA Standard G3 option

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