General Specifications

Model DP3
Pulse to Analog Converter
(Free Range Type)

JUXTA

GS 77J05P03-01E

■ General

The DP3 is a nest-mounting type DCS-supported pulse-to-analog converterthat receives pulse-train signals and converts them into DC voltage or DC current signals proportional the the frequency.

- Internal filter can be set to eliminate chattering. (In cases where the input frequency range is up to 100Hz, the pulse width is 3ms or more)
- Input range zero/span setting, low cut point setting, zero/span adjustment, and I/O monitoring can be easily performed from the host system or the parameter setting tool (VJ77) via the communication interface card.

■ Model and Suffix Codes

DP3-□6□*A

Model

Transmitter power supply
- 1 : Transmitter power supply (12 V ±10%)
- 2 : Transmitter power supply (24 V ±10%)

Output 1 Signal
- 6 : 1 to 5 V DC

Output 2 signal

A : 4 to 20 mA DC	1 : 0 to 10 mV DC
B : 2 to 10 mA DC	2 : 0 to 100 mV DC
C : 1 to 5 mA DC	3 : 0 to 1 V DC
D : 0 to 20 mA DC	4 : 0 to 10 V DC
E : 0 to 16 mA DC	5 : 0 to 5 V DC
F : 0 to 10 mA DC	6 : 1 to 5 V DC
G : 0 to 1 mA DC	7 : -10 to +10 V DC
Z : (Custom order) Current signal (24 mA or less)	0 : (Custom order) Voltage signal (±10 V or less)

Power supply
- 24 V DC±10%

Note: If analog integration is used in the following cases, the MXD-Q (JUXTA M series universal computing unit) is recommended instead.
- For integration counter use
- For the conversion from DC to pulse; a repeat of "steady inputs" and "inputs near 0%"

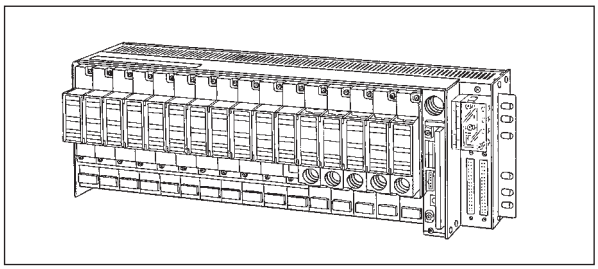
■ Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. DP3-26A*A
- Input range: e.g. 0 to 1 kHz
- Low cut point: e.g. 0.02 Hz

■ Input/Output Specifications

Input signal:
- 2-wire type: Voltage-free contact pulse, voltage pulse, or current pulse (transmitter power supply available)
- 3-wire type: Voltage pulse or current pulse (transmitter power supply available)



Input frequency: F_0 to F_{100} Hz
(0 Hz ≤ F_0 ≤ F_{100}/2 Hz)
(0.1 Hz ≤ F_{100} ≤ 10 kHz)
F_0=0% input, F_{100}=100% input

Input resistance: Contact pulse or voltage pulse; 15 kΩ or more

Internal load resistance: 200 Ω/510 Ω/1 kΩ (selectable with switch inside)
Rated power: 0.5W (12V DC power supply)
2W (24V DC power supply)

Low cut point setting range: 0.01 Hz≤Fcut≤F_{100}
The input less than the low cut point (Fcut) is equivalent to the output of 0Hz.
If the low cut point is not specified, the factory defalt is set to 0.01 Hz.

Voltage pulse input level:
Low level (V_L): -1 to +8 V DC
High level (V_H): 2 to 24 V DC
Swing width: V_H-V_L ≥ 2 V

Input pulse width: Pulse width with a duty of 50±30% when the input is 100%.

Input filter: Time constant; approx. 10 ms. (On/Off are set by the jumper pin respectively. The factory default is set to Off.)

Output 1 signal: 1 to 5 V DC

Output 2 signal: DC current or DC voltage signal (DC current can be outputted from either the front terminals 3-4 or the connector.)

Zero adjustment: ±10%

Span adjustment: ±10%

■ Standard Performance

Accuracy rating:
Output 1: ±0.3% of span
Output 2: Relative error between output-1 and 2 is within ±0.2%.
Accuracy is not guaranteed for output level less than 0.5% of the span of a 0 to X mA output range type.

Response speed: 2 intervals of input + 50 ms, 63% response (10 to 90%)

Insulation resistance: 100 MΩ or more at 500 V DC between input and output, output and power supply, and input and power supply.

Withstand voltage: 1500 V AC/min. between input and (output and power supply.)
500 V AC/min. between output and power supply.

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan

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■ Environmental Conditions

Operating temperature range: 0 to 50°C
Operating humidity range: 5 to 90% RH (no condensation)
Power supply voltage: 24 V DC±10% (ripple content 5% p-p or less)
Effect of power supply voltage fluctuations: ±0.1% of span or less for the fluctuation within the operating range of power supply voltage specification.
Effect of ambient temperature change: ±0.2% of span or less for a temperature change of 10°C.
Current consumption: 4 V DC 90 mA (4 to 20 mA), 60 mA (1 to 5 V)

■ Mounting and Dimensions

Mounting method: Nest-mounting (Signals and power supply are connected through back board and connector)
Connection method: Connection to M4 screw terminals of the exclusive nest
External dimensions: 130.6(H)×23.6(W)×126(D) mm
Weight: Approx. 120 g

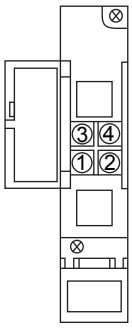
■ Standard Accessories

Tag number label: 1
Range label: 1

■ Custom Order Specifications

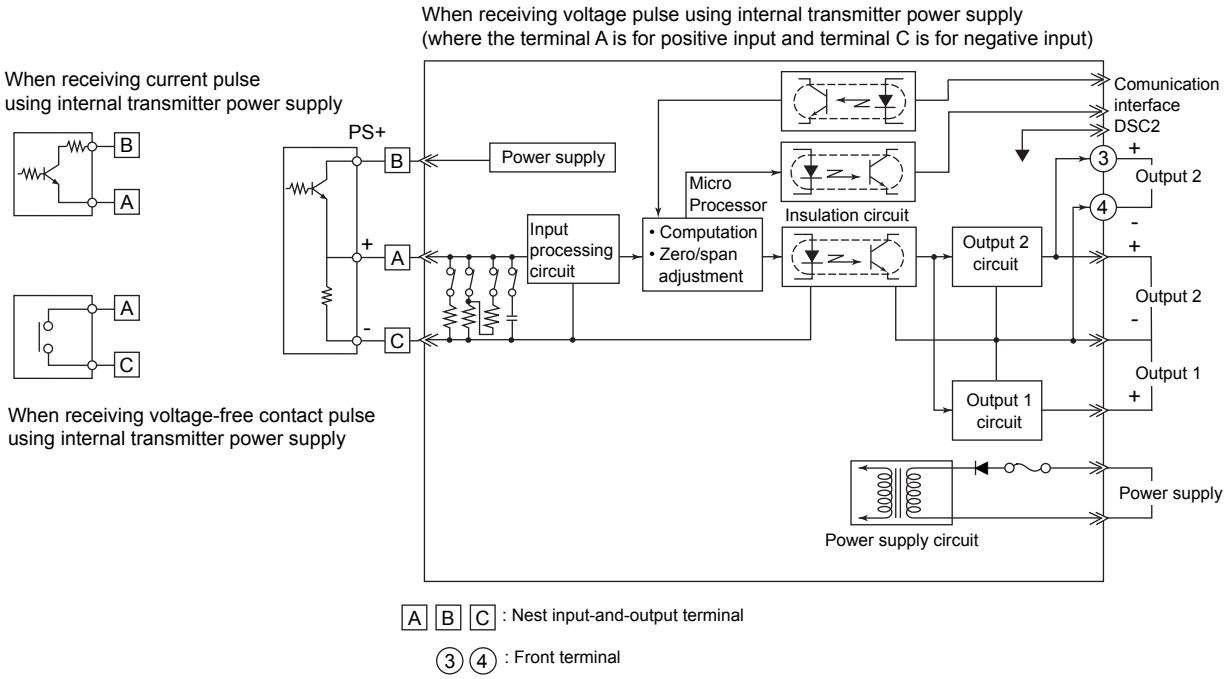
	Current signal	Voltage signal
Output range (DC)	0 to 24 mA	-10 to +10 V
Span (DC)	1 to 24 mA	10 mV to 20 V
Zero elevation	0 to 200%	-100 to +200%

■ Terminal Assignments



Terminal No.	Signal name
1	
2	
3	Output 2 (+)
4	Output 2 (–)

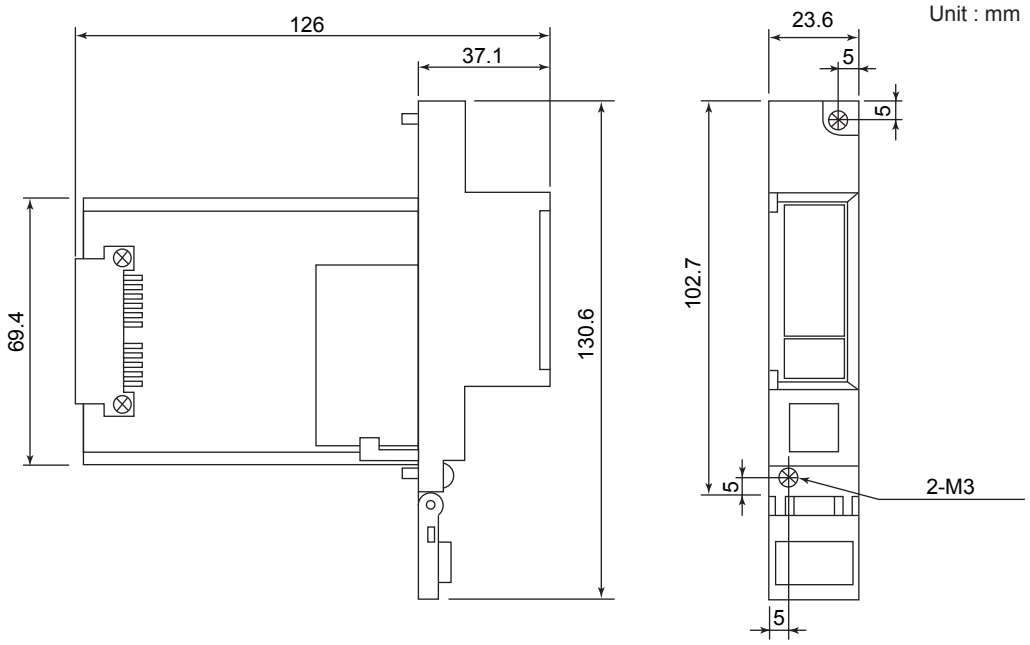
■ Block Diagram



A B C : Nest input-and-output terminal

③ ④ : Front terminal

■ External Dimensions



■ Basic Conditions and Individual Contracts at the Time of Purchase

The warranty for this product is defined in the basic conditions and individual contracts at the time of purchase. The individual conditions are as follows.

• Firmware warranty conditions

The warranty conditions for the firmware installed in this products are same as that of the hardware.

• Handling of non-conforming products

If Yokogawa verifies a non-conformity of the product that is attributable to Yokogawa within the warranty period, we will deliver an equivalent product.

Yokogawa can not provide a free evaluation of non-conforming products. The investigation of the non-conforming products will be performed at the expense of the customer.