

General Specifications

Model DP1
Pulse Repeater

JUXTA

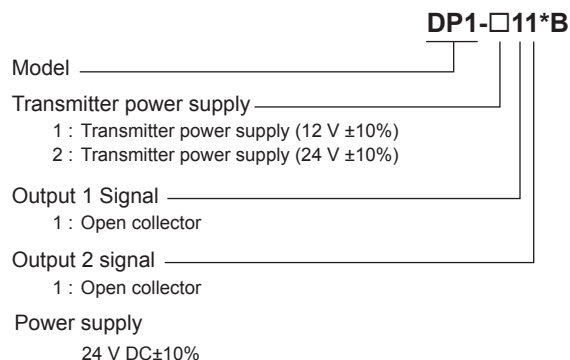
GS 77J05P01-01E

■ General

The DP1 is a nest-mounting type DCS-supported pulse repeater that receives pulses from voltage-free contacts, open collector contacts, voltage, and current, and converts them into isolated transistor-contact pulses.

- 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)

■ Model and Suffix Codes



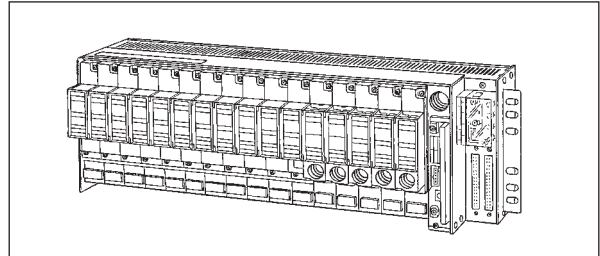
■ Ordering Information

Specify the following when ordering.

- Model and suffix codes :e.g. DP1-111*B

■ 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: $0 < FR \leq 6$ kHz (FR=input frequency)
If the input is voltage pulse and the swing is 5 V or more, $0 < FR \leq 10$ kHz
Input resistance: 15 k Ω or more (for contact or voltage pulse)
Internal load resistance (for current pulse):
200 Ω , 510 Ω , 1 k Ω (selectable with switch inside)
Rated power: 0.5W (12V DC power supply)
2W (24V DC power supply)
Minimum input pulse width: ON; 60 μ s, OFF; 60 μ s
Transmitter power supply: 12 V DC \pm 10%, 24 V DC \pm 10%, 30mA or less
Contact input type: Relay contact or transistor ON/OFF contact
Contact resistance:
Close: 200 Ω or less,
Open: 100 k Ω or more
Contact capacity: 15 V DC, 15 mA or more
Filter: Switch selectable for set or release (filter time constant; 10 ms)



Swing width: $V_H - V_L \geq 3$ V

Voltage V_L (low level): -1 to +8 V DC

Voltage V_H (high level): 3 to 24 V DC

Output signal: Transistor contact (open collector)

The specifications are the same for both output 1 and 2.

Output frequency: Same as input frequency

Output contact capacity: 30 V DC, 30 mA maximum

■ Standard Performance

Insulation resistance: 100 M Ω 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.

■ Environmental Conditions

Operating temperature range: 0 to 50°C

Operating humidity range: 5 to 90% RH (no condensation)

Power supply voltage: 24 V DC \pm 10%
(ripple content 5% p-p or less)

Effect of power supply voltage fluctuations: Normal operation is guaranteed for the fluctuation within the operating range of power supply voltage specification.

Effect of ambient temperature change: Normal operation is guaranteed over the rated operating temperature range.

Current consumption: 24 V DC 60 mA

■ Mounting and Dimensions

Mounting method: Nest-mounting (Signals and power supply are connected through back board and connector)

Connection method:

External wiring; connection to M4 screw terminals of the dedicated nest

Connection to I/O card; via dedicated cable (connector)

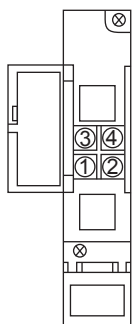
External dimensions: 130.6(H) \times 23.6(W) \times 126(D) mm

Weight: Approx. 120 g

■ Standard Accessories

Tag number label: 1

Terminal Assignments

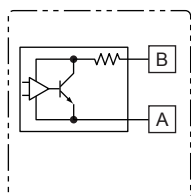


Terminal No.	Signal name
1	
2	
3	Output 2 (+)
4	Output 2 (-)

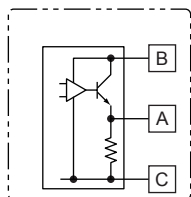
Note: This instrument may output a pulse when the power is turned on/off.
Depending on the connected devices, this pulse output is counted as "one pulse."

Block Diagram

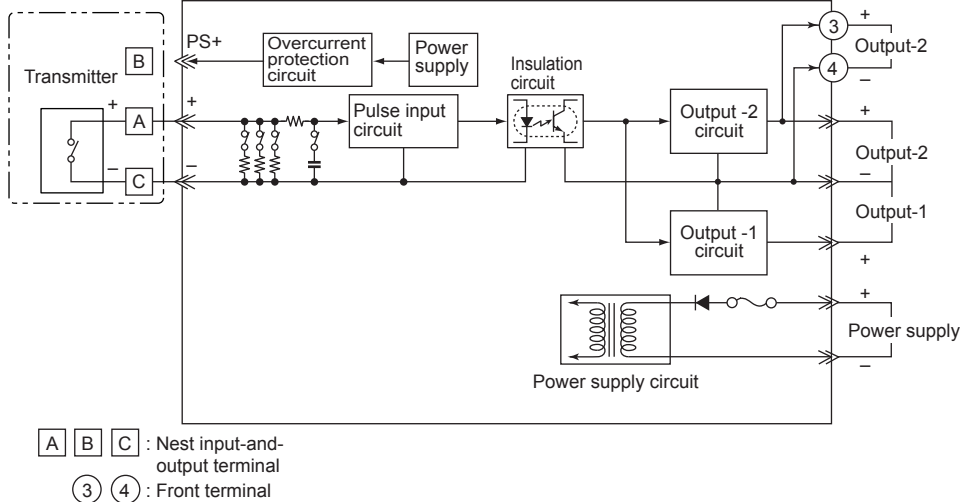
When receiving current pulses using internal resistor power supply



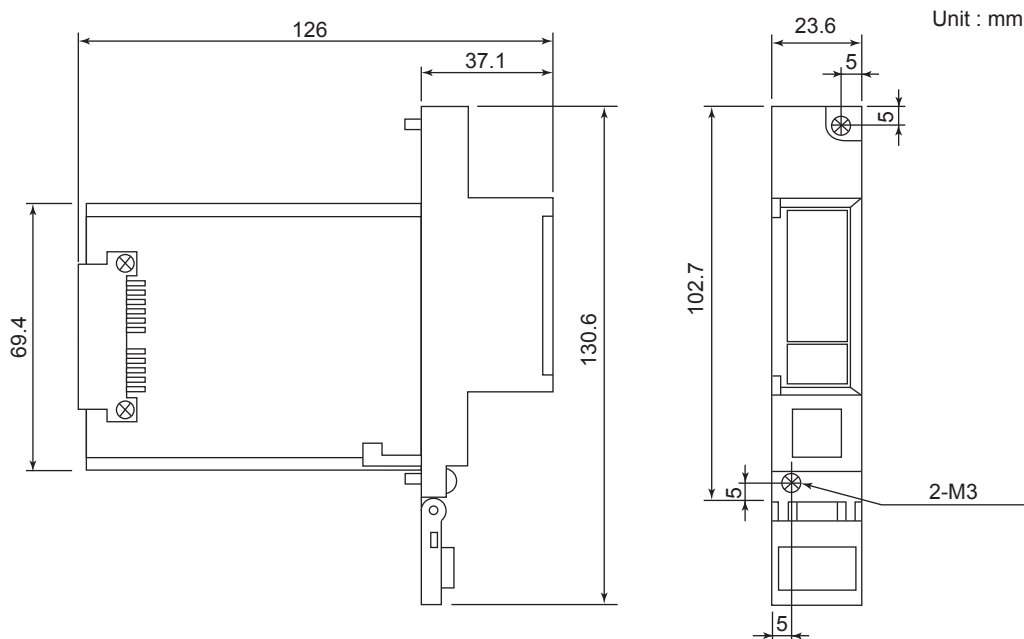
When receiving voltage pulses using internal transmitter power supply



When receiving voltage-free contact signals or voltage pulses (where, terminal A is the positive input (+) and terminal C is the negative input (-) for voltage pulses)



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.

• 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.