

General Specifications

Model FP4P
Pulse Rate Converter

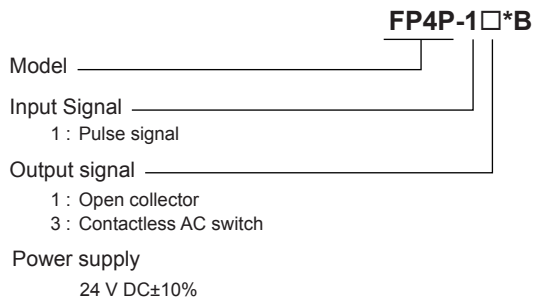
JUXTA

GS 77J08P04-01E

■ General

The FP4P is a compact, front terminal connection type pulse rate converter that receives contact or voltage pulses from a field, and converts them into isolated transistor-contact pulses at a preset pulse rate.

■ Model and Suffix Codes



■ Ordering Information

Specify the following when ordering.

- Model and suffix codes: e.g. FP4P-11*B
- Input range: e.g. 0 to 3000 Hz
- Output range: e.g. 0 to 10 Hz

■ Input/Output Specifications

Input signal: Contact pulse or voltage pulse

Input frequency: 0 to F_{i100} Hz ($F_{i100} \leq 10$ kHz)
($F_{i100} = 100\%$ input frequency)

Input pulse width: Pulse width with a duty of $50 \pm 30\%$ when the input is F_{i100}

Input signal level:

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

High level (V_H): 2 V or more

Swing width: $V_H - V_L = 2$ to 50 V

Input resistance: 10 k Ω

Contact input detection power supply: 24 V DC, 1 mA

Output signal: Open collector or contactless AC switch

Output frequency: 0 to F_{o100} Hz ($F_{o100} \leq 16.6$ Hz)
($F_{o100} = 100\%$ output frequency)

On-time pulse width: 30 ± 3 ms

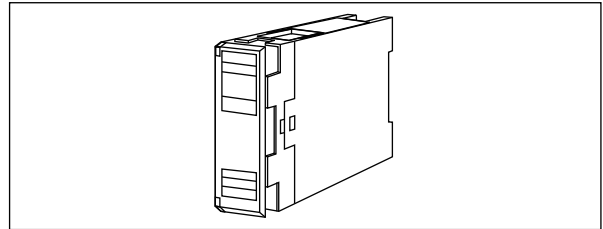
Output contact capacity:

Open collector: 30 V DC/200 mA

Contactless AC switch: 100 V AC/200 mA

Note: This converter outputs the number of pulses arbitrarily specified within 0 to 9999 when inputting 10000 pulses.

The number of output pulses is not always equal to the number of input pulses multiplied by the given pulse rate.



■ Standard Performance

Pulse rate formula: Pulse rate = F_{o100}/F_{i100} , then round off to 4 decimal places.

Setting resolution of pulse rate is 0.0001.

Maximum input frequency	Pulse rate
0 to 16.6 Hz	No limit
16.7 to 33.3 Hz	0.4000 or less
33.4 to 83.3 Hz	0.2000 or less
83.4 to 166 Hz	0.1000 or less
167 to 333 Hz	0.0400 or less
334 to 833 Hz	0.0200 or less
0.834 to 1.66 kHz	0.0100 or less
1.67 to 3.33 kHz	0.0040 or less
3.34 to 8.33 kHz	0.0020 or less
8.34 to 10.0 kHz	0.0010 or less

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 $\pm 10\%$ (percentage ripple is 5%p-p or less)

Effect of power supply voltage fluctuations: $\pm 0.1\%$ of span or less 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

Material: ABS resin (Case body)

Mounting method: Rack, Wall or DIN rail mounting

Connection method: M4 screw terminals

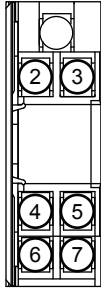
External dimensions: 72 (H) \times 24 (W) \times 127 (D) mm

Weight: Approx. 130 g

Standard Accessories

- Tag number label: 1
- Mounting block: 2
- Mounting screw: M4 screw x 2

Terminal Assignments



2	Input	(+)
3	Input	(-)
4	Output	(+)
5	Output	(-)
6	Supply	(+)
7	Supply	(-)

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."

Custom Order Specifications

Output frequency	Less than 10 kHz
Output ON pulse width	40 μs or more

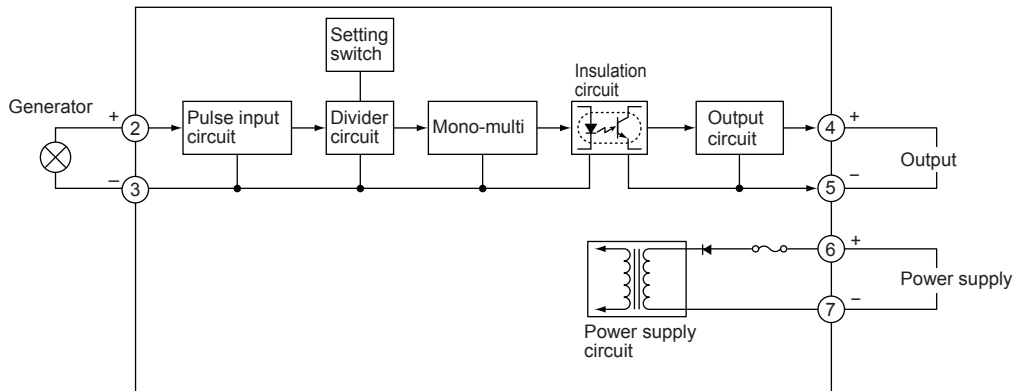
However, the output pulse width should meet the following condition:

$$40 \mu \leq \text{Output ON pulse width} \leq \frac{1}{F_{i100}} \times 0.5 \times n$$

"n" varies according to the pulse rate. (See the table below.)

Pulse rate=Fo100/Fi100	n
0.9999 to 0.4001	1
0.4000 to 0.2001	2
0.2000 to 0.1001	5
0.0400 to 0.0201	10
0.0200 to 0.0101	50
0.0100 to 0.0041	100
0.0040 to 0.0021	200
0.0020 to 0.0011	500
0.0010 to 0.0005	1000
0.0004 to 0.0003	2000
0.0002	5000
0.0001	10000

Block Diagram



External Dimensions

