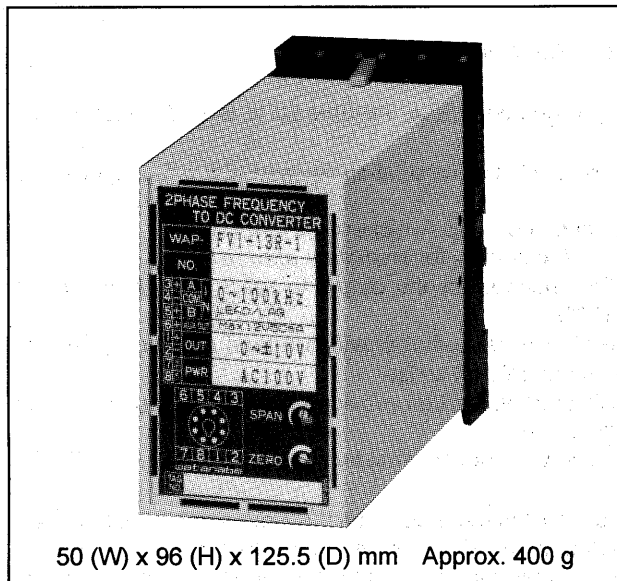


TWO-PHASE PULSE/DC CONVERTER (FOR ROTARY ENCODER)

WAP-FVI



This unit is a small-sized plug-in signal converter that converts a two-phase pulse signal mutually dephased by 90 degrees, emitted from an incremental type rotary encoder, into an analog signal that allows to identify the rotating direction by a magnitude proportional to its frequency.

Features

- Outputs analog signals corresponding to rotating speed and rotating direction.
- Offers the high responsibility of 100 kHz.
- Has its input, output and power supply isolated from one another with a dielectric strength of 2,000 VAC.
- Capable of feeding an encoder with power (12 VDC, 50 mA).
- Small-sized plug-in type, which is attached to or detached from DIN rails by a one-touch action.

Model WAP - FVI -

Measurement frequency Hz·fs
(Please specify in the 50 Hz·fs to 100 kHz·fs range.)

FVI	Two-phase pulse/DC converter (for input from incremental type rotary encoder)
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Input Signal	
11	ON-OFF (Compatible with non-voltage contacts, open collector) 6 V at OFF, 1 mA at ON, residual voltage: 0.7 V or less
13	Voltage pulse input impedance 20 KΩ or more [1]: Over 3.5 V up to 30 V [0]: Below 1.5 V, over -30 V
99	Other than the above (Please consult with us.)

Power Supply	
1	AC 100 V ± 10%, 50/60 Hz
2	AC 200 V ± 10%, 50/60 Hz
3	DC 24 V ± 10%
4	AC 110 V ± 10%, 50/60 Hz
5	AC 220 V ± 10%, 50/60 Hz

Output Signal	
	Allowable Load Resistance
A	4–12–20 mA 750 Ω or less
H	1–3–5 V 2.5 KΩ or more
L	-50–0–+50 mV 100 KΩ or more
R	-10–0–+10 V 5 KΩ or more
S	Other than the above (Please consult with us.) Voltage output 1 V or less Current output 20 mA or less

Specifications

Measurement frequency:	50 Hz·fs to 100 kHz·fs (2 phases with 90° phase difference)
Accuracy:	±0.2%·fs (at 23°C)
Output ripple:	±0.2%p·fs
Allowable load resistance:	In case of voltage output, please use the unit with a load current of 2 mA or less (1 μA or less for an output below 1 V·fs). In case of current output, use it with a voltage drop of 15 V or less between output terminals.
Operating temperature and humidity:	-5 to +60°C, 90% RH or less (without condensation)
Influence of ambient temperature:	±0.15%·fs/10°C
Insulation resistance:	100 MΩ or more with a 500 VDC megger between input and output terminals, and between input/output terminal and power supply terminal
Dielectric strength:	2,000 VAC for 1 minute between input and output terminals, and between input/output terminal and power supply terminal
Power consumption:	Approx. 5 VA (AC), 180 mA (DC)
Sensor power supply:	12 VDC ±5%, 50 mA (max.)
Response time and shutdown:	

Measurement Frequency	* Response Time	** Shutdown Frequency
50-100 Hz·fs	Approx. 2 sec	Approx. 2.5 Hz
101-200 Hz·fs	Approx. 1 sec	Approx. 5 Hz
201-500 Hz·fs	Approx. 0.5 sec	Approx. 10 Hz
501 Hz-100 KHz·fs	Approx. 0.2 sec	Approx. 25 Hz

* Time for the output to reach 90%·fs when the input varies from 0 to 100%.

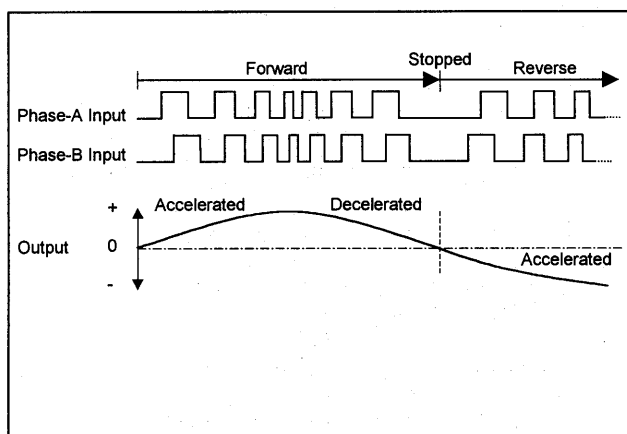
** Frequency at which the function to forcibly reduce the output to zero starts working when the input signal falls to below the input rating.

Zero & span adjustment: ±20%·fs each (multi-turn trimmer)

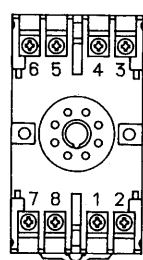
Major Applications

- Monitoring of rotating angle and rotating direction of rollers.
- Recording of operating state of flow meters and measuring machines on chart recorders.

Output Waveform



Pin and Terminal Assignment



No.	Symbol	Description
1	OUTPUT +	Output signal
2	OUTPUT -	
3	A-INPUT +	Phase-A Input
4	COMMON -	Common
5	B-INPUT +	Phase-B Input
6	SENSOR +	Sensor Power supply
7	POWER U (+)	Power supply
8	POWER V (-)	