

High-speed F/V Converter FV-1500



Overview

FV-1500 High-speed F/V Converter is a frequency-to-voltage (current) converter that converts frequency signal proportional to rotation speed, general speed, etc. into analog voltage and current values for each period.

This converter can measure fluctuation of rotating objects with high-speed response, such as motors used in EV/HEVs or motors used in production lines. Characteristics of fast-rise rotation, very small fluctuation in steady rotation, and transient phenomena of flow speed can be measured even they are at high speed.

Feature

Wide input frequency range: 0.2Hz to 320kHz (1Hz to 120kHz: previous model FV-1400)

High-speed response: 1 cycle + 3.5 μ s (1 cycle + 7.6 μ s: previous model FV-1400)

Rapid deceleration following function: Enables practical signal output even when the frequency brings about a sharp drop.

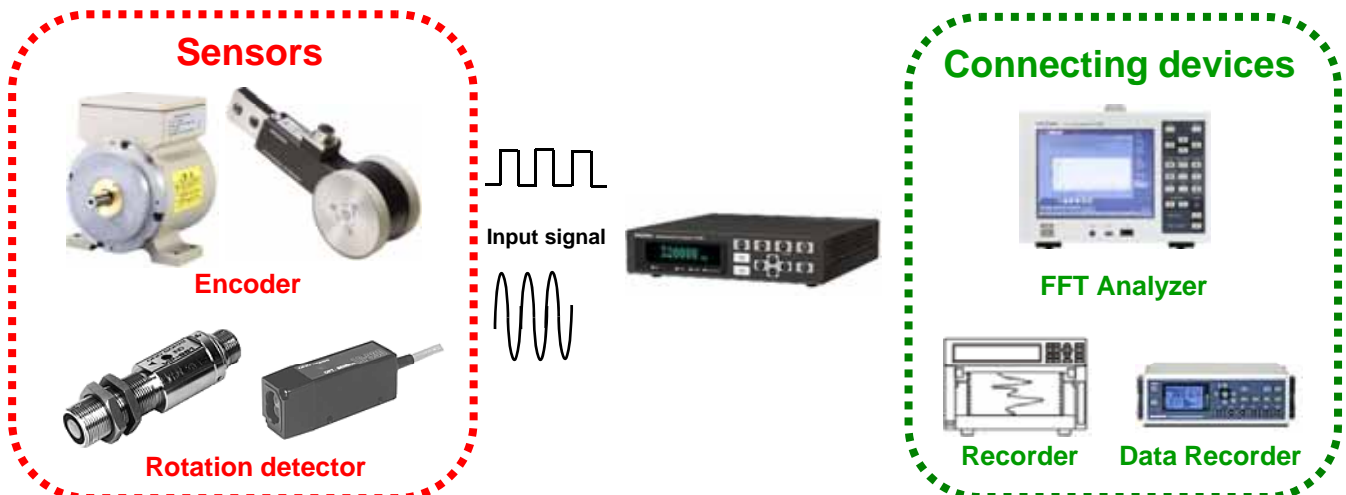
Center-frequency following function: Closes up transient fluctuation component (option)

Provided forward/reverse output: Rotation direction judgment using two phase signal input

Comparator output: Useful for alarm system (option)

Applications

---Many sensor/analyzer choices for rising characteristics and rotation variation---



● Specification

Input specification		
Input connector	BNC (CO2 type) or terminal strip selectable	
Input format	Single phase AC / DC / non-voltage (open collector +12V pull-up) selectable 90 ° phase difference binary phase signal (DC input only)	
Input voltage	AC input signal voltage range	0.3 Vp-p to 30 Vp-p
	DC input signal voltage range	Lo; +1 V or less, Hi; +4 to 30 V
Filter	OFF/20kHz/120kHz lowpass filter (-6 dB/oct)	
Input frequency range	0.2Hz to 320 KHz	
Signal output specification		
Output update time	1 cycle + 3.5µs or less	
D/A resolution	16 bit	
Signal from analog output connector	Voltage output	0 to 10 V (when output in F.S mode)
	Current output	0 to 16 mA (4 to 20 mA)
Linearity	Voltage output	DC: ± 0.1% (~ 180kHz), ± 0.2% (~ 320kHz)
		AC: ± 0.2% (~ 180kHz), ± 0.4% (~ 320kHz)
	Current output	DC: ± 0.7% (~ 180kHz), ± 1.4% (~ 320kHz)
		AC: ± 1.4% (~ 180kHz), ± 2.8% (~ 320kHz)
Display		
Display	Fluorescent display tube (Display range: 69.85 mm x 11.45 mm) Four brightness degrees selectable	
Display unit	Hz, r/min, m/min, USER	
Power supply for sensor		
Power supply for sensor	+12 V ± 10% 150 mA, +5 V ± 10% 150 mA	
General specification		
Power supply/voltage range	DC 16 V Dedicated AC adaptor (AC100 to 240V) provided as standard	
Power consumption	Approx. 36 VA	
Operating temperature range	0 to +40	
Operating/storage humidity range	5 to 80 % (with no condensation) / 5 to 85 % (with no condensation)	
Outer dimensions	210(W) x 44(D) x 200(D) mm (not including protruded section)	
Weight	Approx. 1 kg	
Accessory	Dedicated AC adapter x 1, connector (MC1.5/6-STF-3.81) X 1, instruction manual x 1	
Optional functions	FV-0151 (Automatic center frequency follow-up function), FV-0152 (Comparator output function) FV-0153 (Deviation scale change function (± 10 V)) FV-0154 (Open collector output function)	

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