SERIES FV2

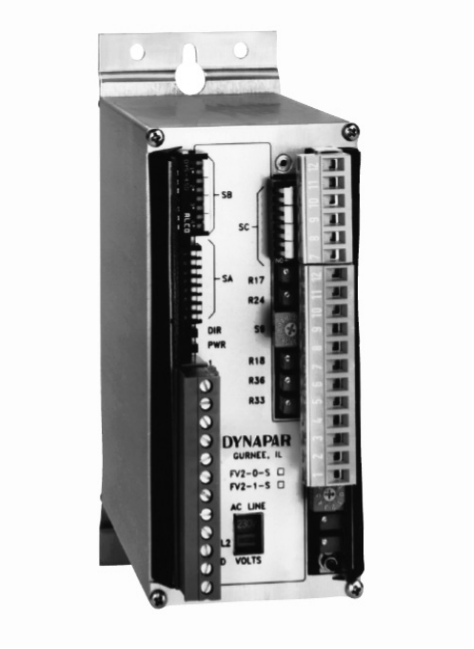
Dynapar™ brand

Brushless Digital Feedback

Key Features

- **Bidirectional Frequency/Voltage or Frequency/Current Converter**
- **An FV2 and an Encoder Replace a DC Tachometer when Precision Feedback is Required.**

This product is obsolete and information is available for reference only



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Electrical

Input Power Requirements: 115/230 VAC ±10%, 50/60 Hz; 120 mA @ 115 VAC, 60 mA @ 230 VAC
Available Power for the Transducer: 12 VDC ±5%, 200 mA max.
Input Signal: (Field-Selectable) 4 to 15V differential; or 8 to 15V single-ended; or magnetic 1.5 to 15V peak-to-peak
Input Frequency Range: (Field-Selectable)
Bidirectional: 0-500 Hz to 0-100 kHz;
Unidirectional: 0-1 kHz to 0-100 kHz;
Analog Output: ±10V bidirectional; 0-10V unidirectional @ 25 mA
Output Linearity: ±.01% of span
Temperature Stability: ±.02% per °F
Current Range: 4-20 mA
Current Linearity: ±0.2% max.
Compliance: +16V min.
Response Time: <10 msec. switch selectable to <20, <36, or <46 msec.
Output Ripple: Volts RMS is generally less than brush generators and is predictable depending on input frequency from an encoder. For 240 PPR, open loop ripple is 0.080V at 25 RPM, 0.03V at 250 RPM and 0.015V at 2500 RPM
Output Overrange: 10% min. (volt. or current)
Output Offset: Adjustable

Environmental

Operating Temperature: 0 to 60°C
Storage Temperature: -18° to +85°C
Relative Humidity: to 90% non-condensing

OPTIONAL FEATURES

The following features are available with the FV2 option board, which can be factory- or field-installed:

Auxiliary Isolated Digital Outputs
When supplied separately with 12 ±3 VDC, an isolated digital differential line driver output is supplied corresponding to the A and B input phases. By connecting the analog power supply cable to the option board, the analog outputs can also be powered by the separate supply and optically isolated from the digital inputs.

Transducer Phase Reversal Detector
This feature monitors the A and B phases and detects reverse rotation. When reversal is detected, there is a user-selectable delay (2048 pulses max.) before the output relay drops out. The relay will not re-energize until: 1) the reset button is pressed, 2) an external reset signal is applied, or 3) power is removed and restored. An inhibit input is provided to override the reversal detection circuit.

Transducer Phase Failure Detector
This feature monitors the A and B phase inputs and detects a failure (i.e. one phase failed high or low). Its output is a normally-open relay contact which opens upon failure detection. This relay contact is shared with a Phase Loss Detection circuit.

Transducer Phase Loss Detector
This feature monitors current supplied to the encoder and reacts to a decrease in current required. Failure is indicated by opening the relay contact shared with the Phase Failure Detector. Current trip level is field-adjustable. Transducer supply must be provided by FV2.

Zero Speed Detector
This feature monitors transducer speed, and can be set by the user to trip at a specific level corresponding to desired speed. A relay with a single-pole-double-throw contact is used for the output.

SPECIFICATIONS FOR FV2 OPTIONS

Auxiliary Digital Outputs

Power Requirements: 12 ±3 VDC
Current Requirements: 25 mA w/ digital outputs only; 250 mA w/ analog outputs only

Outputs	Voltage Range	Sink (mA)	Source (mA)	Standard IC
Differential Line Driver	12 ±3 VDC	22	40	88C30

Transducer Reversal Detector

Forward Input Phasing: A leads B
Reversal Delay: 16, 32, 64, 128, 256, 512, 1024, or 2048 pulses, selectable.
Output: Relay contacts*, latched upon failure.
Latch Reset & Inhibit Input Requirements: TTL/CMOS, activates on high,10K pull-down, 17V max.

Transducer Phase Failure Detector

Failure Type: A or B phase
Delay: 4 transitions
Output: N.O. contact* shared with Phase Loss Detector

Transducer Phase Loss Detector

Current Level: 30 to 200 mA, adjustable
Output: N.O. contact* shared with Phase Failure Detector

Zero Speed Detector

Adjustable Range: 10 Hz to 300 Hz
Response Time: Less than 0.1 sec.
Output: SPDT relay contact*
*Relay contacts are rated at (1) 1.0 amps, 24 VDC, or (2) 0.3 amps, 115 VDC resistive, or (3) 0.3 amps, 24 VDC, or (4) 0.2 amps, 115 VAC inductive.

ORDERING INFORMATION

Model No.	Description
FV2-0-S	Frequency-to-Voltage Converter
FV2-1-S	Same as FV2-0-S with Factory-Installed Option Board
FV2-N1	Option Board Only (Kit for Field Installation with FV2-0-S)
*	Technical Manual

*A technical manual is included with each FV2 unit shipped. Consult Customer Service for ordering extra copies.

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DYNAPAR™
INNOVATION - CUSTOMIZATION - DELIVERY

WWW.DYNAPAR.COM
Headquarters: 1675 Delany Road • Gurnee, IL 60031-1282 • USA

Customer Service:
Tel.: +1.800.873.8731
Fax: +1.847.662.4150
custserv@dynapar.com

Technical Support
Tel.: +1.800.234.8731
Fax: +1.847.662.4150
northstar.techsupport@dynapar.com

European Sales Representitive
Hengstler GmbH
Uhlandstrasse 49, 78554 Aldingen
Germany
www.hengstler.com

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