

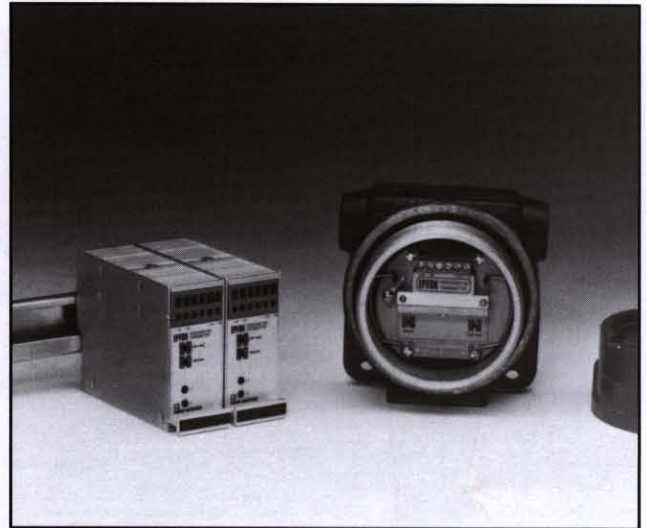
July 1999

Data Sheet 4.15

Description

The EP-FDX, with field-selectable ranges, is a two-wire transmitter designed to convert varying frequency signals to DC-current signals which are more suitable for field transmission. Typically the EP-FDX accepts input from a flow measurement device such as a flowmeter (i.e. turbine, vortex shedding, or positive displacement meter) and yields a proportional 4-20 or 10-50 mA output. The EP-FDX can be linked to a wide variety of analog and digital instrumentation. Typical uses include controller interface, computer interface, data transmission, and other process functions.

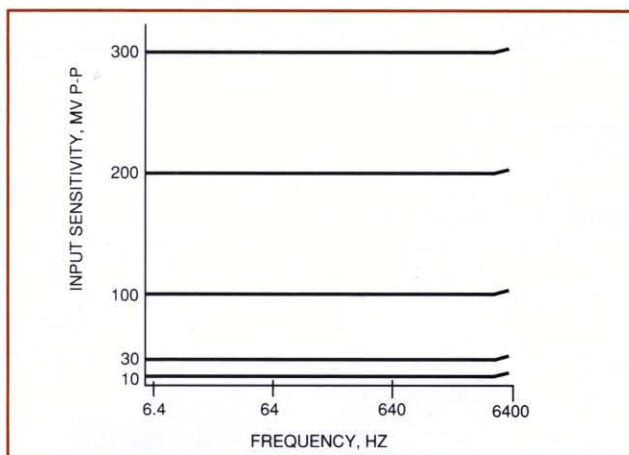
The EP-FDX is available in a variety of housings and enclosures. The hockey-puck (HP) housing can be supplied with either mounting flanges for relay-track or surface mounting, or with spring clips for mounting in explosion-proof enclosures. A 1-inch wide DIN-style rail-mount housing is also available which snaps onto a standard DIN rail and is ideally suited for high density installations. Other housing options include an oil-tight (OT) NEMA 12 enclosure; a water-tight (WT) NEMA 4 enclosure; and a high glass dome explosion-proof (HG) enclosure that allows a Moore Industries Model DVX display indicator to be mounted with the EP-FDX transmitter for on-site display.



The EP-FDX is available in a variety of housings, two of which are pictured: hockey-puck (HP) and DIN-style (DIN) rail-mount.

Features

- **Field Selectable Input Ranges.** Input ranges from 3.12 Hz to 6400 Hz, which are field selectable with solderless jumpers, make the EP-FDX ideal for use with frequency generating devices such as turbine and positive displacement meters, magnetic shaft speed pickups, and contact closures.
- **High Accuracy and Stability.** Offers calibration capability of $\pm 0.05\%$ of span and extremely high stability ($\pm 0.01\%$ of span / $^{\circ}\text{F}$ change; $\pm 0.002\%$ of span / 100Ω change in loop resistance; $\pm 0.002\%$ of span / volt change in line voltage), even under adverse operating conditions.
- **Adjustable Sensitivity.** Input sensitivity is adjustable from 10 mV to 300 mV which allows for inclusive measurement of low level signals and filtering of noisy signals.
- **Contact Closure Input.** A field selectable contact closure input is available with "de-bounce" circuitry that allows for dry contact input without registering false counts due to contact bounce.
- **RFI/EMI Protection.** -RF option filter assembly prevents radio frequency interference from entering the EP-FDX enclosure (see Specifications).



EP-FDX Sensitivity Diagram. Unlike some other frequency-to-current converters, the essentially flat response of the EP-FDX yields a sensitivity that is independent of input frequency.

EP-FDX

Extended Performance
Frequency-to-Dc Transmitter

Specifications

Characteristics Front Panel Adjustments Multi- turn potentiometers Zero: Adjustable to $\pm 10\%$ of span Span: Programmable with solderless jumpers Performance Calibration Capability: $\pm 0.05\%$ of span. Temperature Effect: $\pm 0.01\%$ of span / °F Loop Load Effect: $\pm 0.002\%$ of span for 100 ohm change in loop resistance Line Voltage Effect: $\pm 0.002\%$ of span/volt change Operating Temperature Range: -29°C to +82°C (-20°F to +180°F) Input Impedance 10K ohms, $\pm 20\%$ Input Isolation 500V rms, for all units not equipped with the -RF option. Input Amplitude 10mV P/P to 30V P/P Common Mode Rejection 54db, minimum, up to 120Hz	Output Noise $\leq 10\text{mV}$, P/P (dc to 6.4KHz) $\leq 100\text{mV}$, P/P (above 6.4KHz) Certification CSA Weight 141.5 grams (5 oz), without explosion-proof enclosure, 1.36 kilograms (3lb), approximate, with explosion-proof enclosure	Options Sensitivity: (Continued) -S10 10mV, P/P -S30 30mV, P/P -S100 100mV, P/P (If no sensitivity option is specified, 30mV P/P is provided as standard) Housings DIN DIN-style rail-mount housing FL Aluminum case (HP) with mounting flanges for relay-track or surface mounting HP Standard aluminum case with spring clips for mounting in explosion-proof enclosures* HPD Aluminum case with clip assembly OTH Oil tight, NEMA 12 enclosure WTH Water tight, NEMA 4 enclosure 2HG* Explosion-proof, high glass dome, 2 hub 2HS* Explosion-proof, high solid dome, 2 hub 2LS* Explosion-proof, low solid dome, 2 hub 3HG* Explosion-proof, high glass dome, 3 hub 3HS* Explosion-proof, high solid dome, 3 hub 3LS* Explosion-proof, low solid dome, 3 hub *P (suffix) denotes 2" pipe mounting.
	Ordering Specifications Unit EPFDX Input Range See table 1. Output 4-20MA 4-20mA (30mA limit, maximum) 10-50MA 10-50mA (65mA limit, maximum) Power 12-42DC 12-42 VDC Options -CC Contact Closure Input* -RF RFI/EMI protection 50V/m - abc = $\pm 0.1\%$ F.S. (as defined by SAMA standard 33.1) (Consult factory for performance spec's of units with -RF option) <small>*Not available with input ranges N thru X.</small>	

When ordering specify:

Unit / Input Range / Output / Power / Options [Housing]

Model number example:

EP-FDX / A / 4-20MA / 12-42DC / -CC [HP]



Factory Mutual Research Corporation (FMRC)

Explosion-Proof – [HP in 2/3, H/L, G/S]

Class I, Division 1, Groups B, C, D

Dust-Ignition Proof – Class II, Division 1, Groups E, F, G

Suitable for: Class III, Division 1



Canadian Standards Association (CSA)

General (Ordinary) Location



CE Conformant EMC Directive 89/336/EEC EN

50081-2, 1993; 50082-2, 1995.

Table 1. Input Frequency Range

Code	Range (Hz)	Code	Range (Hz)
A	3.12 - 4.68	M	150 - 200
B	4.68 - 6.25	N	200 - 300
C	6.25 - 9.37	P	300 - 400
D	9.37 - 12.50	Q	400 - 600
E	12.50 - 18.75	R	600 - 800
F	18.75 - 25.00	S	800 - 1200
G	25.00 - 37.50	T	1200 - 1600
H	37.50 - 50.00	U	1600 - 2400
J	50.00 - 75.00	V	2400 - 3200
K	75.00 - 100.00	W	3200 - 4800
L	100.00 - 150.00	X	4800 - 6400



The Interface Solution Experts • www.miinet.com

United States • info@miinet.com
Tel: (818) 894-7111 • FAX: (818) 891-2816

Australia • sales@mooreind.com.au
Tel: (02) 8536-7200 • FAX: (02) 9525-7296

Belgium • info@mooreind.be
Tel: 03/448.10.18 • FAX: 03/440.17.97

The Netherlands • sales@mooreind.demon.nl
Tel: (0)344-617971 • FAX: (0)344-615920

China • sales@mooreind.com.cn
Tel: 86-21-68406724 • FAX: 86-21-50623585

United Kingdom • sales@mooreind.com
Tel: 01293 514488 • FAX: 01293 536852