DC FASTAR®

Linear Displacement Transducer System

SENTECH INC.

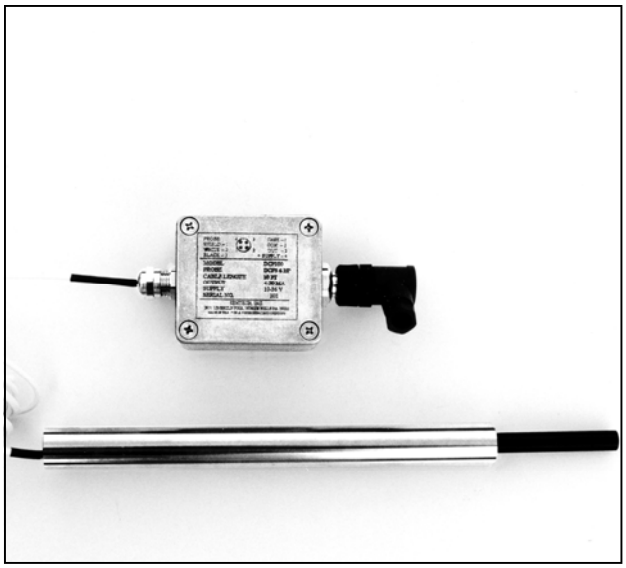
The DC FASTAR® is a high response, shock resistant, non-contact displacement measuring system, designed to measure linear displacement (position).

The DC FASTAR® position transducer consists of a cylindrical body and a low mass, aluminum moveable core and a compact signal processor connected to the transducer with a 10' (3 meter) cable.

A precision variable inductor with a stroke to body length ratio of almost 1:1, the DC FASTAR® has a body length approximately half as long as a typical LVDT having a comparable measurement range.

The DC FASTAR'S® patented signal processor allows high speed displacement measurements with better precision than other non-contact devices. Developed for use in rugged factory environments, the compact NEMA 4 (IP 65) rated signal processor is placed at or near to its transducer, allowing the use of low cost power and signal lines to run long distances to readout or control devices. It is highly resistant to EMI and RFI interference.

Operating from single ended +10 to +36V DC, units are available with outputs of ±10V DC, 0 to 10V DC or 4-20mA suitable for feeding PLCs, readouts or other control devices.



FEATURES

Fast 35 µS response, Low reciprocating mass
±10V DC, 0 to 10V DC or 4-20mA outputs
Dynamic temperature compensation
±0.15% linearity, (±0.10% optional)
+10 to +36 V DC input
Body length only 1.3" longer than stroke
Resistant to external fields (EMI, RFI)
Absolute continuous measurement
Single coil wound with large gauge wire

BENEFITS

Monitor high speed motions
Works well with long cable runs
Stable over a wide temperature range
Accurate measurements
Suitable for mobile applications
Ideal for limited space installations
No shielding required
Accurate position at power-up
Better shock and vibration resistance than LVDT's

APPLICATIONS

- Cylinder position feedback
- Roll position / Roll Gap monitoring
- Automated production gaging
- Vibration analysis
- Robotic motion control
- X-Y position feedback
- Dancer/Tensioning rolls
- Tensile testing equipment
- Injection molding machines
- Hydraulic press monitoring
- Liquid level measurement
- Valve position monitoring

Technical Specifications

Models, Voltage Output, 10V DC	DCFS3/4	DCFS2	DCFS4	DCFS6	DCFS8	DCFS10	DCFS12	DCFS18	DCFS24	
Models, Current Output, 4-20mA	**DCIFS3/4**	**DCIFS2**	**DCIFS4**	**DCIFS6**	**DCIFS8**	**DCIFS10**	**DCIFS12**	**DCIFS18**	**DCIFS24**	
Nominal Linear Range	0.76 (19)	2 (51)	4 (101)	6 (152)	8 (203)	10 (254)	12 (305)	18 (457)	24 (609)	inches (mm)

TRANSDUCER

Non Linearity	0.15% standard (0.10% optional)
Resolution	0.001% FS
Repeatability	0.003% of full scale typical
Compensated Temperature Range	25ºF to 175ºF (-5ºC to 80ºC)
Operating Temperature Range	-60ºF to 257ºF (-50ºC to 125ºC)
Vibration Resistance	Meets MIL-STD 810C, Figure 514-5, Curve AK Time Schedule II Random Vibration Test (Overall g rms=20.7)
Shock Resistance	100 g's peak (6 milliseconds) half sine
Transducer Construction	Nickel Plated steel housing, epoxy seal
Core	Low mass anodized aluminum

SYSTEM

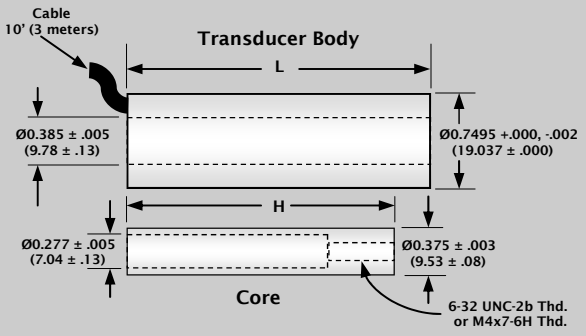
Power Input	+10 to +36 VDC @ 26 mA + loop current Supply current increases directly with loop current
Output	±10V DC (DC-FS), 0 to 10V DC or 4-20mA (DCI-FS)
Frequency Response	DC to 10,000 Hz (-3 dB)
Response Time	35µS
Warm-up Time	2 minutes for power input < +20V DC
Operating Temp. Range	-30ºF to +140ºF (-34ºCto +60ºC)
Temp. Coeff. of Span	-0.008%/ºF (-0.016%/ºC) FSO
Temp. Coeff. of Zero	-0.002%/ºF (-0.004%/ºC)
Transducer Connections	10 ft ±2" (3m) coaxial cable, Teflon® jacketed, cable dia: 0.1in (2.5mm)
Input/Output Connections	4 pin connector, mating conn. Turck #B8241-0,furnished. Recommended cable: 4 conductor #22AWG shielded
Controls	Zero and Span

ORDERING INFORMATION

- Specify Model Number
- Specify English or Metric threaded core

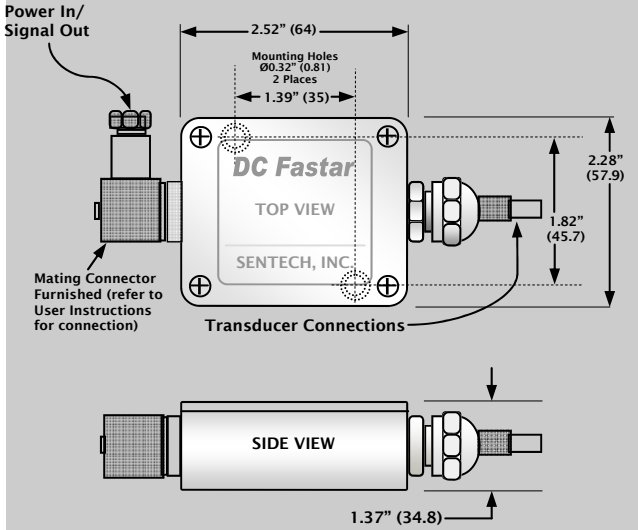
DIMENSIONS

Transducer



	DC, DCI MODELS								
	FS3/4	FS2	FS4	FS6	FS8	FS10	FS12	FS18	FS24
L	2.26 (57.3)	3.83 (97.3)	5.80 (147.3)	7.80 (198.1)	9.80 (248.9)	11.80 (299.7)	13.8 (350.5)	19.80 (502.9)	25.80 (655.3)
H	1.812 (57.33)	3.387 (97.33)	5.355 (147.32)	7.355 (198.12)	9.355 (248.92)	11.355 (299.72)	13.555 (299.72)	19.355 (502.92)	25.355 (655.32)
Core Mass	0.17 (4.8)	0.27 (7.7)	0.43 (12.2)	0.59 (16.7)	0.75 (21.3)	0.91 (15.8)	1.07 (30.3)	1.55 (43.9)	2.03 (57.5)

Signal Processor



XX.XX = inches/oz
(XX.XX) = mm/g

DCFASTAR®

Printed in USA.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

DC FASTAR-BDS-AUG05

08/17, GDP

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