

FUTEK MODEL USB410
ITEM # FSH03637

Drawing Number: FI1347-A

SPS= Samples Per Second

INCH [mm]

EXTERNAL USB KIT
ENCODER & MV/V INPUT



USB side: Type A



Sensor side

FEATURES:

- USB 2.0 Communication Link
- USB Bus- Powered (5V)
- Integrated Shunt Cal
- Input/Output Short Circuit Protection
- Streaming ASCII Output
- Blinking Blue LED Indicator (10 Hz): Module Auto-Calibration
- Blinking Blue LED Indicator (1 Hz): Module Normal Operation
- Green LED Indicator: USB Power
- Red LED Indicator: USB Data Link

ENVIRONMENT:

- Operating Temperature: -13°F to 185°F [-25°C to 85°C]
- Storage Temperature: -40°F to 257°F [-40°C to 125°C]

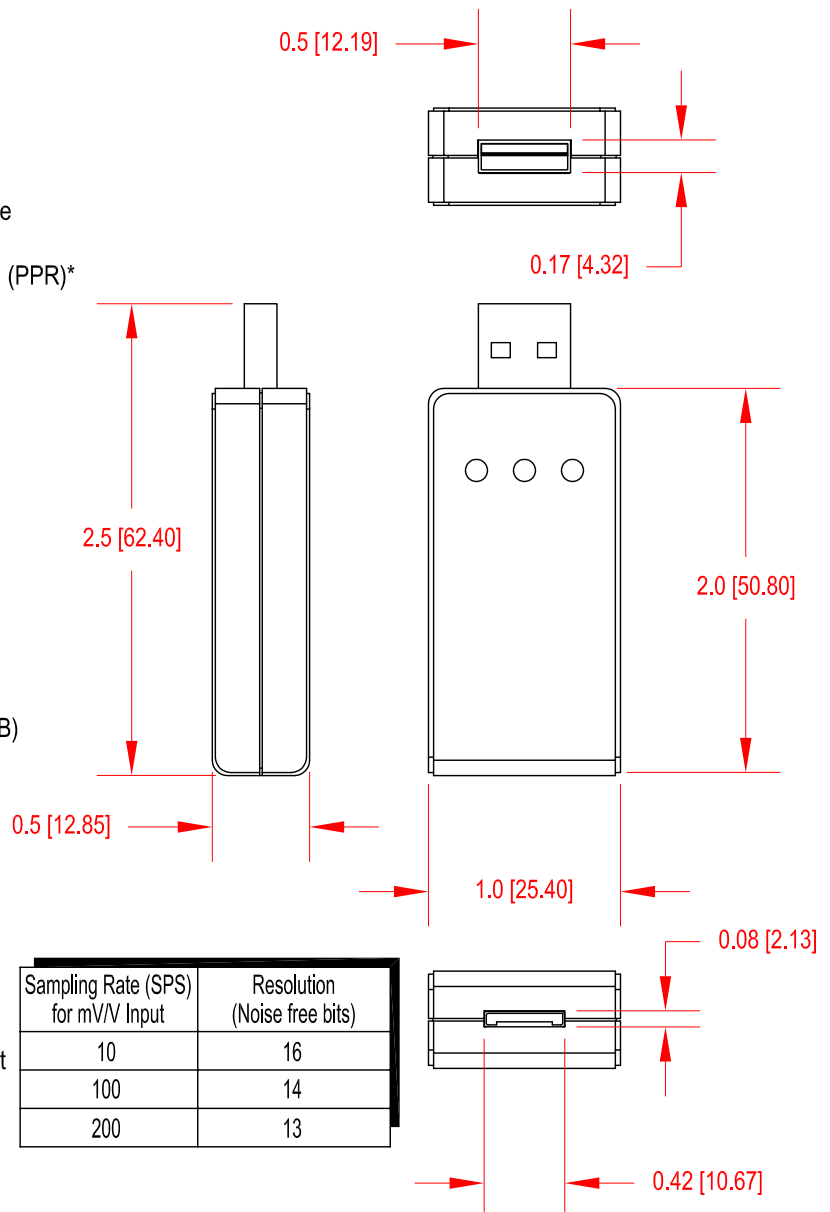
SPECIFICATIONS:

Encoder Input

- Encoder Input: Quadrature Leading and Lagging Pulse
- Speed Measurement: up to 150k pulses per second*
- Angle Measurement (α): up to 10k pulses per rotation (PPR)*

Strain Gauge mV/V Input

- Bridge Excitation: 4.5 VDC
- Sampling Rate: up to 200 SPS
- Internal Resolution: 24 bits
- Standard Input Range: +/- 4 mV/V
- Optional Input Range: up to +/- 500 mV/V
- Resolution (Noise free): See chart below
- Nonlinearity: 0.001% of FSR
- Accuracy: 0.001% of FSR
- Input: Non-amplified (mV/V) Analog Voltage
- Output: Digital Packetized Data
- Min. Bridge Resistance: 50 Ohm
- Max. Bridge Resistance: 5000 Ohm
- Integrated Digital Filter: 50 Hz/ 60 Hz rejection (100 dB)
- On Chip Memory: 1 KiloByte
- Up to 16 Point Stored Calibration
- Weight: 10g



Sampling Rate (SPS) for mV/V Input	Resolution (Noise free bits)
10	16
100	14
200	13

ACCESSORIES:

- SENSIT Software
 - Item #: FSH03189
 - 14 Day Trial – Available to download on FUTEK website.
 - A license is required, per seat, after 14 days to benefit the features such as data logging, graphing, etc.
 - Trial version turns into basic read-out ONLY after 14 days and a product key is required to enable the features.

*Speed = Δ α x 60 / PPR



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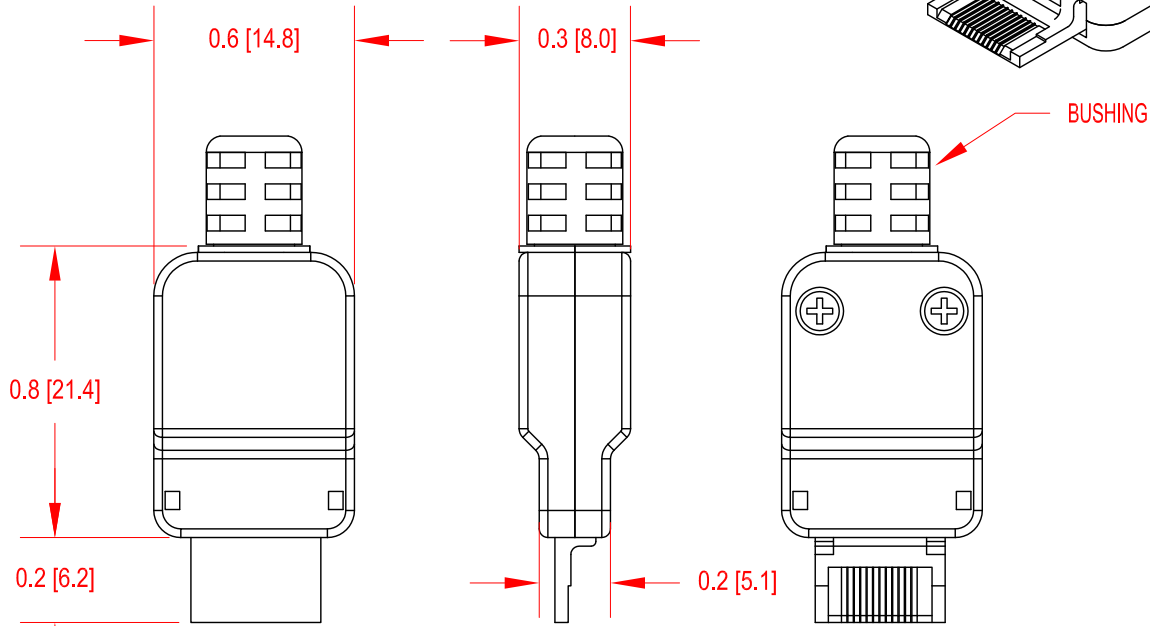
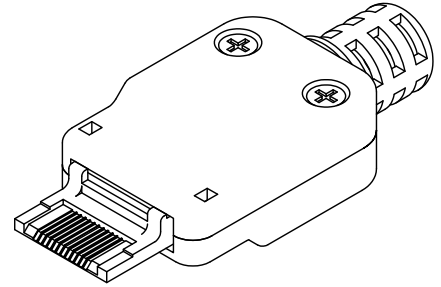
INTERNET:
<http://www.futek.com>

FUTEK MODEL ZCO940
ITEM # FSH03320

CONNECTOR PLUG KIT FOR USB MODULES

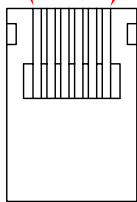
Drawing Number: FI1312-B

INCH [mm]



BUSHING SIZES
0.16 [4.0]
0.18 [4.5]
0.20 [5.0]

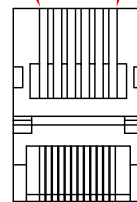
Pin 2 Pin 12



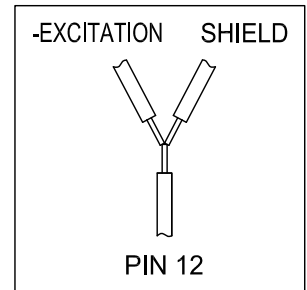
FRONT



Pin 11 Pin 1



Pin 12 BACK Pin 1



HIROSE MALE (SENSOR SIDE)					
PIN #	USB210/220/230 (FSH03631) USB320 4 WIRE VOLTAGE	(FSH03631) USB320 3 WIRE VOLTAGE	(FSH03634) USB320 3 WIRE CURRENT	(FSH03634) USB320 2 WIRE CURRENT	USB410
1	+SIGNAL	+SIGNAL	+SIGNAL	+SIGNAL	+SIGNAL
2	-SIGNAL	N/A	N/A	N/A	-SIGNAL
5	N/A	N/A	N/A	N/A	P1- LEADING PULSE
6	N/A	N/A	N/A	N/A	P2- LAGGING PULSE
11	+EXCITATION	+EXCITATION	+EXCITATION	+EXCITATION	VCC/+EXCITATION
12	-EXCITATION/ SHIELD*	-EXCITATION/ SHIELD*	-EXCITATION/ SHIELD*	N/A	GND/-EXCITATION/SHIELD*

*USE Y CONNECTION ON PIN 12 TO MAKE CONNECTING THE -EXCITATION AND SHIELD EASIER