FUTEK MODEL USB520
ITEM # FSH03661

EXTERNAL USB KIT (MV/V, AMPLIFIED, AND ENCODER INPUT)

RoHS Compliant

Drawing Number: FI1348-B

SPS= Samples Per Second

INCH [mm]

CONNECTORS:
1) USB Connector: Binder 09 0112 99 04
   Mating Connector: Binder 99 5109 00 04
2) Sensor Connector: Binder 09 0132 90 12
   Mating Connector: Binder 99 5129 00 12

FEATURES:

- USB 2.0 Communication Link
- USB Bus- Powered (5V)
- Input/Output Short Circuit Protection
- Streaming ASCII Output

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:

General

- Sampling Rate: up to 4800 SPS
- Internal Resolution: 24 bits
- Resolution (Noise free): See chart
- Nonlinearity: Better than ± 0.01% of FSR
- Accuracy: Better than ± 0.01% of FSR
- Output: Digital Packetized Data
- Integrated Digital Filter: 50 Hz/ 60 Hz rejection (100 dB)
- On Chip Memory: 1 Kilobyte
- Up to 16 Point Stored Calibration
- Weight: 0.9 lb (408 g)

Encoder Input

- Encoder Input: Quadrature Leading and Lagging Pulse
- Speed Measurement: up to 150k pulses per second[1]
- Angle Measurement (α): up to 10k pulses per rotation (PPR)[1]

Strain Gauge mV/V Input

- Bridge Excitation: 4.6 VDC
- Standard Input Range: ± 4 mV/V (factory default)
- Optional Input Range: up to ± 400 mV/V
- Min. Bridge Resistance: 50 Ohm
- Max. Bridge Resistance: 5000 Ohm

Voltage Input

- Supply Output: 5-24 VDC (selectable)/ 1W
- Standard Input Range: ± 10 VDC (factory default)

Current Input

- Supply Output: 5-24 VDC (selectable)/ 1W
- Standard Input Range: 0-20 mA (factory default)

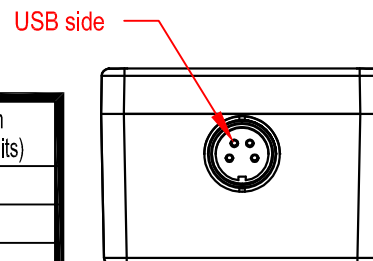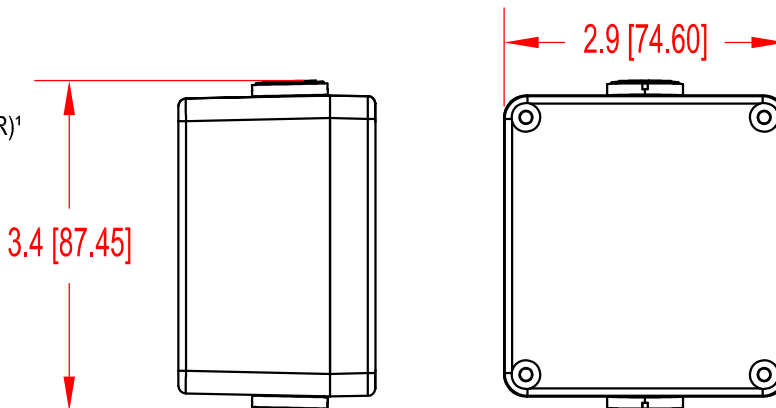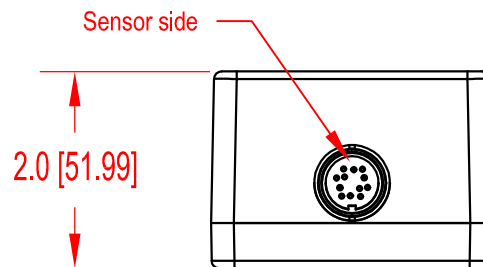## ACCESSORIES:

- SENSIT Software: 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.
- FSH03570: USB Cable (Included)
- GOD02975: 12 Pin Binder Male Plug, 99 5129 00 12 (Included)

[1]Speed = Δ α x 60 / PPR

Sensor side

2.0 [51.99]

2.9 [74.60]

3.4 [87.45]

USB side

Sampling Rate (SPS)	Resolution (Noise free bits)
5	19
100	17
300	16.5
1200	15.5
2400	14.5
4800	13.5

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ITEM # GOD02975

Drawing Number: FI1360

INCH [mm]

12 PIN BINDER CONNECTOR
FOR CONNECTION WITH FUTEK MODEL IHH500 & USB520

2.24 [55.88]

1.89 [48.01]

0.71 [18.03]

F G
E   M
D   H
C   J
L   K
B A
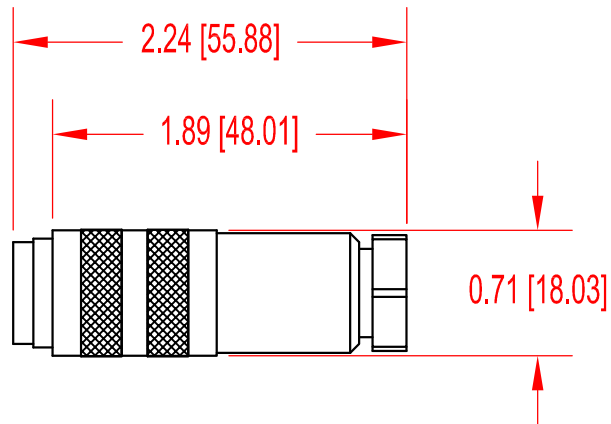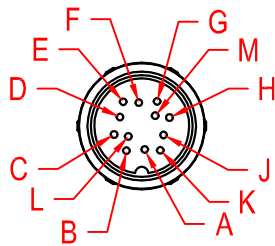
12 PIN BINDER MATING CONNECTOR
99 5129 00 12

Pin	Signal
A	+Excitation
B	+Signal
C	-Excitation
D	-Signal
F	Supply Output
G	Ground
H	5V Output
J	-V
K	+V
L	Leading Pulse
M	Lagging Pulse

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