



FEATURES

- USB 2.0 communication link
- USB bus-powered
- Input/output short circuit protection
- Streaming ASCII output
- CE approved
- Supports mV/V and TTL (Encoder) type as input

SPECIFICATIONS

GENERAL

| | |
|---------------------------|--------------------------------|
| Sampling Rate | Up to 200 samples per second |
| Bandwidth (Hz) | Sampling Rate (SPS)/4 |
| Internal Resolution | 24 bits |
| Resolution (noise free) | See chart on page 2 |
| Nonlinearity | ± 0.005% of full-scale range |
| Output | Digital packetized data |
| Integrated Digital Filter | 50 Hz/60 Hz rejection (100 dB) |
| On-chip Memory | 1 kilobyte |
| Stored Calibration | Up to 16 points |
| Weight | Approximate 10 g |

ENCODER INPUT

| | |
|---------------------------------------|--|
| Encoder Input | Quadrature Leading and Lagging Pulse (TTL) |
| Speed Measurement | Up to 150k Pulses Per Second ¹ |
| Angle Measurement (α) | Up to 10k Pulses Per Rotation (PPR) ¹ |
| Angle/Speed Measurement (update rate) | 10 ms |

STRAIN GAUGE mV/V INPUT

| | |
|------------------------|------------------|
| Bridge Excitation | 4.5 VDC |
| Standard Input Range | ± 4 mV/V |
| Optional Input Range | Up to ± 500 mV/V |
| Min. Bridge Resistance | 50 Ohm |
| Max. Bridge Resistance | 5000 Ohm |

POWER SUPPLY

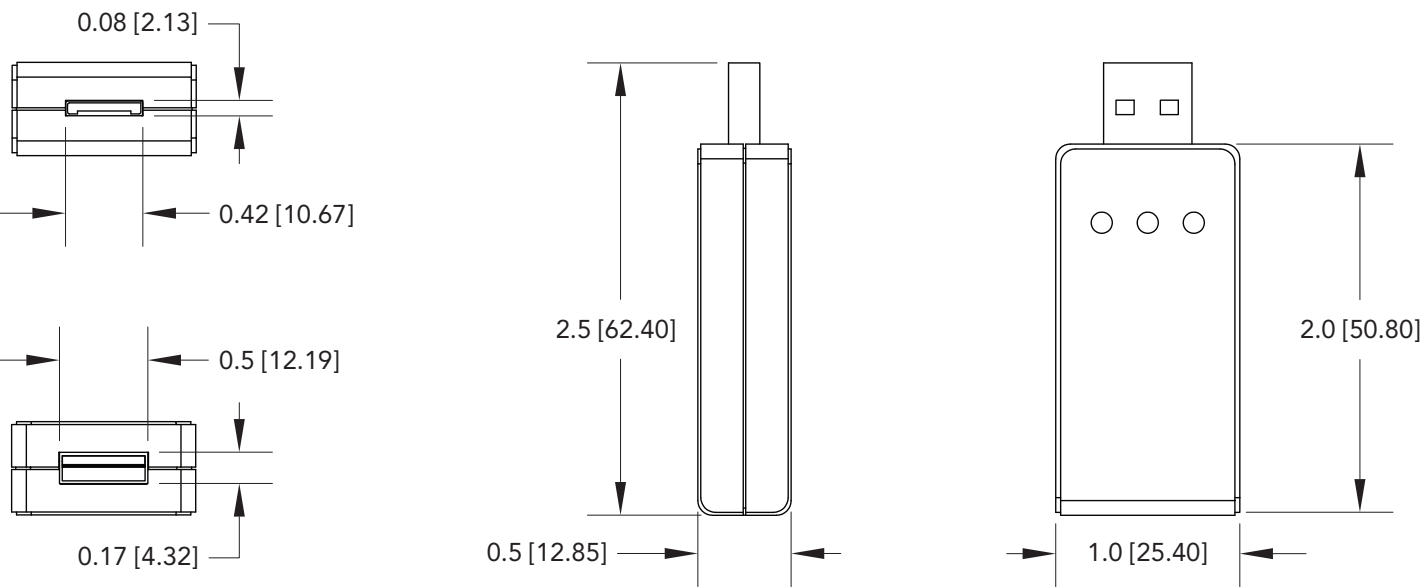
| | |
|---------------------|---------------------------|
| Voltage Rating | USB Bus (5V ± 5%) |
| Current Consumption | 90 mA with 350 Ohm bridge |

CONNECTORS

| | |
|----------------------|-----------------|
| Mating Connector | Hirose LX40-12P |
| Connector Receptacle | Hirose LX60-12S |
| USB 2.0 Connector | Type A plug |

¹ Speed = Δ α × 60 / PPR

DIMENSIONS inches [mm]



SPECIFICATIONS (continued)

| ENVIRONMENT | |
|-----------------------|-----------------------------|
| Operating Temperature | -13 to 185°F [-25 to 85°C] |
| Storage Temperature | -40 to 257°F [-40 to 125°C] |
| CONFORMITY | |
| RoHS | 2011/65/EU |
| CE | EN 61326-1:2006 |

LED INDICATORS

| | |
|-----------------------|-------------------------|
| Blinking Blue (10 Hz) | Module Auto-Calibration |
| Blinking Blue (1 Hz) | Module Normal Operation |
| Green | USB Power |
| Red | USB Data Link |

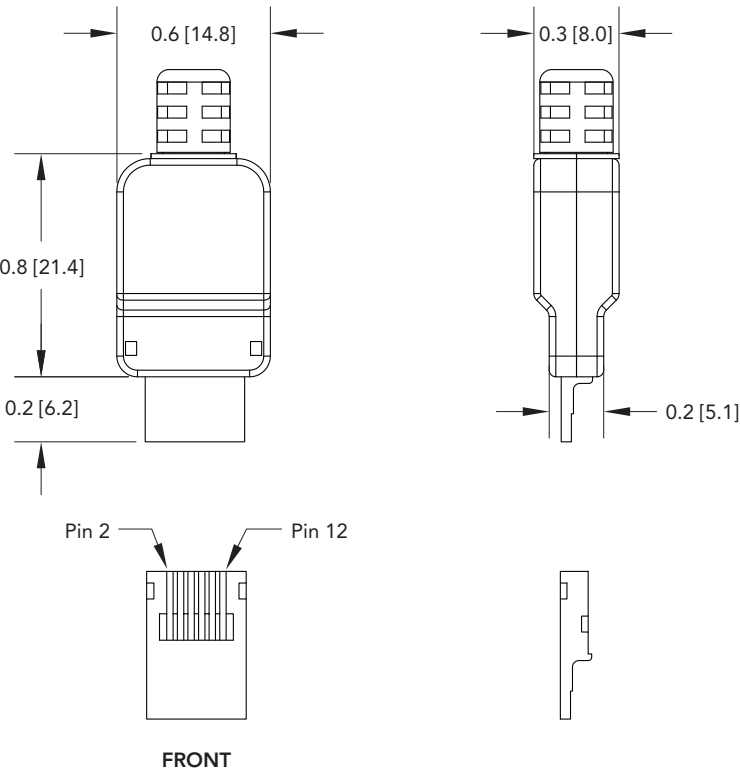
RESOLUTION

| SAMPLES PER SECOND (SPS) | mV/V RESOLUTION |
|--------------------------|-----------------|
| 10 | 16.6 |
| 100 | 15.6 |
| 200 | 13.0 |

ACCESSORIES

- FUTEK's 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.

DIMENSIONS inches [mm]



BUSHING SIZES inches [mm]

| |
|------------|
| 0.16 [4.0] |
| 0.18 [4.5] |
| 0.20 [5.0] |

HIROSE MALE (sensor side) ZCO940 item number FSH03320

| PIN # | USB410 |
|-------|--------------------------------|
| 1 | +SIGNAL |
| 2 | -SIGNAL |
| 5 | P1-LEADING PULSE |
| 6 | P2-LAGGING PULSE |
| 9 | N/A |
| 10 | N/A |
| 11 | VCC / +EXC |
| 12 | GND / -EXC/SHIELD ¹ |

¹ Use Y connection on pin 12 to make connecting the -EXCITATION and SHIELD easier.



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