

FEATURES

- Various housings: cylindrical from diam. 1.27 to 2.36 mm, low profile housing or threads M4x0.7, M5x0.8, 6-32UNC, 10-32UNF
- Frequency 0-25 kHz through 340 kHz
- CE approved

APPLICATIONS

- Space flight and test
- Automotive tests
- Wind tunnels measurement
- Racing testing

EPIH

Sub-Miniature Pressure sensor

SPECIFICATIONS

- Ranges 0.35 to 20 bar (5 to 300 psi)
- Extremely small size
- Flush diaphragm
- High frequency response
- Various housings available

The **EPIH** is a subminiature pressure sensor, specifically designed for dynamic and high frequency measurements with resonant frequency up to 1.7 MHz

Available with many various housings, **EPIH** is one of the smallest pressure sensors in the world. The **EPIH** is offered in pressure ranges from 0-5 to 300 psi (0-0.35 through 20 bar). Various compensated temperature ranges are available from -40°C up to 80°C.

Suitable for dry gas and some fluids with Parylene or RTV protection (options). Non-standard excitation, compensated temperatures are available as options.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

STANDARD RANGES

| Pressure ranges | | Pressure Reference | | | Pressure Limit | Resonant Frequency ⁽¹⁾ (nom.) | Sensitivity "FSO" (nom.) | CNL&H (%FS) | Thermal Zero Shift "TZS" (/50°C) |
|-----------------|-----|--------------------|----------------|--------------|----------------|--|--------------------------|-------------|----------------------------------|
| bar | psi | gage (type1) | sealed (type2) | abs. (type3) | | | | | |
| 0.35 | 5 | • | • | • | 5 x FS | 500 KHz | 2.4 mV/V | ± 1% | ±0.1 mV/V |
| 0.7 | 10 | • | • | • | 5 x FS | 500 KHz | 4.8 mV/V | ± 1% | ±0.1 mV/V |
| 1 | 15 | • | • | • | 3 x FS | 500 KHz | 7.2 mV/V | ± 1% | ±0.1 mV/V |
| 1.5 | 25 | • | • | • | 2 x FS | 500 KHz | 12 mV/V | ± 1% | ±2.5 % FSO |
| 3.5 | 50 | • | • | • | 2 x FS | 600 KHz | 15 mV/V | ± 1% | ±2.5 % FSO |
| 5 | 75 | • | • | • | 2 x FS | 700 KHz | 15 mV/V | ± 1% | ±2.5 % FSO |
| 7 | 100 | • | • | • | 2 x FS | 1.0 MHz | 15 mV/V | ± 1% | ±2.5 % FSO |
| 14 | 200 | • | • | • | 2 x FS | 1.4 MHz | 20 mV/V | ± 1% | ±2.5 % FSO |
| 20 | 300 | • | • | • | 2 x FS | 1.7 MHz | 20 mV/V | ± 1% | ±2.5 % FSO |

Note: Useful frequency is 20% of Resonant Frequency
Sensors are Calibrated with 10 V_{DC} power supply as standard

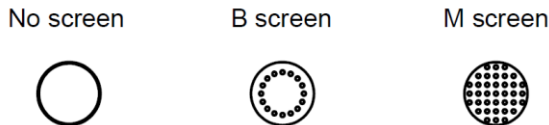
PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)

| PARAMETERS | VALUES | NOTES |
|--|------------------------------------|--|
| Supply Voltage | 5V _{DC} | See option table for other Voltage |
| Input Resistance | | 1500Ω nom. |
| Output Resistance | | 1500Ω nom. |
| Non-Repeatability | 0.25% FS | Recommended warm-up time > 15 min |
| Thermal Sensitivity Shift "TSS" in CTR | | - 2% to - 8% /50°C |
| Operating Temperature Range (OTR) | | -40°C to 120°C |
| Compensated Temperature Range (CTR) | 20°C to 80°C | See option table for other Temperature |
| Zero Offset | | ±20 mV/V |
| CE conformance according to | EN 61010-1, EN 50081-1, EN 50082-1 | |

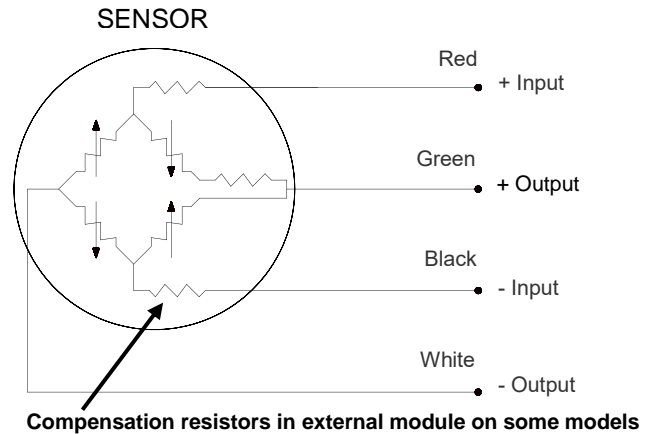
INSTALLATION

Recommended installation torque:
1.2 Nm (10 in-lbf) for all threaded models

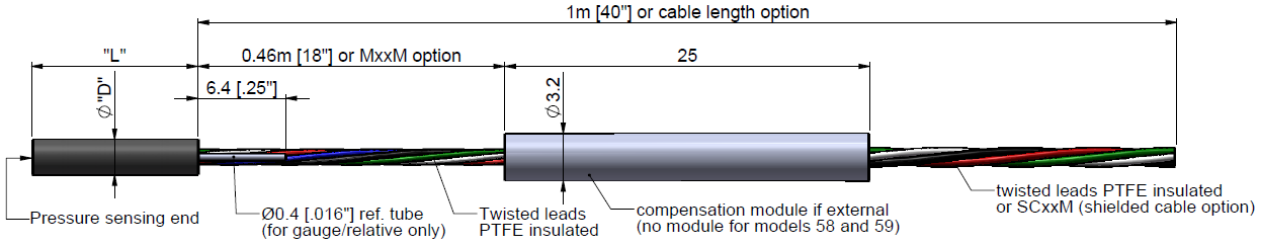
PRESSURE SENSING END TYPE



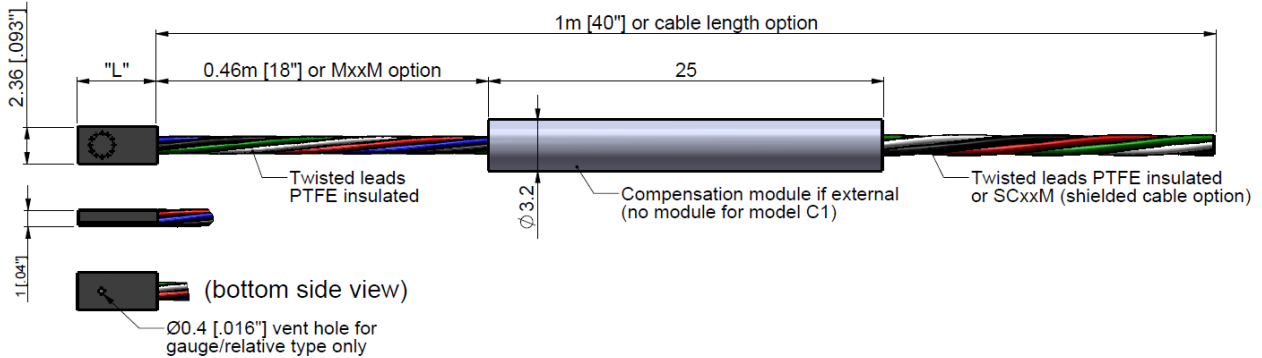
CONNECTIONS



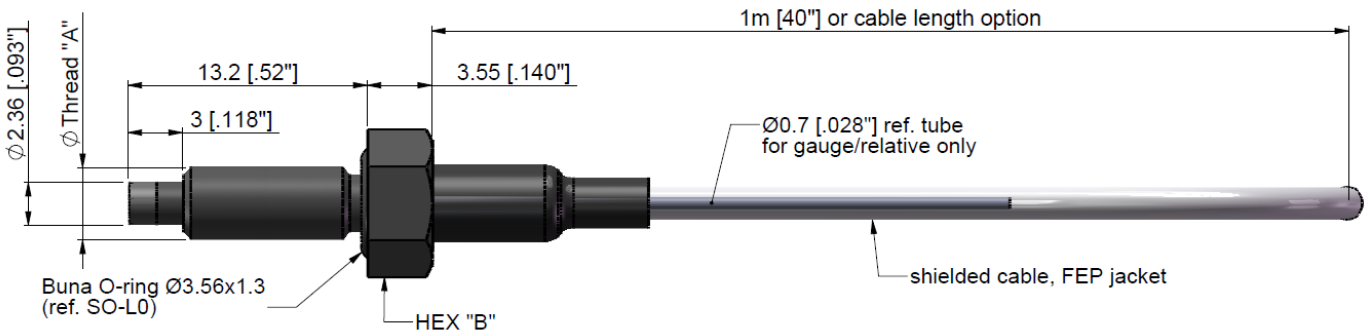
DIMENSIONS in metric [in inches]



| EPIH model | Sensing end style | Body Ø "D" | Body length "L" | Custom body length (option) | Compensation |
|------------|-------------------|--------------|-----------------|-----------------------------|-----------------|
| EPIH-11 | No screen | 1.27 [.05"] | 6.4 [.25"] | From 6.4 to 38mm | External module |
| EPIH-17 | No screen | 1.27 [.05"] | 11.4 [.45"] | No (see model 11) | External module |
| EPIH-37 | B screen | 1.63 [.064"] | 11.4 [.45"] | From 6.4 to 38mm | External module |
| EPIH-41 | No screen | 2.03 [.08"] | 6.4 [.25"] | From 6.4 to 38mm | External module |
| EPIH-58 | M screen | 2.36 [.093"] | 11.4 [.45"] | From 11.4 to 38mm | Internal |
| EPIH-59 | No screen | 2.36 [.093"] | 11.4 [.45"] | From 11.4 to 38mm | Internal |



| EPIH model | Sensing style | Body width "W" | Body length "L" | Compensation |
|------------|---------------|----------------|-----------------|-----------------|
| EPIH-C1 | B screen | 2.36 [.093"] | 12.7 [.50"] | Internal |
| EPIH-C3 | B screen | 2.36 [.093"] | 5.0 [.20"] | External module |



| EPIH model | Sensing end style | Thread "A" | HEX "B" | Custom body length (option) | Compensation |
|------------|-------------------|-------------|------------|-----------------------------|--------------|
| EPIH-L1 | No screen | M4x0.7-6g | 7 [.28"] | From 6.4 to 38mm | Internal |
| EPIH-L2 | M screen | M4x0.7-6g | 7 [.28"] | From 6.4 to 38mm | Internal |
| EPIH-T1 | No screen | 6-32 UNC-2A | 6.4 [.25"] | From 6.4 to 38mm | Internal |
| EPIH-T2 | M screen | 6-32 UNC-2A | 6.4 [.25"] | From 6.4 to 38mm | Internal |

OPTIONS AND ACCESSORIES

| OPTIONS | CODES | DESCRIPTIONS |
|---|--------------|--|
| Compensated Temperature Ranges | Z0 | -40°C to 20°C |
| | Z1 | -20°C to 40°C |
| | Z2 | 0°C to 60°C |
| | Z* | Non-standard |
| Supply Voltage | V00 | Replace "00" with Voltage between 1 and 5. If less than 5, Sensitivity FSO will decrease accordingly |
| | V10 | 10V Excitation, Input impedance = 3000Ω, TSS = -4% /50°C nom. (not available for model 58 and 89) |
| | V* | Non-standard Excitation with standard FSO and non-standard TSS |
| Cable Length Option | L00M | Replace "00" with total length in meter (regular cable) |
| | SC00M | Replace "00" with total length in meter (shielded cable instd of leads) |
| Special Module Location : (only for models 11, 17, 37, 41, C3) | M00M | Replace "00" with distance between sensor and module in meter |
| Custom Length Hex to Tip | 0000M | Replace "0000" with thread length between 6.4mm and 38mm |
| Protective Coatings on Diaphragm (only for model without screen) | PAR | Parylene |
| | RTV | RTV silicone rubber |
| | RTVB | Black RTV silicone rubber (protection against light sensitivity) |

ORDERING INFORMATION

EPIH – 11 2 – 7B – /Z1/L2M

| Body | |
|------|--|
| 11 | |
| 17 | |
| 37 | |
| 41 | |
| 58 | |
| 59 | |
| C1 | |
| C3 | |
| L1 | |
| L2 | |
| T1 | |
| T2 | |

| Pressure Reference | |
|--------------------|----------|
| 1 | Gage |
| 3 | Absolute |
| 2 | Sealed |

Note: Select range is bar with body L and ranges in psi with body T

| /Options | |
|--------------------|--|
| /Z0, Z1, Z2, Z* | |
| /V1, V5, V10 or V* | |
| /L00M | |
| /M00M | |
| /0000M | |
| /PAR, RTV, RTVB | |

| Pressure Range & Unit | |
|-----------------------|------|
| 0.35B | 5P |
| 0.7B | 10P |
| 1B | 15P |
| 1.5B | 25P |
| 3.5B | 50P |
| 5B | 75P |
| 7B | 100P |
| 14B | 200P |
| 20B | 300P |

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