

Model A820 Shallow Water Analog Tiltmeter

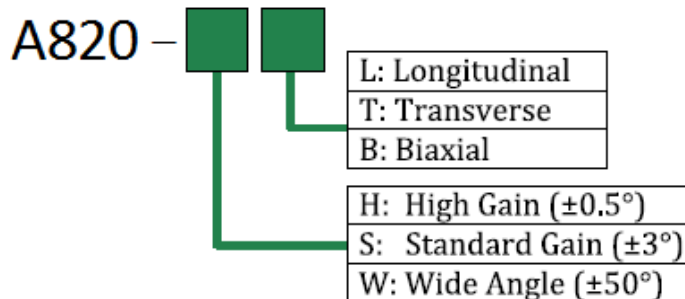
The model A820 Shallow Water is a high-precision submersible tiltmeter for use in fresh and salt water applications. Using an absolute gravity referenced electrolytic sensor, the A820 delivers superior measurement accuracy with virtually no long-term drift. High-gain units are sensitive to <math><0.0017\text{ mm/m}</math> or better. Output is a stable $\pm 5\text{ VDC}$ voltage, which can be read with any VDC input data recorder. All units are rated to 200 meters (656.2 ft) waterproof for advanced protection from the elements. Use the A820 "Shallow Water" for structural monitoring, angle measurement and control, platform leveling and more.



| | High-Gain | Standard | Wide-Angle |
|---------------------|--|----------------------|--------------------------------------|
| Angular Range | $\pm 0.5^\circ$ | $\pm 3.0^\circ$ | $\pm 50^\circ$ |
| Resolution | $<0.0001^\circ$ | 0.0006° | 0.01° |
| Repeatability | $<0.0002^\circ$ | 0.001° | 0.02° |
| Non-Linearity | 1% | 2% | ½ span: 1%, Full span: 2% |
| Scale Factor | $0.1^\circ/\text{V}$ | $0.6^\circ/\text{V}$ | $10^\circ/\text{V}$ |
| Time Constant | 1.75 sec (2-pole Butterworth low-pass filter) | | 0.15 sec |
| Kz Temp Coefficient | $\pm 0.0002^\circ/\text{C}$ (typical) | | $\pm 0.002^\circ/\text{C}$ (typical) |
| Ks Temp Coefficient | $0.04\%/^\circ\text{C}$ (typical) | | $<0.1\%/^\circ\text{C}$ (typical) |
| Output | $\pm 5\text{VDC}$ (single ended) | | |
| Channels | Tilt, Temperature | | |
| Output Impedance | 270 ohms | | |
| Temperature Output | $0.1^\circ\text{C}/\text{mV}$ typical (single ended; $0^\circ\text{C} = 0\text{mV}$) | | |
| Power | 8-18 VDC @ 8mA, 250 mV ripple max, reverse polarity protected | | |
| Environmental | -4 to $+60^\circ\text{C}$ operation; -30 to $+100^\circ\text{C}$ storage. Submersible to 200 meters (656.2 ft) | | |
| Mounting | Two no. 10 stainless steel mounting screws. | | |
| Dimensions & Weight | 92.1 x 112.4 x 61 mm; 1.6 kg | | |
| Materials | 316 SS | | |
| Housing Connector | 6-pin bulkhead, male plug | | |
| Mating Cable | 6-conductor unshielded, 20AWG female receptacle with locking sleeve, neoprene jacket. Charged separately. Specify cable length per unit on order | | |

Specifications subject to change without notice on account of continued product development

How to Order:

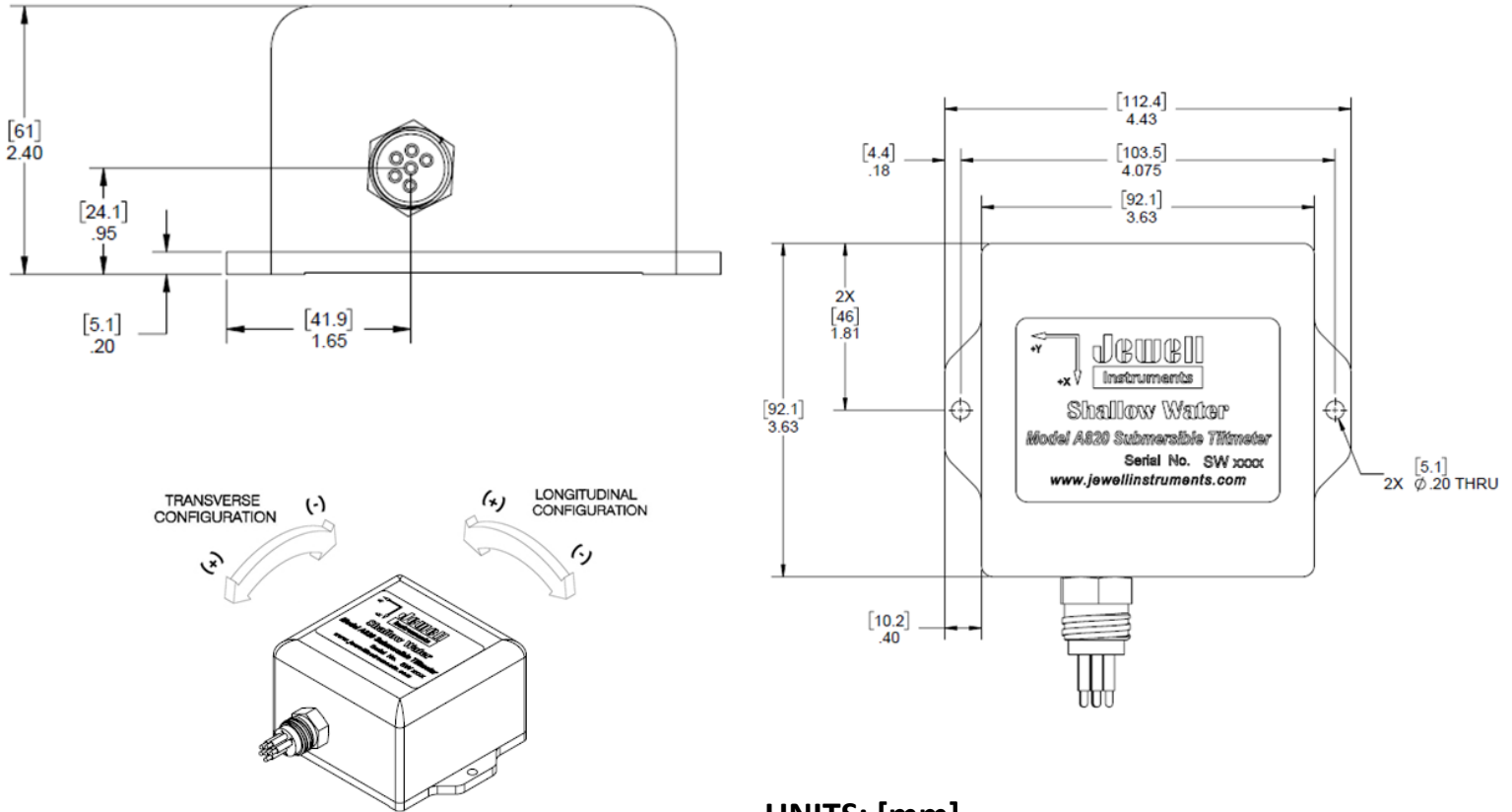


Wiring/Pin-out:

| Pin | Wire Color | Function |
|-----|------------|---------------|
| 1 | Black | Power Ground |
| 2 | White | Signal Ground |
| 3 | Red | Power |
| 4 | Green | X - Tilt |
| 5 | Orange | Temperature |
| 6 | Blue | Y - Tilt |

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Dimensions:



UNITS: [mm]
IN

Cable Assembly with mating connector available (charged separately). Specify cable length

Part Numbers:

| Part Number | Model Long Description |
|-------------|--|
| 98823-01 | A820-HB, $\pm 0.5^\circ$ Shallow Water, High Gain, Biaxial Analog Tiltmeter |
| 98823-02 | A820-SB, $\pm 3^\circ$ Shallow Water, Standard-Angle, Biaxial Analog Tiltmeter |
| 98823-03 | A820-WB, $\pm 50^\circ$ Shallow Water, Wide-Angle, Biaxial Analog Tiltmeter |
| 98823-04 | A820-HT, $\pm 0.5^\circ$ Shallow Water, High Gain, Transverse (Uniaxial) Analog Tiltmeter |
| 98823-05 | A820-ST, $\pm 3^\circ$ Shallow Water, Standard-Angle, Transverse (Uniaxial) Analog Tiltmeter |
| 98823-06 | A820-WT, $\pm 50^\circ$ Shallow Water, Wide-Angle, Transverse (Uniaxial) Analog Tiltmeter |
| 98823-07 | A820-HL, $\pm 0.5^\circ$ Shallow Water, High Gain, Longitudinal (Uniaxial) Analog Tiltmeter |
| 98823-08 | A820-SL, $\pm 3^\circ$ Shallow Water, Standard-Angle, Longitudinal (Uniaxial) Analog Tiltmeter |
| 98823-09 | A820-WL, $\pm 50^\circ$ Shallow Water, Wide-Angle, Longitudinal (Uniaxial) Analog Tiltmeter |