

Model D820 Shallow Water Digital Tiltmeter

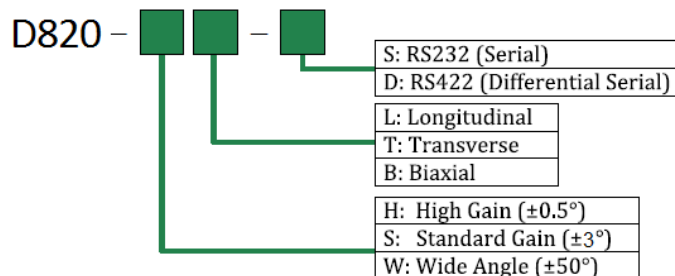
The model D820 Shallow Water is a high-precision submersible tiltmeter for use in fresh and salt water applications with RS232 or RS422 digital output. Using an absolute gravity referenced electrolytic sensor, the D820 delivers superior measurement accuracy with virtually no long-term drift. High-gain units are sensitive to <math><0.0017\text{ mm/m}</math> or better. All units are rated to 200 meters (656.2 ft) waterproof for advanced protection from the elements. Use the D820 "Shallow Water" for structural monitoring, angle measurement and control, platform leveling and more.



	High Gain	Standard Gain	Wide Angle
Angular Range	$\pm 0.5^\circ$	$\pm 3^\circ$	$\pm 50^\circ$
Resolution	$<0.0001^\circ$	0.0001°	0.002°
Repeatability	0.0003°	0.0003°	0.004°
Non-Linearity	0.1%	0.1%	0.1%
Kz Temp Coefficient	$\pm 0.0002\text{ }^\circ/\text{C}$ (typical)		$\pm 0.002\text{ }^\circ/\text{C}$ (typical)
Ks Temp Coefficient	$0.04\%/^\circ\text{C}$ (typical)		$<0.1\text{ }^\circ/\text{C}$ (typical)
Channels	Tilt, Temperature, Serial No.		
Time Constant	0.15 sec		
Output	RS232, RS422		
Output Format	NMEA XDR, Trimble TCM, Ashtec compatible, Simple (default: X, Y, Temp., S/N)		
Baud Rate	9600 (default), 19200, 28800, 57600, 115200, 130400		
Power	7-28 VDC @ 30mA, 250 mV ripple max, reverse polarity protected		
Environmental	-4° to $+60^\circ\text{C}$ operational, -30° to $+100^\circ\text{C}$ storage. Submersible to 200 meters (656.2 ft)		
Mounting	Two no. 10 stainless steel mounting screws.		
Materials	316 SS		
Dimensions & Weight	92.1 x 112.4 x 61 mm, 1.6 kg		
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:



Model D820 Shallow Water Digital Tiltmeter

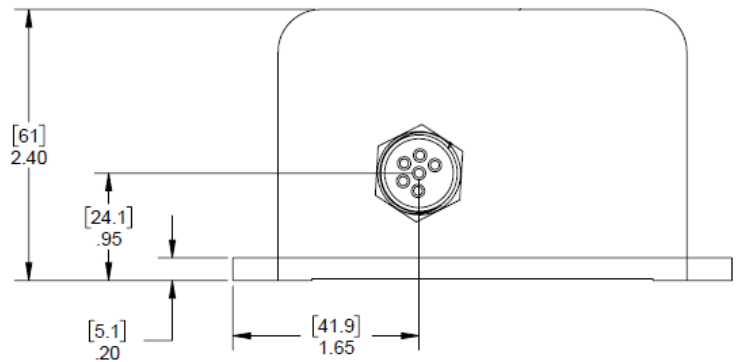
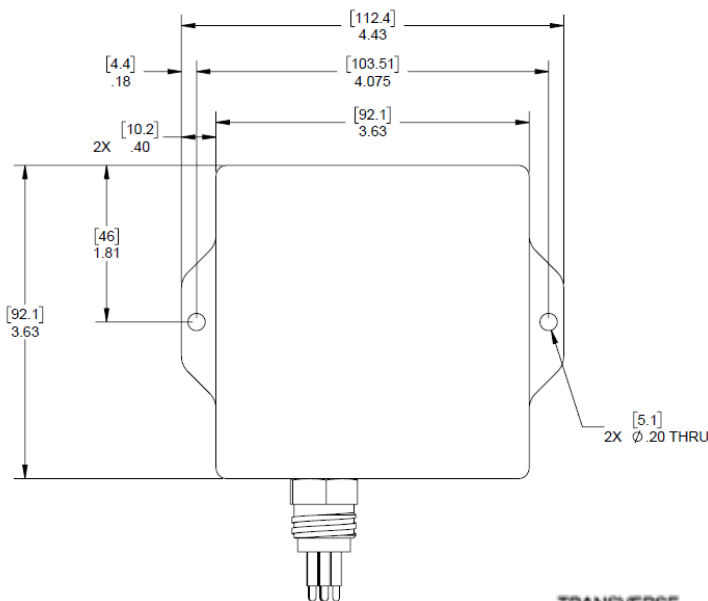
Wiring/Pin Out – RS232

Pin	Assignment	Color
1	Pwr Gnd	Black
2	N/C	White
3	Pwr	Red
4	RxD	Green
5	N/C	Orange
6	TxD	Blue

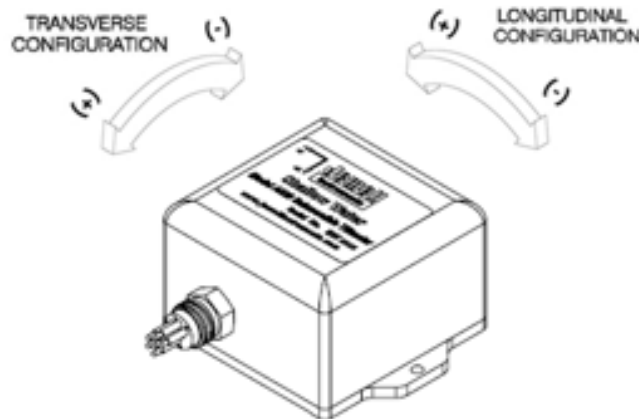
Wiring/Pin Out – RS422

Pin	Assignment	Color
1	Pwr Gnd	Black
2	Tx-	White
3	Pwr	Red
4	TX+	Green
5	RX-	Orange
6	RX+	Blue

Dimensions:



UNITS: **[mm]**
IN



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

Model D820 Shallow Water Digital Tiltmeter

Part Numbers:

D820 with RS232 Output	
Part Number	Model Long Description
98821-01	D820-HB-S, $\pm 0.5^\circ$ Shallow Water, High Gain, Biaxial, RS232 Digital Tiltmeter
98821-02	D820-SB-S, $\pm 3^\circ$ Shallow Water, Standard-Angle, Biaxial, RS232 Digital Tiltmeter
98821-03	D820-WB-S, $\pm 50^\circ$ Shallow Water, Wide-Angle, Biaxial, RS232 Digital Tiltmeter
98821-04	D820-HT-S, $\pm 0.5^\circ$ Shallow Water, High Gain, Transverse (Uniaxial), RS232 Digital Tiltmeter
98821-05	D820-ST-S, $\pm 3^\circ$ Shallow Water, Standard-Angle, Transverse (Uniaxial), RS232 Digital Tiltmeter
98821-06	D820-WT-S, $\pm 50^\circ$ Shallow Water, Wide-Angle, Transverse (Uniaxial), RS232 Digital Tiltmeter
98821-07	D820-HL-S, $\pm 0.5^\circ$ Shallow Water, High Gain, Longitudinal (Uniaxial), RS232 Digital Tiltmeter
98821-08	D820-SL-S, $\pm 3^\circ$ Shallow Water, Standard-Angle, Longitudinal (Uniaxial), RS232 Digital Tiltmeter
98821-09	D820-WL-S, $\pm 50^\circ$ Shallow Water, Wide-Angle, Longitudinal (Uniaxial), RS232 Digital Tiltmeter

D820 with RS422 Output	
Part Number	Model Long Description
98822-01	D820-HB-D, $\pm 0.5^\circ$ Shallow Water, High Gain, Biaxial, RS422 Digital Tiltmeter
98822-02	D820-SB-D, $\pm 3^\circ$ Shallow Water, Standard-Angle, Biaxial, RS422 Digital Tiltmeter
98822-03	D820-WB-D, $\pm 50^\circ$ Shallow Water, Wide-Angle, Biaxial, RS422 Digital Tiltmeter
98822-04	D820-HT-D, $\pm 0.5^\circ$ Shallow Water, High Gain, Transverse (Uniaxial), RS422 Digital Tiltmeter
98822-05	D820-ST-D, $\pm 3^\circ$ Shallow Water, Standard-Angle, Transverse (Uniaxial), RS422 Digital Tiltmeter
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