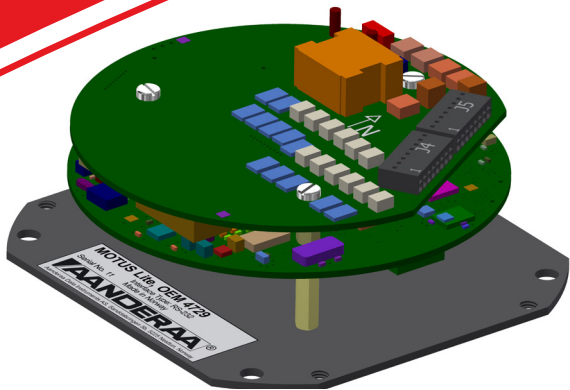


MOTUS Lite OEM Sensor 4729

The MOTUS Lite OEM version is the bare circuit board version of the Aanderaa MOTUS Sensor, intended for integrators and buoy manufacturers. The sensor is delivered without housing and cables and is not a complete solution but a component to be used in the customer's solution. It is intended for commercial as well as research use. The sensor processes wave data and is configurable to present parameters and wave spectrum directly. The sensor can be connected to most dataloggers through the RS-232 interface.



Advantages:

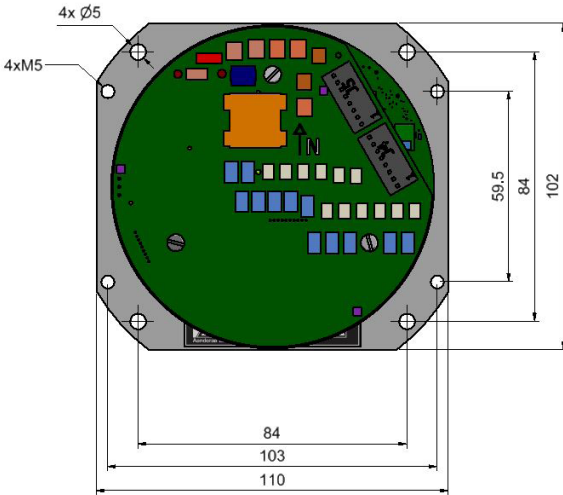
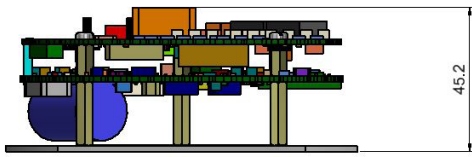
- Configurable transfer function to compensate for buoy response.
- Compensation algorithm for installation outside of buoy center.
- Built-in solid state 9-axis accelerometer/gyroscope/ magnetometer.
- Direct readout of engineering data.
- Integration time from 5 to 60 minutes.
- Configurable separation frequency between wind and swell waves.
- Wide range of parameters are calculated inside the sensor, configurable output.
- Internal compass to reference directional data to geographical or magnetic north.

AANDERAA

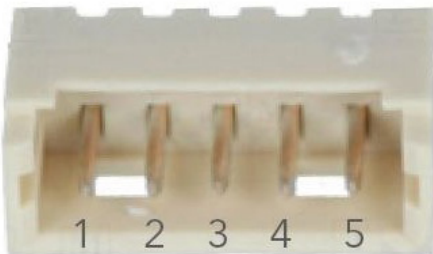
a xylem brand

Specifications MOTUS LITE OEM SENSOR

SPECIFICATIONS XAD429-R1-NOR



Pin Configuration Molex



1. VPWR
2. GND
3. TXD
4. RXD
5. Boot Enable

Technical Details

Wave Height:	
Range:	30m
Resolution:	< 0.001m
Accuracy:	< ±0.05m or 2% of reading ¹⁾
Wave Period:	
Range:	1.42 - 33s
Resolution:	< 0.05s
Accuracy:	< 1% ¹⁾
Wave Direction:	
Range:	0 to 360°
Resolution:	< 0.5° ²⁾
Accuracy:	< 3° ¹⁾²⁾
Integration Time: 5 - 60 minutes	
Wave Calculation Update Rate: 2 minutes	
Sampling Frequency:	
IMU output rate:	100Hz
Interfaces: RS-232	
Power:	
Supply voltage:	6-30 Vdc
Current drain:	125mW @ 12V
Elec. Connection: Molex 5pin 1.25mm Pitch. Pico Blade Header	
Environmental:	
Operating Temperature:	-40 to +70°C
Dimensions:	110x102x46mm
Weight including bracket:	150 gram
Frequency Based Parameters:	
Significant Wave Height:	H _{m0}
Wave Height Swell/Wind:	H _{m0}
Peak Wave Direction Height:	θ
Peak Wave Direction Swell/Wind:	θ
First Order Spread:	σ
Mean Spreading Angle:	θ _k
Peak Wave Period:	T _p
Mean Wave Period:	T _{m02}
Long Crestedness Parameter:	T
Mean Wave Direction:	θ _{avg}
Wave Energy Spectrum:	E(f)
Directional Wave Spectrum:	DWS _m (f)
Principal Wave Directional Spectrum:	DWS _p (f)
Orbital Ratio Spectrum:	K(f)
Fourier Coefficients Spectra:	A1(f), B1(f), A2(f), B2(f)
Time Based Parameters:	
Significant Wave Height:	H1/3, H1/10
Mean Wave Period:	Tz, T1/3, T1/10
Maximum Wave Height:	H _{max}
Wave Period:	T _{max}
Wave Height Max Crest:	C _{max}
Wave Height Max Trough:	T _{rmax}
Heave Timeseries:	H(t)

¹⁾ Accuracy achieved under temperature from -5 to +40°C

²⁾ Rms 5-60 min.

OEM Version:

This sensor is an OEM version of our standard MOTUS Wave Sensor. Please contact factory for more options and restrictions.

The above specifications are for the stand-alone sensor only, not the installation it is utilized with.

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