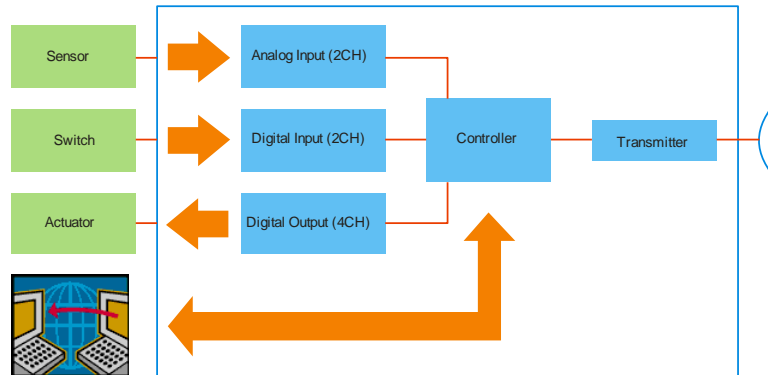


610003 Self-Powered Wireless Receiver Module



Save Money By Preventing Offsite Equipment Failure & Reducing Your Operations Costs:

If your business depends on the reliable operation of offsite equipment, Graystone's **EnviroNet™** products will save you money by preventing expensive equipment failure and costly down time.

EnviroNet™ self-powered wireless monitor and control products will turn each of your offsite equipment operations into a cost effective, intelligent and interactive member of a maintenance free **EnviroNet™** wireless network. Providing your equipment operations and service personnel with immediate wireless access to critical, cost saving information concerning offsite equipment performance. Warning you well in advance of troublesome situations and saving your business the expense of costly equipment repairs and down time.

Moreover, because an **EnviroNet™** wireless network provides immediate wireless access to offsite equipment performance, you will save money on routine operational costs such as equipment monitor and control service that can be performed remotely and conveniently from anywhere within the network area, such as the front seat of a service vehicle or from a central operations location.

State of the Art Technology:

GrayStone's unique combination of state-of-the-art **green** energy harvesting technologies and ultra low power wireless designs are the basis for our innovative **EnviroNet™** monitor and control products that results in cost effective products possessing unparalleled flexibility and performance reliability for our customers.

Capability & Performance:

EnviroNet™ self-powered, wireless monitor and control receiver modules are easy to configure and will readily integrate into any new or existing equipment; providing you with a reliable wireless means to conveniently oversee your offsite equipment operations. Equipped with filtered analog inputs, 4-20mA capability, external sensor bias, digital inputs and digital outputs, **EnviroNet™** receiver modules work with common sensors and actuators. With a laptop and our **EnviroNet™** configuration software, programming **EnviroNet™** receiver modules¹ to suit a variety of unique equipment or process applications is quick and easy.

Process Monitor & Control Networking:

EnviroNet™ self-powered wireless network receiver modules possess full network capability. When joined to an **EnviroNet™** network of configured¹ receivers, receiver and repeater modules, **EnviroNet™** self-powered wireless network receiver modules becomes one of several members in a comprehensive mutually interactive network. Providing your equipment operations and service personnel comprehensive and rapid insight into site equipment and process the status from front seat of their vehicle or from a single remote command location.

Secure & Reliable Operation:

EnviroNet™ self-powered wireless network receiver modules provides secure and reliable network operation. Special security algorithms are employed to ensure that access to a customer's network can only be achieved by authorized users.

Maintenance Free Operation:

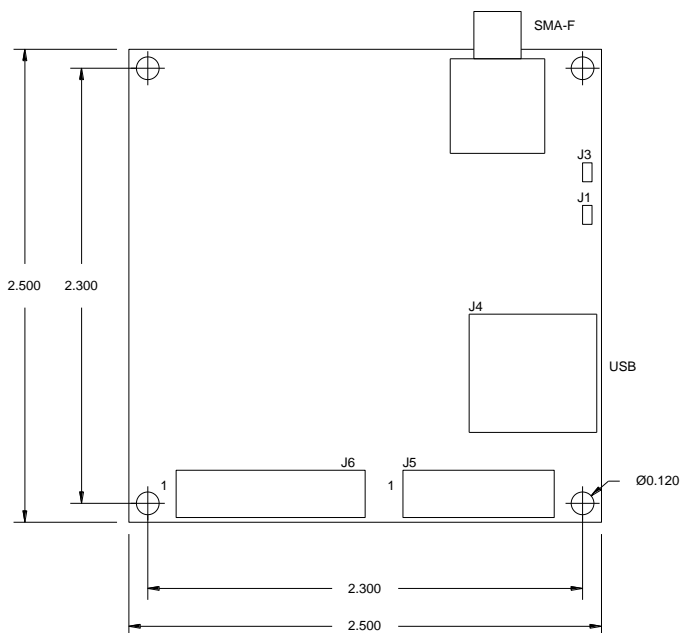
EnviroNet™ receiver modules patent-pending energy efficient wireless technology provides you with a low cost, maintenance free means of continuous equipment/process monitor and control capability under the most adverse environmental conditions. Day or night, calm or storm, open range or industrial shop floor, **EnviroNet™** receiver modules will provide continuously reliable and secure performance for your monitor and control application.

610003 Self-Powered Wireless Receiver Module Specifications

Frequency	915MHz, ISM band	
Receiver Sensitivity	-100dBm typical	
RF Output Impedance	50 Ohm nominal	
Antenna	GrayStone 62000X-YYY antennas, sold separately	
Effective Receive Range	Open field: 1 mile minimum, heavily obstructed building interior: 200' typical ¹	
Input Voltage	0.9 to 3.0VDC	
Power Sources	Regenerative: Photovoltaic Cell, 4.2V typical output in direct sunlight Primary: Battery, 2.4 to 3.0V Auxiliary: External source, 0.9 to 3.0VDC	
Digital I/O	Inputs: 2 each, dry contact, 5VDC tolerant, transient protected Outputs: 4 each, high impedance, 5VDC tolerant	
Analog Inputs	Inputs: 2 each, 10 bit resolution, transient protected & LPF filtered D.C. to 100kHz ² , 4-20mA configurable Gain: 2X ³ Voltage Reference: 3.30V ⁷	
External Sensor Bias	+3.3 VDC @ 25mA ⁴	
Interfaces	ADC & digital I/O: -100: Euro style terminal blocks -200: 26 pin HD D-Sub plug Programming: All versions: USB RF output: All versions: SMA-F	
Programming	Device programming is performed by the customer using EnviroNet™ PC based configuration utility software. See EnviroNet™ product 310001-100	
Messaging	I.D.	32 bits
	Error Check	Checksum
	Message Content	32 bit I.D. GPS location Analog data (2 channels, 10 bits) Digital I/O status (1 output) Checksum
	Transmit Period	30 milli-seconds nominal
	Messaging Interval	Active Period: 30milli-seconds nominal ⁵ Sleep Period: 1 second nominal ⁵
Regulatory	Conforms to FCC part 15 and RSS-210 for operation in USA and Canada	
Operating Temperature	-25 to +65 °C	
Storage Temperature	-40 to +85 °C	
Humidity	0 to 95% R.H., non-condensing	
Dimensions	-100: 2.50" x 2.50" x 0.38" not including connectors -200: 2.50" x 2.80 x 0.38" not including connectors	
Notes:	<ol style="list-style-type: none"> 1. Range is strongly influenced by obstructions and their material 2. Customer may specify other LPF cutoff frequencies 3. Customer may specify 2X, 10X or 100X, please contact factory 4. Available when receiver is in active mode 5. Customer may configure other messaging interval periods using configuration software 6. Specifications subject to change without notice 7. Customer may specify 1.25V, 1.80V, 2.70V or 3.30V, please contact factory 	



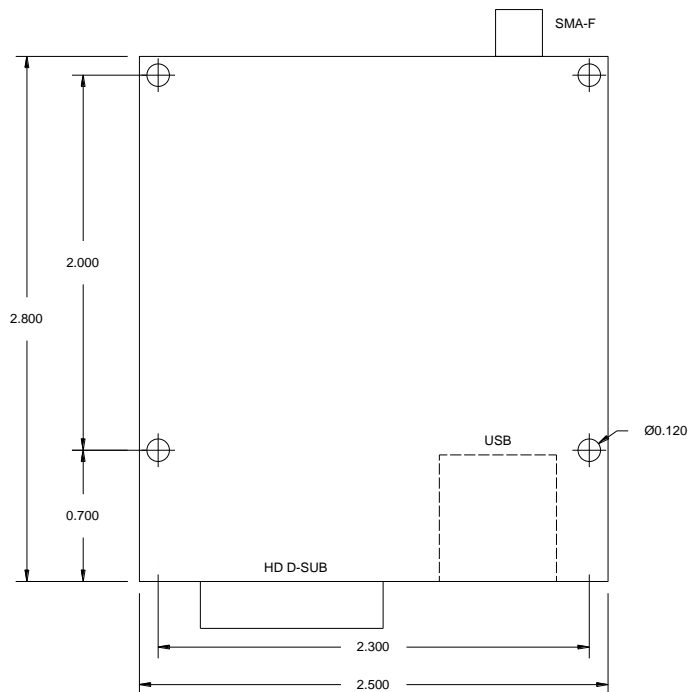
610003 OUTLINE & MOUNTING



TERMINAL BLOCK & JACK PINOUTS

J1	
PIN 1:	PHOTOVOLTAIC INPUT
PIN 2:	PHOTOVOLTAIC POWER RETURN
J3	
PIN 1:	AUX. POWER INPUT (0.9V TO 3.0V)
PIN 2:	AUX. POWER RETURN
J5	
PIN 1:	DIGITAL OUTPUT 1
PIN 2:	DIGITAL OUTPUT 1 RETURN
PIN 3:	DIGITAL OUTPUT 2
PIN 4:	DIGITAL OUTPUT 2 RETURN
PIN 5:	DIGITAL OUTPUT 3
PIN 6:	DIGITAL OUTPUT 3 RETURN
PIN 7:	DIGITAL OUTPUT 4
PIN 8:	DIGITAL OUTPUT 4 RETURN
J6	
PIN 1:	DIGITAL INPUT 1 RETURN
PIN 2:	DIGITAL INPUT 1
PIN 3:	DIGITAL INPUT 2 RETURN
PIN 4:	DIGITAL INPUT 2
PIN 5:	EXTERNAL BIAS RETURN
PIN 6:	EXTERNAL SENSOR BIAS
PIN 7:	ADC 1 RETURN
PIN 8:	ADC 1 INPUT
PIN 9:	ADC 2 RETURN
PIN 10:	ADC 2 INPUT

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HD D-SUB 26 PINOUT

J1	
PIN 1:	DIGITAL INPUT 2
PIN 2:	DIGITAL INPUT 2 RETURN
PIN 3:	DIGITAL INPUT 1
PIN 4:	DIGITAL INPUT 1 RETURN
PIN 5:	SENSOR BIAS ADC 1
PIN 6:	ADC INPUT 1
PIN 7:	ADC 1 RETURN
PIN 8:	SENSOR BIAS ADC 2
PIN 9:	ADC 2 INPUT
PIN 10:	ADC 2 RETURN
PIN 11:	DIGITAL OUTPUT 4
PIN 12:	DIGITAL OUTPUT 4 RETURN
PIN 13:	DIGITAL OUTPUT 3
PIN 14:	DIGITAL OUTPUT 3 RETURN
PIN 15:	DIGITAL OUTPUT 2
PIN 16:	DIGITAL OUTPUT 2 RETURN
PIN 17:	DIGITAL OUTPUT 1
PIN 18:	DIGITAL OUTPUT 1 RETURN
PIN 19:	AUX. POWER INPUT
PIN 20:	AUX. POWER RETURN
PIN 21:	SOLAR POWER INPUT
PIN 22:	SOLAR POWER RETURN
PIN 23:	GROUND
PIN 24:	GROUND
PIN 25:	GROUND
PIN 26:	GROUND

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