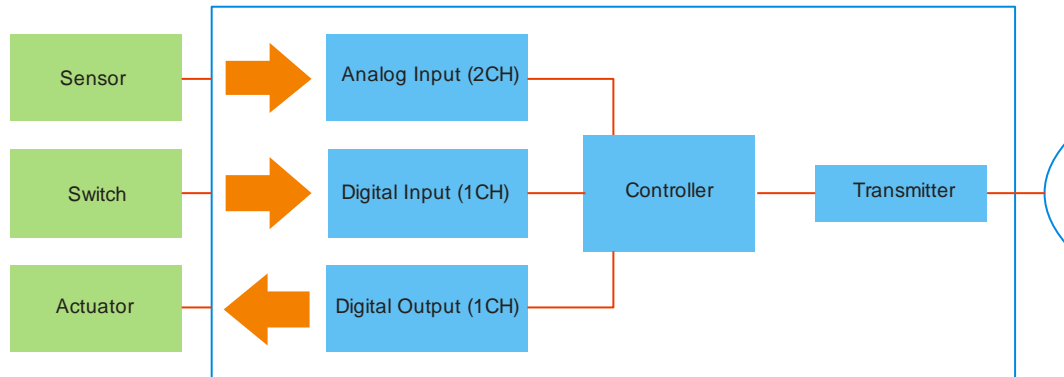


## 610001 Self-Powered Wireless Transmitter Module



### 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 transmitter 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™** transmitter modules work with common sensors and actuators. With a laptop and our **EnviroNet™** configuration software, programming **EnviroNet™** transmitter modules<sup>1</sup> to suit a variety of unique equipment or process applications is quick and easy.

### Process Monitor & Control Networking:

**EnviroNet™** self-powered wireless network transmitter modules possess full network capability. When joined to an **EnviroNet™** network of configured<sup>1</sup> transmitters, receiver and repeater modules, **EnviroNet™** self-powered wireless network transmitter 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 transmitter 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™** transmitter 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™** transmitter modules will provide continuously reliable and secure performance for your monitor and control application.

#### Notes:

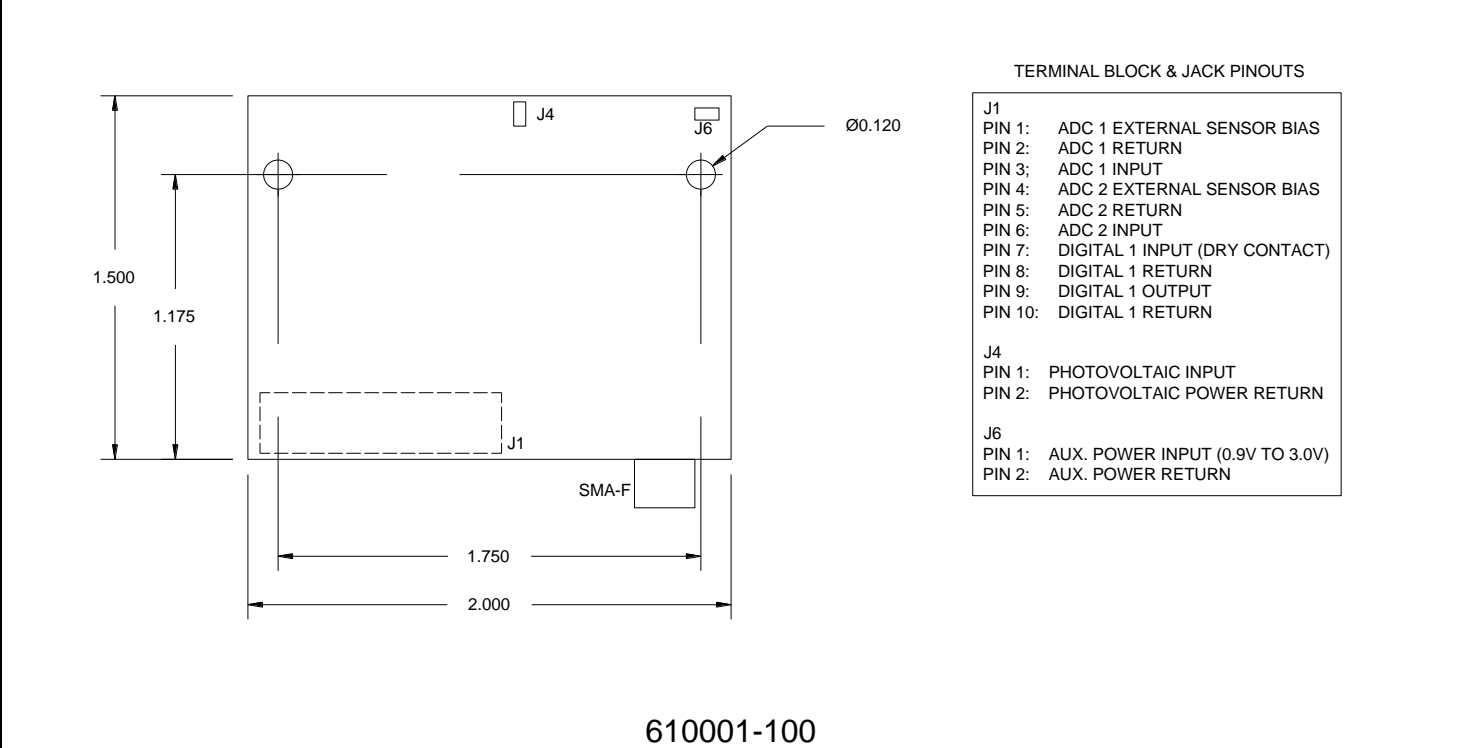
1. The 610001 self-powered wireless network transmitter modules are configured per customer requirements at the factory. Please contact GrayStone Industries Sales group for further information.

## 610001 Self-Powered Wireless Transmitter Module Specifications

Frequency	915MHz, ISM band	
Transmit Power	10mW typical	
RF Output Impedance	50 Ohm nominal	
Antenna	GrayStone 62000X-YYY antennas, sold separately	
Effective Transmit Range	Open field: 1 mile minimum, heavily obstructed building interior: 200' typical <sup>1</sup>	
Input Voltage	0.9 to 3.0VDC	
Power Sources	Regenerative: Photovoltaic cell, 2.0V nominal output in direct sunlight Primary: Battery, 1.2 to 1.5V Auxiliary: External source, 0.9 to 3.0VDC	
Digital I/O	Input: 1 each, dry contact, 5VDC tolerant, transient protected Output: 1 each, high impedance, 5VDC tolerant	
Analog Inputs	Inputs: 2 each, 10 bit resolution, transient protected & LPF filtered D.C. to 100kHz <sup>2</sup> , 4-20mA configurable Gain: 2X <sup>3</sup> Voltage Reference: 3.30V <sup>7</sup>	
External Sensor Bias	+3.3 VDC @ 25mA <sup>4</sup>	
Interfaces	ADC & digital I/O: -100: Euro style terminal blocks -200: 15 pin HD D-Sub plug  RF output: All versions: SMA-F	
Programming	Factory configured per customer requirements	
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 <sup>5</sup> Sleep Period: 1 second nominal <sup>5</sup>
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: 2.00" x 1.50" x 0.38" not including connectors -200: 2.00" x 1.85 x 0.38" not including connectors	
Notes:	<ol style="list-style-type: none"> <li>1. Range is strongly influenced by obstructions and their material</li> <li>2. Customer may specify other LPF cutoff frequencies</li> <li>3. Customer may specify 2X, 10X or 100X, please contact factory</li> <li>4. Available when transmitter is in active mode</li> <li>5. Customer may specify other messaging intervals, please contact factory</li> <li>6. Specifications subject to change without notice</li> <li>7. Customer may specify 1.25V, 1.80V, 2.70V or 3.30V, please call factory</li> </ol>	

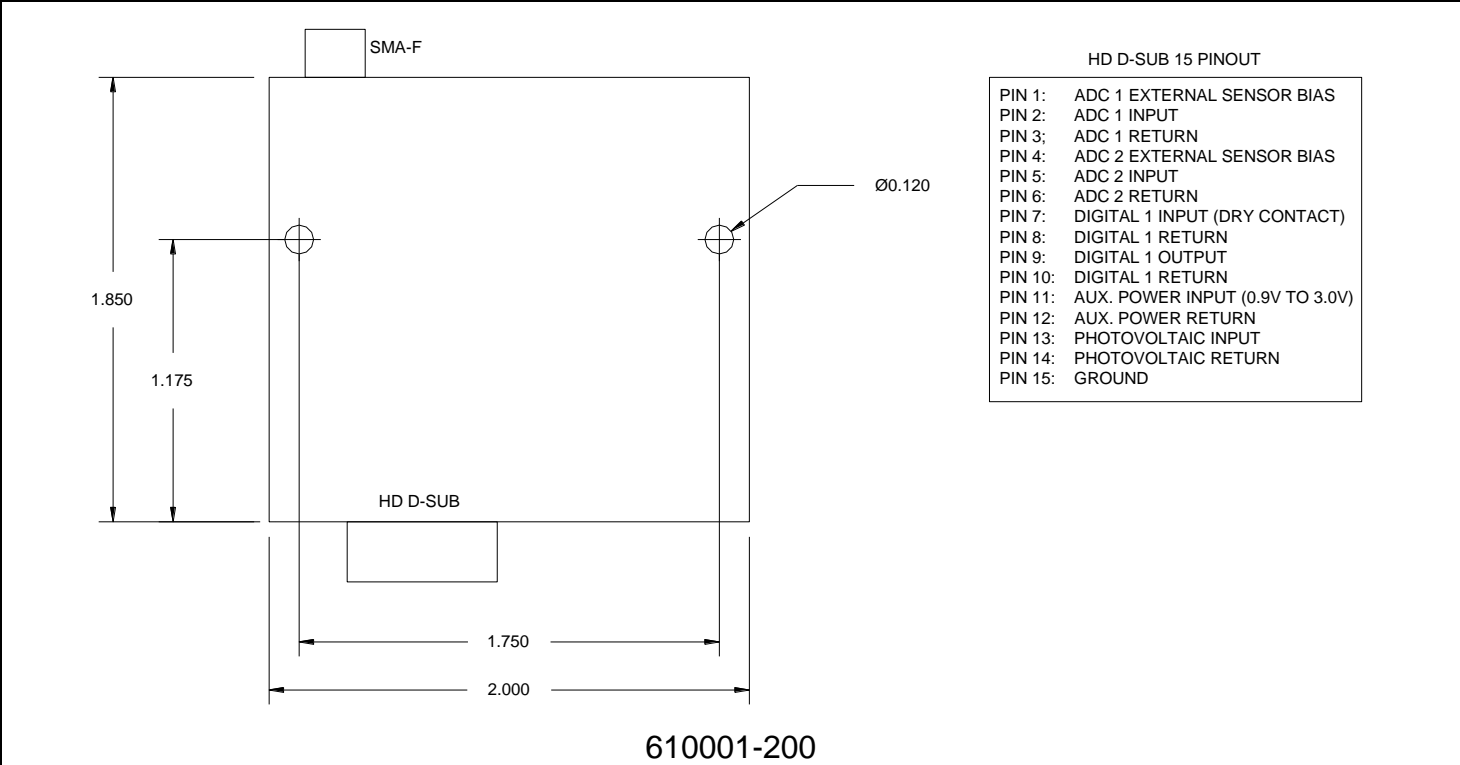


# 610001 OUTLINE & MOUNTING



**TERMINAL BLOCK & JACK PINOUTS**

- J1**  
 PIN 1: ADC 1 EXTERNAL SENSOR BIAS  
 PIN 2: ADC 1 RETURN  
 PIN 3: ADC 1 INPUT  
 PIN 4: ADC 2 EXTERNAL SENSOR BIAS  
 PIN 5: ADC 2 RETURN  
 PIN 6: ADC 2 INPUT  
 PIN 7: DIGITAL 1 INPUT (DRY CONTACT)  
 PIN 8: DIGITAL 1 RETURN  
 PIN 9: DIGITAL 1 OUTPUT  
 PIN 10: DIGITAL 1 RETURN
- J4**  
 PIN 1: PHOTOVOLTAIC INPUT  
 PIN 2: PHOTOVOLTAIC POWER RETURN
- J6**  
 PIN 1: AUX. POWER INPUT (0.9V TO 3.0V)  
 PIN 2: AUX. POWER RETURN



**HD D-SUB 15 PINOUT**

- PIN 1: ADC 1 EXTERNAL SENSOR BIAS  
 PIN 2: ADC 1 INPUT  
 PIN 3: ADC 1 RETURN  
 PIN 4: ADC 2 EXTERNAL SENSOR BIAS  
 PIN 5: ADC 2 INPUT  
 PIN 6: ADC 2 RETURN  
 PIN 7: DIGITAL 1 INPUT (DRY CONTACT)  
 PIN 8: DIGITAL 1 RETURN  
 PIN 9: DIGITAL 1 OUTPUT  
 PIN 10: DIGITAL 1 RETURN  
 PIN 11: AUX. POWER INPUT (0.9V TO 3.0V)  
 PIN 12: AUX. POWER RETURN  
 PIN 13: PHOTOVOLTAIC INPUT  
 PIN 14: PHOTOVOLTAIC RETURN  
 PIN 15: GROUND