

# PRODUCT DATA SHEET



## APM4AM



American Innovations' six channel **APM4AM Bullhorn**<sup>®</sup> wireless remote monitoring device monitors inputs from water/wastewater, irrigation and agricultural equipment (including lift stations, flow meters, water samplers, irrigation equipment, discharge pumps, backup generators and more) and provides notifications of alarm events.

### BENEFITS

- **Monitor your equipment 24/7**
- **Instant notification of alarm events on schedule and/or by exception basis**
- **View data from secure website anytime**
- **Easy to install**
- **Reduces operating expenses**

All models have a total of 6 inputs. Channels 1-4 can be analog or active digital. Ch. 5 can be configured to be digital, active digital, or accumulator and Ch. 6 to digital, active digital or accumulator reset depending upon the model selected. Digital signal options are described below.

All are powered by a lead acid battery charged by a solar panel or AC charger. An optional lithium battery is available for cellular models only and enclosure options vary by product. The anodized aluminum can is available for the cellular model only. Satellite models use a NEMA 4X plastic box only. Cellular units can also be provided in the plastic enclosure. Each unit is self-contained and includes an antenna, power supply and mounting bracket.



## PRODUCT SPECIFICATIONS:

Product Line	APM4AM-GSM, APM4AM-ORB, APM4AM-SAT*
Data Inputs	<p>Channel—Function Choices</p> <p>1 – Analog (<math>\pm 5\text{VDC}</math>, (<math>\pm 50\text{mVCC}</math> or 4-20mA) or Active Digital</p> <p>2 – Same as Ch. 1 w/ range of <math>\pm 100\text{VDC}</math></p> <p>3 – Same as Ch. 1</p> <p>4 – Same as Ch. 1</p> <p>5 – Digital, Accumulator or Active Digital</p> <p>6 – Digital, Accumulator, Active Digital or Acc. Reset</p> <p>Analog Inputs (Ch. 1- 4) are isolated</p> <p>Active Digital (Ch. 1- 6)</p> <p>-Logic 1 = 2V min</p> <p>-Logic 0 = 800mV max</p> <p>Accumulators (Ch. 5 &amp; 6)</p> <p>-Max Input Rate of 2.5 cycles/sec.</p> <p>-Min Width=100 millisec/state change</p> <p>Digital=Form A contact closure (Ch 5 &amp; 6)</p> <p>Dry Contact closure 40<math>\mu\text{A}</math> source current</p> <p>* Data inputs for SAT operate like 4AMCP but do not have built-in surge protection or rec. interface; See bottom of page for more notes</p>
Outputs	n/a
Config. Parameters	Description of each input. Alarm conditions per input. Number of daily health checks
Supporting Products	Requires config. Kit; Contact closure not included; Optional high gain antenna, rectifier interface, test point filter, surge protector, AC Monitor
Power Supply	Sealed lead-acid gel cell battery w/ solar or AC charger; optional lithium battery for cellular model only
Physical Description	Cellular version: anodized aluminum can (3.66 X 5.5" w/o antenna); sealed, self-contained unit includes antenna, power supply & mounting bracket; or plastic box enclosure (8.5 X 6.5 X 4.5"). Satellite version available in plastic box enclosure only.
Data Integrity	Data stored in non-volatile (EEPROM) memory
Environmental	Temp: -30 degrees C to + 70 degrees C; humidity: 0-95% non-condensing
Compliance	APM4AM-UL/CUL Class I Div 2 (pending); FCC Part 15; Enclosure: NEMA 4X complaint for all models and enclosures
Software Interface	Bullhorn secure website; Standard web browsers; AI network operations center
Communications	GSM digital cellular; Orbcomm satellite; Inmarsat D+ satellite

**Note 1:** On analog channels with +/- 5V scale, Bullhorn can accept 4 to 20mA signals from externally powered instruments by adding an external resistor

**Note 2:** All 6 channels transmit in one packet on 4AM-GSM, 4AM-ORB and 4AMCP-ORB; For 4AM-SAT and 4AMCP-SAT, channels 1-4 produce one packet of information and channels 5-6 produce another. If all 6 packets are requested or if a channel from 1-4 and channels 5 and 6 are requested, 2 packets will be sent.

**Note 3:** American Innovations strives to improve products constantly; as such, specs are subject to change without notice.