

BULLHORN[®]

WIRELESS REMOTE MONITORING

The Bullhorn wireless monitoring system has a number of different devices capable of remote monitoring for scheduled and by-exception inbound reporting, as well as two-way communication for on-demand reads and activating/deactivating equipment. The units offer the ability to capture and send information from remote equipment easily and provide 100% coverage via digital cellular (GSM), LEOS satellite (ORBCOMM), and GEOS satellite (Inmarsat D+) communication systems.

This system is used in a wide variety of markets and applications. Bullhorn can monitor meters, storage tanks, cathodic protection systems, compressors, water/wastewater assets, agricultural equipment and more.

The Bullhorn system is available in the model types below.



Bullhorn APM4AM

Automatic Meter Reading

Products

Unit reports utility meter readings daily with up to 6 digits of meter resolution. During installation, unit is set to match the meter's reading to allow for occasional verification of accuracy. It can be configured to store the reading at a particular time that may be different from the reporting time to ensure that meter readings from multiple meters are comparative.

Model types include:

- AMR6-GSM:** Same automated meter reading functionality as described above. Provides GSM digital cellular communications capability.
- AMR6-ORB:** Same automated meter reading functionality as described above. Provides ORB COMM satellite communications capability.
- AMR6-SAT:** Same automated meter reading functionality as described above. Provides Inmarsat D+ satellite communications capability.

Alarm Monitoring

Products

Standard APM4AM models have a total of 6 inputs. Channels 1-4 can be configured as analog ($\pm 5\text{VDC}$, $\pm 50\text{mVDC}$ or $4\text{-}20\text{mA}$) or active digital. Channels 5 and 6 can be configured as digital, active digital, accumulator or accumulator reset depending on the model selected. Digital signal options are described below. Enclosure options include an anodized aluminum (can) and/or plastic box, depending on the model type.

Model types include:

- APM4AM-GSM:** APM4AM functionality with GSM digital cellular communications capability and can enclosure.
- APM4AM-ORB:** APM4AM functionality with ORBCOMM satellite communications capability and plastic box enclosure.

APM4AM-SAT: Data inputs operate like those of the APM4AMCP models but do not have surge protection or rectifier interface. Provides Inmarsat D+ satellite communications capability and plastic box enclosure.

APM4AM-SAT WS: Features Wireless Sensor (WS) inputs - up to seven wireless transmitters can be used per unit, with normally closed contacts at each transmitter. Inmarsat D+ satellite communications capability.

APM4AMCP: Designed for the corrosion professional, APM4AMCP models come standard with built-in surge protection and the ability to select from integral rectifier interface and/or test point filtering functionality. An optional AC Monitor, which converts AC voltage data into DC voltage data, is available. Channels 1, 3 and 4 can be analog ($\pm 5\text{VDC}$, $\pm 50\text{mVDC}$ or $4\text{--}20\text{mA}$) or active digital, and Channel 2 has the capability to accept input voltages up to $\pm 100\text{ VDC}$ or active digital. Channel 5 can be configured as a digital, active digital or an accumulator, and Channel 6 can be a digital, active digital or accumulator reset. Enclosure options include plastic box.

APM4AMCP-ORB: APM4AMCP functionality with ORBCOMM satellite communications capability and plastic box enclosure.

APM4AMCP-SAT: APM4AMCP functionality with Inmarsat D+ satellite communications capability and plastic box enclosure.

Serial Data Terminal

Products

Serial Data Terminal units interrogate modbus-compatible instruments via an RS232 connection and reports register readings based on a configurable, transmission interval. It reports up to sixteen 6-digit register readings, eight 12-digit register readings, or a combination of both from ASCII or RTU Modbus equipment.

Model types include:

SDT16-GSM: SDT functionality with GSM digital cellular communications. Can enclosure.

SDT16-SAT: SDT16 functionality with Inmarsat D+ satellite communications capability. All compressor-related "shut down codes" are mapped to alarm descriptions. Plastic box enclosure.

Remote Interruption, Control, and On-Demand

Products

Model types include:

INT300: The INT300 is a satellite-based remote monitoring device that features over-the-air configuration minimizing hands on after deployment, and almost unlimited flexibility in I/O options, as well as RS232/485 used to communicate with a large variety of devices using the standard modbus protocol.

ICP+: Provides scheduled and by exception in-bound reporting and 2 way communication for on-demand reads and activating/deactivating ancillary equipment. Can be field upgraded to include a MicroMax[®] GPS80 current interrupter for IR-free cathodic protection (CP)reads. ORBCOMM satellite communications capability.