The Spire75 captures data more quickly and accurately. Plus, the ability to have cell tower precedence similar to police and fire for secure data communication. All in one design without the need for a Pelican Box Time Detector or an AC Generator as the SPIRE has long life batteries that last. AC may be used also.

Instantly deploy multiple readers by dropping them and simply turn them “on”. Daisy chain readers and pass data between them for free long distance communications. No IP configuration as the reader’s auto connect. Choose built in communication method of Ethernet, Wi-Fi, and Data-Cellular.

Ideal for Marathons needing many detection points at 1/3 the cost of traditional mat way points. 60 foot range spans side avenues. Ability to place readers at key locations such as staging areas, buses, and more. High 24 volt power.

Increase granularity with many detection points, and thus accuracy of participant movement for flow predictions. So low cost that many may be purchased to monitor people on bases. Several form factor choices so reader blend in and are not noticed.

"Thread Safe" software eliminates the need for separate Pelican boxes. Time accuracy greater than mats. The form factor may be optionally modified to include video with motion sensor technologies. A copy of the original data is always kept inside the reader even after downloaded to a server.

Deploy readers as fast as you can drop them along the Marathon route. Stack them in a SUV. Simple and easy deployment. No IP addressing.

Gain instant real time data.

Spire comes in various shapes and sizes. Add sensors, such as motion detectors, camera, facial recognition in addition to runner bib RFID.
**PHYSICAL CHARACTERISTICS**

Dimensions: 47" (H) x 17" (L) x 10" (W).

Weight: 29 lbs +/1 lbs (13.15 kg +/-.45 kg) including batteries.

Housing Material: High impact roto-molded traffic bollard, carbon fiber, steel, aluminum, antenna plastics.

Visual Status Indicators: Multi Color LED’s for power condition and application status.

Mounting: Mobile placement with high quality in-line skate wheels with bearings for smooth roll on surface.

**CONNECTIVITY**

Communications: Proprietary RF communications to application layer. 10/100 BaseT Ethernet (RJ45) w POE support, USB Client (USB Type B), USB Hoist Port (Type A).

General Purpose: I/O 2 input, 32 outputs, optically isolated (Terminal Block).

Power Supply: POE, POE+ or + 24V DC (UL Approved), 120 and 220 AC Marine Plug.

Antenna Ports: Standard Multi Ports connected to Orbiter Phased Detect antenna. Optional 4 and 8 port models available for connecting customer selected antennas.

**ENVIRONMENTAL**


Humidity: 5-95% non-condensing

Shock and Vibration: MIL-STD-810G

**REGULATORY COMPLIANCE**

Safety: UL 60950-01, UL 2043, IEC 60950-1, EN 90950-1


SAR/MPE: 65; EN 50364

Other: ROHS, WEEE

**HARDWARE, OS AND FIRMWARE MANAGEMENT**

Memory: Flash 512 MP, DRAM 256 MP

Operating System: Linux

Application Code: Java

Firmware Upgrade: Web-based and remote firmware upgrade capabilities

Management Protocols: RM 1.0.1 (with XML over HTTP/HTTPS and SNMP and NTP

Network Stack: IPv4 and IPv6

Security: Transport Layer Security Ver 1.2 FIPS 140

Air Protocols: EPCglobal UHF Class 1 Gen2 ISO 18000 BC

Frequency Band: Global Reader 902 MHz – 928 MHz (Maximum, supports countries that use a part of this band) 865 MHz – 869 MHz., 2.4 GHz

International Accepted WI-Fi band, and Country specific accepted data cellular band.

Transmit Power Output: 10 dBm to +31.5 dB, (POE+ 24 volt External DC) +10dBm to +30.0 dBm (POE).

Max Receive Sensitivity: -82 dBm

IP Addressing: Static and Dynamic

HOST Interface Protocol: ORP and LLRP

API Supported: Host Applications – Java EDK and Net C, Embedded Applications Java SDK

Warranty: 1 year all parts and labor

RECOMMENDED SERVICES: Annual Service and Support includes all parts and labor warranty extension plus automatic software upgrades.

Advanced Services: Optional external antenna Ports available.

Secret Sauce: No other RFID reader has the Turbo Charger (TC) seen above. This exclusive green board is of Orbiters proprietary design.

TC is programmable and capable of tripling the DC power output of a standard RFID reader. It is a well known electrical engineering fact that electronic devices operate best at the highest voltage that was designed for the device.

Most OEM timing device manufactures operate at 12 volts DC. Orbiter is operates at 24 volts or 36 volts by software control.

Our secrete sauce "green board" allows the addition of motion detectors, facial recognition, bi-directional satellite control and much more. Ideal for monitoring the flow of people in real time from afar.

Plus, the cost that is only 1/3 that of mat systems.