iWAP102-LR Zone 1 Location Receiver

Location receivers provide the ability for accurate location data outdoors or for indoor areas where high Positioning accuracy is required due to the TDOA measurement principle

II 2(1) G EEx d IIB +H$_2$
T5 (Ta 55ºC) / T6 (Ta 40ºC)

0ºC to 50ºC (32ºF to 122ºF)

IP66

Overview

The iWAP102-LR Location Receiver is a zone 1 hazardous area version of the Aeroscout Location Receiver and is a core component of the AeroScout Visibility System that enables location-based applications in a Wi-Fi wireless LAN environment. The AeroScout Location Receivers provide robust and sophisticated time difference of arrival (TDOA) measurement capabilities packaged in small, easy to install devices. The Location Receiver receives standard 802.11b messages and executes sophisticated radio signal measurements, enabling the AeroScout Engine software to accurately calculate the location of both AeroScout's Wi-Fi-based Active RFID tags and any Wi-Fi-enabled device.

Locates any tagged asset, using Extronics Tags. AeroScout's small, rugged, battery-powered tags can be attached to people and to a variety of equipment, such as medical devices, containers, manufacturing equipment and retail shopping carts. Location Receivers receive and process tag information accurately from a long range.

Locates standard Wi-Fi clients without hardware or software modifications. The AeroScout system also locates standard Wi-Fi clients such as laptops, PDAs and barcode scanners, without the need to tag these assets or introduce client software. This eliminates a major management challenge and enables simple implementation.

Accurate real-time location as well as sophistacted RFID choke-point detection. The AeroScout system uses time difference of arrival (TDOA) algorithms to determine accurate location. With the AeroScout Exciter, the same system also enables tags to be detected, reprogrammed or transfer data messages as they pass through doorways, gates or other choke points.

Indoor, outdoor and mixed operation. The AeroScout System is suitable for use in indoor, outdoor and mixed environments, from corporate offices to harsh industrial areas.

Features and Benefits

Low infrastructure requirement Location Receivers communicate with the AeroScout Engine software via standard Ethernet or wirelessly over a Wi-Fi network - no dedicated location network cabling is required. Also, because Location Receivers have a long read range (600 feet outdoors), large installations can be covered with much less infrastructure than standard RFID systems.

Ease of installation
Configuration is simple: The installer executes all setup tasks from the AeroScout Engine's System Manager software, which records the placement of a Location Receiver with a single mouse click. Location Receivers also support Power over Ethernet, eliminating costly electrical installation.

Performance
AeroScout's expertise in wireless signal measurement has led to the development of a range of patent-pending algorithms and techniques. Embedded in the Location Receiver, these measure the TDOA of standard 802.11b messages to the nanosecond. The AeroScout Engine processes this TDOA data to produce accurate and reliable location data suitable for mission critical visibility applications. Each Location Receiver can process over 300 location measurements per second, enough to satisfy even the most demanding applications. A minimum of three Location Receivers suffices to enable TDOA location processing. Location Receivers can also process presence based location for areas where fewer than three Receivers are available.

Active RFID and Telemetry Functions When used together with the AeroScout Exciter, Location Receivers enable multi ple sophisticated tag functions. These include instant RFID detection at a choke point (such as a gate or doorway) and tag mes-sage and data retrieval for telemetry appllcations.

Compliance
All AeroScout products are fully compliant with Wi-Fi and IEEE 802.11b standards. Location Receivers do not interfere with the wireless local area network. Even when set up with a bridge to provide location measurement data

Features and Benefits

wirelessly, the volume of traffic they generate is insignificant.

Security
Location Receivers do not accept any Wi-Fi client associations, so they need not be placed on secure Ethernet ports and pose no security risks. Together with appropriate security software, Location Receivers may be used as wireless intrusion-detection devices to detect and locate unauthorized use of access points and/or client devices.

Variety of Configurations
Location Receivers are available in a variety of configurations to fit all implementation scenarios. In addition, wired or wireless configurations are available

Specification

Location	Outdoor range : up to 200 metres (600 feet) Indoor range : up to 60 metres (180 feet) Over 300 measurements for second per Receiver cell (system capacity also dependant upon server processing power) Patent pending signal processing algorithms Supports standard WiFi (802.11b) clients and Extronics Tags
Dimensions	280 x 276 x 214 mm (w x h x d)
Weight	Approx 15 Kg
Ingress Protection	IP66
Ambient Temperature	0ºC to 50ºC (32ºF to 122ºF)
Relative Humidity	0 to 95%, non condensing
Radio	2.4 GHz direct sequence spread spectrum 802.11 radio. Supports all worldwide WiFi channels 1-14 subject to local regulations Transmission power : 15 dBm
Interfaces	Ethernet 10/100 Base T or optional fibre optic
Antennas	Wide choice of antennas for optimum coverage to be order separately
Management	All settings configured remotely using the Aeroscout System Manager
Power Supply	24 VDC, 115 or 230 VAC or POE 802.3af compliant
Radio Certification	FCC Part 15, sub part C class B, sub part B, EN 300-328, EN300-330, EN301-489, RSS 210 (Canada), ARIB STD-T66 (Japan), ARIB STD-33 (Japan)
Safety Certification	CE, cTUVus (EN60950)
Certification Numeber	Epsilon 06 ATEX 2083
ATEX Certification	II 2(1)G EEx d IIB + H_2 T5(Ta 55ºC) or T6 (Ta 40ºC)

Ordering Information

iWAP102 Zone 1 Location Receiver   **iWAP102-LR-[#1]-[#2]-[#3]**

Specify option [#1] - Power Supply
24VDC	DC
110 - 230 VAC	AC
POE 802.3af compliant	UTP

Specify option [#2] - Ethernet Connection
Multimode Fibre 10/100 base T Ethernet ST Connector	MM2
CAT5 Cable	UTP

Specify option [#3] - Antenna Lightening Protection
One Surge Arrestor Fitted	1
Two Surge Arrestors Fitted	2
No Surge Arrestors	N