

Description

The Smart Field Generator is a tag wake-up device that produces an RF field at 433 MHz. This field is used to wake up any ActiveWave tag that passes within 33 meters (~108 feet) of the Field Generator. When a tag enters the RF field and wakes up, it transmits its identification number and data to an ActiveWave Reader up to 85 meters (~279 feet) away from the tag.

The Smart Field Generator also has a 916.5 MHz or 868.6 MHz antenna to get configuration information from any ActiveWave Reader. All frequencies used by the Smart Field Generator are acceptable under worldwide standards and regulations.

To satisfy specific application needs, each Smart Field Generator's field strength can be adjusted via software to produce an effective tag wake-up range of 1 to 33 meters (~3-108 feet).

Current Practice

Access Control and Asset Tracking

Access control systems often use proximity or magnetic stripe readers that require badges be placed very close to the reader to be recognized. Carried items may have to be shifted or put down to handle the badge.

Asset control depends on guards and surveillance cameras to watch exits, and authorization passes when assets leave the building. This requires constant vigilance and is time-consuming. Items placed in pockets, handbags, or briefcases are often missed.

Inventory Tracking

Many companies are using enterprise resource planning, inventory management, and Electronic Data Interchange (EDI) systems. In spite of these systems improvements, the movement and tracking of goods remains a complex procedure that is difficult to manage.

Modern material tracking systems use barcodes, requiring items to be placed close to the barcode reader and in its "line of sight". This requires manual scanning or a conveyor-like process to align the barcode to the scanner. Barcodes can get wet or scratched by harsh environments or mishandling, causing incorrect reads.

Updating inventory counts by periodic scanning takes time, and manual data collection is often prone to errors and oversights. These approaches rarely keep the inventory accurate or up-to-date. Inventory losses are usually not discovered until the next inventory cycle which makes investigation difficult.



The ActiveWave Solution

Our hands-free RFID solution offers many advantages over contact, swipe, proximity, and barcode reader systems. Our extended range enables employee access and item tracking, without special actions to accommodate the system.

By attaching an RFID tag on or inside items, all item movement past portals throughout a facility can be tracked. The ActiveWave Tracker software can restrict asset movement to a specific owner, and produce an alarm if the asset is not with its assigned owner.

ActiveWave RFID tags can be programmed to wake up and report their presence on a periodic basis, allowing inventory counts to be updated many times a day. An alert can occur as soon as an item misses its scheduled reporting time, so the loss can be immediately investigated. All of this can be completely automated with no product movement, scanning, or human involvement.

Other Applications

ActiveWave RFID technology can be used for applications such as tracking assets in an automobile dealership, used car lot, or car rental facility. It also can control employee access at airports or vehicle access to parking lots. For further details, visit our web site at www.activewaveinc.com.



Smart Field Generator

Product Summary

Type:	RFID Smart Field Generator
Applications:	All RFID Applications using active ActiveWave Tags
Part Number:	See Field Generator Selection Guide

Specifications

Functionality	Produces a 433 MHz field to wake up active ActiveWave tags
Multi-Tag Read Capability	Yes
Operating Frequency	433 MHz
Configuration Frequency	916.5 MHz or 868.6 MHz
Tag Wake-up Range	1 to 33 meters (~3 to 108 feet), depending on Field Generator strength setting
Signal Penetration	Tags can be awakened through virtually all non-metallic materials
EMC (Electro-Magnetic Compatibility)	433 MHz frequency is acceptable by worldwide standards and regulations. Device is not affected by normal electromagnetic interface of x-rays.
Power Source	Output: 12 volts DC, Input 120/230 volts AC
Operating Temperature	-35°C to +70°C (-31°F to 158°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Dimensions	6.7 cm wide x 10.8 cm deep x 2.8 cm high (~2.6 in x 4.3 in x 1.1 in)
Weight	128 grams (~4.5 ounces)
Case Material	ABS (Acrylonitrile Butadiene Styrene)

Indicators, Switches and Connectors

Front Panel: LEDs	Red LED	Tx or Rx from Reader
	Green LED	Tx to tag(s)
Rear Panel: Connectors	Motion Detector Input	Input from Motion Detector for optional motion-activated operations (RJ-11 Female port)
	Power	12 volts DC input – non-polarized, 20 watts maximum

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NOTE: The information in this datasheet is subject to change without notice.
Visit our web site at www.activewaveinc.com for more information on ActiveWave products.