VAJRA - IoT
Passion | Innovation | Transformation

VAJRA IoT Pvt Ltd
(Formerly known as Green Ark Enersol Pvt Ltd)

ASSET TRACKING

WE MAKE EARTH SMILE

DESCRIPTION

GAE - has newly developed a 2.4GHz RFID active reader & to meet different needs with 2.4Ghz Active tags in vehicle access control, vehicle toll collection, healthcare, RFID asset tracking, manufacturing, personnel tracking and building security and access control applications. With an external Omni-directional antenna, this 2.4GHz reader is suitable for a number of RTLS (Real Time Location System) applications including asset tracking, warehouse management, logistics, and student management and so on.

This 2.4GHz RFID reader can ensure whether the tracking products are in the visibility range of around 30 meters from the reader or not, since it has the ability of identifying a number of active tags within 30 meters simultaneously. And by working with an Omni-directional antenna, it can identify tags in all directions, thus providing a high working accuracy.

Active RFID tags have their own internal power source, which is used to power the integrated circuits and broadcast the signal to the reader. If the reader has received the signal from tag, the reader will send the data to the server computer to locate each of the tags. Moreover, it also provides RS23 & RS485 ports for data communication. The RF tag uses the IEEE 802.15.4 standard protocol which makes the tag to function as a RFD (reduced functionality device) associating to a coordinator (Fully Functional Device/reader), periodically waking up transmitting data and sleeping again, in the same personal area network.

In all, this active RFID reader is available in operating from ISM 2.4GHz to 2.5GHz to be deployed in any indoor or outdoor environments for various RTLS applications. And it can offer an impressive long read range of up to 30 meters by integrating with an external antenna.

FEATURES

1. Suitable for Robust and secure low power wireless applications
2. Compatible to the 2.4GHz IEEE802.15.4 & Zigbee pro networks
3. Supported protocols include IEEE802.15.4, ZigBee PRO.
4. Standard application interfaces include PC/SC, Synchronous-API (on top of PC/SC)
5. Wireless applications such as Metering & Remote Control applications.
6. Communication interface RS232, RS485 & *USB.
7. Automatic wake up and transmission of programmed asset information at configured intervals to the coordinator (reader)
8. Inbuilt battery voltage level detection and transmission to ensure timely replacement
9. RF Tag with Tamper proof switch : Detection if detached from the asset

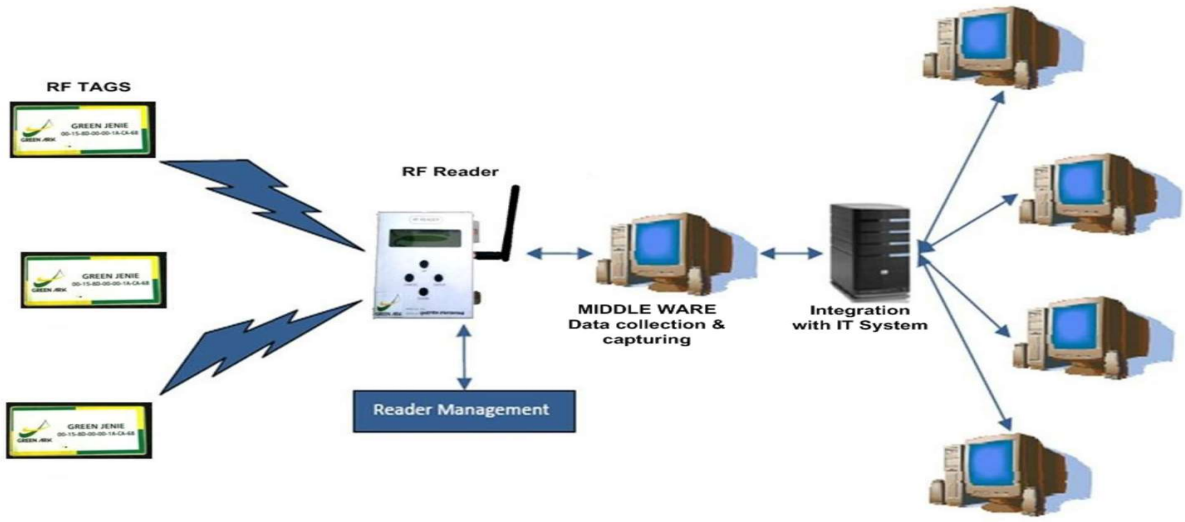
APPLICATIONS

1. Health care
2. Track and locate assets
3. Inventory control etc.,

TECHNICAL SPECIFICATIONS

S No	CATEGORY	PARAMETERS	RF READER SPECIFICATIONS	RF TAG SPECIFICATIONS
1	General	Dimensions (mm)	85 X 105 X 110 mm	78mmX40mmX7mm
		Operating Temperature	-10 to +75 ºC	-20 to +45 deg C
		Power Supply	10 to 60	3V Battery Powered
		Power Consumption	1.5W (max)	-----
2	Controller	Memory	512KB	1Mbit (4Mbit also available)
		Operating System	32-bit RISC CPU	32 Bit RISC
		Firmware Upgrade	Serial Port	-----
		Synchronization	Network Time Protocol	-----
		Reading Range	10 ~ 30 m	-----
		RF Antenna	SMA Right Angle	-----
3	Communication	Working Frequency	2.4GHz	2.4GHz
		Tag Protocol	IEEE 802.15.4	IEEE 802.15.4
		Tx, Current	17.4 ma	-----
		Rx, Current	15.0 ma	-----
		Receiver Sensitivity	-95dBm	-95dBm
		Transmit Power	2.5dBm	2.5dBm
4	Display	LCD	16 X 2 - Character	-----
5	Keypad	Type	Membrane	-----
		Keys	4	-----
		Function	Customizable	-----
6	RS-232	Flow Control	Full	-----
		Baud Rates	115200 bps	-----
		Settings	8 Data bits, No Parity Bit, 1 Stop Bit	-----
		Hardware Interface	D-SUB 9 PINs	-----
7	RS -485	Baud Rate	9600 bps	-----
		Hardware Interface	3 Wire (GND, D+,D-)	-----
		Number of drivers/receivers	32	-----
		Protocol	Modbus RTU	-----
8	Read-Write performance	Read Mode	1) Automatic identifying within effective area (Auto mode) 2) Reading after external trigger (Trigger mode)	-----
		Identify Tag Time	Less than 1ms when identify single tag	-----
		Anti-collision	Read up to 60 pieces of tags simultaneously	-----
		Read distance	0 ~ 30 m adjustable	-----
9	*USB Device	Type	Mini Usb	-----
		Function	Configuration	-----
10	Identification	MAC Address	-----	64 Bit
11	**Tamper Proof	Component	-----	Tactile Switch

ARCHITECTURE



ORDERING INFORMATION

PART NUMBER	DESCRIPTION
1000-RFREADER-RS232-RS485	RF Reader with RS485 & RS232 communication ports
800-RFTAG-BASIC	Active tag without tamper detection
801-RFTAG-TAMP	Active tag with tamper detection

Example: Following is the Product Code.

*801-RFTAG-TAMP

The RED Marked details will get change as per the type of the RF Reader & RF Tag is ordered.