ETrakin 42U
Asset Tracking System
for IDC Rack

E-Tag

Tracker

Smart IoT Shenzhen Technology Co., Ltd.

Content

Asset Tracking System for IDC Rack: ETR1042-RS

Product Name: Asset Tracking System for IDC Rack

Order Number：SE502.1042 (Standard Package for 42U IDC Rack)

SE502.1042.001 (Tracker)

SE502.1042.002 (Smart Hub)

SE502.1042.003 (Asset E-Tag)

1. Introduction

1.1 Product Features

- Precise location: tracking the precise location of the U space# of assets on the rack
- Automated physical asset tracking: automatically track the physical status of assets: mounting on/off, migrating, auditing etc.
- Real-time monitoring: get the live location of the rack and asset U-space.
- Open protocol: communication with back end platform in MODBUS/MQTT protocol, which can be rapidly integrated with 3rd party management system.
- One-click real time assets/space checking, manage your rack space and inventory effectively.
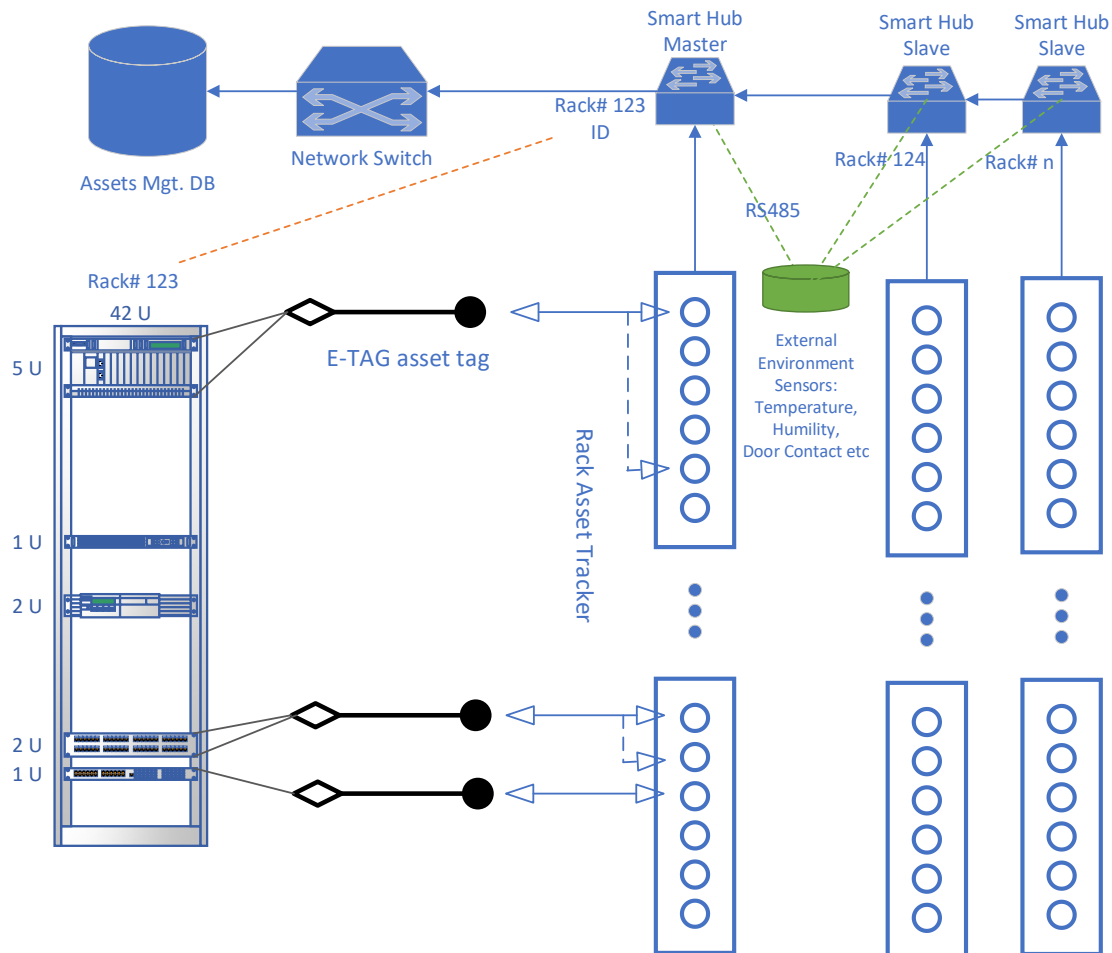
1.2 Applications

Server room, data center, module data center and container data center. The maintenance team can use our system to locate the IT assets on rack lively, to show whether they are online or offline, and get their accurate rack number with specific U-space number.

1.3 Standard and Certificates

Standard	Content
GB 50348-2004	Security protection projects regulation and standard
GB 50396-2007	Access control system projects regulation and standard
GB 50174-2008	IT system server room designing and engineering standard
EN55022:2006	Information technology equipment — Radio disturbance characteristics —Limits and methods of measurement
IEC 60950-1	'Information technology equipment – Safety. Part 1: General requirements',
IEC61000-4-6	Electromagnetic compatibility(EMC)-Part 4-6:Testing and measurement techniques-Immunity to conducted disturbances,induced by radio-frequency fields
IEC61000-4-5	Electromagnetic compatibility(EMC)-Part 4-5:Testing and measurement techniques-Surge immunity test
IEC61000-4-4	Electromagnetic compatibility(EMC)-Part 4-4: Testing and measurement techniques-Electrical fast transient/burst immunity test

2. System Requirements

2.1 System Diagram

2.2 Overview

Etrakin asset tracking system for IDC rack is specially designed for the demands of modem data center operation and maintenance. It is mounted inside the rack close to the IT equipment, by reading the corresponding smart e-tags matched with the equipment, that accurately locate the U-space number of the IT equipment in the rack.
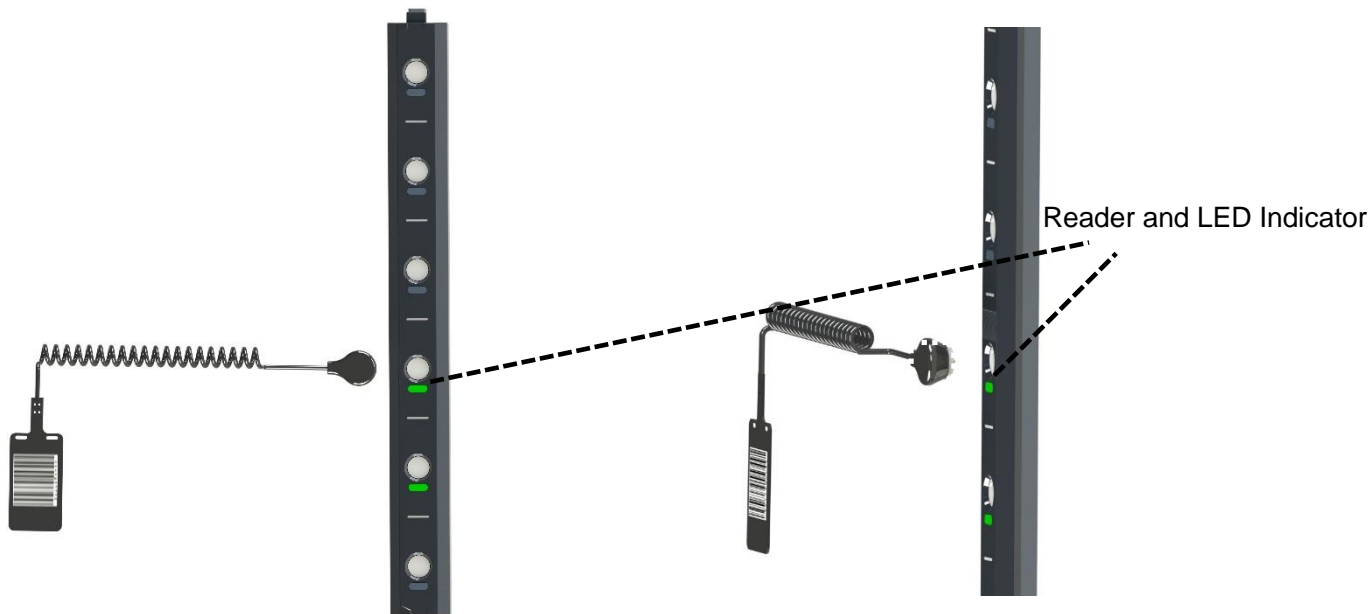
The ETrakin system kit is composed of a cabinet Assets Tracker, Assets E-Tag and Smart Hub:

- The E-Tag is associated with the equipment ID of the asset on the rack, one end is fixed on the surface of the asset equipment, and the other end is attached to the reader dot of the tracker which is corresponding to the U-space number of the cabinet.
- The asset trackers are segmented bars which can be divided into 7 pieces for a 42U with 6 reader dots in each bar. The tracker can automatically read the E-Tag ID on the corresponding U-space reader dots, and upload it to smart hub in real time.
- The smart hub supplies power to the asset tracker, and synchronize the asset data to the backend management platform.

42U IDC Rack Installation:

42 tag readers in the tracker bar, which matches the 42 U-space in the 19" server rack
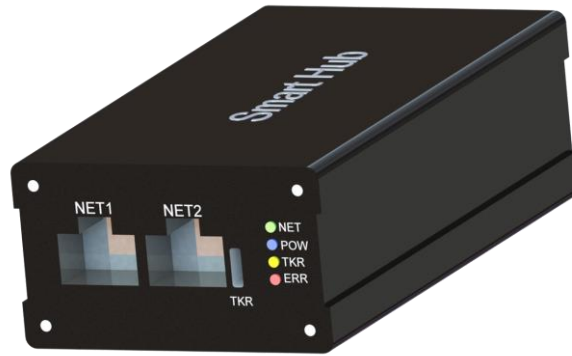
Reader and LED Indicator

Tracker Bar and E-Tag:

Each tracker bar includes 6 U-space reader dot where the assets E-tag is absorbed on,

in this way, the backend platform can lively monitor the location, esp. the U-space # and Rack #, of IT assets on the rack.

42U tracker are joint with 7 pcs of single tracker bars (no screw installation)

Smart Hub:

The communication device between tracker and backend platform

Extension hub for temperature/humility sensor, door contact, etc

3. Functions and Specification

3.1 Specification

Smart Hub	Input Voltage	12V DC or 44-57V PoE Power Supply
	Output Voltage	12V@3A or 48V PoE
	Max. Output Power	48W
	Max Output for Peripheral Sensors	6W (12V@500mA)
	Communication Interface	RJ45
	Comm. Protocol to Platform	MQTT，MODBUS
	Dimension	90*66*26mm (L*W*H)
	No. of Connected Trackers	Max. 5 sets 42U Rack Trackers for one Master Hub (a slave hub is needed for each rack tracker)
	Other Interfaces	RS485*1，IO Input*2
	Other Sensors Type	Temperature, Humility, Door Contact, Smoke Detection, etc.
Asset Tracker	Power Consumption	< 2.5W ((7 pcs bars for Standard 42U set)
	Input Current	< 200mA (7 pcs bars for Standard 42U

	(single tracker bar)	set <1.4A in total)
	Supported Cabinet Type	12~55U Standard IDC Cabinet
	Connection between Tags	Tags are magnetically adhere to tag reader of tracker
	Indicator LED	LED indicators are closed to its tag reader with 7 colors, which is used to show different working status
	Installation	Mounted on the sidewall of the rack, or on the inner side of the door
	Working Temperature	-20℃～70℃
	Working Humility	5%～95%
	Dimension	267*26*14mm(L*W*T, for a single bar)
E-Tag	Working Technology	Patented Self-power Technology
	Connection to Tracker Reader	Magnetically adhere
	Tag Functions	Cut-off alarm
	Storage	Unique ID # & 1K storage ROM
	Tag Extension Cable	20cm~100cm Extendable Spring Cable
	Tag Material	Flame retardant PP
	Fire-proof Standard	UL94V-1
	Certification	UL，CSA，IEC,ROSH
	Sticker Brand (fix tag on assets surface)	3M Sticker

3.2 Environment

Item		Parameter	Unit	Applicable environment	Environmental conditions for transportation	Storage environmental conditions
Weather	Temperature	Low Temp.	℃	-10	-40	-40
		High Temp.	℃	55	+70	+70
	Humility	Low relative humidity	%	5	/	5

		High relative humidity	%	95	/	95
		Condensation	Y/N	No	/	No
	Climax	Low altitude	M	0	0	0
		High altitude	M	3000	3000	3000

4. Package List

Etrakin Asset Tracker **ETR1042-RS** (model# for standard 42U cabinet) Includes:

- Asset Tracker Bars*7 pcs

- Smart Hub Master*1 pc

- Smart Hub Slave*1 pc (Optional)

- E-Tag*7 pcs

- Cables and accessories