UHF RFID · CEILING EDGE ARRAY READER

ID-EA500

Reader, antenna array and edge computer — in one ceiling panel.

Impinj E710 | 12 dBi antenna array | On-board edge controller | Fleet MDM

One Reader replaces three.

The **Identium ID-EA500** puts a UHF RFID reader, a 12 dBi antenna array and a Linux edge computer into a single 45 mm ceiling panel. Tags are read, filtered and turned into zone and movement events on the unit itself, then delivered straight to your system.

No separate reader. No PC in the comms room. No antenna cabling to plan. One network cable carries power and data, and every unit reports to ReaderSense MDM so an estate of readers is watched and serviced from one browser.



12 dBi	E710	1 TOPS	PoE	45 mm
Antenna gain	Impinj reader IC	On-board NPU	One-cable install	Slim ceiling profile

WHAT IS INSIDE

Three systems, one enclosure

READ
RF front end

- Impinj E710 reader IC
- Integrated 12 dBi antenna array
- EPC Gen2 / ISO 18000-63
- India 865–868 MHz; other regions configurable

THINK
Edge controller

- Quad-core 64-bit ARM, up to 2.0 GHz
- 1 TOPS NPU · 2 GB RAM · 32 GB eMMC
- Linux, ReaderSense Edge pre-installed
- Gigabit Ethernet with PoE

DELIVER
ReaderSense software

- On-board web console, nothing to install
- Zones, direction, rules and alerts
- REST · HTTP POST · WebSocket · MQTT
- Fleet-managed through ReaderSense MDM

WHERE IT WORKS

Built for overhead coverage

Retail stores
Stock on shelf and floor

Warehouses
Bay and aisle zones

Dock doors
In and out by direction

Libraries
Stacks and returns

Hospitals
Equipment and linen

Offices
Asset rooms and stores

HOW IT WORKS

From tag to your system, on the reader itself

Tags
Passive UHF tags on goods, assets and people

12 dBi array
Integrated antenna, overhead read field

Impinj E710
Reader IC: EPC, RSSI, phase, antenna

Edge controller
READERSENSE EDGE
- Filter and de-duplicate
- Zone presence
- Direction of travel
- Rules, alerts and I/O
- Store and forward

Your system
ERP, WMS, POS or cloud — via REST, HTTP POST, WebSocket, MQTT, Modbus RTU or relays

ReaderSense MDM
Every unit dials out over a secure tunnel — health, remote console and software updates for the whole fleet.

READERSENSE EDGE

Intelligence at the ceiling

Live inventory
Every tag in view with RSSI, antenna and last-seen, updated in real time in the on-board web console.

Zone presence
Tags are placed in zones with hysteresis and hold-times, so items do not flicker between areas at a boundary.

Direction of travel
Phase-based motion tells approaching from receding and moving from static — the basis for in / out counting at doors.

Rules and alerts
Trigger relays, stack lights and webhooks on tag events, with an alert log in the console.

Store and forward
If the network drops, events queue on board (up to 200,000) and are delivered in order when the link returns.

Analytics and reconciliation
Dwell, counts and trends, plus expected-versus-found reconciliation, with CSV export.

Industrial I/O
4 isolated inputs, 4 outputs (3 relays) and a Modbus RTU master over RS485 for PLCs and gates.

Roles and audit
Admin, operator and viewer roles with a full audit trail of every change made on the unit.

READERSENSE MDM

The whole estate, from one browser

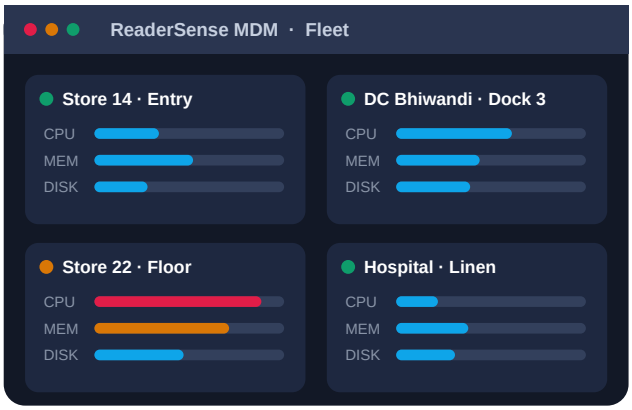
Outbound-only secure tunnel
Each reader dials out over an encrypted WebSocket. No inbound ports, no VPN, no firewall changes at site.

Token enrolment
Issue an enrolment token, power the unit, and it appears in the fleet.

Fleet health
CPU, memory, disk, temperature, reader link, inventory state, tag count and upload queue.

Remote console
Open any unit's own console through the tunnel to configure or diagnose it.

Remote software updates
Push ReaderSense updates to units, with an automatic rollback if a unit fails to come back.



CONNECTS TO YOUR SYSTEMS

- REST API
- HTTP POST
- WebSocket
- MQTT with TLS
- Webhooks
- Modbus RTU
- Relay outputs
- CSV export

Data goes straight to your systems — no Identium account is required.

STATED PLAINLY

- Zone-level presence and dwell
- Direction of travel from RF phase
- Not x, y coordinates across a floor

SPECIFICATIONS

Technical data

RF AND READER	
Reader IC	Impinj E710
Air protocol	EPCglobal Gen2 / ISO/IEC 18000-63
Frequency	865–868 MHz (India); other regional plans configurable
Antenna	Integrated panel array, 12 dBi
RF output	Up to 33 dBm, software-adjustable
Read events	Continuous inventory with RSSI, phase and antenna per read

EDGE CONTROLLER	
Processor	Quad-core 64-bit ARM, up to 2.0 GHz
NPU	1 TOPS for on-device vision
Memory	2 GB LPDDR4X
Storage	32 GB eMMC · microSD slot
OS	Linux, ReaderSense Edge pre-installed

POWER	
PoE	IEEE 802.3af / 802.3at (802.3at recommended)
DC input	9–24 V DC

LICENSING	
Licence	Per unit, bound to the device by a signed key

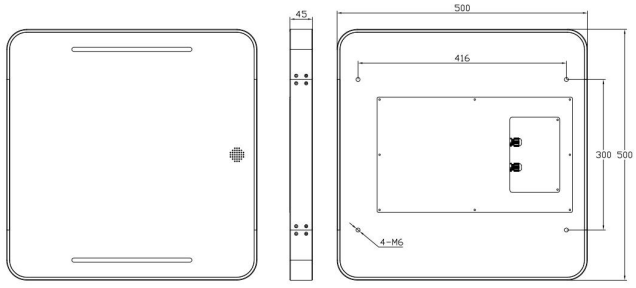
CONNECTIVITY AND I/O	
Ethernet	1 × 10/100/1000 Mbps, RJ45
Wireless	Optional Wi-Fi 5 (2.4 / 5 GHz) or 4G LTE
Serial	RS232 and RS485
Digital I/O	4 opto-isolated inputs; 4 outputs (3 relays)
USB	2 × USB 2.0 host, 1 × USB-C
Camera	USB UVC camera support

SOFTWARE AND INTEGRATION	
On the unit	ReaderSense Edge web console, roles and audit log
Data out	REST API · HTTP POST · WebSocket · MQTT 3.1.1 (TLS) · webhooks · Modbus RTU · CSV export
Buffering	Store and forward on board (HTTP POST / WebSocket)
Fleet	ReaderSense MDM, hosted by Identium

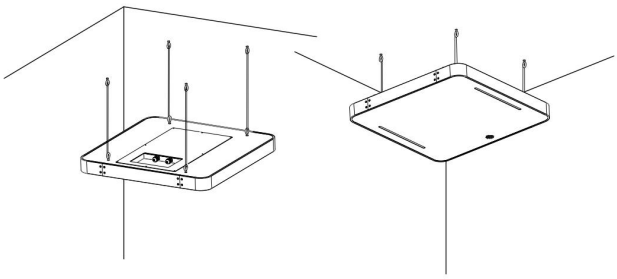
MECHANICAL AND ENVIRONMENT	
Dimensions	500 × 500 × 45 mm
Mounting	Ceiling suspension, or 4 × M6 rear inserts on a 416 × 300 mm pattern
Indicators	Integrated LED light bars
Operating temp.	–25 °C to +65 °C (edge controller)
Humidity	5–95 % RH, non-condensing (edge controller)

MECHANICAL

Dimensions and mounting



Front, side and rear views (mm). Rear: 4 × M6 on 416 × 300.



Suspended on drop rods, or fixed close to the ceiling.

See it on your own ceiling.

Identium can run a site trial with the ID-EA500 and ReaderSense on your goods, at your mounting height — so coverage is measured, not estimated.

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Read range and coverage depend on tag type, mounting height, materials and RF environment. Specifications subject to change without notice.