

RFID Edge Gateway CT - Connectivity Box

- Multi Frequency RFID support
- Mobile Connectivity (LTE)
- Geolocation support
- Secure VPN Access
- Remote monitoring and configuration



RFID Edge Gateway From the read point straight into your backend

Getting RFID data to where it is needed is often the most expensive part of a project: network approvals, on-site servers, middleware and IT coordination. The Connectivity Box turns this into a single step. Connect the reader, insert a SIM card, switch on.

The box takes in every read, filters duplicates, buffers locally and delivers clean JSON packets to your backend API over HTTPS. The connection runs on LTE, with no access to your corporate network required.

If the connection drops, no data is lost. The box keeps storing and forwards everything once the network is back. Autostart, watchdog and heartbeat keep it running without intervention, and every unit stays reachable over VPN for maintenance and status checks.

Developed and assembled by IDCRAFT in Germany, vendor-independent by design: with GateSense gate readers today, and Chainway, ACS and CRAFT Technologies devices in the future.

Common Applications

- Industry 4.0
- Textile services and laundries
- Vehicle Identification
- Remote application monitoring
- Asset Tracking



TECHNICAL SPECIFICATIONS

Physical Characteristics

Computer	Raspberry Pi 5, 8 GB RAM (16 GB optional)
Available Storage	microSD ≥ 64 GB
Operating system	Raspberry Pi OS (Linux, 64-bit)
Middleware	IDCRAFT middleware (Python), 3 systemd services

Connection (Reader)

Supported readers	GateSense UHF gate reader; in preparation: Chainway (UHF RAIN), ACS (HF NFC),
Interface	Ethernet (TCP/IP); USB or RS232 (under development)

Connection (Backend)

Protocol	HTTPS, JSON REST
Authentication	API key (bearer token) + device ID
Heartbeat	Configurable
API adaptation	customer-specific endpoints on request

Data Processing

Deduplication	Configurable time window (factory setting 40 s)
Local storage	SQLite, send status per record
Offline buffer	60 min (configurable), automatic retransmission
Send interval	Batch upload every 10 s (configurable)
Data cleanup	Sent records deleted after 3 days (configurable)

Communication

Cellular	LTE Cat 4 (SIMCom SIM7600G-H, M.2); carrier board prepared for 5G modules
SIM / data plan	Provided by customer, standard data plan
Antenna	External, omnidirectional, 600–6000 MHz
LAN	Gigabit Ethernet (reader segment, static addressing)
WLAN	2.4 / 5 GHz (commissioning and service)
Remote maintenance	Private VPN Network (self hosted or via monthly subscription via IDCRAFT)
Monitoring	Secure status dashboard, reachable via private VPN
Geolocation	GNSS (on request)

Operation

Availability	24/7 continuous operation; autostart, auto-reconnect, LTE watchdog, automatic restart after power loss
Status indication	2 status LEDs (reader, backend)
Controls	restart button; further functions being defined
Power supply	internal 5 V (computer) + 12 V (reader); mains connection being finalised

