

MODEL: UP-LRR

Industrial LoRa Wireless Repeater

Extends LoRa coverage between field devices and the gateway where distance, terrain or building structure breaks the link. Multi-hop cascading and automatic path selection make it suitable for estates, reticulation networks, farms and industrial sites. Supplied on EU868 for South Africa.



KEY FEATURES

Coverage Extension

Extends transmission distance between end devices and the gateway.

Automatic Routing

Selects the best relay path for stability.

BLE 5.0 Setup

Commission on site from a mobile app — no laptop needed.

Transparent Forwarding

Relays the LoRa frame as received — works with multi-brand LoRa devices.

Ultra-Low Power

Sleep current $\leq 10\mu\text{A}$ — suitable for battery or solar sites.

Type-C Port

Local diagnostics and firmware updates.

Multi-hop Cascading

Several repeaters can be chained for wide-area coverage.

Industrial Build

IP65 aluminium housing, wide voltage and surge protection, -40°C to $+85^{\circ}\text{C}$.

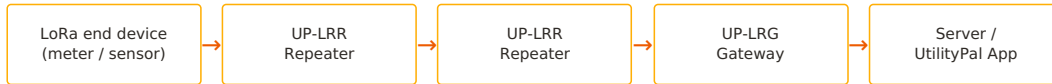
Status LEDs

Power, Sys, Link, LoRa and BLE at a glance.

TECHNICAL SPECIFICATIONS

Operating Frequency	EU868 (863-870 MHz) as supplied for South Africa. 433 / 470 / 915 MHz available to order.
TX Power	Max 22 dBm (software adjustable)
RX Sensitivity	$-137\text{ dBm @ SF12 / BW125 kHz}$
Transmission Range	5 – 15 km line of sight
Relay Logic	Transparent relaying multi-hop cascading
Communication	Transparent transmission / LoRa modulation
Configuration	BLE 5.0 (mobile app) / Type-C (PC tool)
Supply Voltage	DC 9 – 36 V wide input
Power Consumption	Static $\leq 50\text{ mA @12 V}$ Sleep $\leq 10\text{ }\mu\text{A @12 V}$
Mechanical Rating	IP65 waterproof & dustproof, aluminium alloy casing
Operating Temperature	-40°C to $+85^{\circ}\text{C}$ 5 – 95 % RH non-condensing
Dimensions	100 x 110 x 32 mm (excluding antenna)
Weight	Approx. 180 g
Lead Time	8 – 10 days

HOW IT FITS INTO THE NETWORK



The repeater sits between end devices and the gateway and hops the signal onward, extending coverage across basements, plant rooms, dense housing, hills and long linear runs. Repeaters can be cascaded where one hop is not enough.

HARDWARE LAYOUT & INTERFACES



Front: Type-C, Reset, DC power jack

Rear: High-gain LoRa antenna port (SMA)

TYPICAL APPLICATIONS

- Residential estates and body corporates with basement or far-corner meters
- Bulk and sub-metering across large sites
- Water reticulation, reservoirs and pump stations
- Farms and irrigation blocks
- Industrial plants with steel and concrete obstructions
- Pipelines and long linear telemetry runs
- Remote environmental and level monitoring
- Any site where meters sit outside gateway range

ORDERING INFORMATION

UP-LRR	Industrial LoRa Repeater, EU868, IP65, DC 9-36 V, high-gain SMA antenna port.
UP-LRR-XXX	Project-specific frequency or protocol version. Contact UtilityPal.

INSTALLATION NOTES

- Mount the repeater high and clear of metalwork, roughly midway between the weak devices and the gateway.
- Power from any 9-36 V DC supply; the IP65 housing allows outdoor mounting.
- Commission over BLE from a phone — no laptop or site network required.
- One repeater serves many devices; add hops only where a site survey shows a gap.