

Kathrein offers the most comprehensive UHF RFID antenna portfolio. For applications in the read range up to 20 cm, two antenna types are available for such application. The Ultra Low Range Antenna (U-LoRa) and Low Range Antenna (LoRa).

Both antennas feature a high field concentration in the near field with simultaneously extremely minimised antenna gain in the far field. With these properties the antennas achieve outstanding reading and writing results. The special design of these antennas guarantees interference-free operation in multi-reader environments.

The U-LoRa was developed for reading dipole tags (far-field tags) at very short distances but can also read loop tags (near-field tags). The LoRa version is designed for loop tags only, to increase the range for these near-field tags. The range of the antennas is shown in the tag allocation table depending on the tag type.



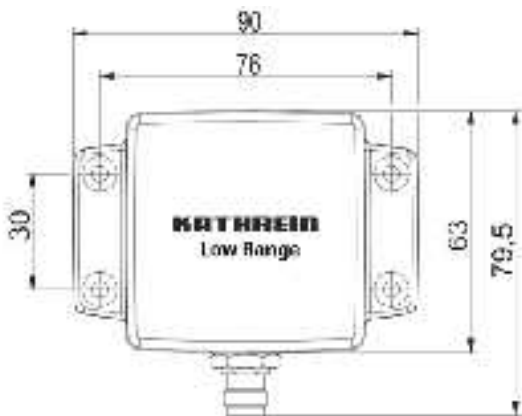
> Features

- Optimised for loop tags (LoRa)
- Optimised for fare field tags (U-LoRa)
- Ideal for near-field applications
- Extremely high selectivity
 - perfect for writing on tags
- Extremely high interference immunity
 - multi-reader applications
- High IP67 degree of protection
- Suitable for outdoor use
- Minimal dimensions
- Available for Europe, US and RoW

> Key Applications

- Logistics
 - for the separation of containers
 - for the alignment of components
- Industrial automation
 - for accurate position detection on conveyor belts
 - for the selective writing on tags
- Pharmaceutical applications
 - for selectively reading small packages

> Dimensions [mm]



> Note

The dimensions for LoRa and U-LoRa antennas are identical.

Risk of material damage!

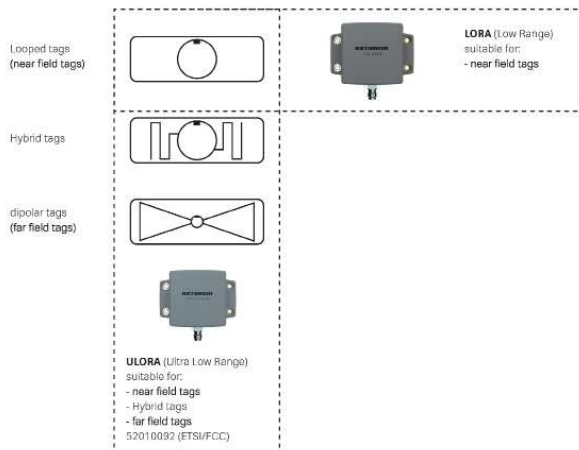
- ▶ Please ensure that the underlying surface is clean, load-bearing and free of conductors.

> General Specifications

Type		ETSI Version LoRa	FCC Version LoRa	ETSI/FCC Version U-LoRa
Suitable for		Loop-tags only	Loop-tags only	Loop tags Dipole tags
Order number		52010084	52010085	52010092
RFID				
Frequency range	[MHz]	865–868	902–928	865–928
Impedance antenna port	[Ohm]	50		
Antenna gain	[dBiC]	-15		-30
Effective Isotropic Field Factor (EIFF)	[dB]	20		15
Range of loop tags *	[cm]	7		3
Selectivity of loop tags *	[cm]	5		3
Range of dipole tags *	[cm]	Not suitable for dipole tags		8
Selectivity of dipole tags *	[cm]	Not suitable for dipole tags		10
Max. input power (at antenna port)	[dB]	+27 (ETSI EN 302 208)	+27 (FCC 15.247)	+30 (ETSI EN 302 208)
Max read range	[cm]	20		
VSWR		typ. 1.3:1	typ. 1.8:1	typ. 1.2:1
Mechanic properties				
Connection	[°C]	TNC female		
Weight	[kg]	0.11		
Degree of protection	[W]	IP67		
Operating temperature range	[°C]	-20 to +55		
Storage temperature range	[°C]	-40 to +85		
Dimensions (L x W x H)	[mm]	79.5 x 90 x 31		
Packing size (L x W x H)	[mm]	165 x 250 x 50		
Housing material		weather-resistant polymer blend, colour: RAL7045		

* dependant upon transmission power and tag type

> Tag Allocation Table



Low Range (LoRa) Antenna suitable for
- Near field tags
- Loop tags

Ultra Low Range (ULoRa) Antenna suitable for
- Far field tags
- Hybrid tags
- Dipole tags