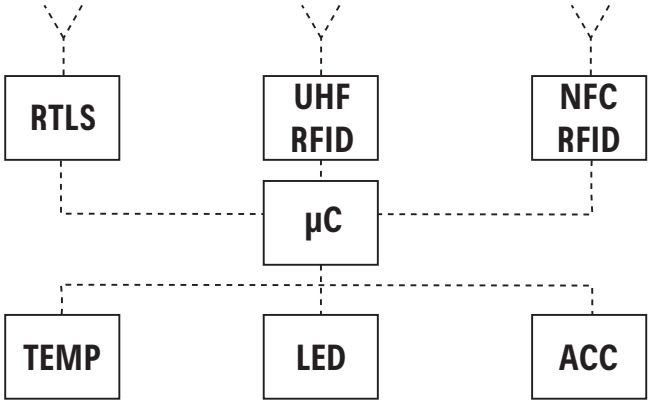
The new Kathrein RTLS-T-1000 transponder series set a new IoT standard based on the real-time location and tracking solution. The unique combination of UWB with RAIN RFID and NFC technology in a robust IP67 housing allow an easy and seamless integration into an existing RFID infrastructure. The RFID UHF tag is used for mid-range detection, while the RFID NFC tag is used for near-field detection and smartphone communication.
Based on the latest generation of wireless technology, the RTLS-T-1000 series provide a localisation precision of up to 10cm. Due to the fact that the transponder is fully integrated into the powerful Kathrein CrossTalk IoT platform, it is possible to achieve the next level of industrial revolution.

Quality made in Germany

Features

- High-precision UWB location: up to 10cm
- RFID UHF tag, SPI integrated
- RFID NFC tag, I²C integrated
- 3 sensors: 3D acceleration, temperature, vibration
- Multi-colour LED
- Adaptor for permanent and temporary mounting
- Battery life: up to 5 years
- Battery exchangeable (not included in the scope of delivery)
- IP67

Schematic Diagram



Key Applications

- Logistics
- Industrial Automation
- Vehicle Identification
- Container Tracking
- Healthcare

Scope of Delivery

- Transponder
- RTLS-T-MPC mount, load carrier

Accessories, optional

- RTLS-T-MPC mount, load carrier (order no. 53010003)
- Customer-specific adapter plates are available on request
- RTLS-T-BAT, battery (order no. 53010007)

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936B288/a/1219 | Subject to change.

General Specifications

Type		RTLS-T-1000-67
Order number		**53010002**
UWB RTLS		
Frequency range Channel 1 Channel 2 Channel 3 Channel 4 Channel 5 Channel 7	[MHz]	3244–6999 3493.4 MHz (BW:500 MHz) 3993.6 MHz (BW:500 MHz) 4492.8 MHz (BW:500 MHz) 3993.6 MHz (BW:900 MHz) 6489.6 MHz (BW:500 MHz) 6489.6 MHz (BW:900 MHz)
Antenna port output power	[dBm]	–41.3/MHz
RX input sensitivity	[dBm]	–93 to –106/500MHz (1% packet error rate)
Coverage		approx. 80 metres in the line of sight
Standards		IEEE 802.15.4 UWB, EN301489-3, EN50364, EN62368-1, EN60529
UHF RFID		
Frequency range	[MHz]	860–960
Max. antenna port input power	[dBm]	20
Input sensitivity battery-maintained passive reading passive writing	[dBm]	 –17 to –31 –8.3 –7
Connection		SPI
Standards		ISO 18000-63 (Gen2) & 18000-64 (TOTAL)
NFC RFID		
Frequency range	[MHz]	13.56
Connection		I^2C
Standards		ISO/IEC 14443, Part 2 and Part 3
Sensors		
Accelerometer orientation		3 axes
Accelerometer measuring rate	[Hz]	1–5.376
Accelerometer and vibration sensor measuring range		16mg–16g
Temperature sensor, operating temperature range	[°C]	–40 to +60
Processor		
Processor		ARM Cortex M3 32 MHz
Battery		
Name		CR123A (EIC-CR17345), exchangeable
Battery capacity	[Ah]	1.5
Nominal voltage	[V]	3
Typ. battery life (incl. marginal conditions)		up to 5 years+*
LED visualisation		
Status indication		1 multi-colour LED
Mechanical properties		
Weight	[g]	108
Degree of protection		IP67
Operating temperature range	[°C]	–40 to +60
Storage temperature range	[°C]	–40 to +85
Dimensions (L x W x H)	[mm]	92 x 54 x 30

* depending on the update rate, the location precision and the duration of use

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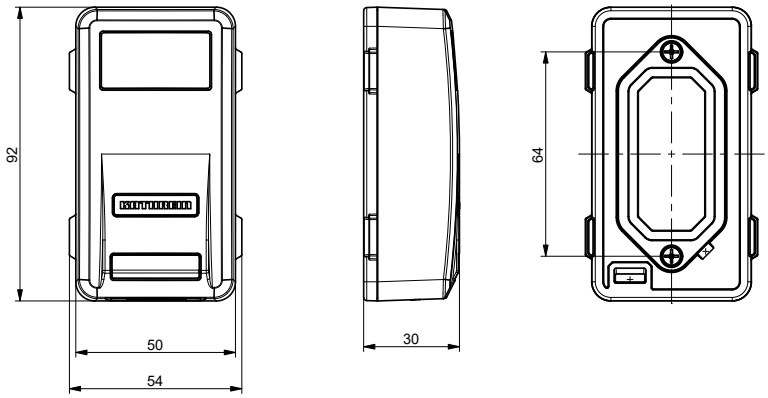
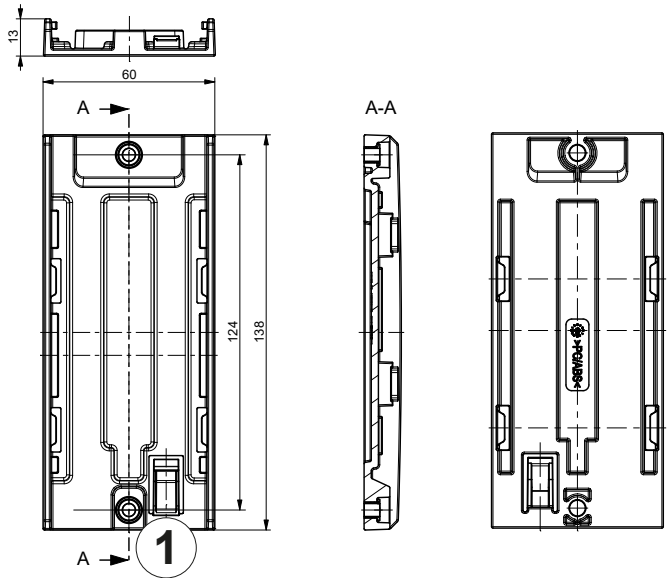
Dimensions [mm]

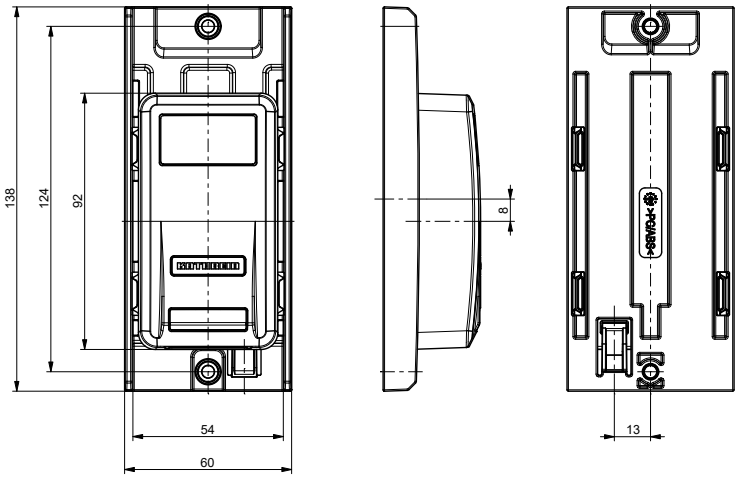
RTLS-T-1000



RTLS-T-MPC mount, load carrier



RTLS-T-1000 with the load carrier, as delivered



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Mounting and Dismounting the Transponder

Mounting the Transponder

► Slide the transponder into the load carrier until you hear a clicking sound.
⇨ The transponder locks in place.

Dismounting the Transponder

► Press the adapter tab (① in *RTLS-T-MPC mount, load carrier*) using a suitable tool.
⇨ The transponder can be now released from the load carrier.

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