

The Kathrein RRU 1000 series is a basic RAIN RFID reader for indoor applications in logistics, manufacturing, supply chain and access control.

Its best in class 30-dBm UHF RF unit and connectivity interface PoE and the basic level processing unit allow for a flexible integration into Industry 4.0 and IoT solutions.

Based on the latest RFID standards, such as EPC Gen2v2/ISO 18000-63 and EN 18031-1:2025, the Kathrein RRU 1000 series supports all market leading transponder chip features. The ETSI version of the Kathrein RRU 1400 supports both the ETSI lower band at 865 - 868 MHz and the ETSI upper band at 915 - 921 MHz.



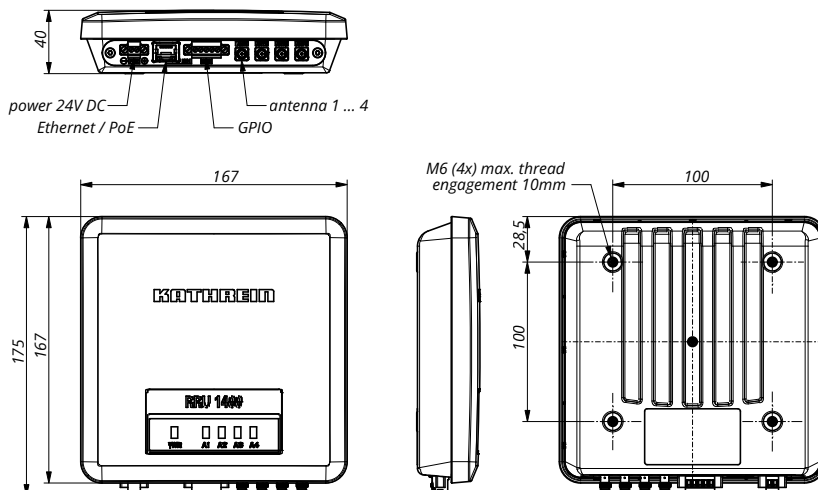
## > Features

- RAIN RFID reader with embedded computing module
- Easy to install due to open connectors and FAKRA antenna sockets
- Universally applicable with software defined radio for ETSI lower band and ETSI upper band
- 4 antenna ports
- SMA antenna connector 52010719 ETSI | 52010720 FCC
- +30 dBm port power
- @KRAI antenna support
- GPIO: 2 inputs, 2 outputs
- PoE
- Basic LED visualisation
- IP40 indoor use
- Type approval for Europe, US and RoW

## > Key Applications

- Manufacturing and Automotive
- Logistics
- Track & Trace
- eKanBan
- Healthcare

## > Dimensions [mm]



## > Note

### Risk of material damage!

- ▶ Make sure that the depth at which the screws are put into the housing of the reader does not exceed 10 mm (the tightening torque is 5 Nm).

## > General Specifications

Type		ETSI Version RRU 1400	FCC Version RRU 1400
Order number		52010719	52010720
<b>RFID</b>			
Frequency range	[MHz]	865–868 (ETSI lower band) 915–921 (ETSI upper band) <sup>1)</sup>	902–928
Impedance antenna port	[Ohm]	50	
Max. TX power conducted	[dBm]	30	30
Max. TX power radiated	[dBm e.r.p.] <sup>1)</sup> [dBm EIRP]	33 / 36 <sup>1)</sup>	36
RX sensitivity	[dBm]	typ. –80	
Number of antenna ports		4, SMA connector	
Standards		GS1 EPC Gen2V2, GS1 EPC Gen2V3, UCODE DNA, EN 29167-10, ISO 18000-63	
		EN302208-2 V2.1.1, EN301489-3, EN50364, EN62368-1, EN60529	FCC Part15, UL, IC
<b>Voltage</b>			
Local supply	[VDC]	+10 to +30	
Connector		printed circuit-board connector, 2-pole, screw connection with tension sleeve	
Remote feed	[VDC]	PoE class 0 according to 802.3af (10–57)	
Connector		RJ45, 8-pole	
<b>Power consumption</b>			
Local supply	[W]	10.5	
Remote feed	[W]	9 – PoE class 0 (12,96 W)	
<b>Ethernet</b>			
Number of Ethernet ports		1	
Data rate	[Mbit/s]	10/100	
Connector		RJ45, 8-pole	
<b>©KRAI</b>			
TX frequency	[kHz]	22	
Supply voltage (output)	[V]	5	
Max. current per port	[mA]	100	
<b>LED visualization</b>			
Freely programmable		Basic LED	

<sup>1)</sup> Transmitting method according to EU 2018 / 1538. Please follow the national guidelines in Europe.

## > General Specifications

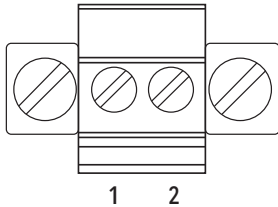
Type	ETSI Version RRU 1400	FCC Version RRU 1400
Order number	52010719	52010720
<b>GPIO</b>		
Type		2 inputs, 2 outputs
Max. input voltage	[V]	30
Max. output voltage	[V]	30
Max. current per output port, open drain	[mA]	190
Connector		printed circuit-board connector, 5-pole, screw connection with tension sleeve
<b>RFID controller</b>		
Processor		ARMv7-A based processor with 600 MHz
Flash memory eMMC	[Gbyte]	4
RAM DDR2	[Mbyte]	256
Operating system		Linux
<b>Mechanical properties</b>		
Weight	[kg]	0.72
Degree of protection		IP40
Operating temperature range	[°C]	-20 to +55
Storage temperature range	[°C]	-40 to +85
Dimensions (L x W x H)	[mm]	167 x 167 x 40

## > Accessories (optional)

Order number	Type	Description
52010451	R-AC 1 SMA-FAKRA	RFID antenna cable L=1 m, IP40, FAKRA Z-coded to SMA (m); right angle antenna plug
52010452	R-AC 3 SMA-FAKRA	RFID antenna cable L=3 m, IP40, FAKRA Z-coded to SMA (m); right angle antenna plug
52010453	R-AC 5 SMA-FAKRA	RFID antenna cable L=5 m, IP40, FAKRA Z-coded to SMA (m); right angle antenna plug
52010727	R-AC 0.5 SMA-SMA	RFID antenna cable L=0.5 m, IP40, SMA to SMA;
52010728	R-AC 1 SMA-SMA	RFID antenna cable L=1 m, IP40, SMA to SMA;
52010729	R-AC 3 SMA-SMA	RFID antenna cable L=3 m, IP40, SMA to SMA;
52010730	R-AC 5 SMA-SMA	RFID antenna cable L=5 m, IP40, SMA to SMA;
52010738	R-AC 1 TNC-SMA	RFID antenna cable L=1 m, IP40, TNC to SMA;
52010739	R-AC 3 TNC-SMA	RFID antenna cable L=3 m, IP40, TNC to SMA;
52010740	R-AC 5 TNC-SMA	RFID antenna cable L=5 m, IP40, TNC to SMA;
52010474	R-RPA 24VDC-18W	AC/DC adapter 24V/18 W AC 110-230 V-plug
52010351		Wall mount kit outdoor
52010736		Wall mount kit indoor

## > Power Supply

Printed circuit board connector 2-pole,  
 screw connection with tension sleeve

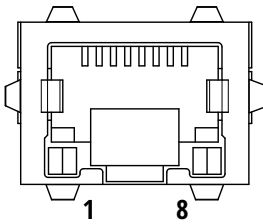


Pinout Power Supply

Pin	Allocation
1	GND
2	+24 V DC

## > Ethernet

RJ45, 8-pole

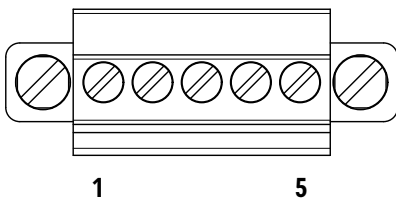


Pinout communication PoE

Pin	Data	PoE
1	TX+	PoE Mode A
2	TX-	PoE Mode A
3	RX+	PoE Mode A
4		PoE Mode B
5		PoE Mode B
6	RX-	PoE Mode A
7		PoE Mode B
8		PoE Mode B

## > GPIO

Printed circuit board connector, 5-pole,  
 screw connection with tension sleeve



Pinout general purpose input output

Pin	Allocation
1	GND OUT_CMN
2	INPUT_1
3	INPUT_2
4	OUTPUT_1 (open drain)
5	OUTPUT_2 (open drain)