KATHREIN

The Kathrein RRU 4000 reader family is the next generation of RAIN RFID reader and the leading IoT device for all professional AutoID solutions.

Its high-performance 33 dBm UHF RF unit, optional connectivity modules like PoE+, Wi-Fi, 3G mobile interface and the powerful scalable processing unit will change the way how identification works.

Base on the latest RFID standards like EPC Gen2v2 / ISO 18000-63 Kathrein RRU 4000 series supporting all market leading transponder chip features for security, authentification and encoding.

Quality made in Germany

RAIN RFID

RRU 4000 Reader Overview

Features

Type	RRU 4400	RRU 4500	RRU 4560	RRU 4570
ETSI Order No.	**52010287**	**52010288**	**52010289**	**52010290**
FCC Order No.	**52010295**	**52010296**	**52010297**	**52010298**
Basic computing module	✓	✓	✓	✓
Dual core embedded PC		✓	✓	✓
Number of ethernet ports	1	2	2	2
GPIO	✓	✓	✓	✓
©KRAI	✓	✓	✓	✓
PoE+	✓	✓	✓	✓
LED visulatization	✓	✓	✓	✓
Wi-Fi			✓	
Bluetooth			✓	
2G/3G				✓

Remarks

Accessories optional

- RRU/ARU Connecting Cable DC 10 m or 3 m (Order No. 52010358 or 52010359)
- RRU/ARU Connecting Cable Ethernet 10 m or 3 m (Order No. 52010360 or 52010361)
- RRU/ARU Connecting Cable GPIO 10 m or 3 m (Order No. 52010362 or 52010363)
- RRU/ARU Conneting Cable Ethernet Bridge (Order No. 52010373)
- RRU/ARU AC/DC Adapter 90 W or 30 W or 90 W (Order No. 52010364 or 52010365 or 52010366)
- RRU/ARU Power Supply PoE+ Ethernet Switch (Order No. 52010369)
- RRU/ARU Power Supply PoE+ Injector 30W, 100Mbit (Order No. 52010370)
- Wall/Poll Mount Kit (Order No. 52010351)
- Wall Mount Kit for RRU/ARU, WIRA 70 (Order No. 52010261)
- Vandalism Protective Cover (Order No. 52010367)
- RRU/ARU Protective Caps (Order No. 52010376)

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General specifications

RFID UHF Reader Overview		ETSI Version		FCC Version	
		RRU 44xx	RRU 45xx	RRU 44xx	RRU 45xx
RFID					
Frequency range	[MHz]	865-868		902-928	
Impedance antennaport	[Ohm]	50			
max.TX power conducted	[dBm]	30	33	30	30 (33 dBm with extended cable length)
max. TX power radiated	[ERP (ETSI)/ EIRP (FCC)]	30	33	36	
RX sensitivity	[dBm]	typ. -80			
Number of antenna ports	[R-TNC]	4			
Voltage					
In situ	[VDC]	+10 to +30			
Connector		M12, A-coded, 4-pole			
Remote-fed	[VDC]	PoE+ according to 802.3at (10-57) (internal supply of GPIO-VCC-Pin not possible with PoE+)			
Connector		M12, X-coded, 8-pole, port 1 only			
Power consumption					
In situ	[W]	11	25.4	11	25.4
Remote-fed	[W]	12	25.4	12	25.4
GPIO					
Max. input voltage	[V]	30			
Max. output voltage	[V]	30			
Max. current per output port	[mA]	500			
Max. current over all outputs	[mA]	1500			
Connector		M12, A-coded, 12-pole			
RFID controller					
Processor		ARMv7-A based processor with 600MHz			
Flash memory eMMC	[Gbyte]	4			
RAM DDR2	[Mbyte]	128			
Operating system		Linux			
Weight	[kg]	4.00		4.00	
Degree of protection		IP67			
Operating temperature range	[°C]	-20 to +55			
Storage temperature range	[°C]	-40 to +85			
Dimensions (L x W x H)	[mm]	300 x 300 x 71			
Standards		EN302208-2 V2.1.1, EN301489-3, EN50364, EN62368-1, EN60529, EPC Gen2 V2, UCODE DNA		FCC Part15, UL, IC, EPC Gen2 V2, UCODE DNA	

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> Optionale specifications

RFID UHF Reader Overview		ETSI Version				FCC Version			
		RRU 4400	RRU 4500	RRU 4560	RRU 4570	RRU 4400	RRU 4500	RRU 4560	RRU 4570
Order No.		52010287	52010288	52020289	52010290	52010295	52010296	52010297	52010298
Embedded PC									
Processor	ARMv7-A based processor, 2 cores @ 800MHz								
Flash memory (eMMC)	8 [Gbyte]			✔				✔	
RAM DDR3	1 [Gbyte]								
Operating system	Linux								
Ethernet									
Number of ethernet ports		1	2			1	2		
Datarate	10/100 [Mbit/s]			✔				✔	
Connetor		M12, X-coded, 8-pole							
©KRAI									
TX frequency	22 [kHz]								
Supply voltage (output)	5 [V]			✔				✔	
Max. current per port	100 [mA]								
4 LED visualization									
freely programmable		Basic LED	Hig-end LED			Basic LED	Hig-end LED		
Wi-Fi									
Supported standards	a, b, g, n								
2.4GHz Band	2.412 - 2.484 [GHz]								
Max. TX power (dependent on country)	max 17.3 [dBm]			✔				✔	
5GHz Band	4.910 - 5.825 [GHz]								
Max. TX power (dependent on country)	max. 18 [dBm]								
Max. channel bandwith	max. 40 [MHz]								
Bluetooth									
Frequency range	2.402 - 2.480 [GHz]								
Max. TX power	11.7 [dBm]			✔				✔	
2G/3G									
Frequency range GSM/ GPRS/ EDGE	850/ 900/ 1800/ 1900 [MHz]								
Frequency range UMTS/ HSPA	800/ 850/ 900/ 1900/ 2100 [MHz]				✔				✔
Max.TX power (dependent of class and modulation)	33 [dBm]								

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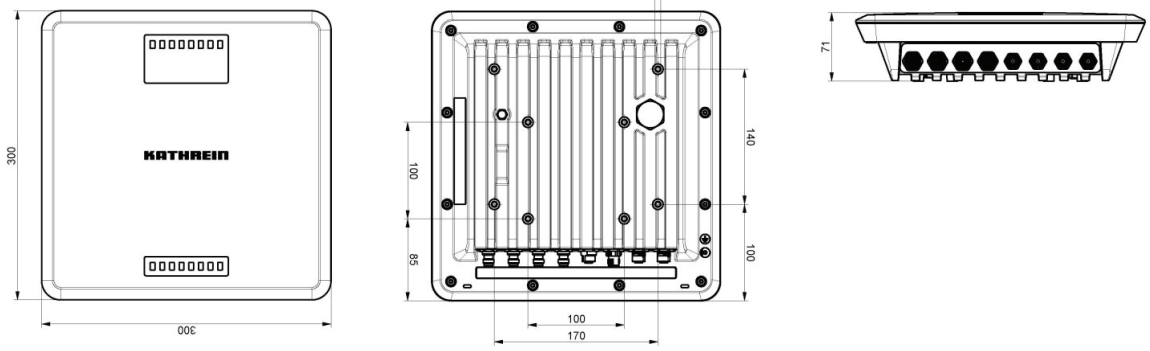
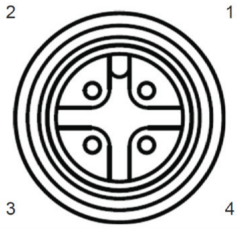
Dimensions [mm]



Power supply

M12, A-coded, 4 pin, male

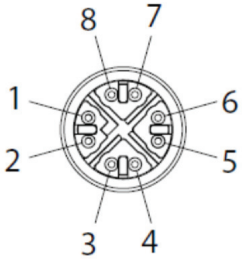


Pinout power supply

Pin	Allocation
1	+24 V DC
2	GND
3	GND
4	+24 V DC

Ethernet

M12, X-coded, 8 pin, female



Pinout communication PoE+

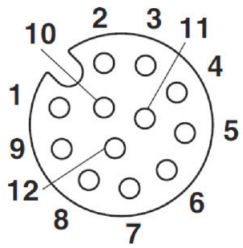
Pin	Allocation
1	TX+ / PoE+1
2	TX- / PoE+1
3	RX+ / PoE+2
4	RX- / PoE+2
5	PoE+1
6	PoE+1
7	PoE+2
8	PoE+2

Pinout communication LAN

Pin	Allocation
1	TX+
2	TX-
3	RX+
4	RX-
5	
6	
7	
8	

GPIO

M12, A-coded, 12 pin, female



Pinout general purpose input output:

Pin	Allocation
1	OUT_CMN
2	OUTPUT_0
3	INPUT_2
4	INPUT_CMN
5	INPUT_0
6	GND
7	UB
8	OUTPUT_3
9	OUTPUT_2
10	OUTPUT_1
11	INPUT_1
12	INPUT_3

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