The Kathrein ARU 3500 antenna reader is the next generation of RAIN RFID readers with an integrated 65° wide-range antenna. It is the first choice for professional IoT solutions, such as industrial automation and vehicle identification in ruggedised environments.

Its best-in-class 33 dBm UHF RF unit, optimal connectivity via PoE+ and a second Ethernet port, as well as the powerful, scalable processing unit that changes the way identification works.

Based on the latest RFID standards, such as EPC Gen2v2 / ISO/IEC 18000-63:2021 Type C / ISO/IEC 18000-64:2012 Type D, Kathrein ARU 3500 antenna reader supports all market-leading transponder chip features for security, authentication and encoding.

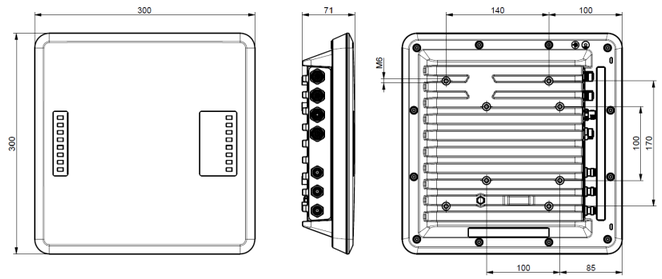
Features

- Ruggedised high-end RAIN RFID reader with an integrated antenna
- Powerful IoT gateway
- Enhanced RF design
- Integrated high secure memory module
- 3 antenna ports
- +33 dBm port power
- GPIO
- PoE+
- Basic computing module
- Embedded dual-core 800 MHz PC
- Open source Linux OS
- Advanced LED visualisation
- IP67 outdoor use*
- type approval for Europe, US and RoW

Key Applications

- Manufacturing and Automotive
- Logistics
- Intelligent Transportation Systems

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).

KATHREIN Solutions GmbH, Kronstaudener Weg 1, 83071 Stephanskirchen, Germany
Phone +49 8036 90831-20 | Fax +49 8036 90831-69 | www.kathrein-solutions.com | info@kathrein-solutions.com

General Specifications

Type		ETSI Version ARU 3500	FCC Version ARU 3500
Order number		**52010292**	**52010300**
RFID			
Frequency range	[MHz]	865–868	902–928
Impedance antenna port	[Ohm]	50	
Max. TX power conducted	[dBm]	33	30 (33 dBm with extended cable length)
Max. TX power radiated	[dBm ERP] [dBm EIRP]	33	36
RX sensitivity	[dBm]	typ. –80	
Number of antenna ports	[R-TNC]	3	
Standards		EN302208-2 V2.1.1, EN301489-3, EN50364, EN62368-1, EN60529, EPC Gen2 V2, UCODE DNA, ISO/IEC 18000-63:2021 Type C, ISO/IEC 18000-64:2012 Type D	FCC Part15, UL, IC, EPC Gen2 V2, UCODE DNA, ISO/IEC 18000-63:2021 Type C, ISO/IEC 18000-64:2012 Type D
Antenna			
Half-power beam width	[°]	65	
Gain, linear	[dBi]	–	
Gain, circular	[dBiC]	8.5	
Voltage			
Local supply	[VDC]	+10 to +30	
Connector		M12, A-coded, 4-pole	
Remote feed	[VDC]	PoE+ according to 802.3at (35–57) ▸ Make sure that the router/switch supports 30 W in the static mode. ▸ Use the cable the length of which does not exceed 100 m. ▸ Make sure to use a Cat 6 cable or a higher level cable. ▸ Note that the internal supply of GPIO-VCC-pin is not possible with PoE+.	
Connector		M12, X-coded, 8-pole, port 1 only	
Power consumption			
Local supply	[W]	25.4	
Remote feed	[W]	25.4	
Embedded PC			
Processor		ARMv7-A based processor, 2 cores @ 800 MHz	
Flash memory (eMMC)	[Gbyte]	8	
RAM DDR3	[Gbyte]	1	
Operating system		Linux	
Ethernet			
Number of Ethernet ports		2	
Data rate	[Mbit/s]	10/100	
Connector		M12, X-coded, 8-pole	
LED visualisation			
Freely programmable		12	
Fixed		1 (power LED)	

* if all connections are made with a Kathrein cable or have Kathrein protective caps

936B137/G/0719 | Subject to change.

KATHREIN Solutions GmbH, Kronstaudener Weg 1, 83071 Stephanskirchen, Germany
Phone +49 8036 90831-20 | Fax +49 8036 90831-69 | www.kathrein-solutions.com | info@kathrein-solutions.com

General Specifications

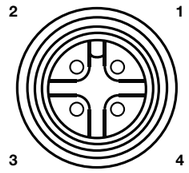
Type		ETSI Version ARU3500	FCC Version ARU3500
Order number		**52010292**	**52010300**
GPIO			
Type		3 inputs, 3 outputs (double insulation possible)	
Max. input voltage	[V]	30	
Max. output voltage	[V]	30	
Max. current per output port	[mA]	500	
Max. current over all outputs	[mA]	1500	
Connector		M12, A-coded, 12-pole	
RFID controller			
Processor		ARMv7-A based processor with 600 MHz	
Flash memory eMMC	[Gbyte]	4	
RAM DDR2	[Mbyte]	128	
Operating system		Linux	
Mechanical properties			
Weight	[kg]	4.26	
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	

* if all connections are made with a Kathrein cable or have Kathrein protective caps

KATHREIN Solutions GmbH, Kronstaudener Weg 1, 83071 Stephanskirchen, Germany
Phone +49 8036 90831-20 | Fax +49 8036 90831-69 | www.kathrein-solutions.com | info@kathrein-solutions.com

Power Supply

M12, A-coded, 4-pin, male

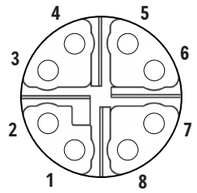


Pinout Power Supply

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

Ethernet

M12, X-coded, 8-pin, female

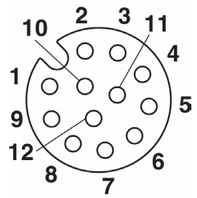


Pinout communication PoE+

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

GPIO

M12, A-coded, 12-pin, female



Pinout general purpose input output

Pin	Allocation	Pin	Allocation
1	OUT_CMN	**7**	UB
2	OUTPUT_1	**8**	OUTPUT_4
3	INPUT_3	**9**	OUTPUT_3
4	INPUT_CMN	**10**	OUTPUT_2
5	INPUT_1	**11**	INPUT_2
6	GND	**12**	INPUT_4

KATHREIN Solutions GmbH, Kronstaudener Weg 1, 83071 Stephanskirchen, Germany
Phone +49 8036 90831-20 | Fax +49 8036 90831-69 | www.kathrein-solutions.com | info@kathrein-solutions.com