

The Kathrein ARU 2000 reader family is a basic RAIN RFID reader with an integrated 60° Wide Range antenna for indoor applications in logistics, manufacturing and supply chain.

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, Kathrein ARU 2000 series supports all market leading transponder chip features. The ARU 2401 is the version for countries where FCC rules apply.



> Features

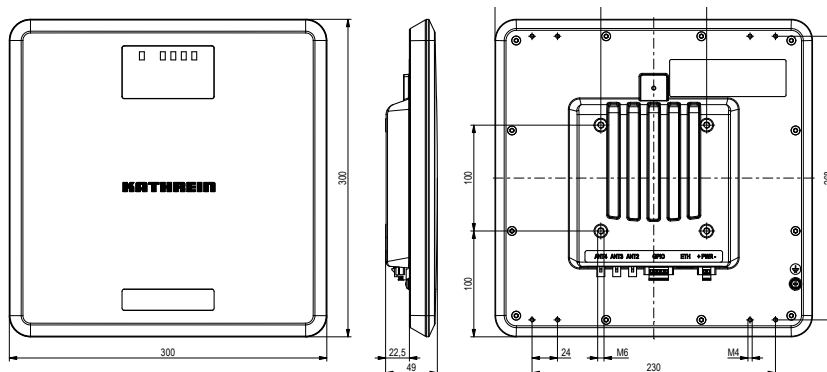
- RAIN RFID reader with embedded computing module
- Easy to install due to open connectors and FAKRA antenna sockets
- Ready for shelf mounting with ITEM
- 60° antenna integrated
- 3 antenna ports
- SMA antenna connector 52010721 ETSI | 52010722 FCC
- FAKRA antenna connector 52010348 ETSI | 52010664 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 ARU 2400		FCC Version ARU 2401	
Order number		52010721 SMA 52010348 FAKRA		52010722 SMA 52010664 FAKRA	
RFID					
Frequency range	[MHz]	865–868 (865–867 for India)		902–928	
Impedance antenna port	[Ohm]	50			
Max. TX power conducted	[dBm]	30		30	
Max. TX power radiated	[ERP (ETSI)/ EIRP (FCC)]	30.25		32.5	
RX sensitivity	[dBm]	typ. –70			
Number of antenna ports		3, Fakra connector, Z-coded			
Standards		EN 302208-2 V2.1.1, EN 18031-1:2025		FCC Part15, UL, EN 18031-1:2025	
Antenna					
Half-power beam width	[°]	60			
Gain, circular	[dBiC]	typ. 5.5			
Voltage					
Local supply	[VDC]	+10 to +30			
Connector		printed circuit-board connector, 2-pole, screw connection with tension sleeve			
Remote-fed	[VDC]	PoE Class 0 according to 802.3at (10–57)			
Connector		RJ45, 8-pole			
Power consumption					
Local supply	[W]	5.7			
Remote-fed	[W]	6.7 – PoE Class 0 (10,5 W)			
Ethernet					
Number of Ethernet ports		1			
Data rate	[Mbit/s]	10/100			
Connetor		RJ45, 8-pole			
©KRAI					
Supply voltage (output)	[V]	5			
Max. current per port	[mA]	100			
LED visualisation					
Freely programmable		Basic LED			

> General Specifications

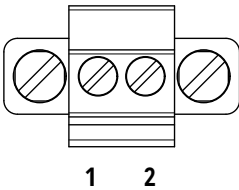
Type		ETSI Version ARU 2400	FCC Version ARU 2401
Order number		52010721 SMA 52010348 FAKRA	52010722 SMA 52010664 FAKRA
GPIO			
Type		2 inputs, 2 outputs	
Max. input voltage	[V]	30	
Max. output voltage	[V]	30	
Max. current per output port, open drain	[mA]	190	
Connector		printed circuit-board connector, 5-pole, screw connection with tension sleeve	
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]	1.86	
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]	300 x 300 x 49	

> 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
52010461	R-AC 1 TNC-FAKRA	RFID antenna cable L=1 m, IP40, FAKRA Z-coded to TNC (m); right angle antenna plug
52010462	R-AC 3 TNC-FAKRA	RFID antenna cable L=3 m, IP40, FAKRA Z-coded to TNC (m); right angle antenna plug
52010463	R-AC 5 TNC-FAKRA	RFID antenna cable L=5 m, IP40, FAKRA Z-coded to TNC (m); right angle antenna plug
52010474	R-RPA 24VDC-18W	AC/DC adapter 24V/18 W AC 110-230 V-plug
52010485	R-AC 0.5 FAKRA-FAKRA	RFID-antenna-cable, L=0.5 m, IP40, FAKRA Z-coded to FAKRA Z-coded
52010486	R-AC 1 FAKRA-FAKRA	RFID-antenna-cable, L=1 m, IP40, FAKRA Z-coded to FAKRA Z-coded
52010487	R-AC 3 FAKRA-FAKRA	RFID-antenna-cable, L=3 m, IP40, FAKRA Z-coded to FAKRA Z-coded
52010488	R-AC 5 FAKRA-FAKRA	RFID-antenna-cable, L=5 m, IP40, FAKRA Z-coded to FAKRA Z-coded

> Power Supply

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

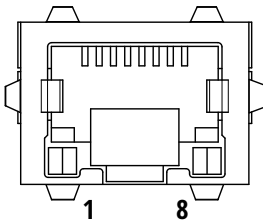


Pinout Power Supply

Pin	Allocation
1	GND
2	+24 V DC

> Ethernet

RJ45, 8-pole

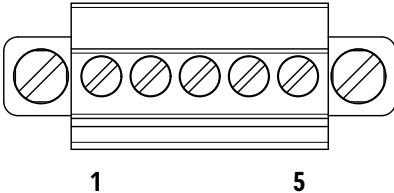


Pinout communication PoE

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)