

The Kathrein RRU 4570 reader is the next generation of RAIN RFID readers and the leading IoT device for all professional AutoID solutions. It is the first choice for professional AutoID solutions, such as industrial automation and vehicle identification in ruggedised environments.

Its best-in-class 33-dBm UHF RF unit, embedded 4G mobile interface and the powerful scalable processing unit change the way identification works.

Based on the latest RFID standards, such as EPC Gen2v2/ISO 18000-63, Kathrein RRU 4570 reader supports all market leading transponder chip features for security, authentication and encoding.



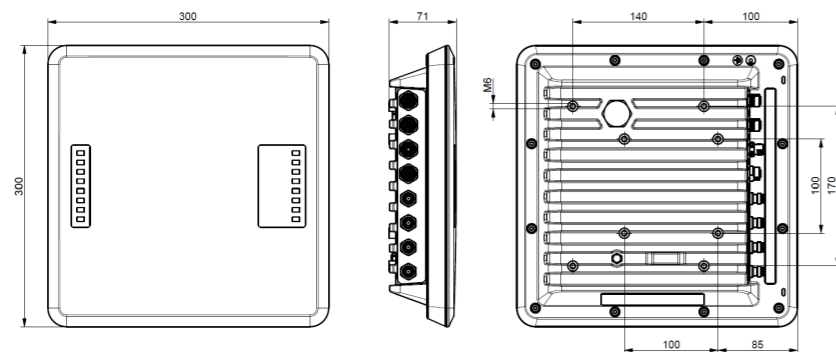
## Features

- ruggedised high-end RAIN RFID reader
- powerful IoT gateway
- enhanced RF design
- integrated high secure memory module
- 4 antenna ports
- +33 dBm port power
- @KRAI antenna support
- GPIO
- PoE+
- 2G/3G/4G wireless interface
- basic computing module
- embedded dual-core 800 MHz PC
- open source Linux OS
- advanced LED visualisation
- IP67 outdoor use\*
- type approval for Europe

## Key Applications

- Manufacturing and Automotive
- Logistics
- Track & Trace
- Intelligent Transportation Systems
- 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<br>RRU 4570   | FCC Version<br>RRU 4570                       |
|--------------------------|-------------------------|--|---|
| Order number             |                         | 52010290   | 52010298                                      |
| <b>RFID</b>              |                         |  |   |
| 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]<br>[dBm EIRP] | 33   | 36  |
| RX sensitivity           | [dBm]                   | typ. –80   |   |
| Number of antenna ports  | [R-TNC]                 | 4  |   |
| Standards                |                         | EN302208-2 V2.1.1, EN301489-3,<br>EN50364, EN62368-1, EN60529,<br>EPC Gen2 V2, UCODE DNA   | FCC Part15, UL, IC, EPC Gen2 V2,<br>UCODE DNA |
| <b>Voltage</b>           |                         |  |   |
| Local supply             | [VDC]                   | +10 to +30   |   |
| Connector                |                         | M12, A-coded, 4-pole   |   |
| Remote feed              | [VDC]                   | PoE+ according to 802.3at (35–57)<br><ul style="list-style-type: none"> <li>▶ Make sure that the router/switch supports 30 W in the static mode.</li> <li>▶ Use the cable the length of which does not exceed 100 m.</li> <li>▶ Make sure to use a Cat 6 cable or a higher level cable.</li> <li>▶ Note that the internal supply of GPIO-VCC-pin is not possible with PoE+.</li> </ul> |   |
| Connector                |                         | M12, X-coded, 8-pole, port 1 only  |   |
| <b>Power consumption</b> |                         |  |   |
| Local supply             | [W]                     | 25.4   |   |
| Remote feed              | [W]                     | 25.4   |   |
| <b>Embedded PC</b>       |                         |  |   |
| Processor                |                         | ARMv7-A based processor, 2 cores @ 800 MHz   |   |
| Flash memory (eMMC)      | [Gbyte]                 | 8  |   |
| RAM DDR3                 | [Gbyte]                 | 1  |   |
| Operating system         |                         | Linux  |   |
| <b>Ethernet</b>          |                         |  |   |
| Number of Ethernet ports |                         | 2  |   |
| Datarate                 | [Mbit/s]                | 10/100   |   |
| Connector                |                         | M12, X-coded, 8-pole   |   |
| <b>©KRAI</b>             |                         |  |   |
| TX Frequency             | [kHz]                   | 22   |   |
| Supply voltage (output)  | [V]                     | 5  |   |
| Max. current per port    | [mA]                    | 100  |   |
| <b>LED visualisation</b> |                         |  |   |
| Freely programmable      |                         | 12   |   |
| Fixed                    |                         | 1 (power LED)  |   |

**> General Specifications**

| Type  | ETSI Version<br>RRU 4570 | FCC Version<br>RRU 4570              |
|---|--------------------------|--------------------------------------|
| Order number                                      | 52010290                 | 52010298                             |
| <b>2G/3G/4G</b>                                   |                          |                                      |
| Frequency range GSM/GPRS/EDGE                     | [MHz]                    | 900/1800                             |
| Frequency range UMTS/HSPA                         | [MHz]                    | 800/1800/2100                        |
| Frequency range 4G                                | [MHz]                    | 800/900/1800/2100/2600               |
| Max. TX power (dependent on class and modulation) | [dBm]                    | 33                                   |
| <b>GPIO</b>                                       |                          |                                      |
| 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                |
| <b>RFID controller</b>                            |                          |                                      |
| Processor   |                          | ARMv7-A based processor with 600 MHz |
| Flash memory eMMC                                 | [Gbyte]                  | 4                                    |
| RAM DDR2  | [Mbyte]                  | 128                                  |
| Operating system                                  |                          | Linux                                |
| <b>Mechanical properties</b>                      |                          |                                      |
| Weight  | [kg]                     | 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                       |

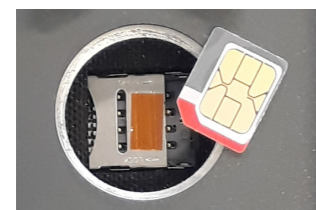
\* if all connections are made with a Kathrein cable or have Kathrein protective caps

**> Inserting a SIM Card into the RRU 4570 Reader**

RRU 4570 reader has a 2G/3G/4G connection option. This chapter describes how to insert a SIM card into the reader.

✓ You have a micro-SIM card available.

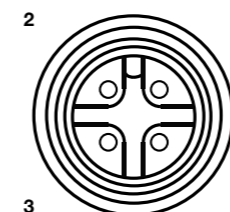
1. Open the screw at ①



- A SIM card slot is seen:
2. Open the SIM card slot in the direction shown.
  3. Insert the micro-SIM card into the slot.
  4. Lock the slot in the direction shown.
  5. Close the screw to seal the SIM card slot.

**> Power Supply**

M12, A-coded, 4-pin, male

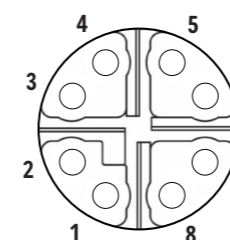


Pinout Power Supply

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

**> Ethernet**

M12, X-coded, 8-pin, female

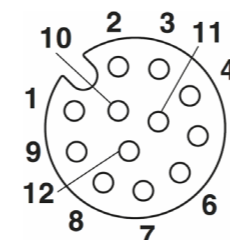


Pinout communication PoE+

| 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    |