LE RFID 125K

RFID reader for reading a special wireless ID card

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Product description:

The **LE RFID 125K** reader is a device designed for wireless reading of RFID cards and keys. Cards can be read up to approx. 5 cm and keychain up to approx. 4 cm. The device must be connected to a telemetric tracking control unit that collects flight data and then stores it in the cloud. The data can then be viewed on the Internet, reviewed, and evaluated. Data is sent to the cloud via the GSM network. If the mobile network is not in range, the data is stored in the internal memory and subsequently moved to the cloud after a subsequent repeated connection. The range of the GSM network is 35 km. Due to the coverage of the mobile signal, outages should rarely occur. Thanks to the unique ID of the RFID card, each pilot can access his recorded flight records.

In our case, the product is intended for reading and logging the pilot's personal card before the flight. It is especially useful where there is a greater change of pilots (aviation schools, ...), but also individual use will find its application. Many data such as the pilot's name, flight speed, flight altitude, direction, GPS coordinates, map records, etc. can be monitored from the record. These can then be analyzed in various ways.

Mounting the reading device is very simple. It is installed from the inside of the instrument panel, in which we basically do not even have to make a hole. The main fastening element is a double-sided adhesive tape, which is covered with a protective film and stuck to the desired place. If we want to secure the device 100% against falling, it is necessary to make a hole for a 4 mm screw in the dashboard. The screw can be metal. A screw can reduce the reader's range ability, but due to its size, its effect is negligible. Do not install the product near metal materials, it can decrease the sensitivity of the RFID receiver. Plastic and wooden obstacles have almost no effect on the range of the reader. The product cannot be operated under or inside a metal (iron, aluminum, copper, ...) cover. The product is intended for assembly in combination with other flight devices that support its function. The identification tag is not part of the product, it must be purchased separately.

THIS PRODUCT IS NOT APPROVED FOR INSTALLATION ON CERTIFIED AIRCRAFT. THIS PRODUCT DOES NOT HAVE TSO CERTIFICATION.

Electrical parameters:

Parameter	*Min*	*Typ.*	*Max*	*Unit*	*note*
Supply voltage	4,5	5	5,5	VDC	
Current consumption	-	50	150	mA	
Power		0,3		W	
Reverse polarity protection		YES			short term
Overvoltage protection (power supply)		6		V	
Signal voltage level		5		V	DATA0, DATA1,1WIRE, BEEP

Mechanical dimension:

Parameter	*Value*	*Unit*	*note*
Width	54,0	mm	For sticking, an adhesive tape is already stuck on the product, see Fig. 2 – Dimensions of the device.
Depth	17,4	mm	
High	55,5	mm	
Mounting holes	Stick or screw M4	mm	
Weight	50	g	
Wire dimension	0,14	mm^2	
Cable length	1	m	
Cable diametral	4,5	mm	

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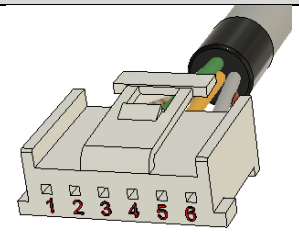
RFID parameters:

Parameter	*Value*	*Unit*	*note*
Frequency	125	kHz	
Max. RFID range	40-50	mm	It depends on whether a key fob or a card is used
Beeper	YES		Activated from the control unit
Supported protocols	EM4100		(Basic)
Reading zone	On the plastic side (covered with double-sided adhesive tape)		
Available forms of ID card	Card, key ring (various designs)		

Wire connection legend:

Pin num.	*Wire color*	*Signal name*	*Connector*
1	**White**	**DATA0**	
2	**Brown**	**DATA1**	
3	**Green**	**+VCC**	
4	**Yellow**	**GND**	
5	**Gray**	**BEEP (beeper, connect GND to activate)**	
6	**Pink**	**1WIRE**	

Block diagram of the product integration:

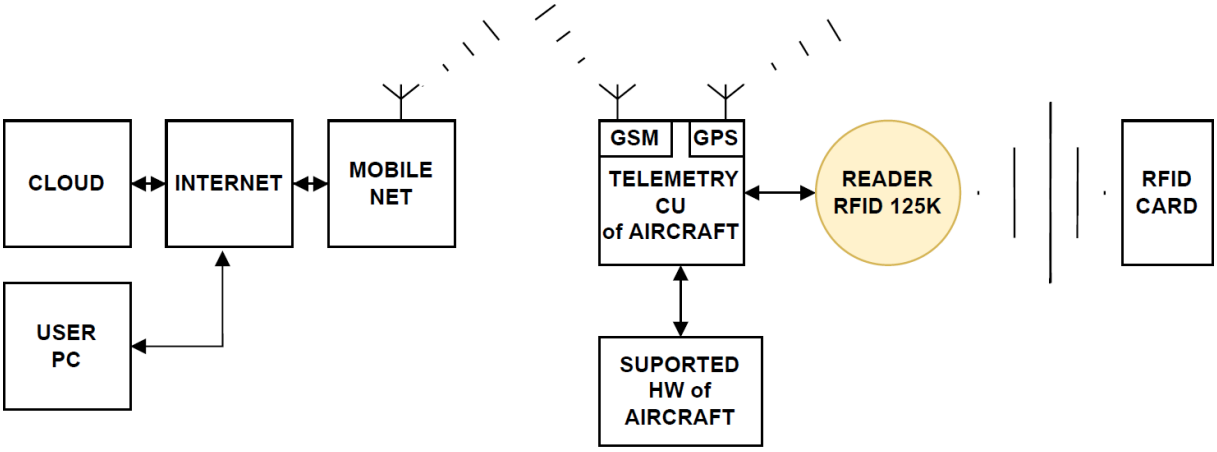


Fig. 1: Block diagram of the integration of the product into the telemetry system

Operating conditions:

Parameter	*Value*	*Unit*	*Note*
Operating temperature	-30 ÷ 50	°C	
Humidity	20 ÷ 80 %	RH	
Atmospheric pressure	900 ÷ 1100	hPa	
IP	IP20	-	
Mounting type	Screw /stick to the surface	-	M4, the adhesive tape already stuck on the product
Operating position	any	-	

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Product dimension:

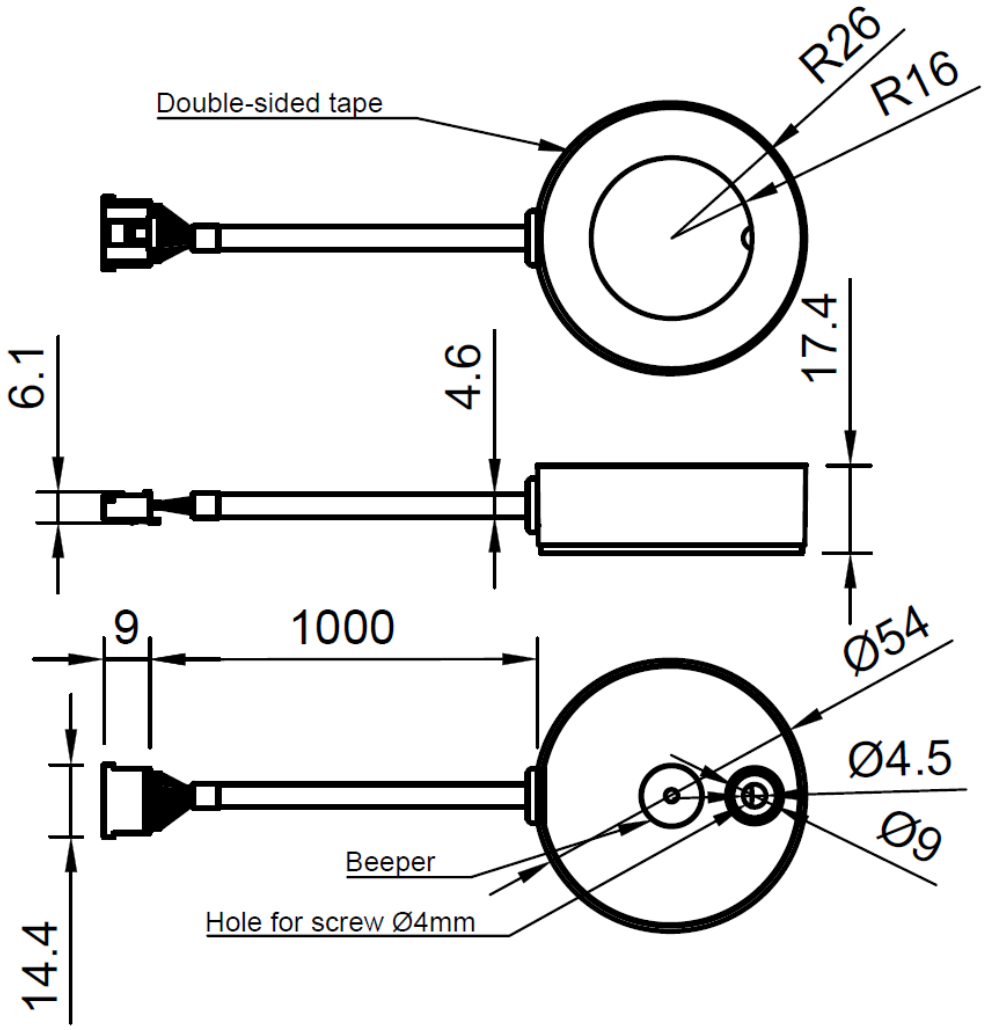

Fig. 2: Product dimension

Product view:

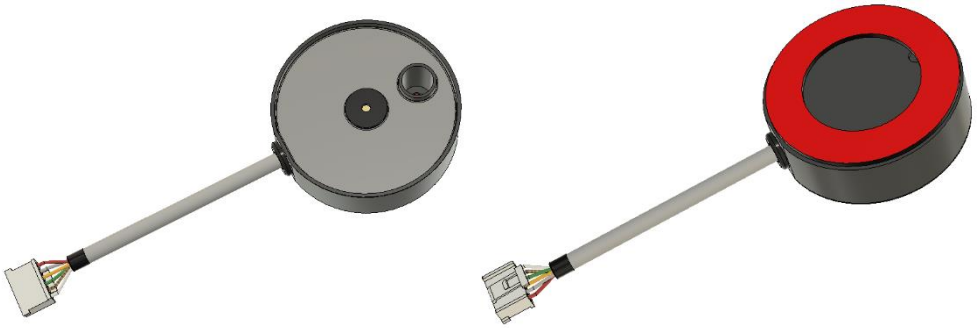

Fig. 3: Product view

Important notes and warnings

Thank you for purchasing **LE RFID 125K**. For a comfortable and safe use of this product, please pay attention to THE ENTIRE MANUAL, especially the notes and warnings below.

- Although the **LE RFID 125K** unit has been thoroughly tested to ensure maximum safety in all conceivable situations, THE RIGHT FUNCTIONALITY DEPENDS ON THE RIGHT INSTALLATION AND SETTINGS.
- Therefore, it is **NECESSARY to READ CAREFULLY and UNDERSTAND THIS MANUAL COMPLETELY**.
- Keep this manual printed in an airplane for cases of emergency or change of ownership.
- **THIS PRODUCT IS NOT APPROVED FOR INSTALLATION IN CERTIFIED AIRPLANES**.
- The pilot MUST UNDERSTAND the control of this product before the first flight. DO NOT use the product unless you are sure how it works!
- Do not allow unauthorized persons to handle the installed product.
- After installing the product, before the first flight, turn on ALL possible sources of electromagnetic interference on board the aircraft and ensure that the instrument is functioning properly.
- Use of the device in conflict with this manual, with bad wiring, outside the allowed operating conditions, etc., may cause the device to malfunction or damage and endanger flight safety.
- If the product repeatedly indicates an error, do not use it and turn off the power!
- AVOID contact with liquids and chemicals
- Before installation, check the mechanical integrity of the device and its accessories
- DO NOT disassemble the device!
- After installation, carefully check the functionality of the device and its installation
- The responsibility for the installation is entire with the installer.
- Responsibility for performing control actions based on information indicated by the product is full of the operator (pilot). The operator must be able to evaluate an incorrect indication even if the product does not indicate an error.
- Ensure regular maintenance of the aircraft's main battery
- If you do not agree to the notes and warnings above, do not use this product.

Company LAMBERT AERODEVICES s.r.o reserves the right to change or improve the product or manual without prior or subsequent notice.

Document history:

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