



# DISPOSED WASTE DETECTION

With RFID tag reading  
system on vehicles

The on-board RFID reading system records user disposals in any waste collection area through the automatic identification of containers via an RFID tag.

A technological solution that complies with the provisions of the Environment Ministerial Decree dated 20/04/2017, which defines the criteria for the implementation of Municipal PAYT systems.

## DISPOSED WASTE DETECTION

The tag detection system consists of a reader that uses RFID UHF technology. It has an integrated antenna and/or one or more external antennas which drive and propagate electromagnetic waves produced by the reader itself, guaranteeing a sufficiently large coverage area within which the container tag can be read.

The RFID reader sends all the information to a multi-control unit that associates the GPS position, transmits a series of other inputs from the vehicle and then sends the data to the Operations Centre website.

The RFID reader is capable of controlling an integrated antenna (0-3 metres) or up to four external antennas (0-10 metres). Users can therefore choose the best configuration based on the vehicle to be equipped, without having to use different equipment on different vehicles.

The RFID reader is certified to work in the most severe conditions, such as on moving waste collection vehicles:

- IP67 certification;
- safety certifications;
- impact and vibration resistance certifications.

The device comes with the right configuration for every situation, offering constant and precise data collection thanks to its design and the RFID system's programmable and customisable intelligence features.

Tags are read automatically by lifting the container to the external antenna, without the need to press any buttons. The reader can be kept constantly active without any downsides or can be activated following a specific event (e.g. PTO activation). The antenna power can be easily adjusted from a minimum of 0dBm to a maximum of 30dBm using the software and depending on the position and the coverage needed.

The RFID reader has a digital output (relay, led, buzzer) and trigger input.



## RFID READER CHARACTERISTICS

- Transponders supported: ISO18000-6C (EPC C1 G2)
- Antennas: integrated and/or external 1 to 4
- Housing: compact in diecast aluminium
- Dimensions: 148 x 125 x 41mm
- Power supply: 8 - 30 VDC , max 650mA
- Power: 30 dBm adjustable via software
- Operating frequency: 860-940MHz
- Temperature: Operating -20°C ÷ 70°C, Storage -20 ÷ +80°C
- Reading distance: typ. 10m, up to max. 20m
- Protection degree: IP67
- Inputs and outputs: 1x relay outputs, LED, buzzer,

## TECHNICAL ANTENNA CHARACTERISTICS

- Operating frequency: 865-870 MHz
- Gain: 6 dBi
- Polarisation: circular
- VSWR: = < 1,3
- Front to back ratio: > 20 dB
- Vertical opening: 70°
- Horizontal opening: 70°
- Impedance: 50 Ohms

1x trigger input

- Connections: M12 IP67
- Communication interface: RS232, RS485, USB, Ethernet TCP/IP, Wiegand and WiFi
- Accessories provided: mounting kit with bracket
- Certification: RoHS, CE with current standards EN 302 208 (RFID), EN 300220-1-2 (SRD), EN 62311 (exposure of people to electromagnetic waves), EN 301 489-1- 17 (EMC compatibility), EN 60950-1 (safety standards regarding the operator), compliant with the RED regulations in force since 13 June 2017
- Design and production: Italy

- Power: 100W max
- Dimensions: 128 X 128 X 38 mm
- Protection: IP66
- Bracket: tilting aluminium
- Weight: 0,3 Kg



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*Innovambiente References: Antenna code: AS2727 / Reader code: AS5346 / Kit code: KITRFID*



