

# 125KHz RFIID reader, Ethernet link MODBUS-TCP Power Over Ethernet

RFID90



- **Reader for EM4102 iso card tags**
  - Frequency 125Khz, read distance <10 cm
- **Communication**
  - Modbus TCP (Ethernet) 4 concurrent connections.
  - Embedded Web Server.
  - SNMP option.
  - Specific protocol on request.
- **Dual power supply mode**
  - Power over Ethernet (PoE).
  - Auxiliary power supply 8....28 Vdc.
- **Applications**
  - Access control, automatic identification, inventory tracking, payment systems.
- **Indoor or outdoor use**
  - Integrated antenna.
  - IP66 protection.



The RFID90 is a robust wireless card reader for access control applications, its implementation is easy, the product relying on standard communication protocols and Ethernet.

#### DESCRIPTION: RFID technology

Radio Frequency Identification (RFID) is a generic term for contactless technologies that use radio waves to automatically identify people or objects. There are several methods of identification, but the most common is to store a unique serial number that identifies a person or an object on a microchip that is attached to an antenna. The combined antenna and microchip are called a "RFID transponder" or "RFID tag". Each transponder tag contains a unique identifier (one of 2<sup>40</sup>, or 1,099,511,627,776 possible combinations).

#### Feature:

- Wall mount (hinged screw cover).
- Waterproof ABS plastic enclosure + conformal coated electronic (IP66 protection rating, cable gland entry)
- Power supply over Ethernet (PoE) or 24Vdc auxiliary power supply.
- Confirmation of tag reading by internal buzzer.

#### Front face:

Tag reading area (antenna), 3 LEDs: A power LED and 2 LEDs drive by application via Modbus TCP.

#### Configuration:

IP address setting: 2 modes are available:

- 1) via BOOTP protocol : Enter the MAC address (found on electronic pcb) in a BOOTP server.
  - 2) Fixed IP address : configured via the embedded Web server.
- If the actual IP address is unknown, an internal button is used to return to the factory IP address: 192.168.0.253 (long press, the buzzer confirms the return to the factory IP address).  
The Web server allows the display of the tag IDs and the testing of the front LEDs.

#### Communication:

Ethernet 10/100 T base (RJ45 connection)  
Powered by the Switch (power over Ethernet) according to IEEE802.3af  
Supported protocols: Modbus-TCP, SNMP, Web server.  
Firmware update over the Ethernet link.

#### Installation requirements:

- Keep the reader away as much as possible from cables and power circuits (AC or high voltage). Disturbances they cause can affect the reading.
- Distance between two readers: 40 cm
- If the device is attached to a metallic surface, the reading detection range may be reduced.

#### Accessories:

##### PoE power injector: (AL36 PoE)

Powered the RFID90 by Ethernet link.  
For switch which do not have PoE, we provide a PoE power injector in DIN rail mounting conform to IEEE 802.3af standard.



- BDG90** : RFID credit card tag
- PCL90** : RFID tag keychain

delivered blank or customized according to customer data.  
Tag are EM4102 ISO type.



Version and order code:

[Request a quote](#)

**RFID90** : Ethernet RFID Tag reader, Modbus protocol  
**RFID90RW** : Ethernet RFID Tag reader/writer, Modbus protocol  
Power supply: PoE or 24Vdc auxiliary power supply  
(requires a compatible switch or a PoE power injector)

**Option** : /SNMP SNMP protocol

**BDG90** : Credit card format tag  
**Option** : /Prt custom print

**Reading**

Carrier frequency 125 kHz.  
 Mode Read only.  
 Rate 5 readings / second.  
 Reading range < 10 cm with badge.  
 < 6 cm with tag keychain.

The reading range is indicative (not guaranteed)

**POWER SUPPLY**

Powered by the Switch (power over Ethernet)  
 from 36Vdc to 57Vdc following IEEE802.3af .  
 External power supply (terminal block) from 8 to 28 Vdc (2 W).

**COMMUNICATION**

Ethernet 10/100 T base (RJ45 connection).  
 Protocols: Modbus-TCP, SNMP, Web server.

**ENVIRONMENT**

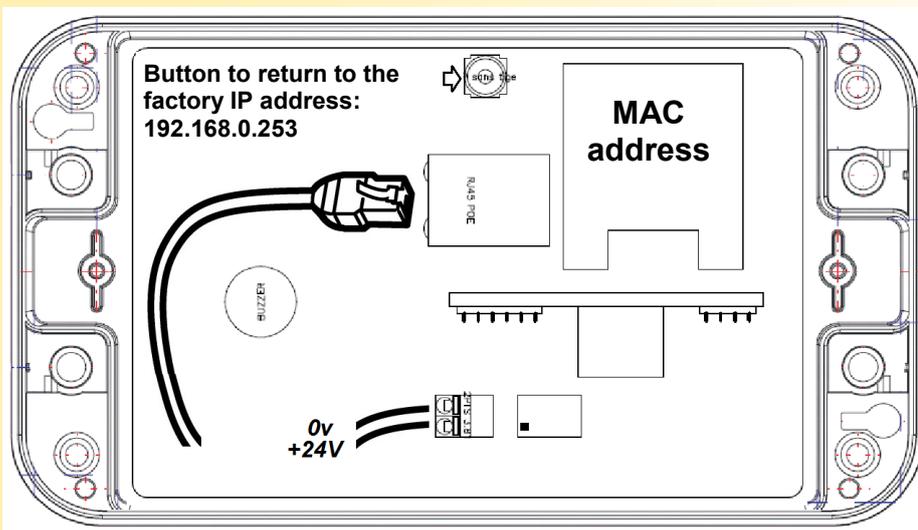
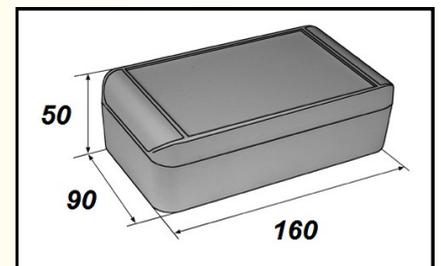
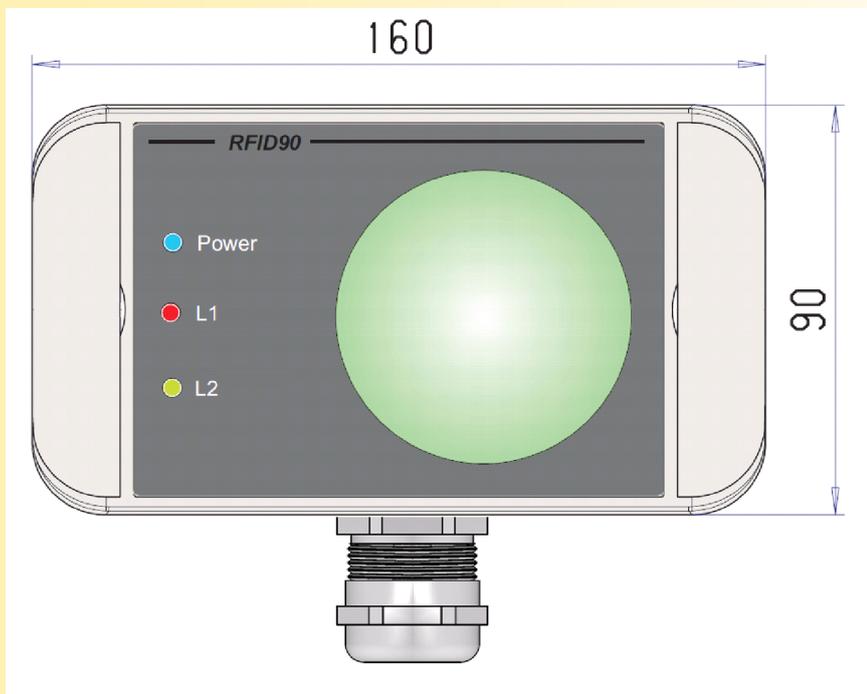
Operating temperature -20 to 60 °C.  
 Storage temperature -40 to 85 °C.  
 Humidity 95 % not condensed.  
 Weight ~350 g.  
 Protection rating IP 66 indoor/outdoor use.  
 MTBF (MIL HDBK 217F) > 500 000 Hrs @ 25°C.  
 Life time > 100 000 Hrs @ 30°C.

**Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE**

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011  group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



**WIRING , OUTLINE DIMENSION , MOUNTING :**



**Other format of TAG RFID**

Glass capsule  
 3mm diameter  
 13mm width



Coin tag  
 25mm diameter  
 thickness 0.7mm



Adhesive label tag  
 38 x 38 mm

