**125KHz RFiD 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 2^40, 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:**

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)

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<th>Option</th>
<th>/SNMP</th>
<th>SNMP protocol</th>
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<td>BDG90</td>
<td>/Prt</td>
<td>custom print</td>
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TECHNICAL SPECIFICATIONS

90 days accuracy (20 °C +/- 2 °C) DATA SHEET CAN BE DOWNLOADED ON WWW.LOREME.FR

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.

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).

WIRING, OUTLINE DIMENSION, MOUNTING:

Reading

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

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Weight ~350 g.
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MTBF (MIL HDBK 217F) > 500 000 Hrs @ 25°C.
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Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2
EN 61000-4-2 ESD EN 61000-4-8 AC MP EN 55011
EN 61000-4-3 RF EN 61000-4-9 pulse MF
EN 61000-4-4 EFF EN 61000-4-11 AC dp
EN 61000-4-5 CWG EN 61000-4-12 ring wave
EN 61000-4-6 RF EN 61000-4-29 DC dp

Emission standard for industrial environments EN 61000-6-4
EN 61000-4-1 class A

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