CP-Z 2L Embedded
ACS RFID EM-marine reader (125 kHz)
User Manual

1. OVERVIEW

CP-Z 2L Embedded reader is used in ACS (Access Control Systems) to transmit the code acquired from a EM-Marine standard token, via iButton or Wiegand-26 protocols.
Device casing is made from sturdy, fireproof material and shaped similarly to contact pads for DALLAS keys. This allows to use CP-Z 2L Embedded readers in ACS or as standalone without design changes or mounting difficulties.
Users can benefit from:
- Added convenience of contactless technology;
- Convenience of contactless door opening, without the need of taking keys out of wallets or pockets;
- Extensive selection of keys shapes and colours available, with the option of branding keys with own logo.

2. MOUNTING AND CONNECTION

The reader is mounted on a flat surface in a location allowing easy access to it by Proximity key fobs.
To mount a CP-Z 2L Embedded reader, perform the following operations:
- Mark and drill a 20 mm hole. Insert the reader into the hole, and secure it from the rear with a mounting ring nut.
- Connect the wires to the reader, per Figures 2 and 3. When device is correctly powered, the red LED will light up.
- Insulate all wire junctions.

Note:

To achieve specified line distance (found in Specifications), a UTP cable, for example CAT5e standard one, is recommended:
- When connecting by iButton, one wire of the UTP cable is connected to GND, another to D1.
- When connecting via Wiegand-26, the first twisted pair connects to GND and D0, and the second to GND and D1.

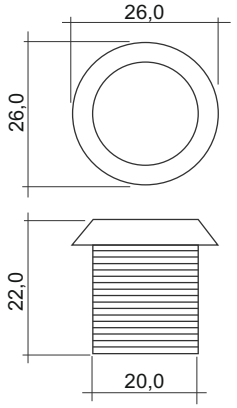

Figure 1. *Device dimensions.*

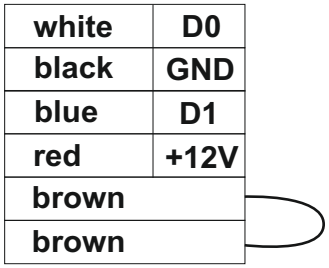

Figure 2.*The wires purpose.*

Note: To disable the permanent visual indication, cut the brown wire.

CAUTION: Using battery power for the reader requires adding a 100 Om resistor into the reader power feed.

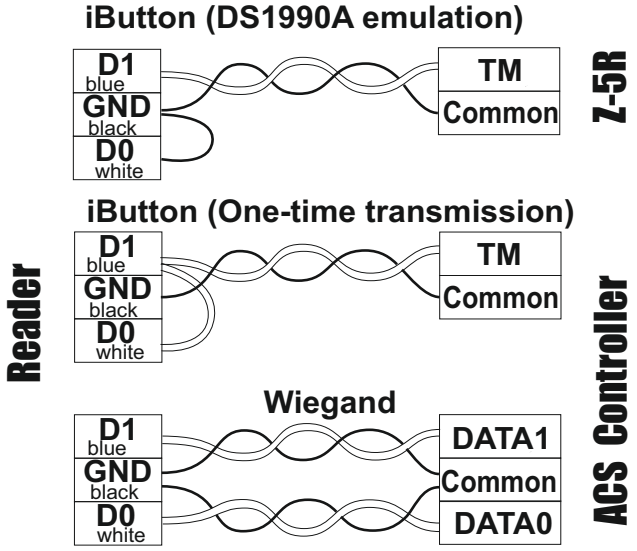

Figure 3.*Choosing the transmission protocol.*

3. OPERATION

Once the device is ready, the red LED is permanently lit, showing that the device is correctly powered.

When a Proximity key fob is brought into device's operation zone, its serial number is being acquired. It is then transmitted into the controller via iButton (Dallas Touch Memory) or Wiegand-26 protocol (depending on selected protocol, see Figure 3). While reading the key fob serial number and transmitting its code into the controller, the red LED flashes for one second.

4. SPECIFICATIONS

Working Frequency: .....125 kHz.
Key Fobs protocol used: .....EM-Marine.
Reading distance: .....2...6 cm.
Protocols supported: .....iButton, Wiegand-26.
Maximum line length from reader to controller:
-In DS1990A mode: .....15 m
-In Wiegand mode: .....100 m.
Operating modes indication: .....Red LED.
Backlight (optional): .....Red LED.
Power supply voltage: .....12 V DC.
Standby consumption current: .....up to 30 mA.
Casing materials: .....Polyamide.
Dimensions, mm: .....22x26.
Weight: .....80 g.

5. PACKAGE CONTENTS

CP-Z 2L Embedded RFID Reader: 1
Mounting ring nut: 1

6. OPERATIONAL CONDITIONS

Recommended air temperature: -30…40°C.
Humidity: ≤ 80% at 25°C.
If operational conditions are differing from described above, device specifications can deviate from specified values.
The controller is to be operated in absence of: precipitation, direct sunlight, sand, dust, water condensation.

7. LIMITED WARRANTY

This device is covered by a limited warranty for 24 months from the date of sale.
The warranty becomes void if:
- This Manual is not followed;
- Device has physical damage;
- Device has visible traces of exposure to moisture and aggressive chemicals;
- Device circuits have visible traces of being tampered with by unauthorised parties.

Under active warranty, the Manufacturer will repair the device or replace any broken parts, FREE of charge, if the fault is caused by manufacturing defect.

8. CONTACTS

Authorized representative in the European Union:

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The symbol of crossed-throught waste bin on wheels means that the product must be disposed of at f separate collection point. This also applies to the product and all accessories marked with this symbol. Products labeled as such must not be disposed of with normal household waste, but should be taken to a collection point for recycling electrical and electronic equipment. Recycling helps to reduce the consumption of raw materials, thus protecting the environment.

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