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TECHNICAL CONSTRUCTION FILE

PRODOTTO *(Product)*	Marchio *(Brand)*	**TRANSMITTER SOLUTIONS**	
	Serie *(Serie)*	**KEYPAD DOLPHIN**	
	Modello *(Types)*	**KPD2641C2**	
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1.0 Introduction

The keypad DOLPHIN type KPD2641C2 is an encoded radio keypad operating at 433,92 Mhz in ASK.
Best use of the product is to control: gates, garage doors, rolling shutters, sun-blinds, anti-burglar appliances, lightings, etc. The code has a very high security encoding system (KeeLoq ® Hopping code). The code sent by the transmitter changes at every activation, avoiding any scanning and copying risk. A special algorithm allows keeping synchronized transmitter and receiver.
The radio transmission is enabled only after the dialing of a security user code.
There are 2 different channels, identified with the buttons «*» and «#», that can activate 2 different receivers or relays.
The internal memory can store up to 22 different security user codes and 1 Master code.
The product fully complies with the FCC Rules cfr 47 part 15.

1.1 Product references

BRAND : Transmitter Solutions

SERIES : KEYPAD DOLPHIN

TYPES : KPD2641C2

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2.0 Technical specifications

Number of keys:.....12
Number of channels:.....2 (A, B)
Supply:.....3,6 Vdc
Battery duration:.....about 24 months
Battery type:.....LI-SOCl2 – LS14505
Current consumption:

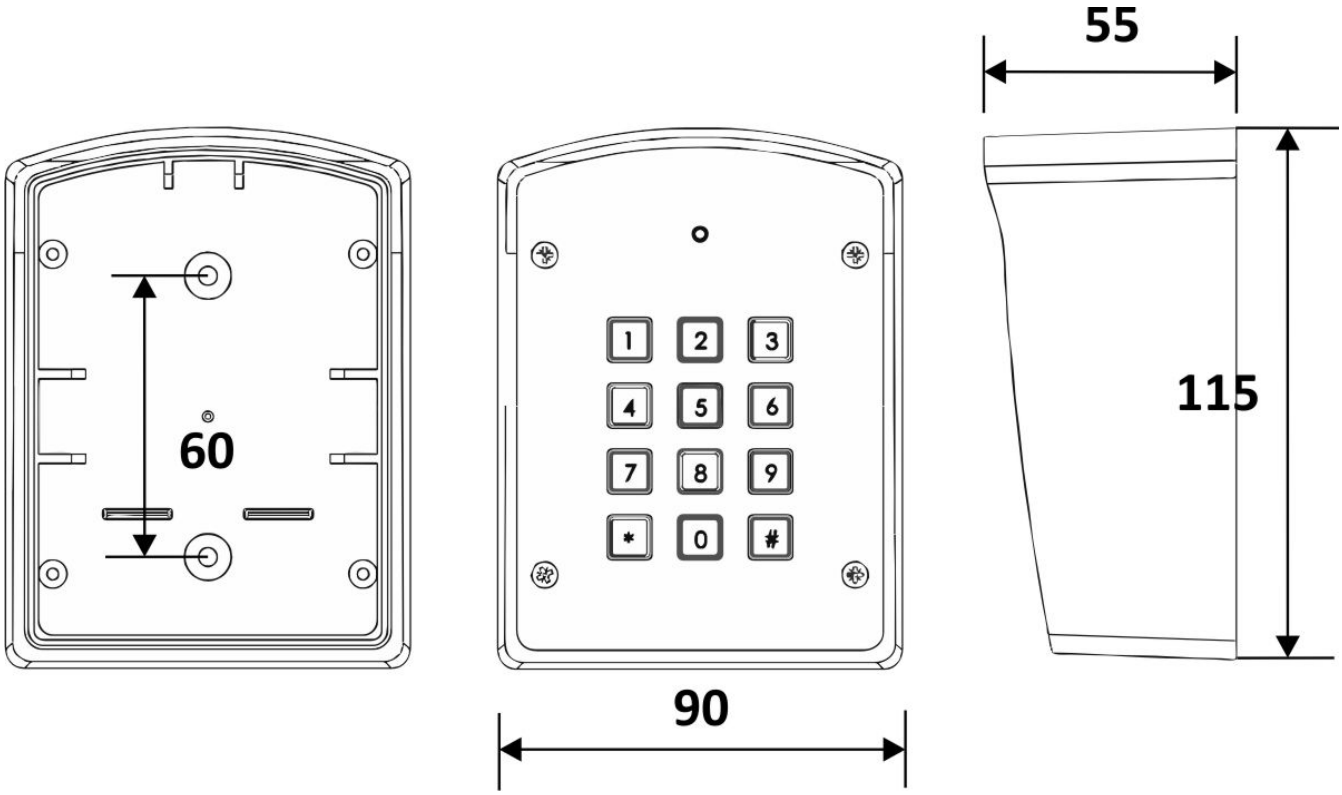
- Sleep mode.....0,1 µA
- Pre-stand-by.....0,88 µA
- transmission.....28 mA

Operating frequency band .....433,05 ÷ 434,790 MHz
Carrier frequency: .....433,920 MHz
Rated frequency tolerance: .....± 75 KHz
Modulation: .....AM/ASK
E.r.p. (rated):.....5 - 10 µW
Modulating signal frequency:.....834 bit/sec
Channel width: .....> 25 KHz
Dynamic code system.....Keeloq® Hopping code
Security Code combinations number:.....2^{64}
User security code number: 22
Master security code.....1
Transmission duration:.....2 sec.
Range in open space: .....from 50 to 100 m
Operating temperature: .....from -10 °C to +55 °C
Dimensions: .....115 x 90 x 55 mm
Weight: .....210 g
IP Protection Grade: IP54
Buzzer

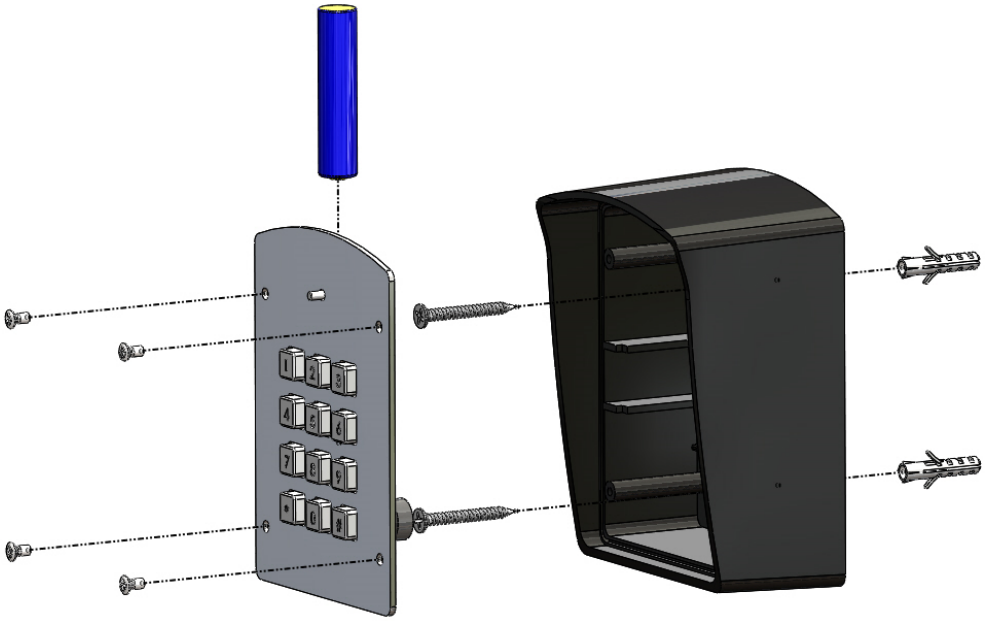
3.0 Mechanical drawings

3.1 External view

3.2 Dimensions



3.3 Internal exploded view



4.0 Description

The 2ch DOLPHIN KEYPAD is a 2-channel radio keypad operating at 433,92 Mhz in AM/ASK modulation.
It's fully compatible with any receiver of the range ERONE
The RF signal is generated dialing a valid 4 or 5-digits code and then pushing the keys * or #
The internal memory can store 1 Master code and up to 22 User codes.
Each code is composed by 4 or 5 digits
The Master code allows managing the single user codes (memorize and delete)
The Default master code is **12345**.
With the Master password [12345] doesn't occur any RF transmission;
The keypad is only 2-channels [* or #];
The system analyses any code sequence and keeps valid the last 4 or 5 digits typed before the * or #.
If they bring a valid code the transmission is effected otherwise if the code dialed before pushing * or # is wrong there is a long beep [beeeeeeep];
If the combination is valid after the key * or # activation, there is a "beep" and the led under key N°5
starts blinking (slow) and all the rest of the led of the keypad switch off. The led 5 keeps on blinking as long as the key * or # is pressed;
A timeout of 25 sec. limits the duration of the transmission;
Code combinations shorter than 5 digits are not accepted;
After the activation of any key there is a timeout of **3** sec. after which the combination is discarded and must start again;
The 4 blue led of the keypad are normally off. After the pressure of any key, all the led switch on;
If no keys are activated the led switch off after **3** sec.;
By dialing 2 times the Master password (12345, 12345) you enter in a menu: all the led switch OFF and the led 5 switch ON. From that menu are possible many functions.

***+X** : means the button A followed by another button among : 0, 1, 4 ,5 and 6.
If, after the dialing of the 2 Master password, no buttons are pressed within **10 sec.,** the keypad comes back to the normal mode.
If you want to exit from the menu before the 10 sec. it is enough to press the button #.
When the keypad is waiting for a code (as for the master password change or a new user code) the led 5 keeps on blinking. If no code is dialed within 10 sec the keypad comes back to normal mode.

Battery low
When the value of the battery voltage is drops under 3V, at the first access to the keypad, the all led make 7 fast flashes before to get stable on

4.1 Buzzer ON/OFF

It is possible to put the buzzer ON or OFF (in toggle way)

- **Master pwd, Master pwd, *,6, (beep) : set the buzzer ON if currently OFF**
- **Master pwd, Master pwd, *,6, (beep) : set the buzzer OFF if currently ON**

4.2 Stand-by transmission

This is a function useful when the S/N of the keypad must be memorized into the corresponding receiver.
Sometimes the receiver and the keypad are already fixed, may be far each other, and so it becomes difficult to enter into the memorization procedure of the receiver and then dial the user code and get the RF signal within the time-out the receiver

So has been created a new option, called “Stand-by transmission”.
The concept is that:
- 1) I enter in a special menu on the keypad, I preset the transmission but I don’t make the RF transmission and I set the keypad into a stand-by status with 30 sec. of time-out,
- 2) I enter into the receiver memorization menu of the desired relay.
- 3) I come back to the keypad and I press * or #, the RF transmission is effected and the S/N is memorized into the receiver.

In this way I’ve 30 seconds to memorize the keypad into the receiver.
This is just a choice, because I can use even the standard way to have a RF transmission, simply dialing the user code XXXXX and the button * or #.
master pwd, master pwd, *, 2, (beep), xxxxx [The user code must be present in the memory]
At this point, the led 5 starts to blink slowly.
Then, press * or # and the RF transmission is effected.
If no buttons are pressed within 30 sec. the procedure finishes.

4.3 HIDDEN FUNCTIONS

These 2 functions allow recovering the factory settings, if the master password is lost.
It is possible to reset the master password to the factory value [12345] leaving unchanged the user memory but even reset the keypad at the factory defaults, erasing completely the user memory.

Master password reset (reset the master password to 12345 and doesn’t affect the memory)
*** + 1 simultaneously for 30 sec. , beep-beep, XXXXX (valid) beep-beep-beep**
If the valid code is dialled within 20 sec. the procedure ends successfully otherwise nothing changes

Total reset to factory default (cancel all users codes + reset master password to 12345
 # + 3 simultaneously for 30 sec , beep-beep-beep-beep

4.4) Regular RF Transmission

XXXXX, * or #, (Beep)
Code valid : Led N°5 blinks
Code not valid : Biiiiiiip

The device is approved by the FCC and it complies with Part 15 of the FCC Rules.
Its operation is subject to the following 2 conditions:
1. This device may not cause harmful interference.
2. The device must accept any interference that may cause undesired operation.