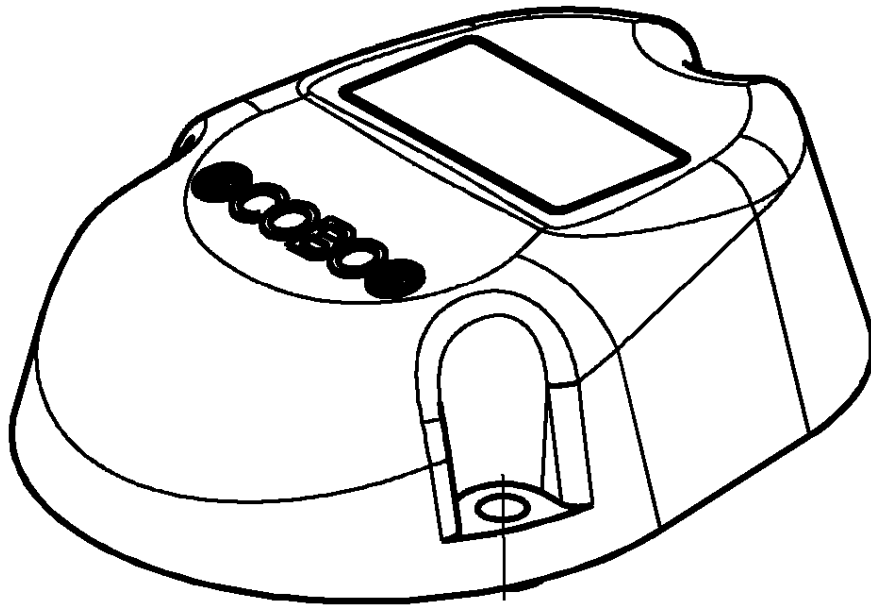



N. Rev	Nota di revisione:	Data:	Progettista:	Approvatore:
0	First Release	19/02/13	Cappelli V.	

WED Manual



Creato / <i>Created</i> CAPPELLI V.	Controllato / <i>Checked</i>	Approvato / <i>Approved</i>	Nome File / <i>File Name</i> WED_MANUAL	Data / <i>Date</i> 19/02/2013
Rif. Codice / <i>Cod. Ref.</i>	Descrizione / <i>Description</i> MANUALE UTENTE / <i>USER MANUAL</i> : WED			
 C.O.B.O. S.p.A. – Divisione 3B6 Via Sivo, 74 – 28053 Castelletto Ticino (NO) Italy Ph. +39 0331 92861 – Fax +39 0331 972160 Web: www.3b6.it – 3b6@3b6.it	Gruppo / <i>Group</i> WED		Rev. Addax 00	Pagina 1 di 5 <i>Page 1 di 5</i>

Description

The WED is a battery powered wireless transmitter that can be used to identify an extension without intelligence. If it is properly installed on the extension, when it senses movement and/or vibrations, it sends via Radio an unique identification number.

Radio Parameters

The Radio Front-end is Texas Instruments CC2500 and this is radio parameters summary (refers to component datasheet for more info on parameters):

- Carrier freq. = 2480MHz (Base freq. 2433MHz, Ch. 235, spacing 200kHz)
- Modulation format = MSK
- Phase transition time = 0
- Data rate = 250kbps
- TX power = +1 dBm (maximum available)
- Preamble count = 6 Bytes
- Whitening = false
- Address config = No address check
- Device address = 0
- Manchester enable = false
- Packet length = Variable (length configured by first byte after sync word)
- RX filter BW = 541.666667kHz
- Sync word = D3h (SYNC1) 91h (SYNC0)
- Sync word qualifier mode = 30/32 sync word bits detected

Transmitted Packet Format

Totally, a transmitted packet is 34 bytes long.

Header consists of 6 bytes Preamble, 2 bytes Sync word and 1 bytes for Payload length; payload is 23 bytes long, and 2 bytes CRC is also added at the end:

6 bytes	2 bytes	1 byte	23 bytes	2 bytes
Preamble	Sync Word	Payload length	Payload	CRC

Payload content is:

Byte no.	Data
1	Payload checksum
2	Unique ID L
3	Unique ID H
4	Progressive number L
5	Progressive number H
6	X Axis Acceleration L
7	X Axis Acceleration H
8	Y Axis Acceleration L
9	Y Axis Acceleration H
10	Z Axis Acceleration L
11	Z Axis Acceleration H
12	Battery Voltage [mV] L
13	Battery Voltage [mV] H
14-19	Reserved for future use
20	Firmware version L
21	Firmware version H
22	Temperature [°C] L
23	Temperature [°C] H

Payload checksum that is sent on the first byte is calculated with this method (C language):

```

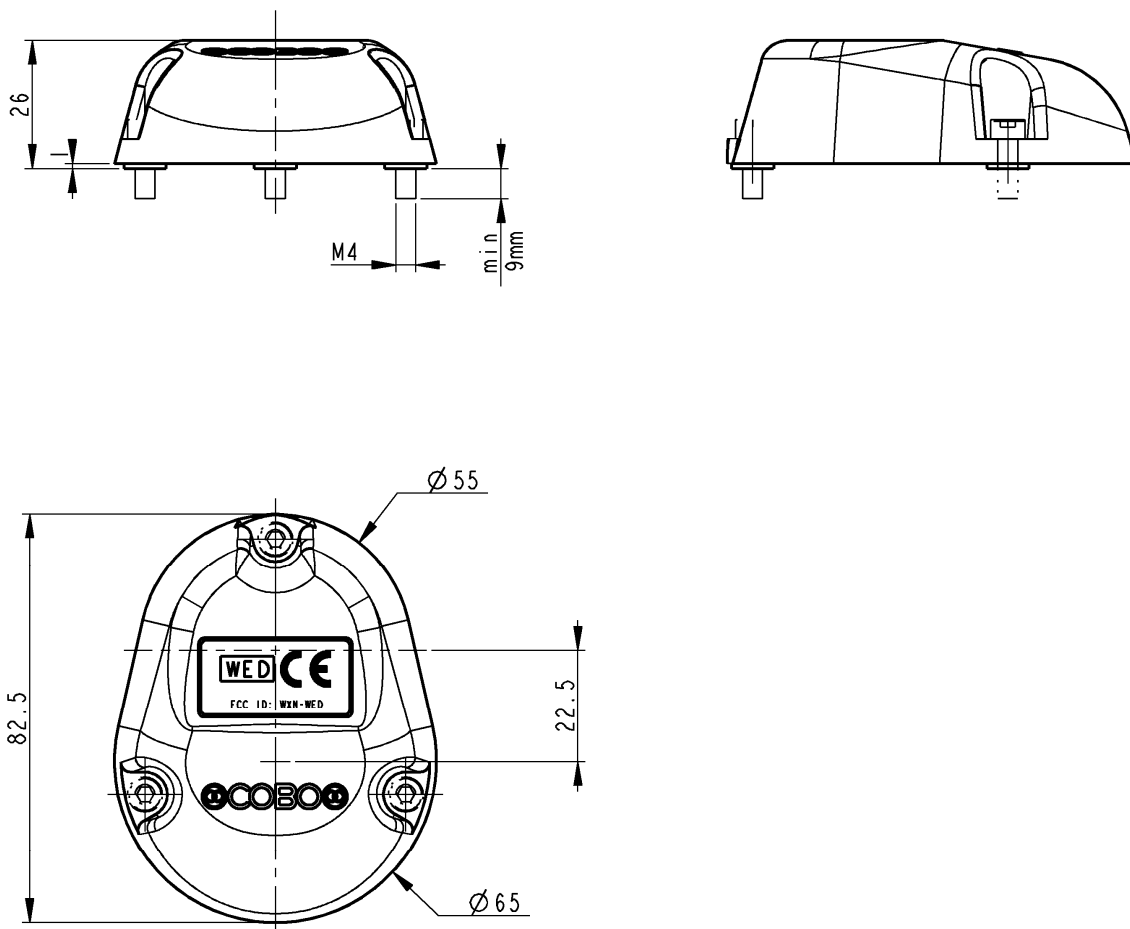
UINT8 CalculateChecksum(UINT8 *buffer,UINT8 length)
{
  UINT8 chksum=0;
  UINT8 i=0;

  for(i=0; i<length; i++)
  {
    chksum = chksum + buffer[i];
  }

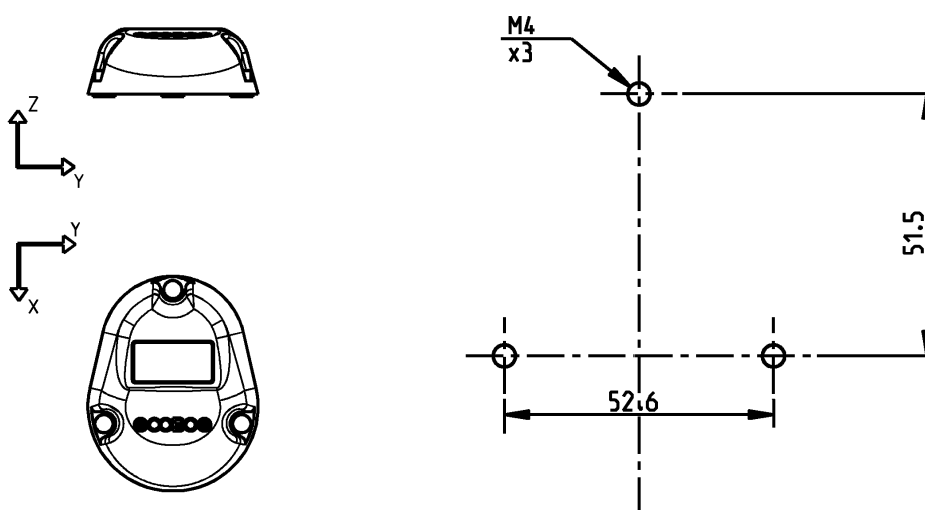
  chksum = ~chksum;
  return chksum;
}

```

Mechanical dimensions



Assembling vehicle scheme and application hole



where X is vehicle direction

FCC declarations

FCC ID: WXN-WED

The device complies with part 15 of the FCC Rules. Operation is subjected to the following 2 conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 Subpart B, of FCC Rules. These limits are design to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the manufacturer for compliance, may void the user's authority to operate this equipment.

RF EXPOSURE WARNING



This EUT is in compliance with MPE for general population/uncontrolled exposure limits and it had been tested in accordance with the measurement methods and procedures specified in FCC 47 CFR § 1.1310 and 2.1091.

To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance are not recommended. The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.