# VR-Crosswalk

## Communication protocoll between VR-Crosswalk and host computer.

The device *VR-Crosswalk* can tell the host computer where the foots of the operator are located, in which angle each foot is currently orientated and the current state of the device. The communication between VR-Crosswalk and the host computer is using Bluetooth. The Bluetooth communication speed is 38400 baud, 8 data bits. There is no need to select stop-bit or parity, it doesn’t matter. The host must look for the Bluetooth device “*VR-Crosswalk*”, connect to it and the Bluetooth connection can be handled as a normal COM port (RS232). The PIN, to connect to the device is by default: **1234**

Once the connection is established, the device will send its current state, each foot location and orientation by itself, as soon as a value has changed. But the host computer can also ask the device for the current values. For that, the host has to send the byte zero (0x00). The device will send all current

### Current state

The current state is sent from VR-Crosswalk to the host computer every 0,1 seconds. The state is four bytes long. Its value is defined as:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte** | **1** | | | | | | | | **2** | | | | | | | | **3** | | | | | | | | **4** |
| **Bit** | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | CRC |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

* Byte 2, Bit 7:

### Left Foot location, X-Coordinate

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte** | **1** | | | | | | | | **2** | **3** | **4** |
| **Bit** | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Lowbyte | Highbyte | CRC |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | X-Coordinate in 0,1mm | X-Coordinate in 0,1mm |  |