

. Wiki for WRM and IoT Ticket

by tka 14.2.2016

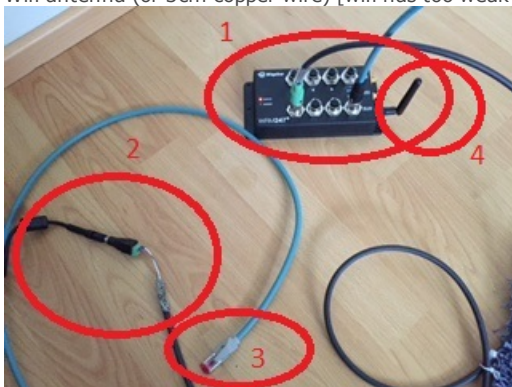


Wapice WRM+ module

## 1. Installation of WRM

To start you need (all of these)

1. WRM module
2. Power source (5-53v) and special cable for power input
3. Ethernet cable with special connector
4. Wifi antenna (or 3cm copper wire) [wifi has too weak communication without the antenna]



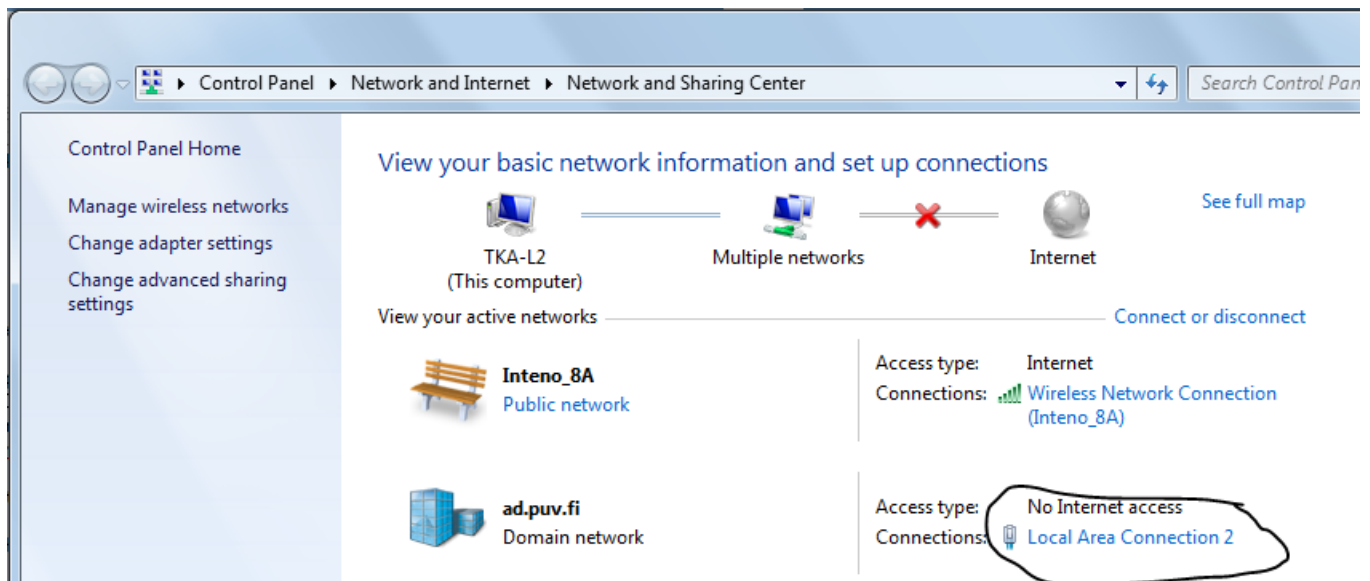
Cabling

## 2. Setting up the communication between WRM and the process and WRM and IoT Ticket

### 2.1 Connecting WRM locally with RJ-45

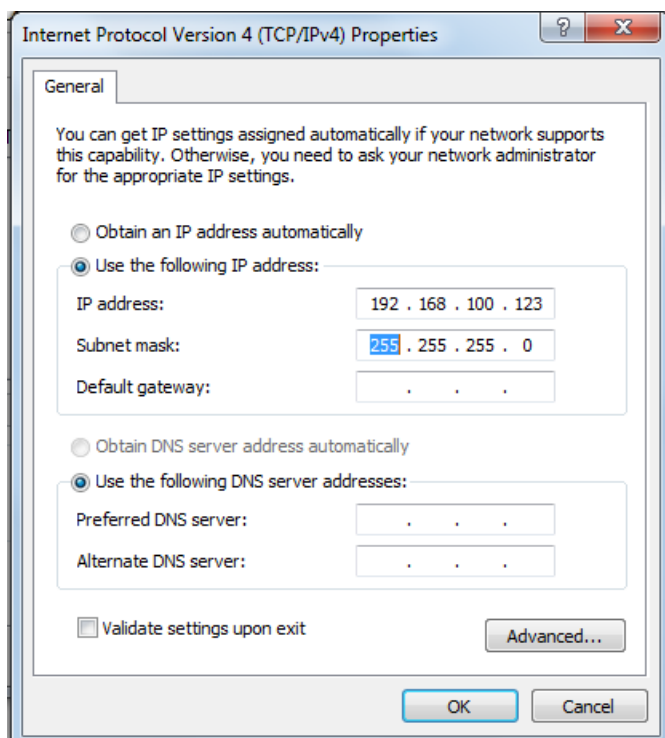
To initial communication with the module:

# Config your PC to the network 192.168.100.111, meaning use a fixed IP-address for your PC, like under Control Panel\Network and Internet\Network and Sharing Center



Config cable Ethernet IP address IP4 to 192.168.100.111 to enable communication


#And then edit the settings Properties and Internet Protocol Version 4 settings



IP-address and subnet mask for local RJ-45 fixed cable communication

## 2.2 Starting web -connection

1. Connect WRM device (with Ethernet port 1) [<http://192.168.100.100>]
2. Login (default username/password admin/root)
3. Press proceed (inspite of the warning)

 <https://192.168.100.100>

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## Your connection is not private

Attackers might be trying to steal your information from **192.168.100.100** (for example, passwords, messages, or credit cards). NET::ERR\_CERT\_AUTHORITY\_INVALID

☐ Automatically report details of possible security incidents to Google. [Privacy policy](#)

[Advanced](#)

[Back to safety](#)

//192.168.100.100/login.php

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 WRM247 Local UI

## WRM Login

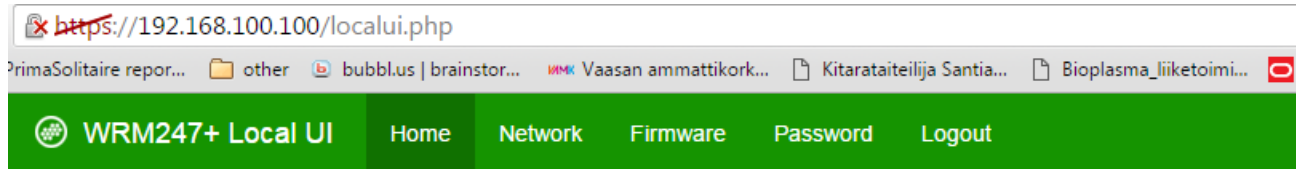
admin

...

Log in

[forget password?](#)

### 2.3 Enable Wireless communication of the module



## Network settings

- Eth1: **192.168.100.100**
- Eth2: **169.254.255.240**
- Wlan0:

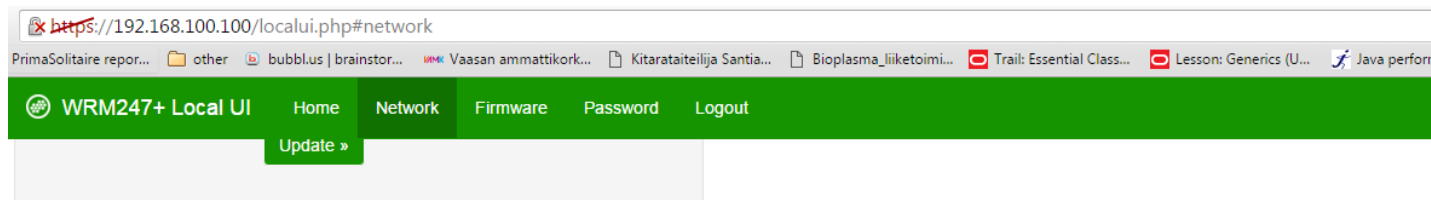
[Update »](#)

## Firmware update

- WRM firmware version: **0.6.3 TerminalApp(22-04-15)**
- Serial number: **510722094**

[Update »](#)

1. Check the Firmware version and serial number and write them on paper (you need them later when adding the terminal to IoT Ticket)
2. Select Update for Network settings
3. Scan WLAN Access points
4. Connect manually by selecting the option and entering the SSID name and the Passphrase



### WLAN IP settings

☒ Enable

☒ Dynamic

Ip

Netmask

Gateway

Dns 1

Dns 2

[Update »](#)

### WLAN Access Point settings

Access point

Stored access points [Show »](#)

Connect manually [Show options »](#)

Scanned SSIDs

ElisaKoti81

TP-LINK\_2.4GHz\_FF21E9

Inteno\_8A

Muuli WLAN

[Scan »](#)

### 3. Connect to IoT Ticket (registered user, ask username and password from the teacher)

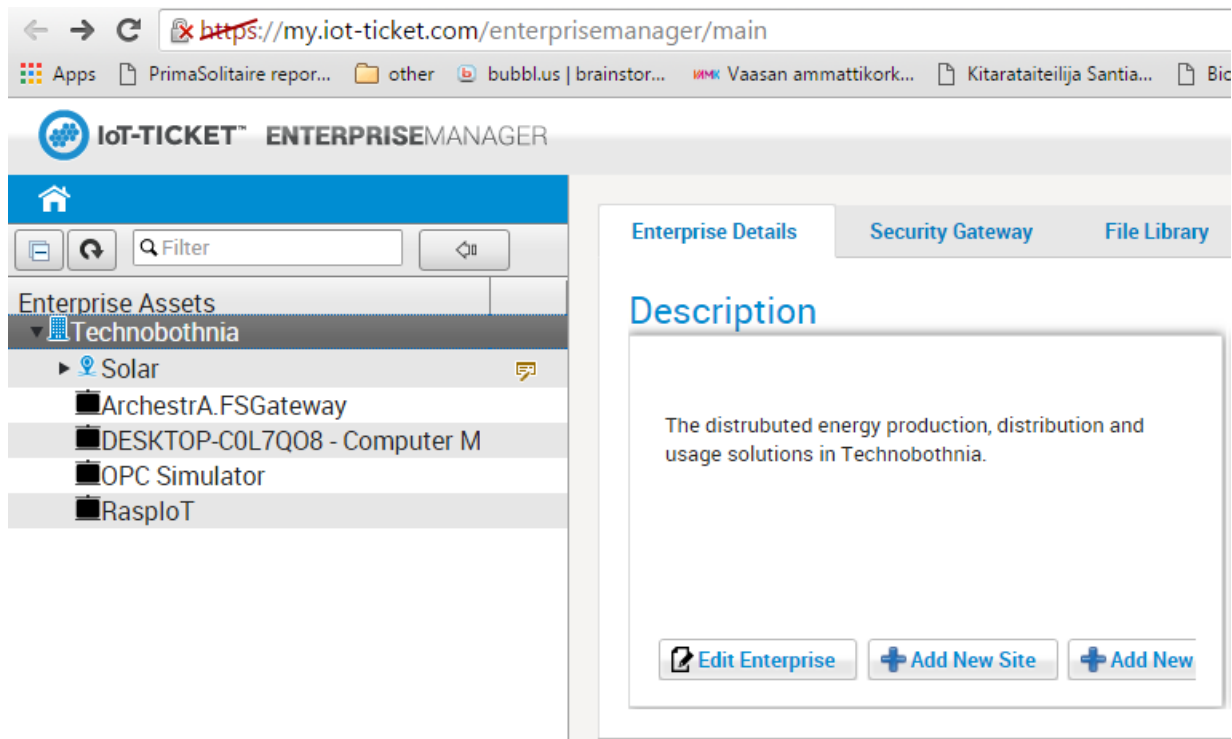
#### 3.1 Login to [<https://my.iot-ticket.com/Dashboard/main/root/#desktop>]

1. Select the red ball at the bottom of the page and open the menu

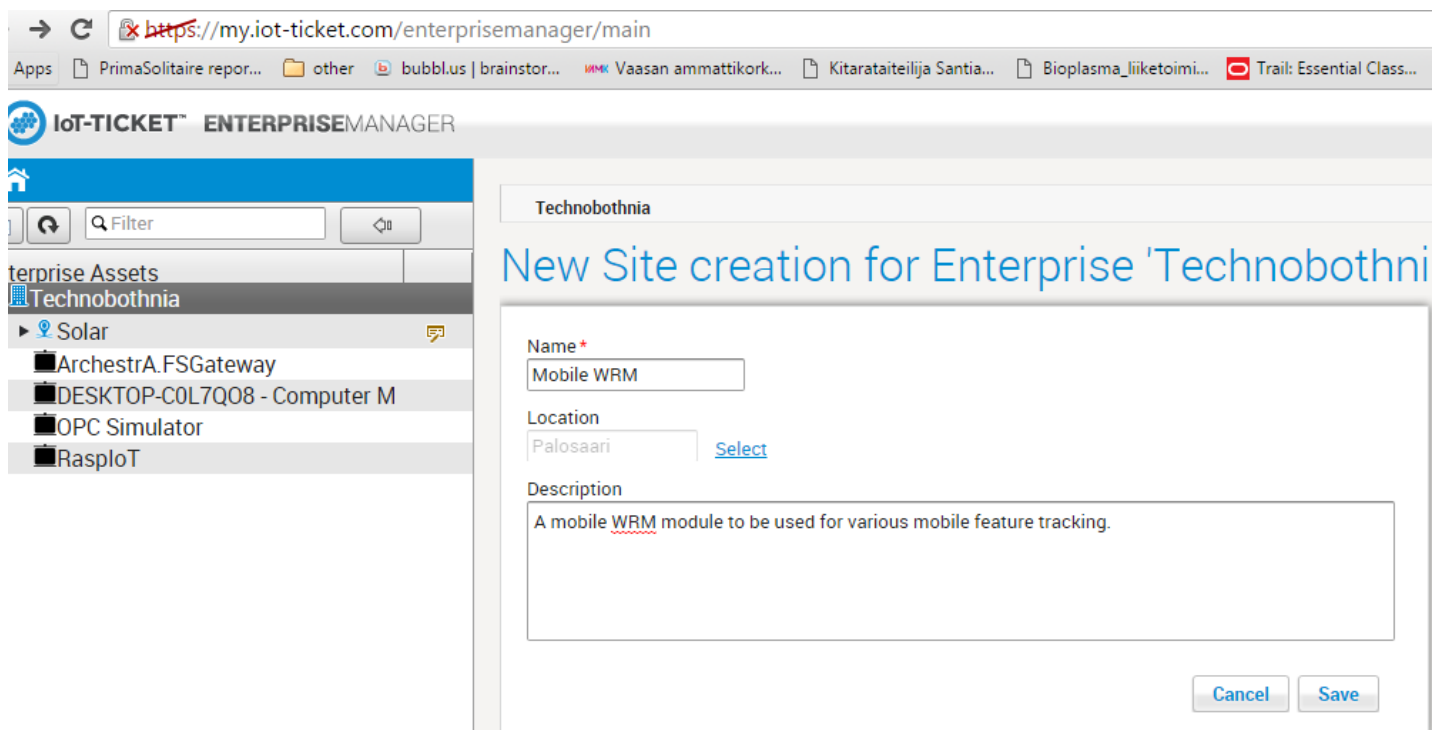
2. Select Enterprise manager from the tree on the left side
3. Select Technobothnia from the tree on the left side

### 3.2 Add new site under Technobothnia

Site is a physical location. Now we add a new mobile WRM device moving around Palosaari, thus we create a new site (even not specific location)



The screenshot shows the IoT-TICKET ENTERPRISEMANAGER interface. On the left, the 'Enterprise Assets' tree is expanded to show 'Technobothnia' under 'Solar'. The main panel displays 'Enterprise Details' with a 'Description' section. The description text reads: 'The distributed energy production, distribution and usage solutions in Technobothnia.' Below the description are three buttons: 'Edit Enterprise', 'Add New Site', and 'Add New'.



The screenshot shows the 'New Site creation for Enterprise 'Technobothnia'' form. The form has the following fields and values:

- Name \***: Mobile WRM
- Location**: Palosaari (with a 'Select' link next to it)
- Description**: A mobile WRM module to be used for various mobile feature tracking.

At the bottom right of the form are 'Cancel' and 'Save' buttons.

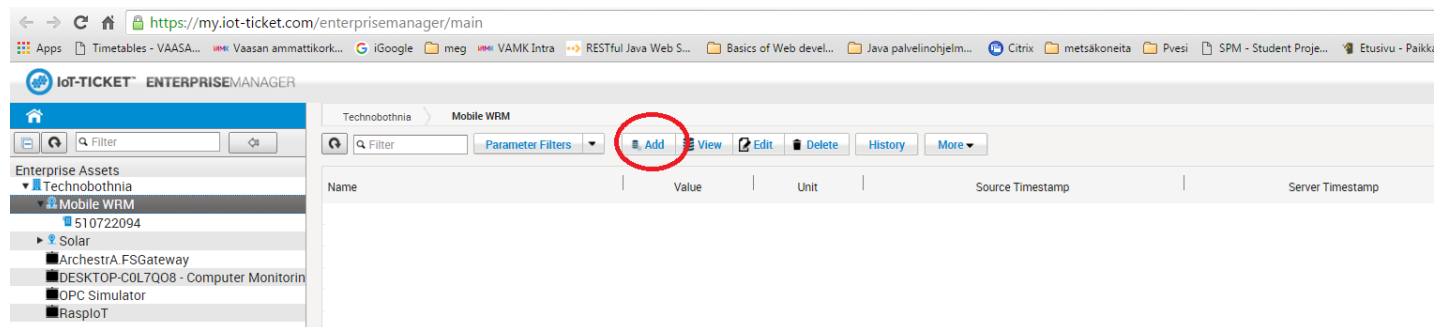
### 3.3 Select the site and add a new terminal (WRM-module)

You have to have an unique serial for the WRM-device

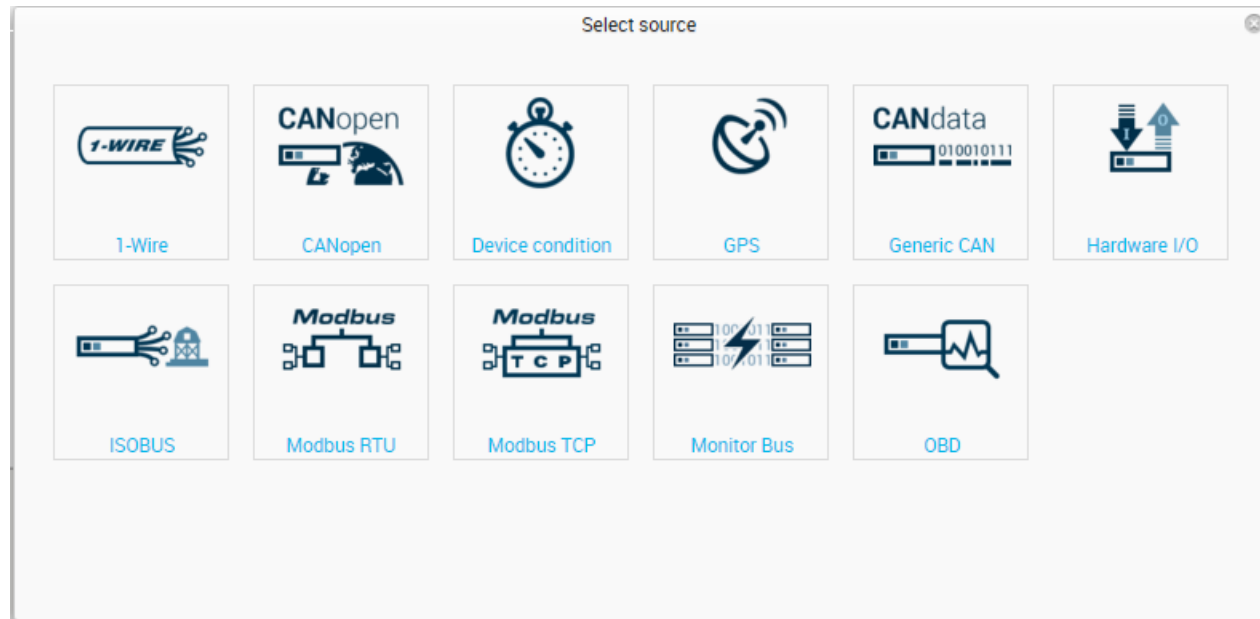
Select the device from the left tree menu and check that it is online (thus Wifi is used for the Internet connection)

#### 4. Add new datanodes

## 4.1 Select the site to add the datanodes from the menu left

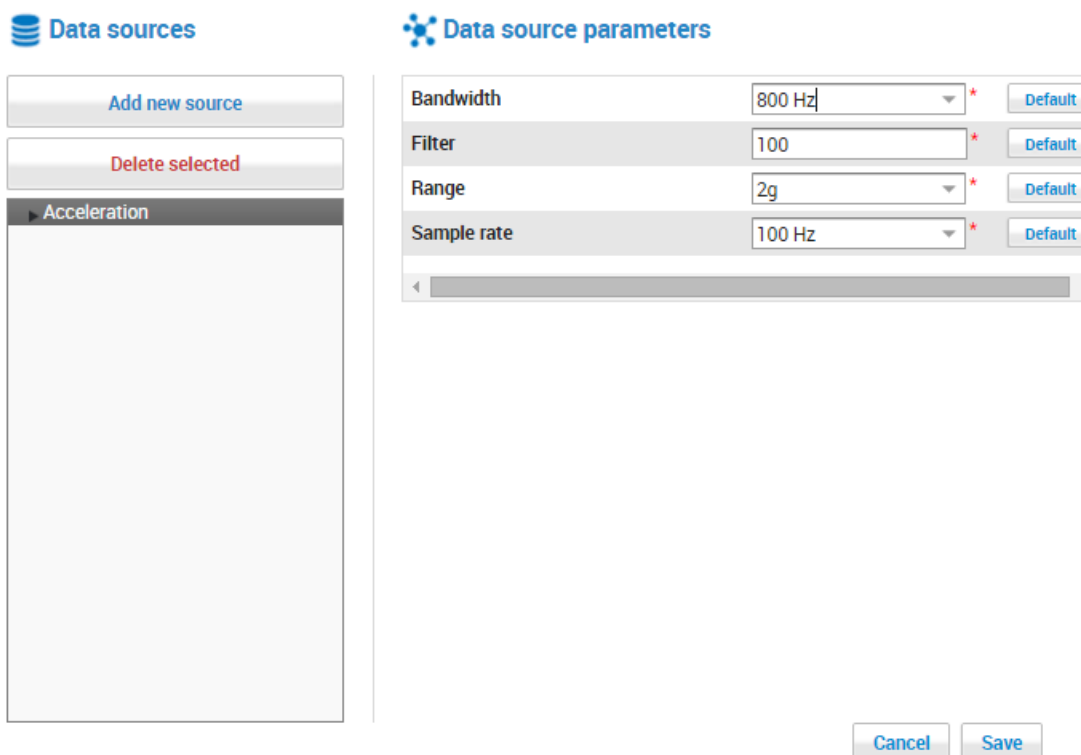


First time connecting the data nodes the system asks what is the initial data source



Select acceleration to get access to the acceleration data (and test the WRM module initial connection)

## 4.2 Set datasource





The screenshot shows the 'IoT-TICKET ENTERPRISEMANAGER' interface. On the left, the 'Site Version Management' section shows 'Mobile WRM' as the site and '8 - In Draft (WATERPROCESS)' as the version. Below this, 'Enterprise Assets' lists 'Mobile WRM'. The main area is divided into 'Data sources' and 'Datanodes'. Under 'Datanodes', 'Internal temperature' is selected. The 'Basic Information' tab is active, showing fields for Name, Unit, Data type, Model, Tag, and Description. The 'Scheduling' tab is also visible, showing options to enable scheduling and set logging parameters.

#### 4.3 Activate after adding datanode

The screenshot shows the 'IoT-TICKET ENTERPRISEMANAGER' interface. The 'Internal temperature' datanode is now active. The 'Activate' button in the 'Site Version Management' section is highlighted with a red circle. The 'Internal temperature' datanode is listed in the 'Datanodes' section with a value of 30 and a unit of C. The 'Total acceleration' datanode is listed with a value of 'no value' and a unit of 'no value'. The 'Read selected' button in the 'Datanodes' section is highlighted with a red circle.

#### 4.4 Read datanode value after activation

The screenshot shows the 'IoT-TICKET ENTERPRISEMANAGER' interface. The 'Internal temperature' datanode is listed in the 'Datanodes' section with a value of 30 and a unit of C. The 'Read selected' button in the 'Datanodes' section is highlighted with a red circle. The 'Total acceleration' datanode is listed with a value of 'no value' and a unit of 'no value'.

#### 4.5 Understanding the tilt and yaw

Tilt pitch positive

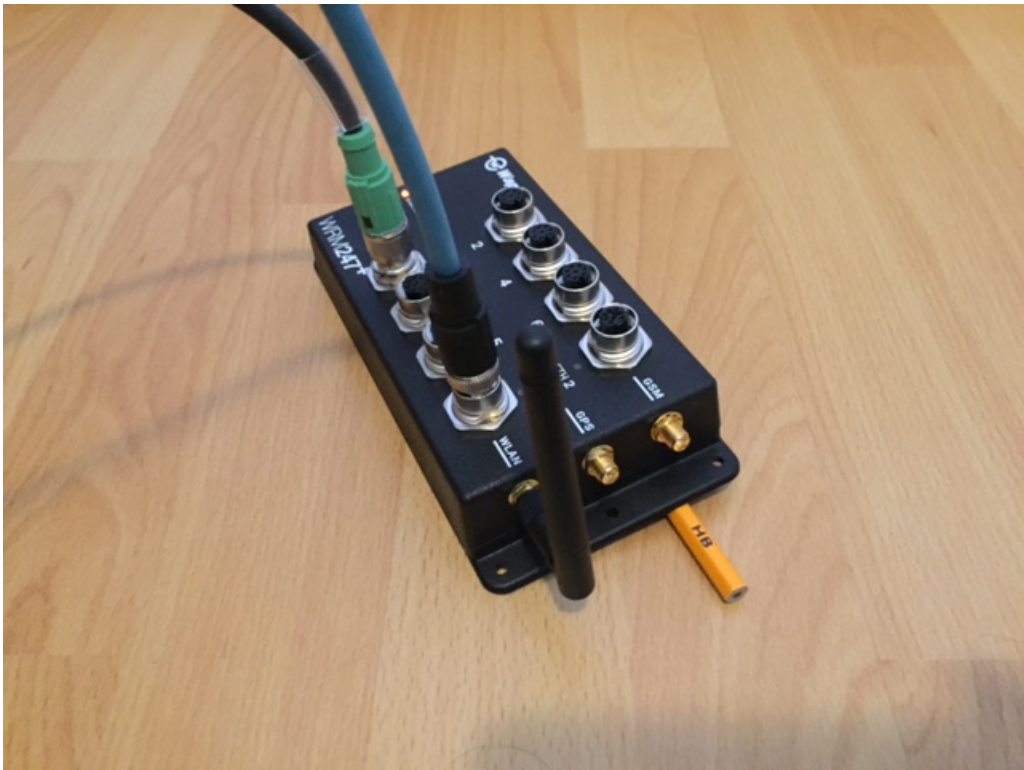




Tilt pitch negative




Tilt roll positive

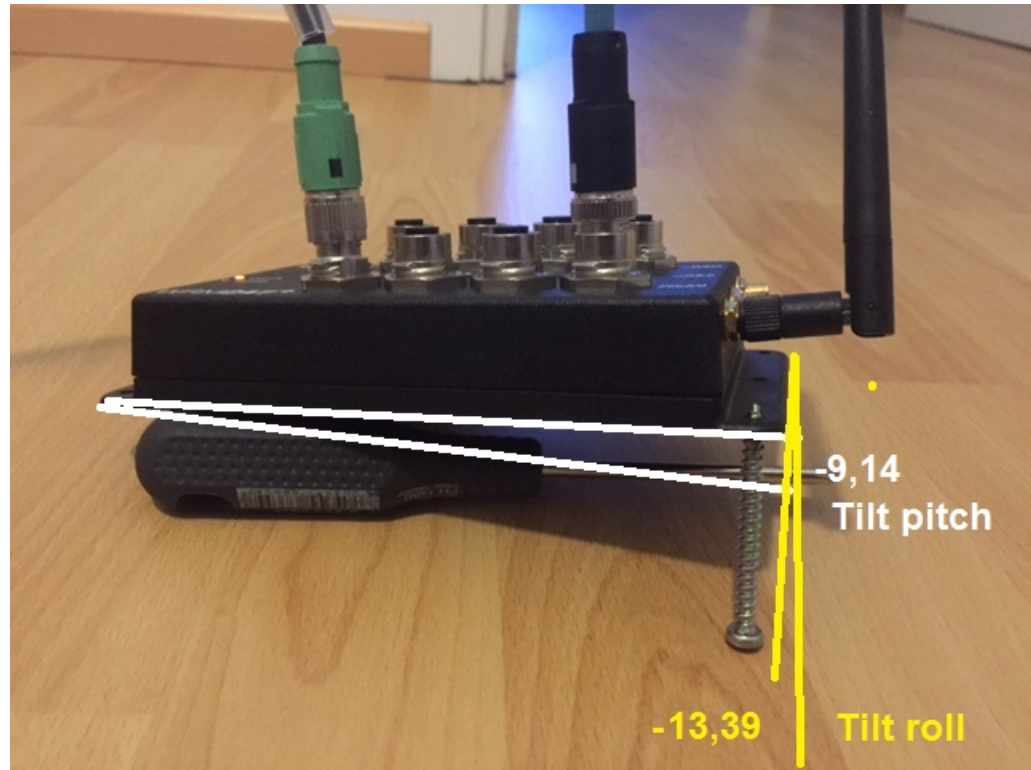


Tilt roll negative



Tilt pith and roll example

Technobothnia Mobile WRM			
	<input type="text" value="Filter"/>	<a href="#">Parameter Filters</a>	<a href="#">Add</a> <a href="#">View</a> <a href="#">Edit</a> <a href="#">Delete</a> <a href="#">History</a> <a href="#">More</a>
Name	Value	Unit	Source Timestamp
Internal temperature	29	C	14.2.2016 17:16:58.521
Tilt pitch	-9.14114	no value	14.2.2016 17:16:59.378
Tilt roll	-13.391691	no value	14.2.2016 17:16:59.378



4.6 Understanding acceration



← → ↺ 🏠 <https://my.iot-ticket.com/enterprisemanager/main>

Apps Timetables - VAASA... Vaasan ammattikork... iGoogle meg VAMK Intra RESTful Java Web S... Basics of Web devel... Java palvelinohjelm... Citrix metsäkor

**IoT-TICKET™ ENTERPRISEMANAGER**

Technobothnia Mobile WRM

🏠 🔍 Filter ⚙️

Enterprise Assets

- Technobothnia
  - Mobile WRM
    - Solar
      - Archestra.FSGateway
      - DESKTOP-COL7Q08 - Computer Monitorin
      - OPC Simulator

Name	Value	Unit	Source Timestamp
Internal temperature	30	C	14.2.2016 17:36:53.264
Tilt pitch	-0.730029	no value	14.2.2016 17:36:58.163
Tilt roll	-11.798405	no value	14.2.2016 17:36:58.163
Total acceleration	0.862338	no value	14.2.2016 17:37:01.087

[[📄 <https://omega.cc.puv.fi/redmine/projects/wrm/wiki/Wiki/edit>]]