

This is a printout of the online documentation. Please check the online documentation on a regular basis for updates. Online documentation is found at "wiki.avisaro.com". This particular document has the link:

[http://www.avisaro.com/tl/tl\\_files/Avisaro20/PDF/WC3\\_Manual\\_20.pdf](http://www.avisaro.com/tl/tl_files/Avisaro20/PDF/WC3_Manual_20.pdf)

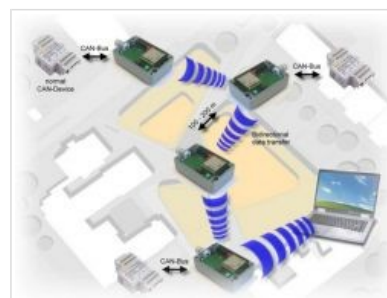
Date: 2009-05-26



## WC3: Meshed wireless CAN Network

### Description

To bridge large distances - i.e. for building automation - with a CAN bus, a meshed network can be set-up. Each Avisaro WLAN Box / Cube relays the data to its neighbor boxes. The whole network is one CAN bus - each CAN message is sent to all clients.



Click to enlarge

### Download



[WC3 User Manual \(PDF, ENG, 0.5 MB\)](#) (print-out of the online manual)



[Download Script: WR3-1.txt \(1.3 kB\)](#) (right mouse-button and 'save under ..' to download)

### Version history

|                  |  |
|------------------|--|
| Script name:     | wc3-1.txt                                |
| Current version: | wc3-1 , dated from 19.05.2009            |
| Firmware:        | v4.24 or higher required                 |
| Hardware:        | CAN WLAN Cube, CAN WLAN Box, WLAN Module |
| History:         | v3-1: Initial release                    |

## 1. Initial Setup

Power Up and Connect to your device as described in the User Manual section "First Steps" ([here](#)).

This application is - if not otherwise stated - not preloaded when Avisaro products are purchased. Load the script WC3 as described [here](#).

Configure the CAN port as described [here](#) using the Web interface.

To summarize, the default settings of the data and WLAN / TCP interface are:

## CAN default settings

Baudrate: 125 kbits/s  
CAN ID send: 49 (hex)  
CAN ID receive: 49 (hex)

## WLAN settings

SSID: avisaro  
Channel: 11  
Mode: adhoc  
Encryption: none

## TCP/IP settings for WLAN interface

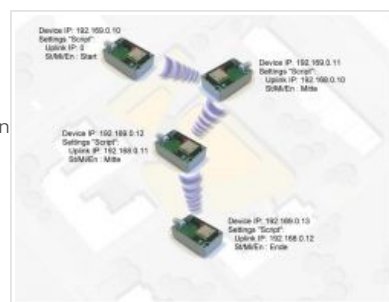
IP: 192.168.0.74  
Subnet: 255.255.255.0  
DHCP: off  
Login user: admin, pass: 1234

## 2. Setup a wireless meshed CAN connection

### 2.1. Planing network layout

All devices are linked to a chain. All CAN messages are transferred from hop to hop. Thus, this chain works like a long CAN cable with several clients connected to it. All clients see all messages.

Assign each node within this chain an individual IP adress. Navigate to the "IP" settings on the configuration web site to do so ([here](#)).



IP settings example (click to enlarge)

### 2.2. WLAN specific considerations

This application can be used in Infrastructure (using an Access Point) and in Ad-hoc mode (using direct communication):

**Infrastructure Mode:** Connect all Avisaro devices with the Access Points. The network must be configured such that all devices can communicate with each other - this is particular important if this is a large scale installation with many Access Points involved.

**Ad-Hoc Mode:** No additional infrastructure is necessary. The Avisaro Devices can communicate directly with each other. All data flow hop-to-hop. There is a naming requirement to ensure proper functionality. The network name (SSID) must be "\*", a 5 letter word, "#". See ([here](#)) for details.

### 2.3. Configure networked chain

All devices are linked to a chain. All CAN messages are transferred from hop to hop. Thus, this chain works like a long CAN cable with several clients connected to it. All clients see all messages.

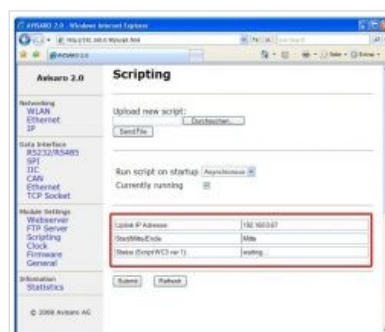
For setup, navigate to the 'scripting' section of the Avisaro device. The 3x2 matrix should be filled similar to the picture shown to the right.

Perform the following settings:

**First device in chain:** Enter '0' in "Uplink Adress" and "Start" in the second row.

**Middle device in chain:** Enter the IP address of the next device in "Uplink Adress". I.e. enter the IP address of the first device in the second device. Enter "Mitte" in the second row.

**Last device in chain:** Enter the IP adress of the second to last device and 'Ende' into the second row.



Settings - Click to enlarge

## 3. More details

### 3.1. LEDs and Key

**Key:**

Not used. Except: Reset to default - see ([here](#)) for details.

**Green LED:**



Indicates power up.



**Red LED:**

Flashing (1sec): Waiting for IP connection to be established

Solid: Indicates a successful established TCP connection