



# Meteohub

Environmental Friendly Weather Monitoring

March 09

*First Steps – Setup Guide*

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# Installation

- This slide deck does not describe installation of Meteohub onto your hardware, but does focus on the steps after having done installation.
- Please refer to the installation chapters of Meteohub manual in download section “Meteohub Documentation” at “[www.meteohub.de](http://www.meteohub.de)”
- Installation procedure varies according to selected HW platform:
  - 2-step approach on NSLU2: First firmware of NSLU2 has to be flashed with a Meteohub firmware, then USB stick has to be setup with Meteohub runtime environment.
  - 2-step approach on fit-PC Slim, ALIX.1D and e-boxes: First, a bootable USB stick has to be prepared. Target system gets booted by this USB stick, which in a second step installs Meteohub runtime environment onto empty CF card already plugged-in at target system.
  - 1-step approach on ALIX.3D2: CF card image has to be extracted from USB stick image (refers to previous paragraph). This image gets directly transferred to CF card and CF card is then plugged into ALIX.3D2 internal CF card slot.
  - 1-step approach on VMware: Meteohub VMware image gets directly installed on target VMware environment.

# First-Time Access

- When a fresh installed Meteohub boots, first thing you have to do is to find it's IP to be able to login with your browser to do setup as described on following slides.
- Meteohub provides a couple of techniques to let you know it's IP in your LAN.
  - When accessing Meteohub for the first time it has to be connected to your LAN. WLAN will not work from scratch, but has to be setup properly.
  - When you have a monitor connected to your Meteohub HW (valid for x86 systems), you will see the LAN IP printed "LAN IP: 192.168.1.123".
  - When you have a NSLU2, e-box or ALIX.1D connected Meteohub will beep it's IP by a tone schema explained on the next slide.
  - ALIX.3D2 signals it's IP by flashing LEDs at it's back. See Meteohub manual for details.
  - Meteohub defaults to DHCP. So your router might have an entry in it's log file that tells you the IP given to Meteohub
  - You can use tools like "ipscan" to search your LAN for active IPs.
  - Meteohub has a backup IP 192.168.1.77 where you should be able to connect to in any case (needs your browsing PC being in the same subnet)

# IP Signaling

- Signaling starts about one minute after having done reboot:
  - Signaling of the IP starts with a low frequency tone of a long duration
  - After that each of the four numbers (delimited by a dot) will be signaled one by one.
  - The dot between numbers will be signaled by a high frequency tone.
  - Each number is signaled by sending beeps digit per digit. Each digit is represented by a middle frequency tone repeated as often as the digit tells us. Zero digit is signaled by ten beeps.
  - After having done this for all digits of all numbers of the IP, end is signaled by a low frequency, long beep as it started with.

- Example: IP 192.168.10.77

Legend: L = low freq. tone, M = middle freq. tone, H = high freq. tone, \_ = pause

LLLL__M__M_M_M_M_M_M_M_M_M_M__M_M__H	192
__M__M_M_M_M_M_M_M__M_M_M_M_M_M_M_M_M__H	168
__M__M_M_M_M_M_M_M_M_M_M_M_M_M__H	10
__M_M_M_M_M_M_M__M_M_M_M_M_M_M_M__LLLLL	77

- You can disable IP beeping by placing a file named "noreadip" into Meteohub's PC network folder "/public/log".

# Localization

- When you browse to “<http://ip-of-your-meteohub>” your browser will ask for user and password. User is “meteohub”, password is initially set to “meteohub” as well.
- Netx, Meteohub will ask you to accept license terms. Mark corresponding checkbox and press “I accept”.
- Click on “Settings” on the left menu and setup the following fields according to your local situation:
  - Select your time zone from drop-down list.
  - Press “save”, wait until finished and press “settings” on left menu again.
  - Check if date and time are set correctly (actual date & time is display in the upper left corner). If not correct, insert actual date & time in format MMDDhhmmYYYY into the corresponding field and press “save”, wait until completed and press “settings” on left menu again.
  - Mark “use local time zone”, select language and give your weather station's position in degrees/minutes/seconds of latitude/langitude and press “save”.

# Network

- Select “Network” on left menu
- To guarantee Meteohub having a constant IP in your LAN it is recommended to give it a static IP:
  - Unmark DHCP.
  - Set Netmask (255.255.255.0 in most cases).
  - Set Gateway IP, which is in most cases LAN IP of your router.
  - Set DNS IP, which has already been filled in by your router during DHCP request. Many routers act themselves as DNS servers, so your router's LAN IP might also fit here.
  - Set a Workgroup name that you are Using with the Windows PCs in your LAN. This makes access from these PCs more easy.
  - Give Meteohub a name which will displayed when searching for PCs in your LAN from one of your Windows PCs.
  - Leave port number at “80”. In general there is no need to change this, and changing this might make your Meteohub's web interface no longer available.
  - Modem and Dynamic DNS can be setup later, as this is not needed for basic operation.
- Sometimes changes for LAN settings are not reflected after having pressed “save”. Please ignore this. Do a reboot and you will see that the changes are applied.

# Weather Station (1)

- Select “Weather Station” on left menu
- Chose your type of weather station from “Add weather station” drop-down menu.
- Then you are requested to make further selections for your weather station:
  - You can give it a name
  - Select type of connection. For a direct connection of your weather this can be “serial”, “USB serial”, “USB HID” or “TCP/IP” (depending of your station's type and available interfaces of your Meteohub HW).
    - “USB HID” does not need further device info. Use USB HID for WMR-100/200, WMRS-200, RMS-300/600, TE-923, WH-1080.
    - “USB serial” needs a device name. Select “/dev/ttyUSB0” for that. USB serial is used with serial weather stations using a RS232-USB converter or USB Vantage or USB RFXCOM.
    - “Serial” needs a Meteohub HW with native RS-232 interface (e-boxes, ALIX). Select “/dev/ttyS0” or “/dev/ttyS1” as interface. Serial weather stations are WMR-928 or serial Vantage.
    - “TCP/IP” needs an IP or Hostname to connect to followed by a colon and port number (“192.168.1.123:10001” for example). TCP/IP weather stations are Vantage with WLIP or LAN/WLAN versions of RFXCOM.

## Weather Station (2)

- Select hold time until a sensor gets dropped when not providing fresh data
  - Select weather station's altitude
  - Select how sea level pressure and wind chill should be computed.
  - Do not mark data logging as stopped
  - Press “save” to make settings valid.
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- Hint: Available Devices Section in the upper part of the screen shows serial devices that are available on Meteohub system.
    - When an USB serial devices is connected to Meteohub a “/dev/ttyUSB0” entry should show up.
    - When a weather station that acts as a USB HID device is connected to Meteohub This type of station should be listed in the USB HID section
    - When Meteohub platform supports native serial interface, this interface is also listed as “/dev/tty?”. As Meteohub does not check if one of the interfaces has a weather station connected, you have to find the correct interface to select by yourself.

# Sensors

- Select “Sensors” on left menu.
- By having selected a weather station in the previous step, data logging should have been started and data should begin dropping in. Received sensor data is displayed on “sensors” page.
- Sensors are described by columns “type” and “#”. To have data of a sensor logged it is necessary to give them a unique sensor ID.
- When there is just one weather station connected it is strongly recommended to give sensors with a zero in “#” column a zero-named ID (example: “RG126 182:0” should get ID “rain0”).
- Give all received sensors a sensor ID and a meaningful name and press “save & restart data logging” when done.
- Hint: You can press “refresh” to update the list of received sensors and their actual data

# Update

- Select “Maintenance” on left menu
- To change password for Meteohub web interface type in the new password in both password input lines and press “save”
- To leave demonstration mode of Meteohub please enter your activation code in the corresponding text field and press “save”. You can check by flipping to “System Information” page if activation was successful.
- You can install a software update by these steps:
  - Download a software update file from download section “Meteohub Software Updates” of [www.meteohub.de](http://www.meteohub.de) to your local PC.
  - Mount PC network folder of Meteohub from your Windows PC by directing your explorer window to “\\ip-of-your-meteohub\public\”. Enter “meteohub” as user and password when asked.
  - Copy update file into subfolder “transfer”. Now update file is on your Meteohub and you can install it with Meteohub web interface.
  - Assuming the update file is named “my-update.upd” enter “/data/transfer/my-update.upd” into field “Software Update (File)” and press “install”.
  - When no error occurs, Meteohub will install update and will reboot.

# Dashboard

- Select “Dashboard” on left menu
- Select from sensors previously defined on “Sensors” page for display on Dashboard
- Select units
- Select language
- Select which historical to display in addition (just works if these are available so far)
- Press “display & save”
- A browser window containing Meteohub dashboard will pop-up. Please make sure that your browser does not block pop-up windows.
  
- Hint: To make dashboard available on your home page consult Meteohub manual
- Hint: Historical data needs recomputation being finished and data from the desired time frame being available.

# WD-Live

- Select “WD-Live” on left menu
- When selecting this page for the first time you need to accept WD-Live license terms. Mark checkbox at the bottom and press “I accept”. Having done that Meteohub will switch back to “WD-Live” page.
- WD-Live is the work of Julian Best. It is attached to Meteohub distribution as a free evaluation version just for your convenience. A WD-Live license can be purchased here: “<http://www.weather-display.com/order.php>”
- Select sensors to be displayed and press “save”
- Switch to “Graph Uploads” on left menu. Select following entries from “Graph/Data” column for generation and go with default generation schedule and file name:
  - WD-live
  - WD-live extra
  - WD-live hour
  - WD-live daily
- Press “save”, switch back to “WD-Live” on left menu, wait a minute and press “display & save”. A pop-up Windows with WD-Live evaluation version will appear (make sure your browser does not block this pop-up window).