APPLICATION NOTE:

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iBOX or iSENSE in Wireless WiFi network and with GPRS/3G ROUTER

The iBOX has several possibilities for connection:

- 1. Direct to PC using a cross ethernet cable
- 2. Connection to a Local Area Network (LAN), via router
- 3. Connection to a Wireless Local Area network (WLAN)
- 4. Connection to a wide Area Network (WAN), via internet
- 5. Connection to a Wireless Wide Area Network (WWAN), using a wireless GPRS/3G router

For detailed instructions see the iBOX manual and online demo of the webserver

For online inspection an optional local webcam may be installed and connected to the router (or via optional extra switch)

Example of possible Structures: ---- = wired >>>= wireless

A. Wired connection between iBOX and wired Router

```
(LAN network)
iBOX 1------→ ROUTER -----INTERNET CONNECTION (wired)
iBOX 2-----→
iBOX n-----→
```

The ROUTER is usually connected to internet, so in that case the **iBOX webserver** is also available remote over the internet, see online demo and instructions in the hardware manual of the iBOX., see www.ekopower.nl

When no wired internet connection is available, a GPRS/3G router can be used (Wireless WAN structure).:

```
(LAN network)
iBOX 1-----→ GPRS/3G ROUTER >>>>>INTERNET CONNECTION (wireless via GPRS/3G network)
iBOX 2------
iBOX network)
```

NOTES:

- 1. For remote applications an Ultra Low Power (ULP) version of the iBOX is available and the Router can be switced on at the time for communication (for saving energy):, so the system can operate with a battery or small solar module.
- 2. When a sim card is used with fixed ip address in the GPRS/3G Router, the webserver of the iBOX is available

B. Wireless network connection between iBOX and router

With Wireless connection beween iBOX and ROUTER, using a wireless BRIDGE (also available for long ranges)

```
WLAN wireless network
iBOX A----Wireless WiFi Bridge A>>>>> WiFi ROUTER ------INTERNET CONNECTION (wired)
iBOX B----Wireless WiFi Bridge B>>>>>
iBOX C----Wireless WiFi Bridge C>>>>>
iBOX D----Wireless WiFi Bridge D>>>>>
```

When no wired internet connection is available, a WiFi - GPRS/3G router can be used (Wireless WAN structure).:

```
WLAN wireless network

iBOX A----Wireless WiFi Bridge A>>>>> WiFi - GPRS/3G ROUTER >>>>>INTERNET CONNECTION

iBOX B----Wireless WiFi Bridge B>>>>>

iBOX C----Wireless WiFi Bridge C>>>>>

iBOX D----Wireless WiFi Bridge D>>>>>
```

NOTES:

- 1. For remote applications an Ultra Low Power (ULP) version of the iBOX is available and the Bridge can be switced on at the time for communication (for saving energy):, so the system can operate with a battery or small solar module.
- 2. When a sim card is used with fixed ip address in the GPRS/3G Router, the webserver of the iBOX is available