

USB Coordinator and Router

The NetBotz® USB Coordinator & Router (NBWC100U) connects to a NetBotz appliance, allowing you to monitor the temperature and humidity in your data center using the Wireless Temperature Sensor (NBWS100T and/or NBWS100H). Compatible appliances include the NetBotz Rack Monitor 250, 450, 550, 570, and 750, and the NetBotz Room Monitor 455 and 755.

The USB Coordinator & Router can be configured as a coordinator or a router in a wireless sensor network. Each wireless sensor network must have only one coordinator, powered directly by the NetBotz appliance. Routers are powered by the AC-USB adapter, separate from the NetBotz appliance. Routers are optional; one router for every three racks is recommended. Apply power to end devices last.

NetBotz appliances can support a total of 47 devices on the wireless sensor network (not including the coordinator).

Devices on the Wireless Sensor Network

NOTICE	
EQUIPMENT DAMAGE RISK	
Only the devices listed here are compatible with the NetBotz wireless sensor network. Other devices may not function and may damage the appliance or other wireless devices.	
Failure to follow these instructions can result in equipment damage.	

Device	Network Role
USB Coordinator & Router (NBWC100U)	Coordinator when connected to the appliance USB port Router when connected wirelessly and powered by an AC-USB adaptor
Wireless Temperature Sensor (NBWS100T)	End device
Wireless Temperature/Humidity Sensor (NBWS100H)	End device

NOTE: Wireless devices have a range of up to 30.5 m (100 ft), line of sight. In a data center environment where obstructions are common, a range of 15 m (50 ft) is typical for any wireless device.

Connect the Wireless Sensor Network

The order in which you configure your wireless sensor network and apply power to your wireless devices is important:

1. Select the coordinator and routers. If you have a pre-installed USB Coordinator and Router on your appliance, it acts as the coordinator. Note the extended address of the coordinator. If necessary, choose one or more USB Coordinator & Routers to become routers.
2. Choose the locations for the routers and end devices. Do not turn on the routers or end devices at this time.
3. Connect the Coordinator to the designated USB port on the NetBotz appliance.
4. Use an AC-USB adapter to apply power to each router. Routers are not directly connected to the NetBotz appliance.
5. Turn on the end devices after the coordinator and routers. This helps to preserve battery life.
6. Add end devices (wireless sensors) to the wireless sensor network. See [Adding Sensors to the Network](#), page 2 for instructions.

Adding Sensors to the Network

Depending on the NetBotz appliance, you may be able to add wireless sensors to the network in any or all of the following ways:

- Enter the MAC addresses for the wireless sensors manually.
- Use any bar code or QR code scanner to save a list of MAC addresses to a text file, one address per line, and copy and paste it into the sensor list.
- Use a hand-held USB scanner to manually scan the MAC address bar code on the USB Coordinator & Router label directly into the sensor list.
- Once the coordinator is connected to the appliance, allow powered wireless devices to automatically join and form the network using Auto Join.

NOTE: Some bar code and QR code scanners return the part number, serial number, and MAC address on one line. To add a device to your wireless network, enter only the alphanumeric MAC address of each device. For example, you would only enter the bolded numerals in the line below:

XN:NBWC100U%SN:XXXXXX123456%MAC:**00C0B70000XXXXXX**

LED Activity

During the boot process in both coordinator and router mode, LED activity is as follows:

1. Power on: Flashes a quick green, yellow, red sequence
2. Runtime check: Alternately flashes green and yellow for about 45 seconds
3. Check OK: Flashes green three times
4. Firmware update check: Turns solid yellow for 5 seconds
5. Application started: Flashes a quick green, yellow, green sequence

After the boot process is complete, LED activity on the USB Coordinator & Router signifies its status:

Coordinator LED Activity

LED Activity	Meaning
Flashes green	Normal. The network was formed successfully.
Off	Forming a network
Solid green	Joined another network as a Router.
Solid red	Unable to form a network. Relocate the Coordinator. Reboot the device.*

Router LED Activity

LED Activity	Meaning
Solid green	Normal. Joined the network as a Router.
Solid yellow	Searching for network
Off	The device was previously configured as a Coordinator. Reset the device to factory defaults.**

*To reboot the USB Coordinator & Router, press and hold the reset button for less than three seconds. The device will operate in the mode in which it was configured before the reboot.

**To reset the USB Coordinator & Router to factory defaults, press and hold the reset button for at least 5 seconds. Release the reset button when the LED is solid red. The device will reset, erase its current settings, and return to Router mode, the factory default.

For more information about installing and configuring the USB Coordinator & Router, see the USB Coordinator and Router Installation Manual on www.apc.com. For assistance, contact a local Customer Care Center: go to www.apc.com/support, and select your country from the drop-down list.