

Trimble NetR5, NetR8 and NetR9 - Critical Power-On/Off Configuration Details

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NetR5, NetR8, and NetR9 hardware requires that Power On and Shutdown Voltages be properly configured to ensure proper functionality when used with DC power systems.

UNAVCO has determined, and Trimble has confirmed, that a NetR5, NetR8, or NetR9 configured with a Power On Voltage that is not more than 1 Volt greater than the Shutdown Voltage will not power on as programmed under certain circumstances. UNAVCO suggests that a minimum separation of 1.3 Volts be used.

These settings are found in the "General" submenu of the "Receiver Configuration" menu of the web interface. UNAVCO recommends the following configurations, depending on the type of Charge Controller being used:

1. If a Charge Controller without a Low Voltage Disconnect (LVD) is used:

Power On Voltage: 12.50V

Shutdown Voltage: 11.00V

General

Event 1 On/Off Event 1 Slope

External Frequency [No Source Detected]

1PPS On/Off

Internal Battery UPS

UPS Timeout (seconds)

Battery Charging Mode

Battery Charging Voltage

Battery Charging Minimum Volts. Range: 10.8V-15.0V. Default:12.0V

Power Over Ethernet Ethernet Battery Charging

Power On Voltage Volts. Range: 10.8V-15.0V. Default:15.0V

Shutdown Voltage Volts. Range: 9.5V-15.0V. Default:10.5V

VFD Configuration

VFD Power Saver

VFD Brightness

VFD Rotation

2. If a Charge Controller WITH an LVD is used: identify the voltage thresholds of the LVD and set the receivers voltages below each of them. A commonly used controller - the [Flexcharge NC30](#) - will disconnect the load when battery voltage drops below 10.9V and reconnect at 12.9V. The NetR9 should then be set to:

Power On Voltage: 12.80V
Shutdown Voltage: 10.80V

The screenshot shows the configuration interface for a receiver. On the left is a sidebar with navigation options: Receiver Status, Satellites, Data Logging, Receiver Configuration (with sub-options: Summary, Antenna, Reference Station, Tracking, Position, Correction Controls, General, Application Files, Reset, Default Language), I/O Configuration, Bluetooth, OmniSTAR, and Network Configuration. The main area is titled 'General' and contains the following settings:

- Event 1 On/Off: Disable
- Event 1 Slope: Positive
- External Frequency: Disable [No Source Detected]
- 1PPS On/Off: Disable
- Internal Battery UPS: Disable
- UPS Timeout (seconds): 60
- Battery Charging Mode: When ON
- Battery Charging Voltage: Programmable
- Battery Charging Minimum: 13.50 Volts. Range: 10.8V-15.0V. Default:12.0V
- Power Over Ethernet: Disable
- Ethernet Battery Charging: Disable
- Power On Voltage: 12.80 Volts. Range: 10.8V-15.0V. Default:15.0V
- Shutdown Voltage: Enable
- 10.80 Volts. Range: 9.5V-15.0V. Default:10.5V
- VFD Configuration: Enable
- VFD Power Saver: Enable
- VFD Brightness: 12.5%
- VFD Rotation: Disable

At the bottom of the settings area are 'OK' and 'Cancel' buttons.

Users should consider the effects of these settings on their power systems and may adjust them according to need, but should be careful to adhere to the minimum separations. Please contact UNAVCO for advice and assistance testing individual configurations, and for further details.

While future versions of firmware may add enhancements to the user interface that will explicitly warn users of the configuration requirements and change the defaults accordingly, this is a hardware-based feature and will always be present in these receivers.

Online URL:
<https://kb.unavco.org/article/trimble-netr5-netr8-and-netr9-critical-power-on-off-configuration-details-700.html>