

Network Communications Interface for DC-AC Inverters

This user's information manual is applicable for the following inverter Models:

1785-xxx-120-60-L

1786-xxx-120-60-L

1785-xxx-120-60-U

1786-xxx-120-60-U

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NOTE: For physical setup and operational instructions see the user information manual that was included with your inverter.

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Network Communications Interface for DC-AC Inverters

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1 Network Communications Interface

The Wilmore Network Communications Interface allows you to monitor your Wilmore DC-AC inverter through a web interface, SNMP (Simple Network Management Protocol), serial terminal port and web service API (Application Programming Interface). This unit uses a standard RJ45 Ethernet connection to allow monitoring through its web interface, SNMP, and web service API. Serial terminal monitoring is supported using an external USB port.

Overview of general information that can be monitored (via web interface, SNMP, serial terminal, and web service API):

- Unit Description
- Model Number
- Serial Number
- DC Input Voltage
- AC Output Frequency
- AC Output RMS Voltage
- AC Output RMS Current
- Real AC Output Power
- Apparent AC Output Power
- AC Output Power Factor
- AC Output Transfer Status

Overview of warning information that can be monitored (via web interface, SNMP, serial terminal, and web service API):






- Low DC Input Voltage
- High DC Input Voltage
- Abnormal AC Voltage from (External, Inverter, Backup, or Preferred) Source
- Output Overload


Additional Information that can be monitored (via SNMP, serial terminal, and web service API only):

- Peak Positive AC Output Voltage from (External, Inverter, Backup, or Preferred) Source
- Peak Negative AC Output Voltage from (External, Inverter, Backup, or Preferred) Source
- Peak Positive AC Output Current from (External, Inverter, Backup, or Preferred) Source
- Peak Negative AC Output Current from (External, Inverter, Backup, or Preferred) Source
- AC Output Reactive Power


1.1 Serial Port Drivers and Network Support

This chart details the current driver and features supported on the Wilmore Network Communications Interface for the Microsoft Windows and GNU Linux platforms.

Features and Application Support					
	Serial Terminal 	Wilmore Configuration Application 	Web Page 	Web Service API 	SNMP 
Windows 7/8	* Requires Additional Drivers	* Requires Additional Drivers	✓	✓	✓
Windows 10/11	✓	✓	✓	✓	✓
Linux	✓	✗	✓	✓	✓



Requires a USB Connection



Requires a Network Connection

*** Additional Drivers (Microsoft Windows 7 / 8 Only):** ST Micro provides the COM port drivers for the module used in this unit which can be downloaded from the ST Micro website at: <https://www.st.com/en/development-tools/stsw-stm32102.html>.

1.1.1 Pre-Install Notes

Local Configuration Only: The Wilmore Network Communications Interface requires a **USB 2.0 Type B to USB 2.0 Type A** cable (physically connected to the unit) for initial setup and configuration.

Network Connection is for Remote Monitoring: The internal web interface and SNMP protocol are strictly for information monitoring only, configuration via these interfaces is not allowed.

Disconnect Serial port after Configuration: Wilmore encourages the removal of the USB connection after completing configuration to avoid unwanted configuration changes.

Offsite / Remote Access: It is recommended that this unit not be exposed directly on the internet. If you require an external offsite connection for monitoring, please consider using a VPN (Virtual Private Network) for a more secure connection.

1.2 Wilmore Communications Configuration Application

This unit should be configured using the Wilmore Communications Configuration application before monitoring information via the web interface, SNMP, or query the web service API. A Windows system is required for the initial configuration of this unit.

1.2.1 System Requirements

Table 1: System Requirements

Wilmore Communications Configuration Application System Requirements		
Operating System	Windows 7 Service Pack 1	Windows Server 2012
	Windows 8.1	Windows Server 2016
	Windows 10	Windows Server 2019
	Windows 11 (or later)	Windows Server 2022 (or later)
Physical Connections	An available USB 2.0 or 3.0 Type A port.	
	An available RJ45 network connection.	
Drivers	Installation of virtual COM port drivers (Windows 8.1 or later).	
Software	The .NET Framework Version 4.6.2 (or later)	
Processor	1 GHz (.NET framework minimum requirement)	
RAM	512 MB (.NET framework minimum requirement)	
Disk Space	4.5 GB (.NET framework minimum requirement)	

1.2.1.1 Installing the .NET Framework

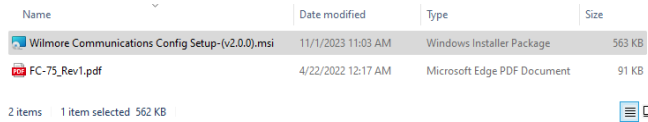
The Microsoft .NET 4.8 Framework should already be installed if you are running a fully updated Windows 7, Windows 8.1, or Windows 10 system (or later). If the .NET 4.8 Framework is not installed via Windows update, it can be installed manually using the “.NET 4.8 Framework Offline Installer” available from [Microsoft](#).

NOTE: To install the .NET 4.8 framework one of the following minimum Windows versions are required: Windows 7 SP1, Windows 8.1, or Windows 10 version 1607.

1.2.2 Installation of the Communications Configuration Application

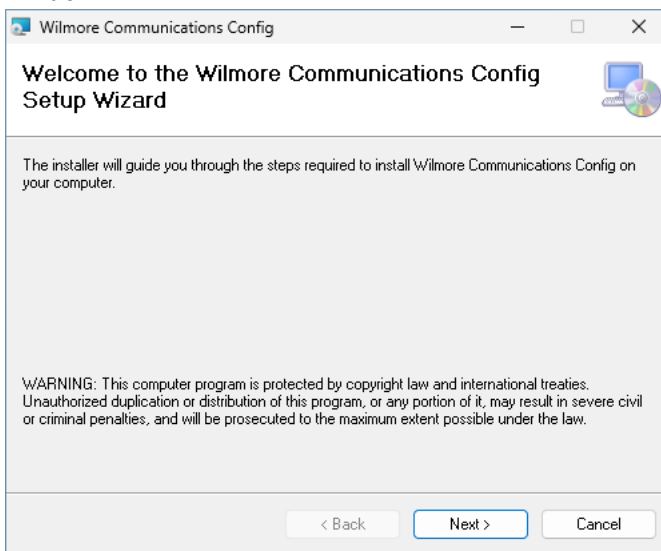
The configuration application can be installed with the “Wilmore Communications Config Setup.msi” installer available on our website at: <https://www.wilmoreelectronics.com/wilmore/support/downloads.php>.

Figure 1: Wilmore Communications Config Setup MSI Installer



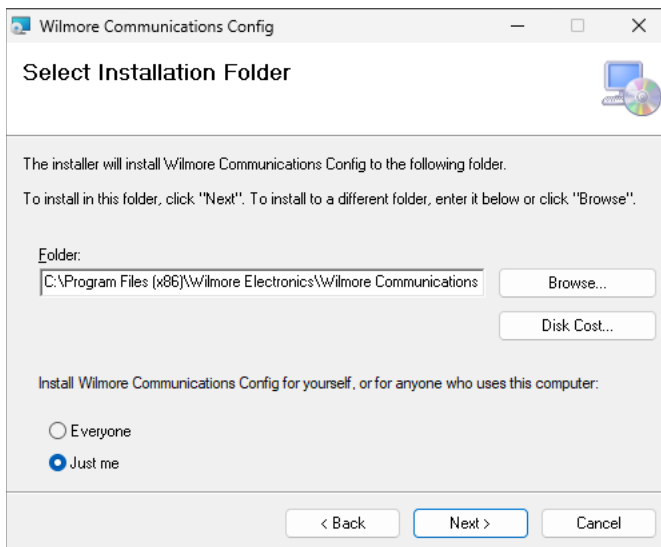
1. Download and extract the Wilmore Communications Configuration application (Wilmore-Communications-Config-Setup-(v2.x.x).zip) available on our website and start the installer (Wilmore Communications Config Setup.msi).

Figure 2: Wilmore Communications Config Setup – Main Window



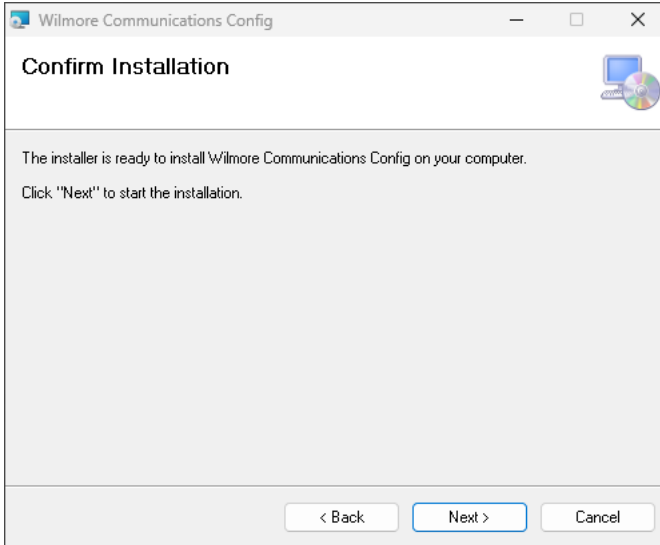
2. Click next to start the Wilmore Communications Config installation wizard.

Figure 3: Wilmore Communications Config Setup – Select Install Location



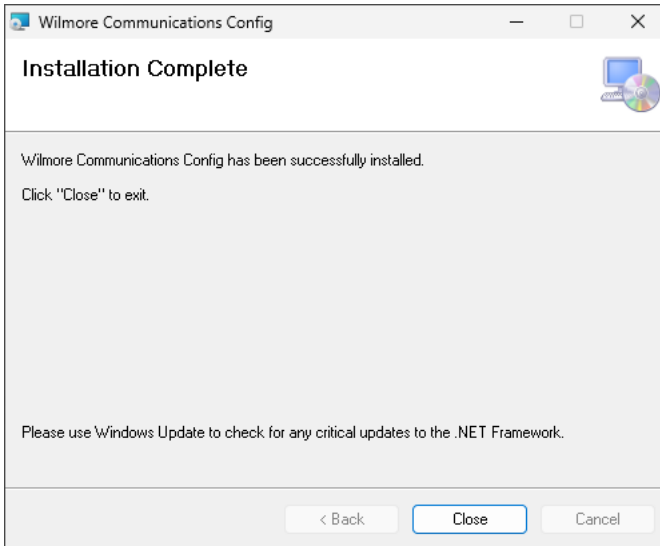
3. Select the folder location where you would like to install the Wilmore Communications Config software.

Figure 4: Wilmore Communications Config Setup – Confirm Installation



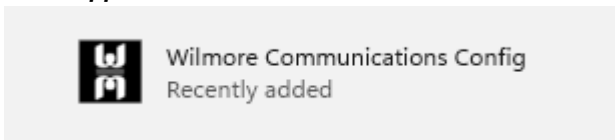
4. Click the next button to install the Wilmore Communications Config software to the desired location.

Figure 5: Wilmore Communications Config Setup – Finish



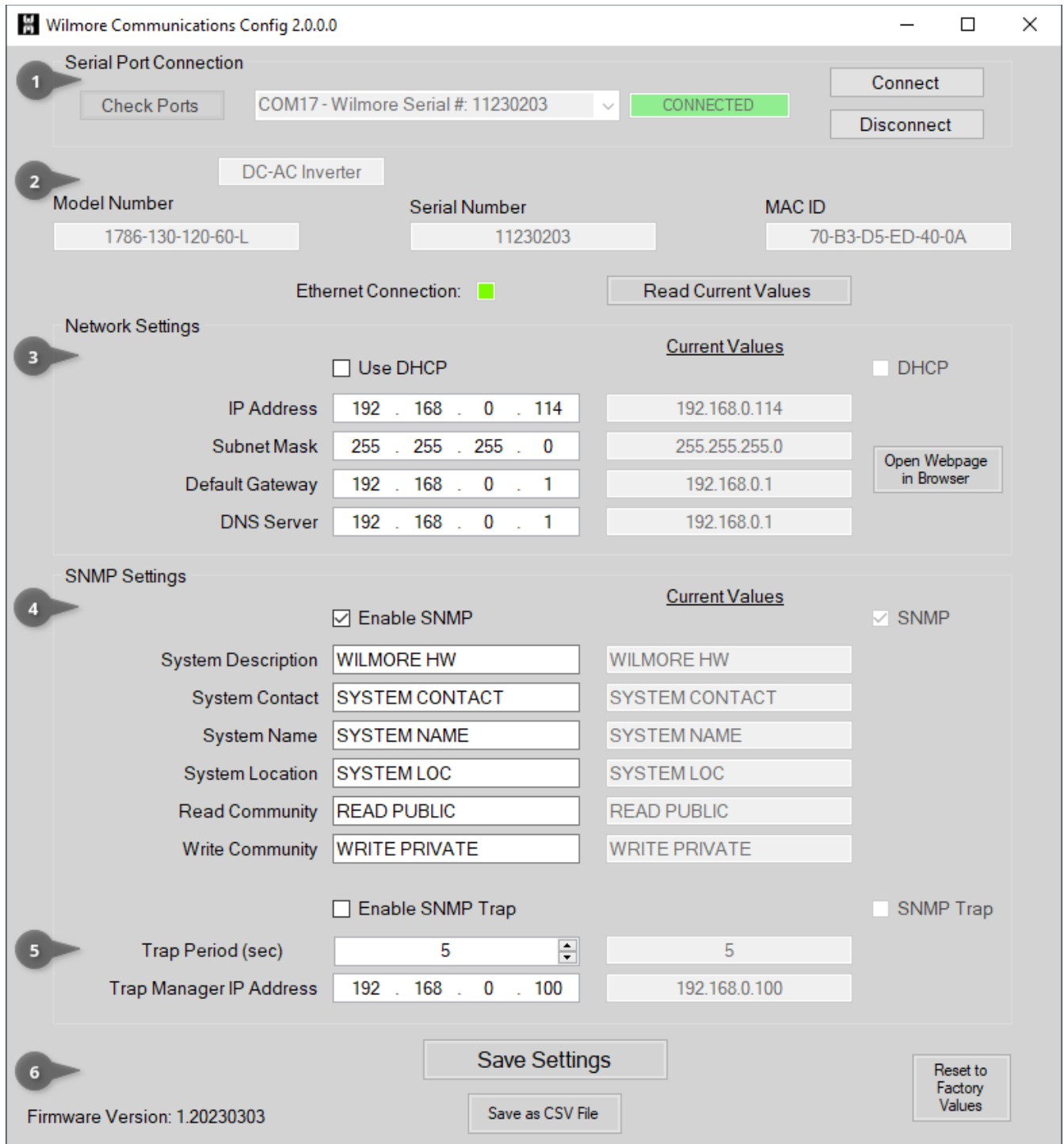
5. Click the close button to finish the installation wizard.

Figure 6: Wilmore Communications Config Setup – Start Menu Application Launcher




6. Start the Wilmore Communications Config application using the start menu search function or start menu entry.

Figure 7: Wilmore Communications Configuration Application – Main Window



1.2.3 Configuration Options

Table 2: Configuration Options for the Wilmore Communications Configuration Application

Configuration Setting	Description	Example Values
(1) Serial Port Connection Settings		
Check Ports	Button used to refresh the list of available serial port connections on this system.	N / A
Serial Port Selection List	A drop-down list of available Wilmore power conversion products connected to this system. Products will be listed by the (Windows assigned) serial COM port number followed by the Wilmore serial number.	COM17 – Wilmore Serial #: 11230203
Serial Connection Status	The connection status of the serial port on this system to the unit.	CONNECTED
Connect	Button used to initiate a connection to this unit.	N / A
Disconnect	Button used to stop the connection to this unit.	N / A
(2) General Information		
Wilmore Product Type	This will list the type of Wilmore power product that the application is connected to (DC-DC Converter or DC-AC Inverter).	DC-AC Inverter
Model Number	The Wilmore assigned model number of this unit.	1786-130-120-60-L
Serial Number	The Wilmore assigned serial number of this unit.	11230203
MAC ID	The Wilmore assigned MAC (Media Access Control) ID of this unit.	70-B3-D5-ED-40-0A
Read Current Values	Button used to populate the “Current Values” column with the most recent configuration values of this unit.	N / A
(3) Network Settings		
Ethernet Connection (Status)	This section displays the connection status of the Ethernet port on the Wilmore Inverter. The status window will display green when an active Ethernet connection is detected and red when it is disconnected.	
Use DHCP (Checkbox)	Enables or disables DHCP (Dynamic Host Control Protocol). (Disable if a static IP address is needed)	Disabled
IP Address	Displays user input of the IP address and its current value. (Only configurable if DHCP is disabled)	192.168.0.114

Configuration Setting	Description	Example Values
Subnet Mask	Displays user input of the subnet mask address and its current value. (Only configurable if DHCP is disabled)	255.255.255.0
Default Gateway	Displays user input of the default gateway and its current value. (Only configurable if DHCP is disabled)	192.168.0.1
DNS Server	Displays user input of the DNS server address and its current value. (Only configurable if DHCP is disabled)	192.168.0.1
Open Webpage in Browser	This button will open the web interface of the Wilmore power inverter in your default web browser using the current IP address.	N / A
(4) SNMP Settings		
Enable SNMP (Checkbox)	Enables or disables Simple Network Management Protocol.	Enabled
System Description (optional)	An administrator defined text description of the unit. Maximum Field Length: 20 characters	DCAC Inverter 1
System Contact (optional)	An administrator defined contact for the unit, including information on how to contact them. Maximum Field Length: 32 characters	John Smith username@example.com
System Name (optional)	An administrator defined hostname for this unit. Typically, the FQDN (Fully-Qualified Domain Name) of the unit. Maximum Field Length: 20 characters	hostname.example.com
System Location (optional)	The physical location of this unit. Maximum Field Length: 20 characters	Wiring closet, 1st floor
Read Community Name (required)	A password that allows read-only SNMP access to the device. Maximum Field Length: 20 characters	READ PUBLIC
Write Community Name (optional)	A password that allows SNMP write access to the device. Maximum Field Length: 20 characters	READ PRIVATE
(5) SNMP Trap Settings		
Enable SNMP Trap (Checkbox)	Enables or disables SNMP Traps.	Disabled
Trap Period (Sec)	The time in seconds in between trap messages. Minimum Value: 5 seconds Maximum Value: 86,400 seconds (approximately 24 hours)	5

Configuration Setting	Description	Example Values
Trap Manager IP Address	The IP address for the network management server where the SNMP trap message will be received.	192.168.0.100
(6) Configuration Settings		
Save Settings	Button that saves the user's network and SNMP configuration settings to this unit.	N / A
Save as CSV File	This button will save all configured settings to a CSV file. Additional entries are appended when they are saved to the same CSV file. This is useful when the user desires to save multiple unit configurations.	N / A
Reset to Factory Values	This button will reset all user configured settings back to the Wilmore Factory defaults. Note: To make the factory reset permanent, you must click the save settings button.	N / A
Firmware Version	The version number of the software currently installed on the Wilmore inverter.	1.20230303

1.2.4 Network Communications Interface Initial Configuration

1.2.4.1 DHCP IP Address Configuration

This section describes the steps for configuring your Wilmore inverter with DHCP (Dynamic Host Configuration Protocol).

NOTE: The DHCP address assigned to the inverter may change on startup depending on the DHCP lease time configured on your DHCP server (typically 24 hours). However, you may configure your DHCP server to reserve a static DHCP lease (based on its MAC address) that will assign the same IP address every time to the inverter.

Table 3: Required Materials for DHCP Configuration

Description	Quantity
Wilmore DC-AC Inverter	1
Straight-through Ethernet Cable with T568A or T568B wiring standard	2
USB 2.0 A to B Cable (Included)	1
Network router or switch configured as a DHCP server	1
Windows 7/8/10/11 PC	1
Wilmore Communications Configuration Application (Downloaded)	1

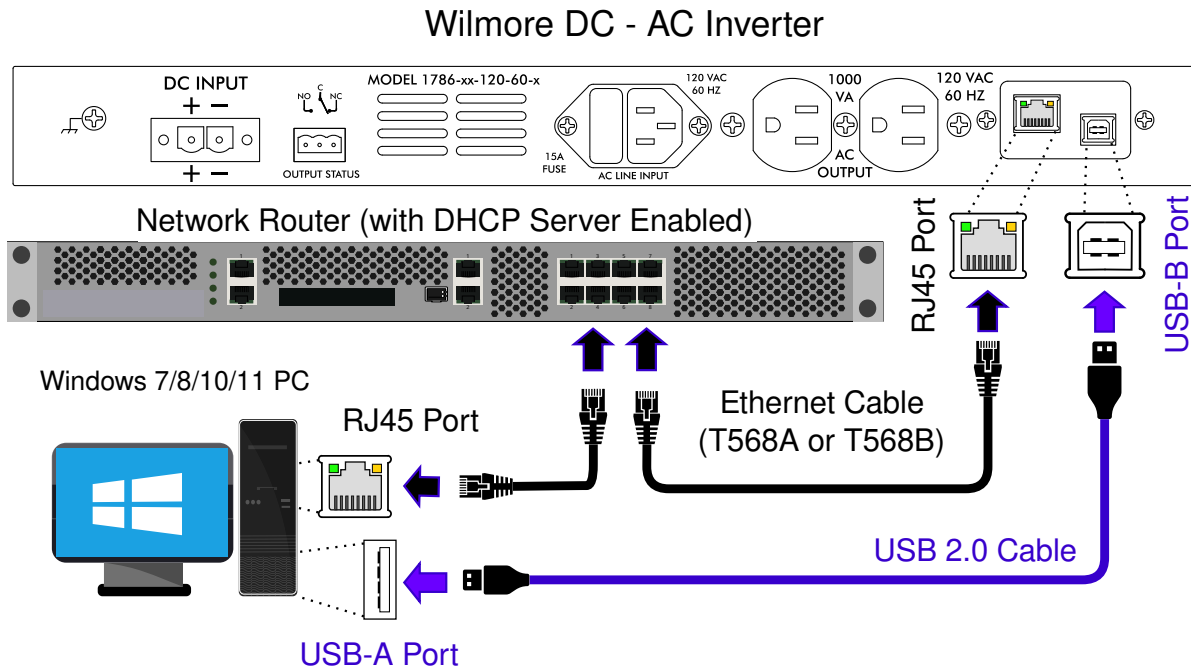
1. Download and install the Wilmore Communications Configuration application available on our website.

Example Filename: Wilmore-Communications-Config-Setup-(v2.x.x).zip

Download URL: <https://www.wilmoreelectronics.com/wilmore/support/downloads.php>

Skip this step if you have already installed the configuration application using the instructions in [Section 1.2.2, page 6](#).

Figure 8: Wilmore Inverter USB and Network Connections – DHCP Server



2. Make all USB and Ethernet connections according to the diagram above (Figure 8)
3. Connect the correct DC input power source according to the model of inverter purchased (12, 24, 48, or 130 volts) to the Wilmore DC-AC Inverter and power the unit on.

1 | Network Communications Interface

4. Open the Wilmore Communications Configuration application using the Windows start menu entry or start menu search function (Wilmore Communications Config).

Figure 9: Wilmore Configuration Application – Serial Port Connection



NOTE: The configuration application will automatically connect to the first Wilmore power product detected via the USB serial port. If you have multiple units connected you can select other units via the serial port drop down list.

The “Check Ports” button and serial port drop down list will only function while the application is disconnected.

5. In the Network Settings section, enable the “Use DHCP” checkbox (default: unchecked).
6. Click on the “Save Settings” button to write the network settings to the unit.

Allow 15 seconds for the settings to be saved to the unit.

The inverter will save all network and SNMP settings entered and disconnect the serial interface.

7. Power-cycle the Wilmore inverter and reconnect via the Wilmore Communications Configuration application to verify your settings have been saved.
8. Test connectivity to the unit by clicking on the “Open Webpage in Browser” button in the configuration application.

1.2.4.2 Static IP Address Configuration

This section describes the steps for configuring your Wilmore inverter with a static network address configuration.

Table 4: Required Materials for Static IP Address Configuration

Description	Quantity
Wilmore DC-AC Inverter	1
USB 2.0 A to B Cable (Included)	1
Network switch (Optional)	1
Straight-through Ethernet Cable with T568A or T568B wiring standard	2
Windows 7/8/10/11 PC	1
Wilmore Communications Configuration Application (Downloaded)	1

1 | Network Communications Interface

1. Download and install the Wilmore Communications Configuration application available on our website.

Example Filename: Wilmore-Config-Setup-(v2.x.x).zip

Download URL: <https://www.wilmoreelectronics.com/wilmore/support/downloads.php>

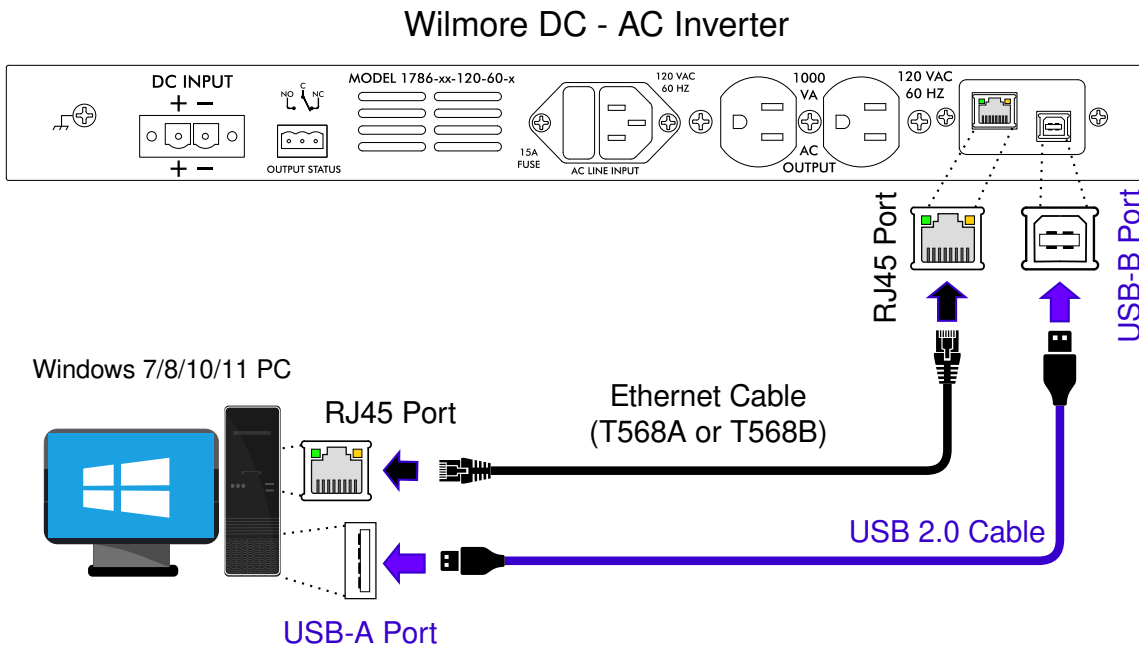
Skip this step if you have already installed the configuration application using the instructions in [Section 1.2.2, page 6](#).

2. **Configure your network and USB connections using one of the following methods:**

2.1 Connect directly using an Ethernet cable (Figure 10):

Make all USB and Ethernet connections according to the diagram below (Figure 10)

Figure 10: Wilmore Inverter USB and Network Connections – Direct



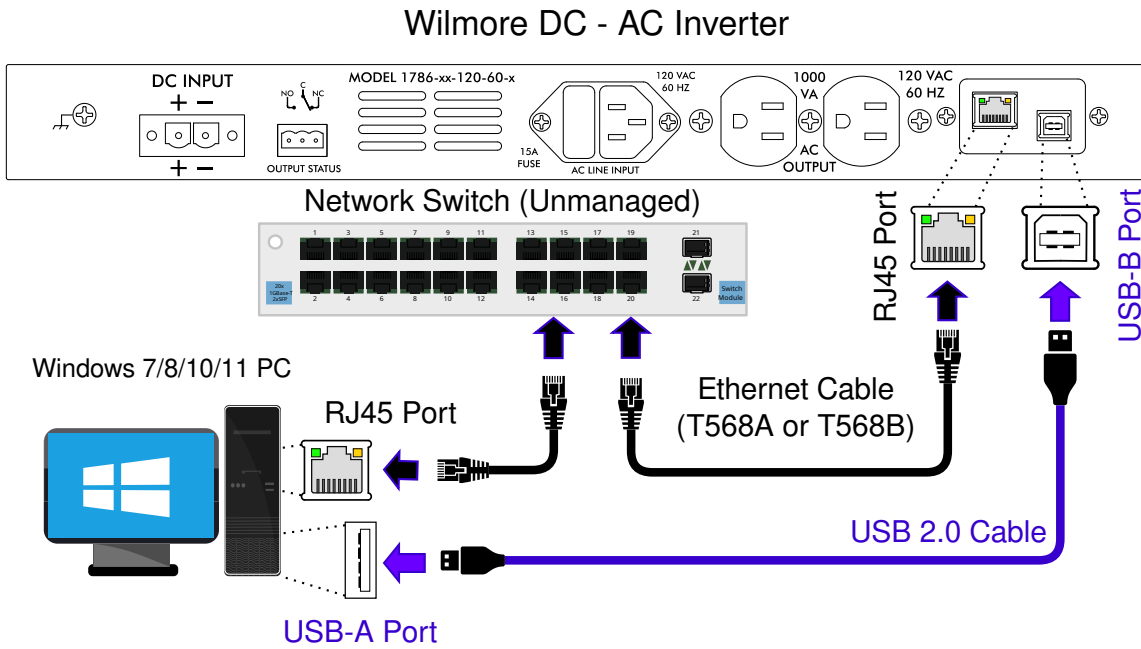
Ethernet Cable Requirements: The Wilmore Network Communications Interface supports *MDIX* (Medium Dependent Interface Crossover) and therefore does not require an Ethernet crossover cable.

1 | Network Communications Interface

2.2 Connect using an Ethernet switch (Figure 11):

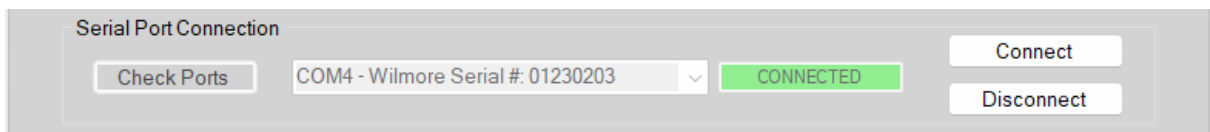
Make all USB and Ethernet connections according to the diagram below (Figure 11).

Figure 11: Wilmore Inverter USB and Network Connections – Ethernet Switch



3. Connect the correct DC input power source according to the model of inverter purchased (12, 24, 48, or 130 volts) to the Wilmore DC-AC Inverter and power the unit on.
4. Open the Wilmore Communications Configuration application using the Windows start menu entry or start menu search function (Wilmore Communications Config).

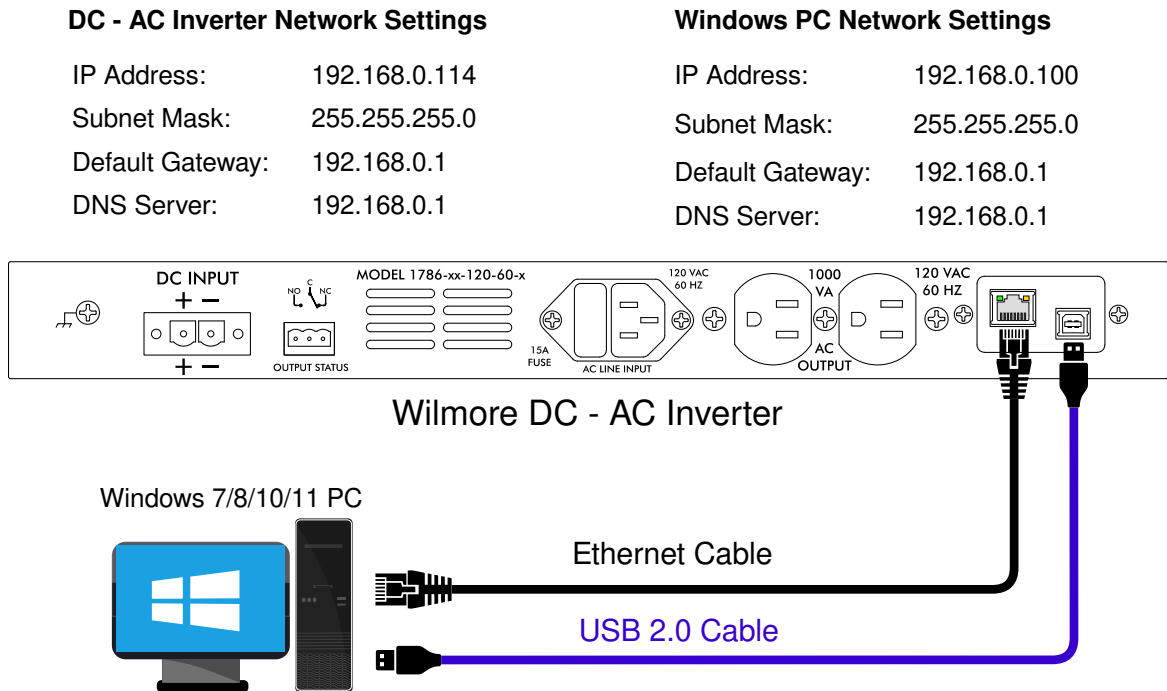
Figure 12: Wilmore Configuration Application – Serial Port Connection



NOTE: The configuration application will automatically connect to the first Wilmore power product detected via the USB serial port. If you have multiple units connected you can select other units via the serial port drop down list.

The “Check Ports” button and serial port drop down list will only function while the application is disconnected.

Figure 13: Wilmore Inverter – IP Address Configuration



5. In the example above (Figure 13), we are configuring the unit with a static IP address so the checkbox next to “Use DHCP” should be unchecked (default: unchecked).

NOTE: If connecting the Ethernet cable directly from the Wilmore inverter to the PC, you must assign a static IP address to the PC that is within the same network range that you assign to the inverter. For example, an address within the range of 192.168.0.1 to 192.168.0.254 with a subnet mask of 255.255.255.0 is a valid IP address (as long as all connected devices have unique IP addresses).

- 5.1 (Required) Enter a valid IP v4 address.
 - 5.2 (Required) Enter the subnet mask for your network.
 - 5.3 Enter the default gateway (typically your router’s IP address).
 - 5.4 Enter a DNS server address (usually your router’s IP address).
6. Click on the “Save Settings” button to write the network settings to the unit.

Allow 15 seconds for the settings to be saved to the unit.

The inverter will save all network and SNMP settings entered and disconnect the serial interface.

7. Power-cycle the Wilmore inverter and reconnect via the Wilmore Communications Configuration application to verify your settings have been saved.
8. Test connectivity to the unit by clicking on the “Open Webpage in Browser” button in the configuration application.

2 Web Interface Monitoring

The Wilmore Network Communications Interface allows for monitoring of key information via its web interface. Available information varies by model and type. In order to monitor information from the web interface, an Ethernet cable must be connected, and the unit must be configured with a valid IP v4 address.

The web interface is supported by most major browsers; including Firefox, Chrome, and Edge.

Figure 14: Wilmore Inverter – Web Interface

The screenshot displays the Wilmore Inverter web interface. At the top left is the Wilmore logo with the version number 'Ver. 1.20230303'. The main content area is divided into several sections:

- DC-AC Inverter:** A dropdown menu showing 'DC-AC Inverter'.
- Model Number:** 1786-130-120-60-L
- Serial Number:** 11230203
- DC Input Voltage:** 129.3 V
- Preferred AC Source:** External
- Backup AC Source:** Inverter
- AC Parameters (Preferred Source):**
 - Frequency: 60.0 Hz
 - AC Volts: 116.0 Vrms
 - AC Current: 11.0 Arms
 - Real Power: 1265 Watts
 - Apparent Power: 1276 VA
 - Power Factor: 0.99
- AC Parameters (Backup Source):**
 - Frequency: 60.0 Hz
 - AC Volts: 117.6 Vrms
- TRANSFER STATUS:** NORMAL
- WARNING TEXT:** WARNING TEXT IS DISPLAYED HERE

2.1 Web Interface Information

Table 5: Web Interface Information

Name	Description	Example Value *
General Information		
Version Number	Defines the firmware version number of this unit.	1.20230303
Unit Description	Defines the type of Wilmore power product.	DC-AC Inverter
Model Number	The Wilmore assigned model number of this unit.	1786-130-120-60-L
Serial Number	The Wilmore assigned serial number of this unit.	11230203
Electrical Information		
DC Input Voltage	The DC input voltage in real-time, displayed in volts (V).	129.9
Preferred AC Source	<p>The preferred AC output source depending on the Wilmore inverter version.</p> <p>For a “U” (Unit Preferred) inverter: the “Inverter” AC source is the preferred AC output source.</p> <p>For an “L” (Line Preferred) inverter: the “External” AC source is the preferred AC output source.</p>	External
Preferred Frequency	The AC output frequency for the preferred AC source in real-time, displayed in hertz (Hz).	60.0
Preferred AC Volts	The AC output RMS voltage for the preferred AC source in real-time, displayed in volts (V).	116.0
AC Output Current	The AC output RMS current in real-time, displayed in amps (A). This value is displayed for the active AC output source (Preferred or Backup).	11.0
Real Power	The AC output real power value in real-time, displayed in watts (W). This value is displayed for the active AC output source (Preferred or Backup).	1265
Apparent Power	The AC output apparent power in real-time, displayed in volt-amperes (VA). This value is displayed for the active AC output source (Preferred or Backup).	1276

Name	Description	Example Value *
Power Factor	The AC output's power factor in real-time (with a range between 0 and 1). This value is displayed for the active AC output source (Preferred or Backup).	0.99
Backup AC Source	<p>The backup AC output source depending on the Wilmore inverter version.</p> <p>For a "U" (Unit Preferred) Inverter: the "External" AC source is the backup AC output source.</p> <p>For an "L" (Line Preferred) Inverter: the "Inverter" AC source is the backup AC output source.</p>	Inverter
Backup Frequency	The AC output frequency for the backup AC source in real-time, displayed in hertz (Hz).	60.0
Backup AC Volts	The AC output RMS voltage for the backup AC source in real-time, displayed in volts (V).	117.6

* Displayed values are for example purposes only. Actual general and electrical information values may vary.

2.2 Warnings



The web interface displays the following warning messages and alarm when the unit has entered an abnormal state of operation. **Warning messages are displayed with a yellow border.**

Table 6: Web Interface Warnings

Name	Description
General Warnings	
WARNING: LOW DC Input Voltage	Warning text displays when the unit detects the DC input voltage approaching its lower limit.
WARNING: HIGH DC Input Voltage	Warning text displays when the unit detects the DC input voltage approaching its upper limit.
WARNING: Output Overload	Warning text displays when the unit detects an apparent load that is above its rated capacity.
Warnings for DC-AC Inverters (L Versions)	
WARNING: Abnormal AC Voltage from External (Preferred Source)	Warning text displayed when the unit detects an abnormal AC output voltage from the external (preferred source), higher or lower than the normal operating range.
WARNING: Abnormal AC Voltage from Inverter (Backup Source)	Warning text displayed when the unit detects an abnormal AC output voltage from the inverter (backup source), higher or lower than the normal operating range.
Warnings for DC-AC Inverters (U Versions)	
WARNING: Abnormal AC Voltage from Inverter (Preferred Source)	Warning text displayed when the unit detects an abnormal AC output voltage from the inverter (preferred source), higher or lower than the normal operating range.
WARNING: Abnormal AC Voltage from External (Backup Source)	Warning text displayed when the unit detects an abnormal AC output voltage from the external (backup source), higher or lower than the normal operating range.

2.3 AC Transfer Alerts



The web interface displays the following AC transfer status alerts when the unit has transferred from its preferred AC source to the backup. **AC Transfer Alert messages are displayed with a red border.**

Table 7: AC Transfer Status Alerts

Name	Description
<div style="border: 1px solid gray; padding: 5px; text-align: center;">TRANSFER STATUS: NORMAL</div>	<p>Text displayed when the unit is supplying AC voltage from the preferred AC output source and has not switched to the backup AC output source.</p> <p>On “U” versions the preferred AC output source is from the inverter.</p> <p>On “L” versions the preferred source is the external AC output source.</p>
<div style="border: 2px solid red; padding: 5px;">TRANSFERRED: Abnormal AC Voltage from External (Preferred Source)</div>	<p>Transfer alert displayed when an “L” version inverter has detected abnormal AC output from the external source.</p> <p>While this alert is displayed, the unit’s output is provided by the inverter.</p>
<div style="border: 2px solid red; padding: 5px;">TRANSFERRED: Abnormal AC Voltage from Inverter (Preferred Source)</div>	<p>Transfer alert displayed when a “U” version inverter has detected abnormal AC output from the inverter.</p> <p>While this alert is displayed, the unit’s output is provided by the external source.</p>

2.4 Web Interface AC Transfer Status

When the unit detects abnormal AC output voltage from the preferred AC output source, it automatically transfers to the backup AC output source. When this happens the following changes occur in the web interface:

1. The web interface dynamically changes its layout to display electrical information from the backup AC output source. The AC current, real power, apparent power, and power factor are dynamically displayed in the web interface under the backup AC output source.
2. The web interface will display an AC transfer alert (with a red border). The alert text displayed is different depending on the inverter version (U or L).
3. While the AC output source is transferred to the backup, the web interface will continue to display AC voltage and frequency information from the preferred AC output source.

The following screenshots show Wilmore DC-AC inverters “U” and “L” versions in their normal and transferred states.

Figure 15: Wilmore Inverter Web Interface (L version) – Normal State

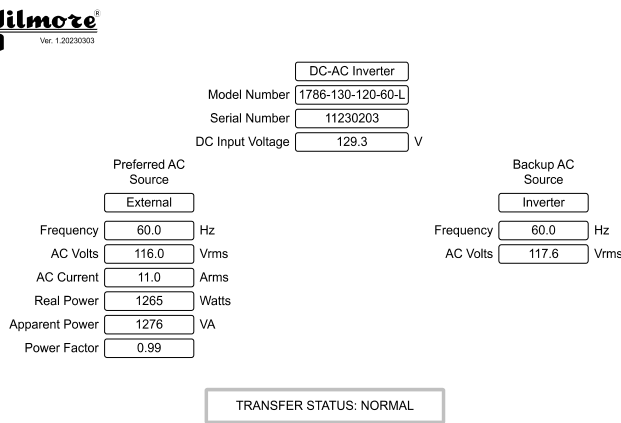


Figure 16: Wilmore Inverter Web Interface (L version) – AC Transfer Event

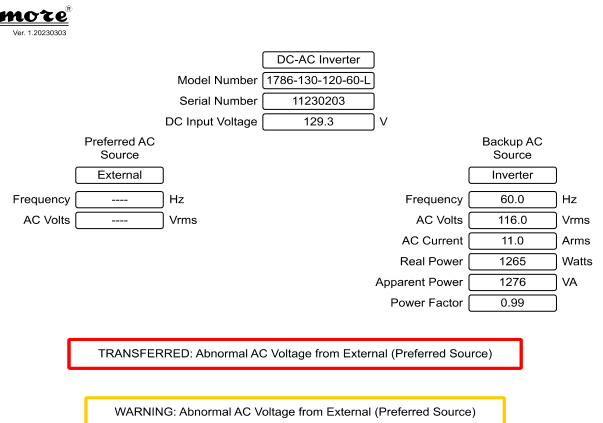


Figure 17: Wilmore Inverter Web Interface (U version) – Normal state

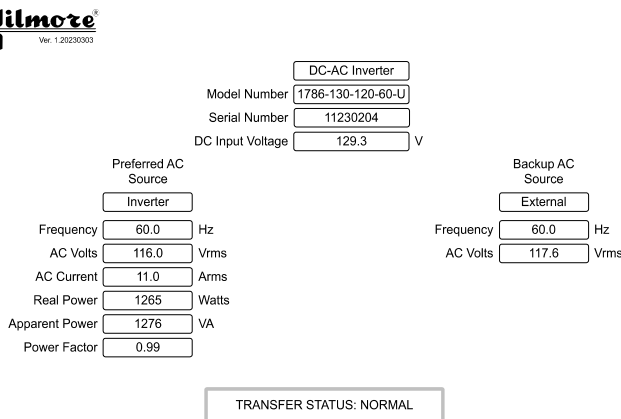
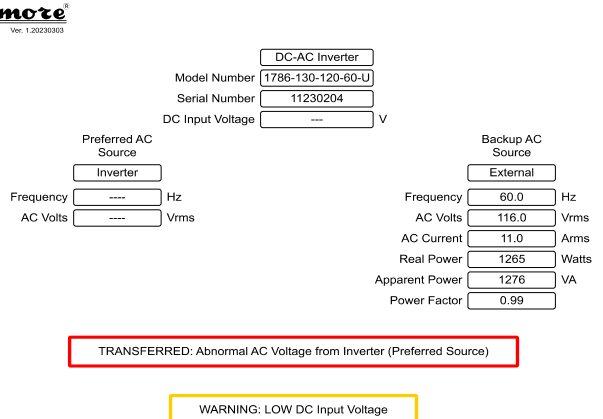


Figure 18: Wilmore Inverter Web Interface (U version) – AC Transfer Event



3 SNMP Monitoring

The Wilmore Network Communications Interface (NCI) supports network monitoring through SNMP (Simple Network Management Protocol) polling or traps. Polling allows the SNMP server to request information from the device at regular intervals, such as uptime or input voltage. When using a trap the unit will notify the SNMP server when it encounters certain error conditions.

This unit supports SNMP version 1.

3.1 SNMP Configuration

Figure 19: SNMP Configuration Settings

SNMP Settings		Current Values
<input checked="" type="checkbox"/> Enable SNMP		<input checked="" type="checkbox"/> SNMP
System Description	WILMORE HW	WILMORE HW
System Contact	SYSTEM CONTACT	SYSTEM CONTACT
System Name	SYSTEM NAME	SYSTEM NAME
System Location	SYSTEM LOC	SYSTEM LOC
Read Community	READ PUBLIC	READ PUBLIC
Write Community	WRITE PRIVATE	WRITE PRIVATE
<input type="checkbox"/> Enable SNMP Trap		<input type="checkbox"/> SNMP Trap
Trap Period (sec)	5	5
Trap Manager IP Address	192 . 168 . 0 . 100	192.168.0.100

NOTE: The minimum requirements to configure SNMP are an IP address and a read community name.

1. Connect the correct DC input power source according to the model of inverter purchased (12, 24, 48, or 130 volts) to the Wilmore DC-AC Inverter and power the unit on.
2. Plug in the included USB-A to USB-B cable from the Wilmore inverter to your Windows PC.
3. Open the Wilmore Communications Configuration application (Wilmore Communications Config) that was downloaded previously in [Section 1.2.2, page 6](#).
4. Make sure the “Enable SNMP” box is checked (default: checked).
5. (Optional) Enter the desired “System Description” or a general text description of the unit.

3 | SNMP Monitoring

Maximum Field Length: 20 characters

6. (Optional) Enter the administrators "System Contact" information, the name of the system administrator and how to contact them (email, phone number etc...).

Maximum Field Length: 32 characters

7. (Optional) Enter the "System Name", generally the hostname associated with the unit's IP address or fully qualified domain name of the unit.

Maximum Field Length: 20 characters

8. (Optional) Enter the "System Location", the physical location of this unit (e.g. 'wiring closet, 1st floor').

Maximum Field Length: 20 characters

9. (Required) Enter a "Read Community Name", the password for read-only SNMP access.

Maximum Field Length: 20 characters

10. (Optional) Enter a "Write Community Name", the password for read-write SNMP access.

Maximum Field Length: 20 characters

11. Click on the "Save Settings" button to write the SNMP settings to the unit.

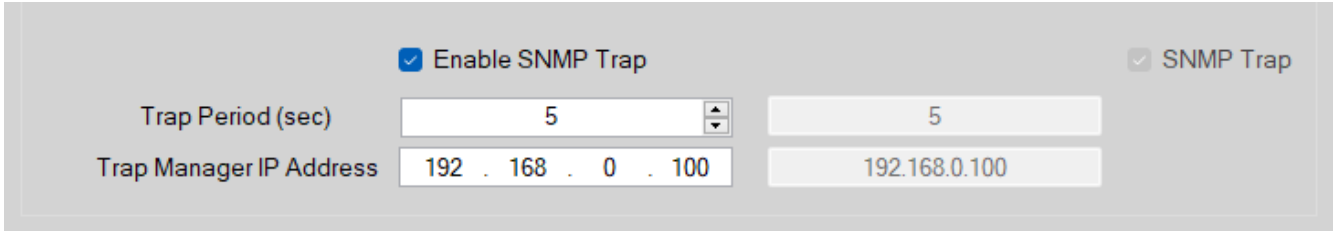
Allow 15 seconds for the settings to be saved to the unit.

The inverter will save all network and SNMP settings entered and disconnect the serial interface.

12. Power-cycle the Wilmore inverter and reconnect via the Wilmore Communications Configuration application to verify your settings have been saved.
13. Test SNMP polling via any of the freely available SNMP browsers on the web.

3.1.1 SNMP Trap Configuration

Figure 20: SNMP Trap Settings Configuration Window



1. Connect the correct DC input power source according to the model of inverter purchased (12, 24, 48, or 130 volts) to the Wilmore DC–AC Inverter and power the unit on.
2. Plug in the included USB cable from the Wilmore inverter to your Windows PC.
3. Open the Wilmore Communications Configuration application (WilmoreCommConfig.exe) that was downloaded previously in [Section 1.2.2, page 6](#).
4. Make sure the “Enable SNMP Trap” box is checked (default: unchecked).
5. Enter the desired trap send period (in seconds).

Minimum: 5 seconds.

Maximum: 86,400 seconds (approximately 24 hours)

6. Enter your SNMP trap manager’s IP address.
7. Click on the “Save Settings” button to write the SNMP settings to the unit.

Allow 15 seconds for the settings to be saved to the unit.

The inverter will save all network and SNMP settings entered and disconnect the serial interface.

8. Power-cycle the Wilmore inverter and reconnect via the Wilmore Communications Configuration application to verify your settings have been saved.
9. (Optional) Test the receipt of SNMP trap messages using an in-house SNMP trap receiver or via any of the freely available SNMP browsers on the web ([section 3.2.6, pg. 28](#)).

3.2 SNMP OIDs

SNMP OIDs (Object Identifiers) are numbers used to uniquely identify information that can be monitored on a device. The OID numbers for Wilmore DC-AC inverters are listed in the tables below.

3.2.1 MIB Files

An MIB (Management Information Base) file is a text file that describes the properties of an SNMP device. This MIB file translates each OID to a user-friendly text description for each SNMP property.

We provide MIB files in two formats for all Wilmore power products that can be downloaded from our website at:

<https://www.wilmoreelectronics.com/wilmore/support/downloads.php>

Choose from one of the following MIB file formats:

SMIv1 Format: [WILMORE-MIB-SMIv1.mib](#)

SMIv2 Format: [WILMORE-MIB.mib](#)

NOTE: The SMIv1 format should work for most applications, we provide the SMIv2 format in case your application requires it.

3.2.2 System OIDs

Table 8: SNMP System OID Information (RFC 1213 Specification)

OID	MIB Variable	Description
.1.3.6.1.2.1.1.1	sysDescr	A textual description of the entity. Maximum Field Length: 20 characters
.1.3.6.1.2.1.1.2	sysObjectID	The vendor's authoritative identification of the network management subsystem contained in the entity.
.1.3.6.1.2.1.1.3	sysUpTime	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.
.1.3.6.1.2.1.1.4	sysContact	The textual identification of the contact person for this managed node, together with information on how to contact this person. Maximum Field Length: 32 characters
.1.3.6.1.2.1.1.5	sysName	An administratively-assigned name for this managed node. By convention, the node's fully-qualified domain name. Maximum Field Length: 20 characters
.1.3.6.1.2.1.1.6	sysLocation	The physical location of this node (e.g., 'telephone closet, 3rd floor'). Maximum Field Length: 20 characters
.1.3.6.1.2.1.1.7	sysServices	A value which indicates the set of services that this entity primarily offers.

These are standard OIDs included in the SNMP specification and are not assigned by Wilmore Electronics.

Table 9: SNMP Generic Traps (RFC 3418 Specification)

OID	MIB Variable	Description
.1.3.6.1.6.3.1.1.5.1	coldStart	A cold start trap signifies that the SNMP entity, supporting a notification originator application, is re-initializing itself and that its configuration may have been altered.

3.2.3 Wilmore Root OID

Table 10: Wilmore Electronics Root OID assigned by the Internet Assigned Numbers Authority (IANA)

OID	MIB Variable	Description
.1.3.6.1.4.1.54581	wilmoreElectronics	The root OID number assigned to Wilmore Electronics.

3.2.4 DC-AC Inverter OIDs

Table 11: Wilmore Electronics Inverter SNMP OIDs

OID	MIB Variable	Type	Description
System Information			
.1.3.6.1.4.1.54581.1.1.1	sysModelNumber	DisplayString	The Wilmore assigned model number of this unit.
.1.3.6.1.4.1.54581.1.1.2	sysSerialNumber	DisplayString	The Wilmore assigned serial number of this unit.
.1.3.6.1.4.1.54581.1.1.3	sysTrapFrequency	Integer32	The time in seconds in between trap messages. Minimum Value: 5 seconds Maximum Value: 86,400 seconds (approximately 24 hours)
.1.3.6.1.4.1.54581.1.1.4	sysTrapTargetIP	IPADDRESS	Displays the IP address for the network management server where the SNMP trap should be received.
Electrical Information			
.1.3.6.1.4.1.54581.1.2.1	pwrInputVoltage	Integer32	The most recent value of the DC input voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.4	pwrWarningText	DisplayString	A text listing of the most recent Warnings.
Electrical Information for DC-AC Inverters			
.1.3.6.1.4.1.54581.1.2.3.7	pwrACCurrent	Integer	The most recent value of the AC output RMS current ([1] Amps × 10).
.1.3.6.1.4.1.54581.1.2.3.8	pwrRealPower	Integer	The most recent value of the real output power ([1] Watts × 10).

OID	MIB Variable	Type	Description
.1.3.6.1.4.1.54581.1.2.3.9	pwrApparentPower	Integer	The most recent value of the apparent output power ([1] Volt-Amperes × 10).
.1.3.6.1.4.1.54581.1.2.3.10	pwrPowerFactor	Integer	The most recent value of the unit's power factor ([1] Power Factor × 100).
.1.3.6.1.4.1.54581.1.2.3.34	pwrReactivePower	Integer	The most recent value of the reactive output power ([1] Volt-Amperes × 10).
.1.3.6.1.4.1.54581.1.2.3.11	pwrTransferStatus	string	The unit's AC output transfer status.
.1.3.6.1.4.1.54581.1.2.3.14	pwrInverterFrequency	Integer	The most recent value of the inverter's AC output frequency ([1] Hertz × 10).
.1.3.6.1.4.1.54581.1.2.3.15	pwrInverterRMSVoltage	Integer	The most recent value of the inverter's AC output RMS voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.16	pwrInverterPeakVoltage	Integer	The most recent value of the inverter's peak absolute value AC output voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.17	pwrInverterPeakVoltagePositive	Integer	The most recent value of the inverter's peak positive output voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.18	pwrInverterPeakVoltageNegative	Integer	The most recent value of the inverter's peak negative output voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.19	pwrExternalFrequency	Integer	The most recent value of the AC output frequency from the external AC source ([1] Hertz × 10).
.1.3.6.1.4.1.54581.1.2.3.20	pwrExternalRMSVoltage	Integer	The most recent value of the AC output RMS voltage from the external source ([1] Volts × 10).

OID	MIB Variable	Type	Description
.1.3.6.1.4.1.54581.1.2.3.21	pwrExternalPeakVoltage	Integer	The most recent value of the external source's peak absolute value AC output voltage ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.22	pwrExternalPeakVoltagePositive	Integer	The most recent value of the peak positive output voltage from the external AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.23	pwrExternalPeakVoltageNegative	Integer	The most recent value of the peak negative output voltage from the external AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.24	pwrBackupFrequency	Integer	The most recent value of the AC output frequency from the backup AC source ([1] Hertz × 10).
.1.3.6.1.4.1.54581.1.2.3.25	pwrBackupRMSVoltage	Integer	The most recent value of the AC output RMS voltage from the backup AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.26	pwrBackupPeakVoltage	Integer	The most recent value of the peak absolute value output voltage from the backup AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.27	pwrBackupPeakVoltagePositive	Integer	The most recent value of the peak positive output voltage from the backup AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.28	pwrBackupPeakVoltageNegative	Integer	The most recent value of the peak negative output voltage from the backup AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.29	pwrPreferredFrequency	Integer	The most recent value of the AC output frequency from the preferred AC source ([1] Hertz × 10).
.1.3.6.1.4.1.54581.1.2.3.30	pwrPreferredRMSVoltage	Integer	The most recent value of the AC output RMS voltage from the preferred AC source ([1] Volts × 10).

OID	MIB Variable	Type	Description
.1.3.6.1.4.1.54581.1.2.3.31	pwrPreferredPeakVoltage	Integer	The most recent value of the peak absolute value output voltage from the preferred AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.32	pwrPreferredPeakVoltagePositive	Integer	The most recent value of the peak positive output voltage from the preferred AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.33	pwrPreferredPeakVoltageNegative	Integer	The most recent value of the peak negative output voltage from the preferred AC source ([1] Volts × 10).
.1.3.6.1.4.1.54581.1.2.3.39	pwrACPeakCurrentPositive	Integer	The most recent value of the peak positive output current ([1] Amps × 10).
.1.3.6.1.4.1.54581.1.2.3.40	pwrACPeakCurrentNegative	Integer	The most recent value of the peak negative output current ([1] Amps × 10).

[1] Because SNMP does not support decimal values, all Integer values returned are multiplied by 10 (except for power factor which is multiplied by 100).

3.2.5 Wilmore Specific Trap OIDs

SNMP traps (or notifications) can be configured to notify a network monitoring server or MIB browser of the following events:

Table 12: Wilmore Electronics Inverter SNMP Traps

OID	MIB Variable	Type	Description
.1.3.6.1.4.1.54581.1.0.102	trapAbnormalACOutputVPreferred	String	A trap message sent when the unit detects an abnormal AC output voltage from the preferred source, higher or lower than the normal operating range.
.1.3.6.1.4.1.54581.1.0.103	trapAbnormalACOutputVBackup	String	A trap message sent when the unit detects an abnormal AC output voltage from the backup source, higher or lower than the normal operating range.
.1.3.6.1.4.1.54581.1.0.104	trapHighInputV	Enterprise	A trap message sent when the unit detects a DC input voltage approaching its upper limit.
.1.3.6.1.4.1.54581.1.0.105	trapLowInputV	Enterprise	A trap message sent when the unit detects a DC input voltage approaching its lower limit.
.1.3.6.1.4.1.54581.1.0.107	trapOutputOverload	Enterprise	A trap message sent when the unit detects an apparent load that is above its rated capacity.
.1.3.6.1.4.1.54581.1.0.108	trapTransferStatus	String	A trap message sent when a DC-AC inverter has transferred to the backup AC source.

3.2.6 MIB Browsers

In order to use an MIB file it must first be loaded into an MIB browser, an SNMP command line client, or an NMS (Network Monitoring Server). MIB browsers provide a user-friendly desktop application to query SNMP enabled devices and are suited for use on smaller networks. A few examples of MIB browsers are listed below.

Figure 21: iReasoning MIB Browser

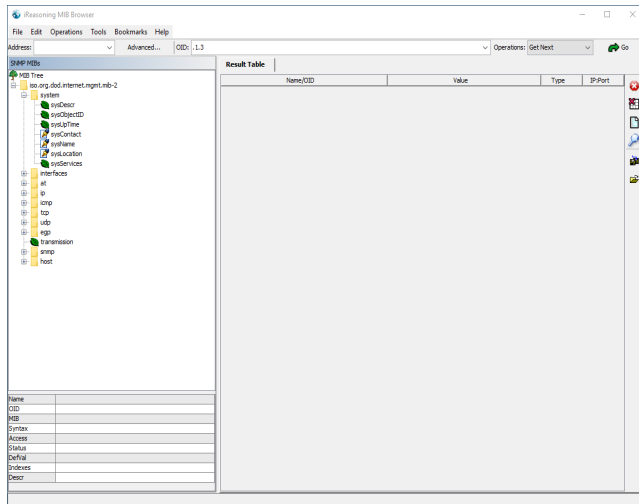
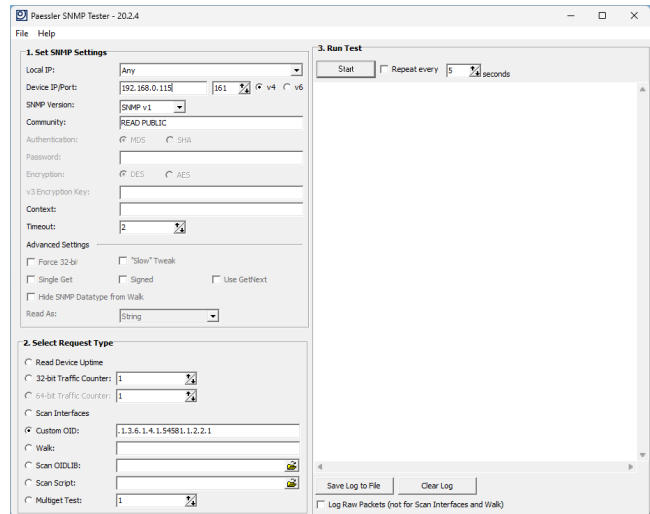


Figure 22: Paessler SNMP Tester



3.2.7 Network Monitoring Servers

If you are monitoring multiple devices on a large network, a network monitoring server may be preferred over an MIB browser. Network monitoring servers allow you to receive alerts the instant your network connected devices encounter problems or stop responding. A few examples of network monitoring servers are listed below.

Figure 23: Nagios Core – NMS

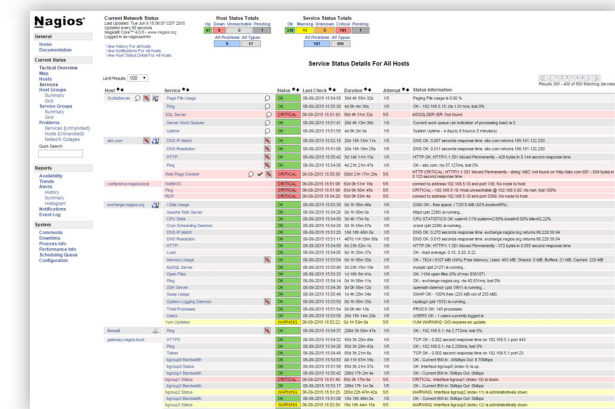
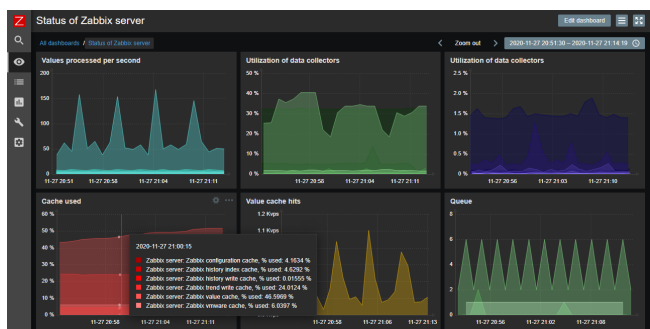


Figure 24: Zabbix – NMS



3.3 SNMP Firewall Settings

If you are unable to reach the desired host (and a firewall exists in between the MIB browser or network monitoring server and this unit) you may need to open [UDP port 161](#) on the firewall for SNMP polling support.

In order to receive any SNMP trap messages (or notifications), the PC or server running the MIB browser or network monitoring server must have [UDP port 162](#) open on its firewall.

NOTE: It is not recommended to open the SNMP ports on your internet gateway's firewall to the world. If you require external access to this unit, consider routing SNMP traffic over a VPN connection.

Table 13: SNMP Firewall Settings

SNMP Notification Type	Port Type	Port Number
SNMP Polling	UDP	161
SNMP Traps	UDP	162

4 Serial Terminal Monitoring / Web Service Monitoring

The unit can monitor general information, electrical information and warning messages from the serial terminal console and web service API (Application Programming Interface). However, no configuration options can be set via the web service API, all configuration is done in the configuration application (WilmoreCommConfig.exe). It is recommended to remove serial connection to avoid unauthorized configuration changes.

For further information on the Wilmore web service see [Section 4.4, pg. 40](#).

4.1 Default Terminal Settings

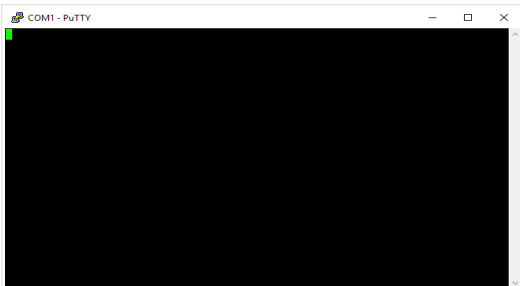
You may use any serial terminal program to connect to this unit. The default serial terminal settings to connect to Wilmore power products are listed in the table below:

Table 14: Default Terminal Settings

Configuration Option	Value
Port	COM8 (This should match the port detected in Section 1.2.4.1, pg. 14)
Speed (Baud)	115200
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
New-Line Transmit	CR+LF
Local Echo	Enabled

4.2 Serial Terminal Connection with PuTTY

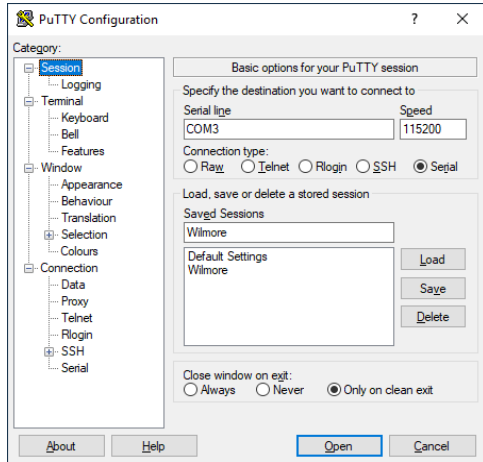
Figure 25: PuTTY Main Window



This section describes setting up a serial terminal session to the Wilmore inverter with PuTTY. PuTTY is a free and open source multi-platform serial terminal application that can be downloaded from:

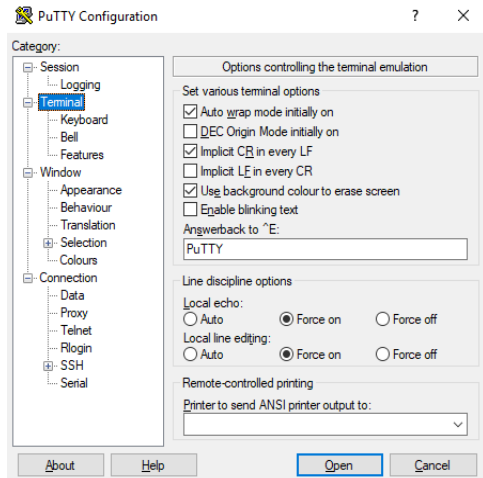
<https://putty.org/>

Figure 26: PuTTY Session Settings



1. Ensure your Wilmore power inverter is powered on.
2. Plug in the included USB cable from the power inverter to your Windows PC.
3. Launch the PuTTY serial terminal application.
4. On the session settings page, change the connection type to Serial.
5. Change the Serial line to the USB COM port of the unit, this should match the port detected in [Section 1.2.4.1, pg. 14](#).
6. Change the speed (baud rate) to 115200.

Figure 27: PuTTY Terminal Settings



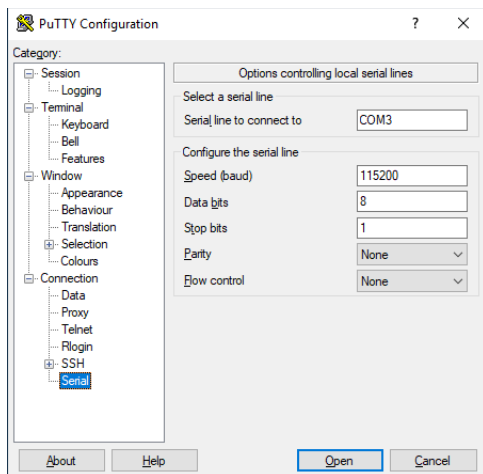
7. On the terminal settings page, enable the “Implicit CR in every LF option”.

NOTE: This option will force the cursor to return to the left side of the screen with every newline and prevent a stair stepping effect.

8. In the line discipline options section, change the “Local Echo” and “Local line editing” to “Force on”.

NOTE: The local echo option forces characters to be displayed in the local terminal as you type them. The local line editing option forces the terminal to send a command only when the enter key has been pressed.

Figure 28: PuTTY Serial Connection Settings



9. On the connection settings page under serial settings, ensure the “Speed (baud)” is set to 115200.

10. Click on the “Flow control” drop-down and select “None”.

11. Return to the session settings page (**displayed in Figure 26**) and input a name for your saved session and click save. This will save your session settings for future use.

12. Click on the “Open” button to start the serial terminal session.

4.3 Serial Terminal Command Syntax

To query values using the serial terminal, the “!GETVALUE” command is used followed by any of the value names displayed in [Section 4.5, pg. 41](#).

To query values using the serial terminal, commands must follow the command structure as defined in figure 29.

The minimum required information to query the serial terminal:

- The text string “!GETVALUE” followed by a space.
- At least one value as defined in the [Serial Terminal / Web Service Values](#) table.

You may query a single value or multiple values from the serial terminal. If you are requesting multiple values in a single query, the requested values must be comma separated.

Figure 29: Serial Terminal Command Syntax

```
!GETVALUE SERIALNO,DCVIN,ACI,INVRMSV,INVFRQ
```

The serial terminal command example displayed above will return the values in the format shown below (though the actual values displayed may vary).

Figure 30: JSON Example Output from a Serial Terminal Command

```
GETVALUE| [{ "SERIALNO": "07190203" }, { "DCVIN": "129.3" }, { "ACI": "11.0" },  
{ "INVRMSV": "116.0" }, { "INVFRQ": "60.0" }]
```

Responses are displayed as a single string of text in a JSON (JavaScript Object Notation) array.

4.4 Web Service API Syntax

This unit also provides a web service API (Application Programming Interface) to query for any of the values listed in Table 14: Serial Terminal / Web Service Values in [Section 4.5, pg. 41](#).

The web service query commands must follow the command structure defined in figure 31.

The minimum required information to query the web service:

- The Wilmore Inverters IP Address
- The text string “/WilmoreService?F=GETVALUE&KEY=”
- At least one value as defined in the [Serial Terminal / Web Service Values](#) table.

You may query a single value or multiple values from the web service. If you are requesting multiple values in a single query, the requested values must be comma separated.

Figure 31: Web Service API Query Syntax

```
http://192.168.0.114/WilmoreService?F=GETVALUE&KEY=SERIALNO,DCVIN,DCVOUT,DCIOUT,DCPOUT
```

The above example command will return the information displayed in figure 32. The query is returned in JSON (*JavaScript Object Notation*) format and is displayed in a web browser as a single string.

The API query can be displayed in a custom-built web application or collected for later use in network logging software.

Figure 32: JSON Example Output from a Web Service API Query

```
[
  {
    "SERIALNO": "07190203"
  },
  {
    "DCVIN": "129.3"
  },
  {
    "ACI": "11.0"
  },
  {
    "INVRMSV": "116.0"
  },
  {
    "INVFRQ": "60.0"
  }
]
```


4.5 Serial Terminal / Web Service Values

Table 15: Available Serial Terminal and Web Service Commands for Wilmore Inverters

Value Name	Description	Example Response *
General Information		
UNITDSC	Defines the type of Wilmore power product.	[{ "UNITDSC": "DC-AC Inverter" }]
MODELNO	The Wilmore assigned model number of this unit.	[{ "MODELNO": "1786-130-120-60-L" }]
SERIALNO	The Wilmore assigned serial number of this unit.	[{ "SERIALNO": "11230203" }]
MACID	The Wilmore assigned MAC Address of this unit.	[{ "MACID": "70-B3-D5-ED-40-0A" }]
STRTCNT	The startup count of this unit.	[{ "STRTCNT": "1" }]
SWVER	The version number of the software installed on this unit.	[{ "SWVER": "1.20230303" }]
Network Information		
USEDHCP	Denotes whether DHCP is enabled or disabled.	[{ "USEDHCP": "NO" }]
IPADD	The static or dynamic IP address assigned to this unit.	[{ "IPADD": "192.168.0.114" }]
SUBNET	This unit's assigned subnet mask address.	[{ "SUBNET": "255.255.255.0" }]
DFLTGTWY	This default gateway assigned to this unit.	[{ "DFLTGTWY": "192.168.0.1" }]
DNSADD	This DNS server address assigned to this unit.	[{ "DNSADD": "192.168.0.1" }]
SNMP Information		
USESMP	Denotes whether SNMP is enabled or disabled.	[{ "USESMP": "YES" }]
SYSDESC	An administrator defined text description of this unit.	[{ "SYSDESC": "WILMORE HW" }]

Value Name	Description	Example Response *
SYSOBID	ID that uniquely identifies Wilmore power products. (Not user Configurable)	[{ "SYSOBID": "1.3.6.1.4.1.54581.1" }]
UPTIME	System uptime since startup (in hundredths of a second).	[{ "UPTIME": "186446.38" }]
SYSCNTC	Displays the administrator's contact information for this unit, including information on how to contact them.	[{ "SYSCNTC": " username@example.com " }]
SYSNAME	Displays the hostname for this unit. Typically, the fully-qualified domain name (FQDN) of the unit.	[{ "SYSNAME": "myhost.example.com" }]
SYSLOC	Displays the physical location of the unit.	[{ "SYSLOC": "Wiring closet 4B" }]
SYSSVCS	A value which indicates the set of services that this entity primarily offers.	[{ "SYSSVCS": "72" }]
Electrical Information		
DCVIN	The most recent value of the DC input voltage (Volt).	[{ "DCVIN": "129.3" }]
INVFRQ	The most recent value of the inverter's AC output frequency in hertz (Hz).	[{ "INVFRQ": "60.0" }]
INVRMSV	The most recent value of the inverter's AC output RMS voltage in volts (V).	[{ "INVRMSV": "116.0" }]
INVPKV	The most recent value of the inverter's peak absolute value AC output voltage in volts (V).	[{ "INVPKV": "164.0" }]
INVPKVPOS	The most recent value of the inverter's peak positive output voltage in volts (V).	[{ "INVPKVPOS": "164.0" }]
INVPKVNEG	The most recent value of the inverter's peak negative output voltage in volts (V).	[{ "INVPKVNEG": "-164.0" }]
EXTFRQ	The most recent value of the AC output frequency from the external AC source in hertz (Hz).	[{ "EXTFRQ": "60.0" }]

Value Name	Description	Example Response *
EXTRMSV	The most recent value of the AC output RMS voltage from the external source in volts (V).	[{ "EXTRMSV": "116.0" }]
EXTPKV	The most recent value of the external source's peak absolute value AC output voltage in volts (V).	[{ "EXTPKV": "164.0" }]
EXTPKVPOS	The most recent value of the peak positive output voltage from the external AC source in volts (V).	[{ "EXTPKVPOS": "164.0" }]
EXTPKVNEG	The most recent value of the peak negative output voltage from the external AC source in volts (V).	[{ "EXTPKVNEG": "-164.0" }]
BKPFREQ	The most recent value of the AC output frequency from the backup AC source in hertz (Hz).	[{ "BKPFREQ": "60.0" }]
BKPRMSV	The most recent value of the AC output RMS voltage from the backup AC source in volts (V).	[{ "BKPRMSV": "116.0" }]
BKPPKV	The most recent value of the peak absolute value output voltage from the backup AC source in volts (V).	[{ "BKPPKV": "164.0" }]
BKPPKVPOS	The most recent value of the peak positive output voltage from the backup AC source in volts (V).	[{ "BKPPKVPOS": "164.0" }]
BKPPKVNEG	The most recent value of the peak negative output voltage from the backup AC source in volts (V).	[{ "BKPPKVNEG": "-164.0" }]
PRFFREQ	The most recent value of the AC output frequency from the preferred AC source in hertz (Hz).	[{ "PRFFREQ": "60.0" }]
PRFRMSV	The most recent value of the AC output RMS voltage from the preferred AC source in volts (V).	[{ "PRFRMSV": "116.0" }]
PRFPKV	The most recent value of the peak absolute value output voltage from the preferred AC source in volts (V).	[{ "PRFPKV": "164.0" }]

Value Name	Description	Example Response *
PRFPKVPOS	The most recent value of the peak positive output voltage from the preferred AC source in volts (V).	[{ "PRFPKVPOS": "164.0" }]
PRFPKVNEG	The most recent value of the peak negative output voltage from the preferred AC source in volts (V).	[{ "PRFPKVNEG": "-164.0" }]
ACI	The most recent value of the AC output RMS current in amps (A).	[{ "ACI": "11.0" }]
ACPKIPOS	The most recent value of the peak positive output current in amps (A).	[{ "ACPKIPOS": "15.5" }]
ACPKINEG	The most recent value of the peak negative output current in amps (A).	[{ "ACPKINEG": "-15.5" }]
REALPWR	The most recent value of the real output power in watts (W).	[{ "REALPWR": "1265" }]
APRTPWR	The most recent value of the apparent output power in volt-amperes (VA).	[{ "APRTPWR": "1276" }]
REACTVPWR	The most recent value of the reactive output power in volt-amperes (VA).	[{ "REACTVPWR": "166.1" }]
PWRFCTR	The most recent value of the unit's power factor (range is between 0 and 1).	[{ "PWRFCTR": "0.99" }]
WARNING	A text listing of the most recent warnings.	[{ "WARNING": "Output Overload" }]
TRANSTAT	The unit's AC output transfer status.	[{ "TRANSTAT": "NORMAL" }]
SNMP Trap Information		
USETRAP	Denotes whether SNMP traps are enabled or disabled.	[{ "USETRAP": "NO" }]
TRAPFRQ	The time in seconds in between trap messages. Minimum Value: 5 seconds Maximum Value: 86,400 seconds (approximately 24 hours)	[{ "TRAPFRQ": "5" }]

Value Name	Description	Example Response *
TRAPTGT	Displays the IP address for the network management server where the SNMP trap should be received.	[{ "TRAPTGT": "192.168.0.100" }]

* Displayed values are for example purposes only. Actual serial terminal command response values may vary.