

USB GrowNET™ Interface
Firmware Update & Configuration Software

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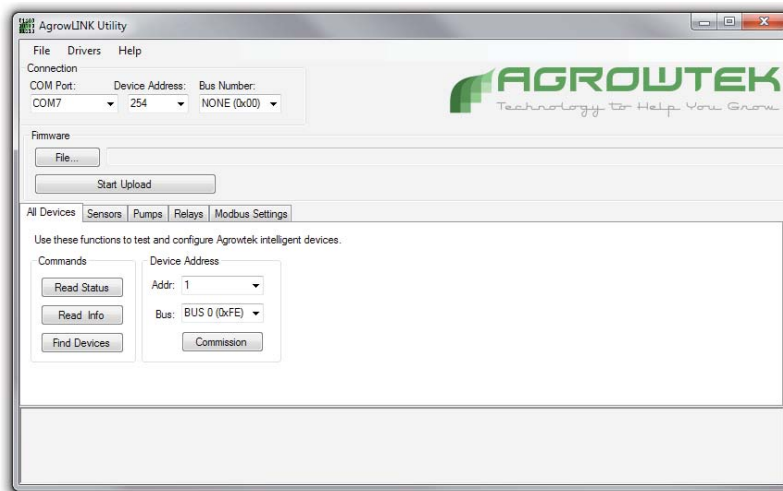
KEEP THESE INSTRUCTIONS

REV 10/24

This product is intended for commercial use only.

Introduction

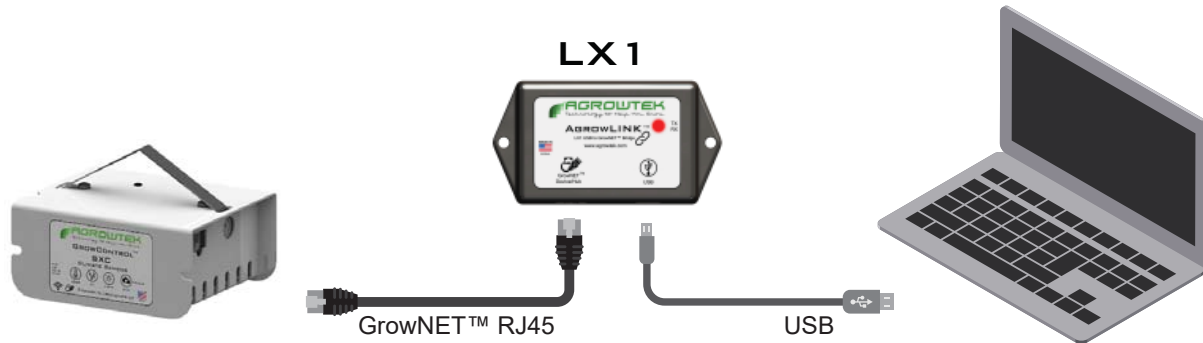
AgrowLINK is free software for updating, testing and configuring Agrowtek’s intelligent GrowNET™ sensors, relays and peristaltic dosing pumps. AgrowLINK software requires the LX1 USB Link to connect GrowNET™ devices with to a PC USB port.



Connections

The LX1 USB Link can be connected to a device to provide 5V power to the device from the USB port which is sufficient for updating firmware. (Dosing pumps require a power supply.)

Standard Ethernet cable with RJ-45 connections are used to connect the USB link to the GrowNET port on the device.

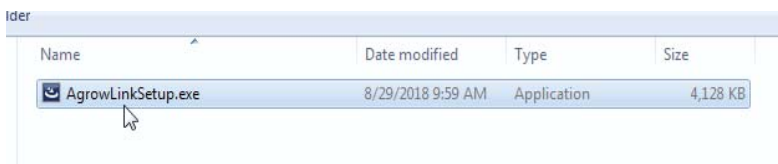


1. Connect the LX1 USB AgrowLINK to a USB port on your PC. The drivers should install automatically.
If drivers are not automatically installed, see "Installing Drivers" section.
2. Connect the GrowNET (Ethernet) cable from the AgrowLINK to the device GrowNET port.
3. Connect a power supply to the device if required.

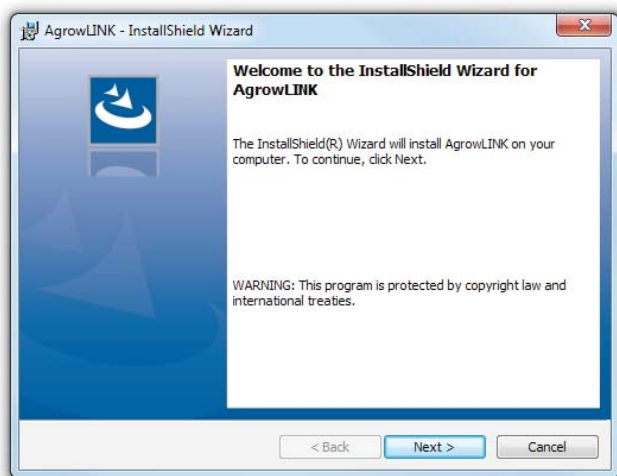
Software Installation

[Download AgrowLINK Utility](#)

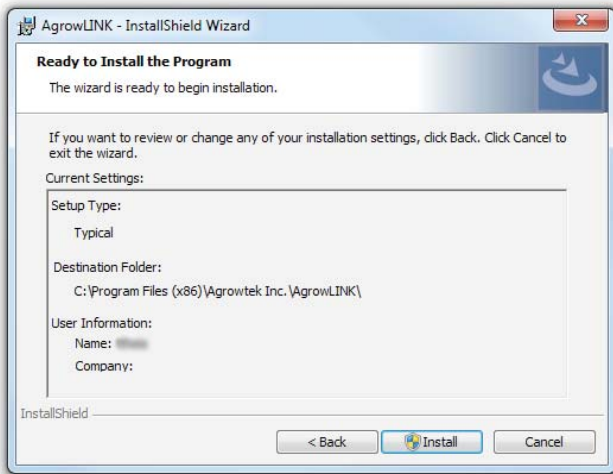
1. Download the utility from the link above or visit the DOWNLOADS link at: www.agrowtek.com
2. Execute the installer program.



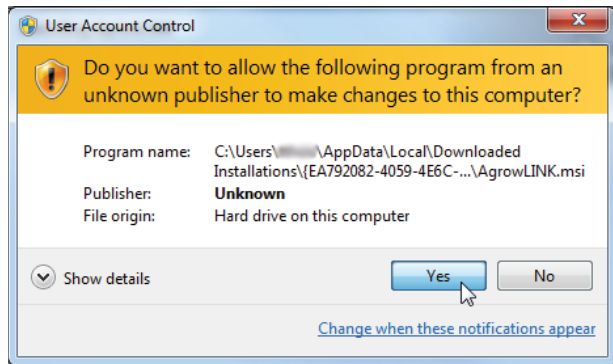
3. Click "Next" to prepare the installer.



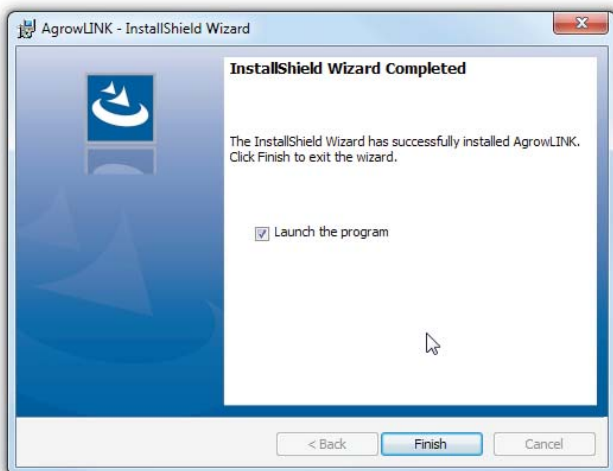
4. Click "Install" to begin installation.



5. On systems with UAC, click "Yes" to the security prompt to allow the software to install.

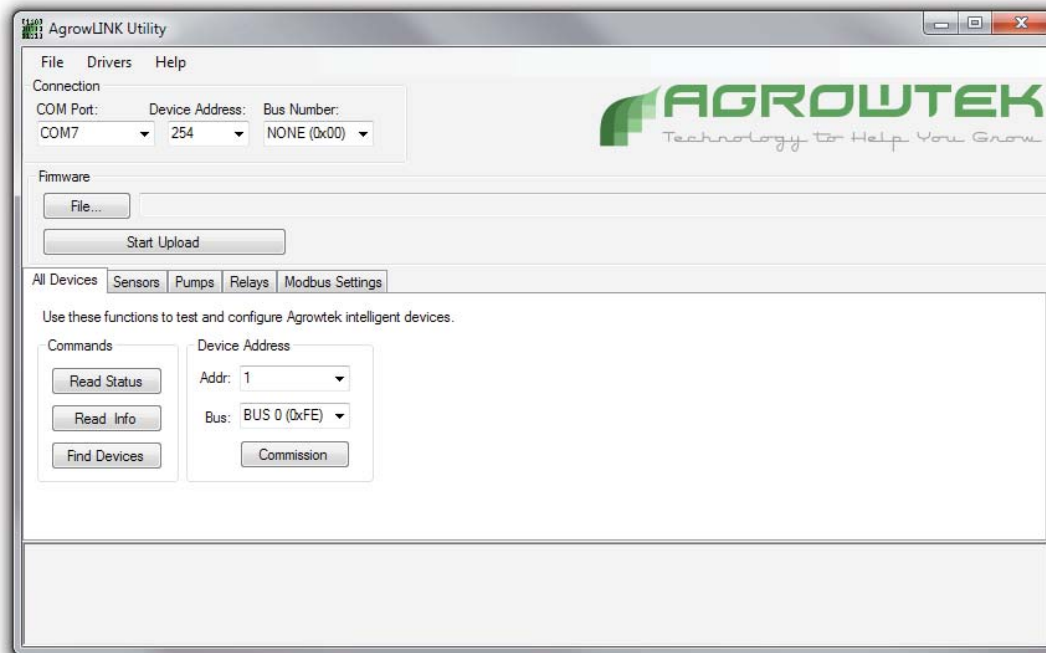


6. Click "Finish" to exit the installer and open the AgrowLINK utility.



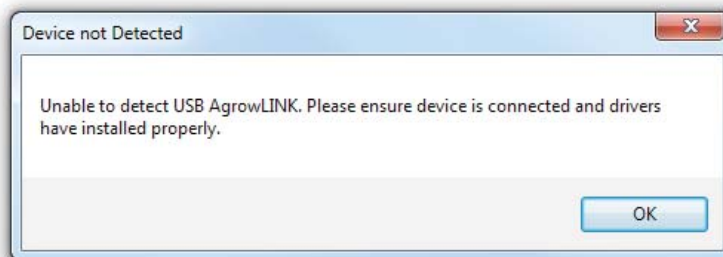
Using the AgrowLINK Utility

AgrowLINK software allows simple firmware updates of devices in addition to configuration options and diagnostic functions. The connection box will automatically populate the COM port number of the attached LX1 USB Link. Each type of device has a specific 'tab' with features unique to the device type, and a message buffer at the bottom of the window provides responses from the functions in the program.



Connection Box

The COM port should be automatically populated if the LX1 USB link is connected to the PC and the drivers have been installed successfully.



If a "Device not Detected" message is shown, please check the USB link is connected and drivers are installed.
Note: See next section for driver installation instructions.

Device Address:

Set the device address to "254" (universal broadcast address) which all devices will reply to regardless of their unique device address setting.

Bus Number:

Bus number may be set to "None" or to the bus number that is set on the device for testing purposes.

Note: LX2 ModLINK updates and configuration must be done with bus number 1 (0xFE).

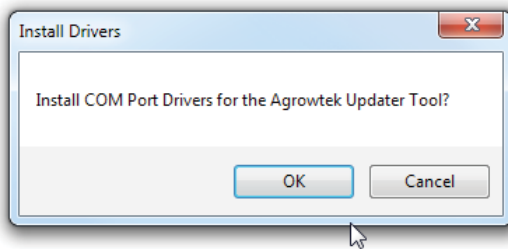
USB Link Driver Installation

USB Link drivers normally install automatically from Windows, however, if they do not the drivers can be installed manually.

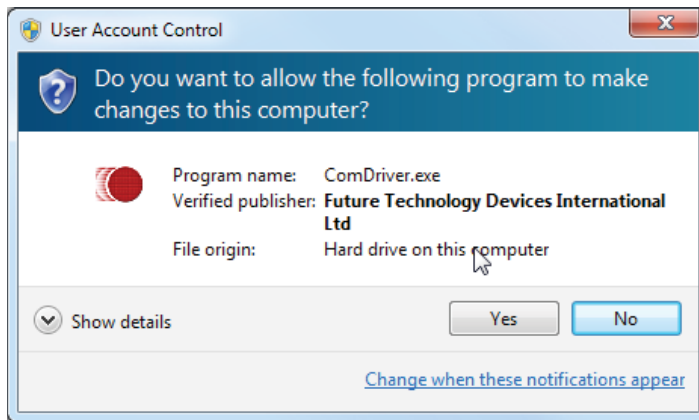
1. Click: "Drivers" menu >> Install Drivers



2. Click: "OK" to continue opening the driver installer.



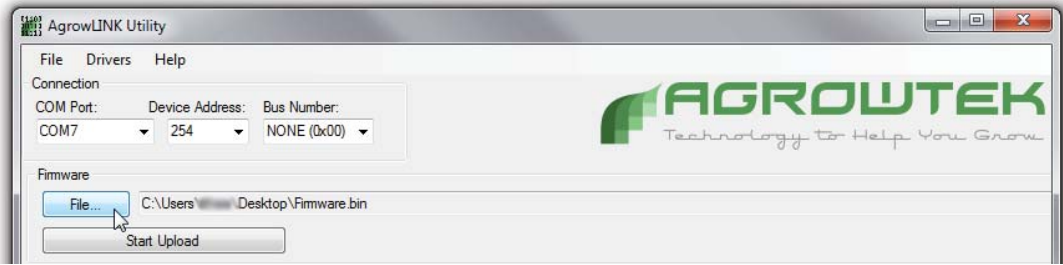
3. Click: "Yes" to install the drivers.



Firmware Update

Firmware updates are fast and easy on Agrowtek devices. Firmware files have a “.bin” extension.

1. Click: “File...” button and select the .bin firmware file.



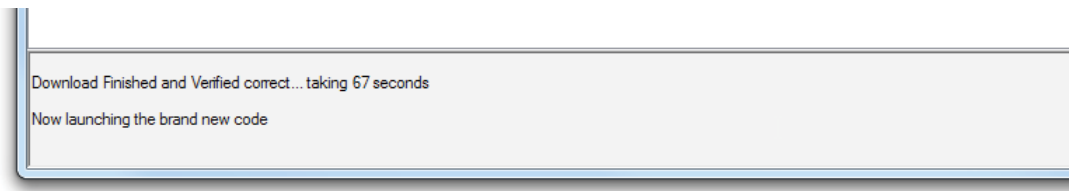
2. Ensure the device is powered on and connected to the LX1 USB Link.
3. Click the “Start Update” button.



IMPORTANT NOTE:

Firmware update capabilities are disabled 30 seconds after a device is powered on. If the utility fails to synchronize with the device; un-plug the USB Link and power, then try again.

4. The firmware will begin downloading onto the device.
5. When complete, the message “Now launching the brand new code” will be displayed.



The firmware download is complete.

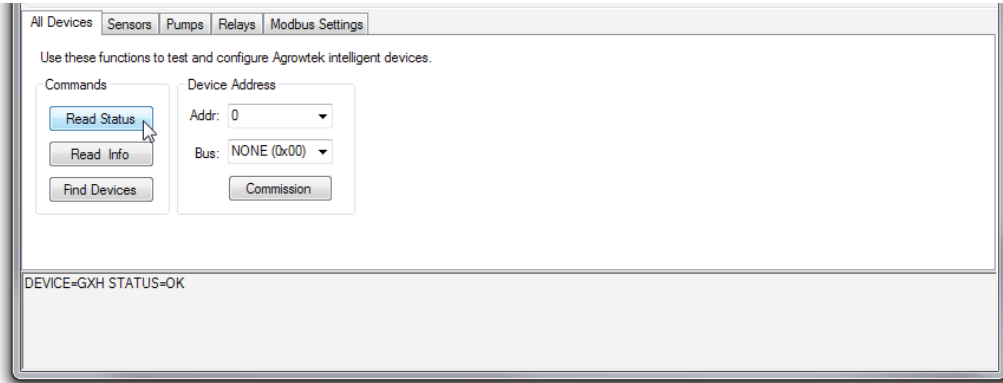
Allow 10 seconds for the device to reboot, then perform tests according to the device type to verify the device is working properly after the update.

General Commands

General functions exist for all devices including reading the device’s status, manufacturing info, and current device address, as well as setting a device address.

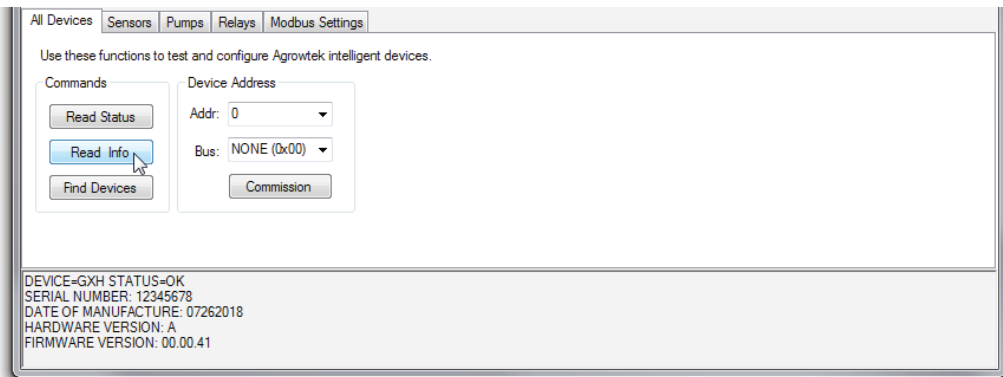
Device Status

The “Read Status” button will provide the last status update in the sensor’s memory. “OK” is a typical status.



Manufacturing Info

The “Read Info” button will provide the manufacturing info for the specific device including serial number, date of manufacture, and hardware and firmware version numbers.



Device Address

GrowNET™ devices are intelligent and addressable for use on GrowNET™/MODBUS serial networks.

Device Address

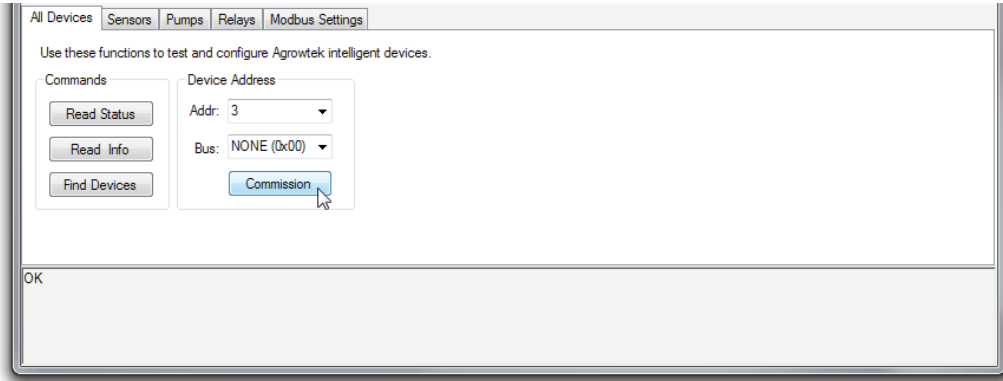
A device’s address may be set for use with multiple devices on a GrowNET™ serial network or MODBUS network.

Bus Number

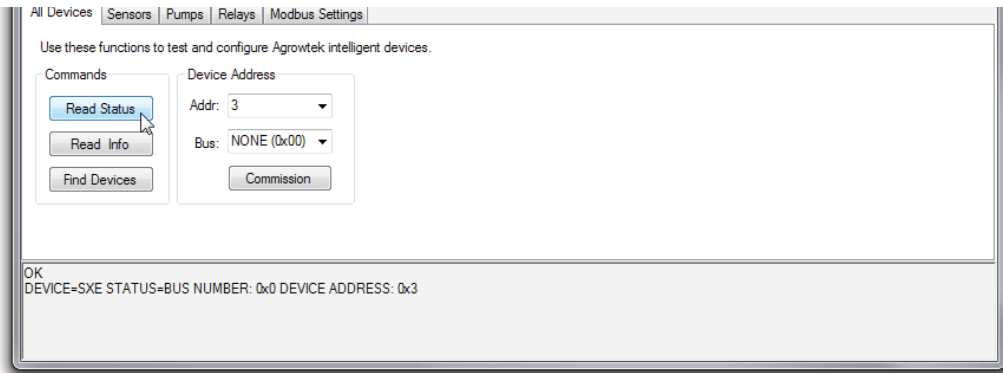
Devices are assignable to four different bus numbers to allow more than 249 devices on a network. If less than 249 devices are in use, the bus number may be set to “none.”

Note: MODBUS allows addresses in the range of 1-247 and does not use a bus number.

Press the “Commission” button to set the device address and bus number. The device should reply “OK” indicating the command was accepted.



Verify the device address is correct by changing the connection settings to the new address, then press the “Read Status” button. The device should reply with the last status which indicates the address has been changed.



Find Devices

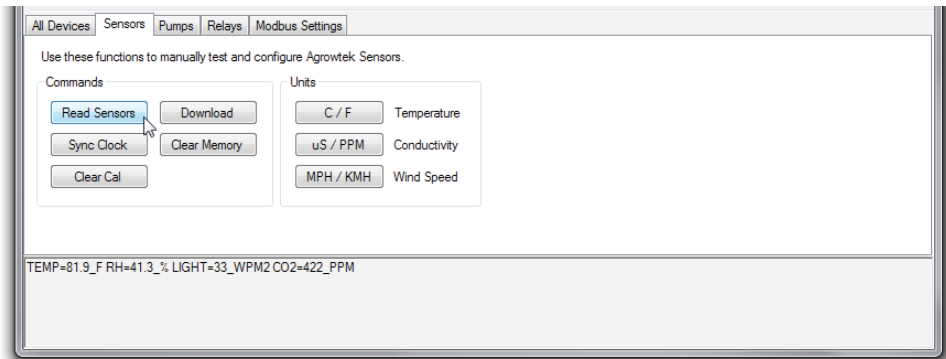
AgrowLINK can scan the for connected devices. Press the “Find Devices” button and wait for the scan to complete.

If a device’s address is unknown, it can be accessed using the universal broadcast address of “254” on any bus. The device address can be set from this addresses to overwrite any previous address settings.

Sensor Diagnostics & Configuration

GrowNET™ digital sensors can be tested and configured on the “Sensors” tab.

To poll the current sensors and read their values, press the “Read Sensors” button. The sensor values will be written in the message buffer.



Sync Clock

Synchronizes the device’s clock to the PC’s system time and date.

Clear Cal

Resets all calibration values to factory defaults.

Download

Download the data log from memory and save to CSV file.

Clear Memory

Clears the data log memory in the device.

Units

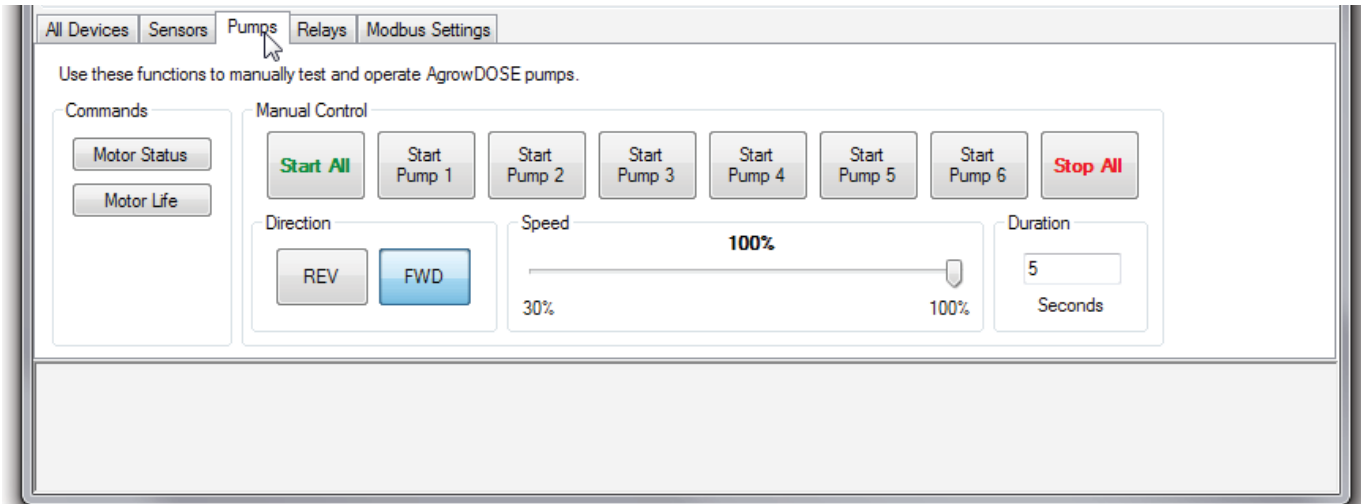
The units buttons toggle the type of units that the sensor displays, reports, and records data in.

Pumps Diagnostics & Configuration

GrowNET™ digital pumps can be manually operated and the pump motor life can be checked on the “Pumps” tab.

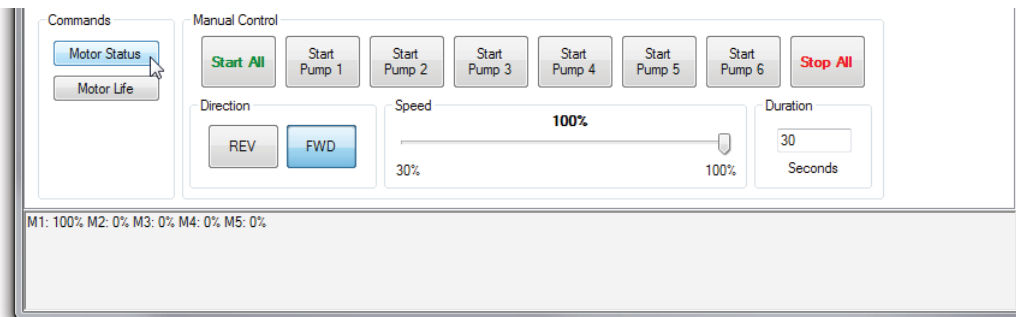
Manual Control

To manually operate a pump motor: select a direction, set the pump speed on the speed slider, enter a time to run and then press the “Start Pump ...” button for the desired pump.



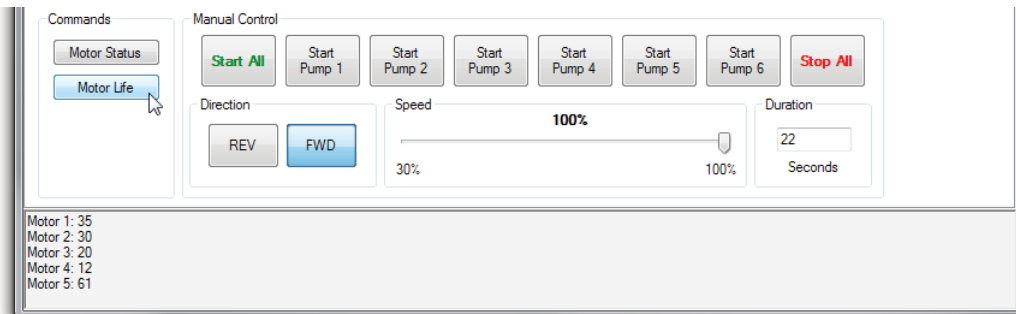
Motor Status

Reports the current speed of each motor (%).



Motor Life

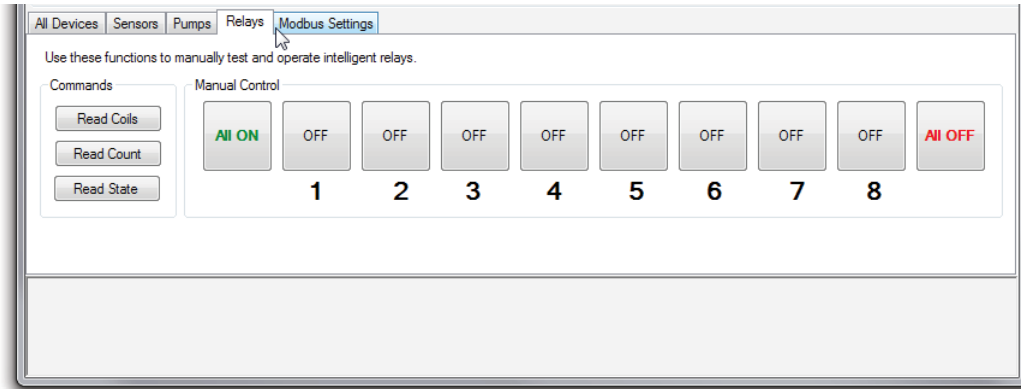
Reports the total number of seconds each motor has run in its life time. Use these values for monitoring when tubing may need replacement or when motors are nearing the end of their useful life.



Relays Diagnostics & Configuration

GrowNET™ digital relays can be manually operated and the relay contact life can be checked on the “Relays” tab.

To manually operate a relay contact, click the desired relay number and toggle the relay on or off.



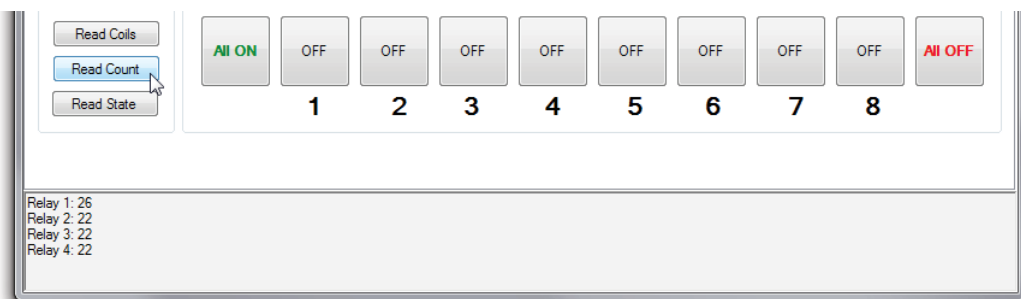
Read Coils

Reports the current status of each relay coil (on or off.)



Read Count

Reports the total number of contact closures for each relay point. Use the value for tracking life expectancy of the contacts or for reviewing how frequently a contact closes.



Read State

Reports the current position (%) of a motor control relay (MX1i.)

Warnings & Notices

This is a precision electronic instrument which requires proper installation and care to maintain reliability.

READ & UNDERSTAND ENTIRE MANUAL PRIOR TO INSTALLATION OR OPERATION.

Failure to read, understand and comply with warnings and installation requirements may result in property damage, personal injury or death.

NOTICE

GrowNET™ ports use standard RJ-45 connections but are NOT compatible the Ethernet network equipment. *Do not connect GrowNET™ ports to Ethernet ports or network switch gear.*

INDOOR LOCATIONS ONLY

~~This product is designed for indoor mounting only and must be protected from weather and direct sunlight.~~

WARNING

This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Disposal

This industrial control equipment may contain traces of lead or other metals and environmental contaminants and must not be discarded as unsorted municipal waste, but must be collected separately for the purpose of treatment, recovery and environmentally sound disposal. Wash hands after handling internal components or PCB's.

Warranty

Agrowtek Inc. warrants that all manufactured products are, to the best of its knowledge, free of defective material and workmanship and warrants this product for one (1) year from the date of purchase. This warranty is extended to the original purchaser from the date of receipt. This warranty does not cover damages from abuse, accidental breakage, or units that have been modified, altered, or installed in a manner other than that which is specified in the installation instructions. This warranty is applicable only to products that have been properly stored, installed, and maintained per the installation and operation manual and used for their intended purpose. This limited warranty does not cover products installed in or operated under unusual conditions or environments including, but not limited to, excessive humidity or extreme temperature conditions outside of the specified limits. Agrowtek Inc. must be contacted prior to return shipment for a return authorization. No returns will be accepted without a return authorization. Returns not purchased directly from Agrowtek Inc. must include proof of purchase date otherwise purchase date is considered date of manufacture. The products which have been claimed and comply with the aforementioned restrictions shall be replaced or repaired at the sole discretion of the Agrowtek Inc. at no charge. This warranty is provided in lieu of all other warranty provisions, express or implied. It is including but not limited to any implied warranty of fitness or merchantability for a particular purpose and is limited to the Warranty Period. In no event or circumstance shall Agrowtek Inc. be liable to any third party or the claimant for damages in excess of the price paid for the product, or for any loss of use, inconvenience, commercial loss, loss of time, lost profits or savings or any other incidental, consequential or special damages arising out of the use of, or inability to use, the product. This disclaimer is made to the fullest extent allowed by law or regulation and is specifically made to specify that the liability of Agrowtek Inc. under this limited warranty, or any claimed extension thereof, shall be to replace or repair the Product or refund the price paid for the Product.