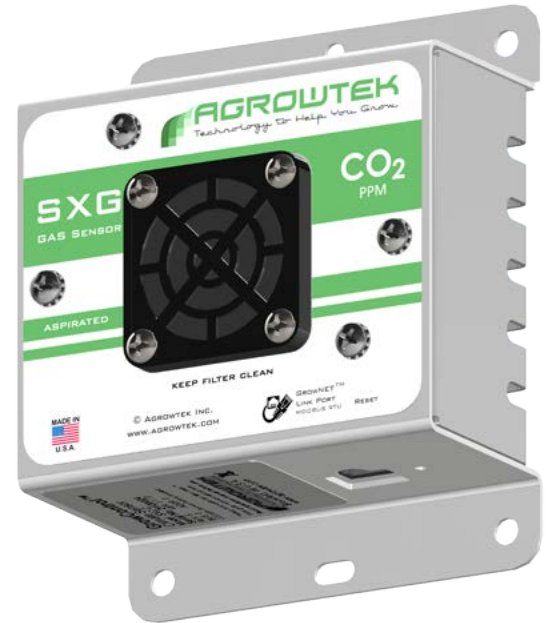


CO2 Gas Sensor

Specifications

Power	24Vdc, ~5W
Max Cable Distance	1000 ft
Aspirator	6cfm Fan with Foam Filter
Temperature Range	-20 - 60°C (0 - 140°F)
CO2 Range	400-10,000ppm (optional)
CO2 Accuracy	±50ppm + 3% of reading
Protocols	GrowNET™ or MODBUS RTU



Contents

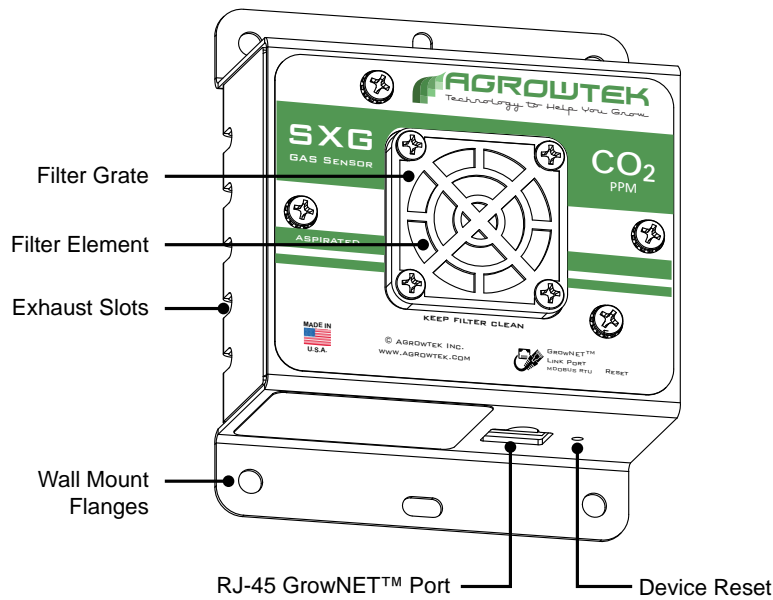
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KEEP THESE INSTRUCTIONS

REV 11/22

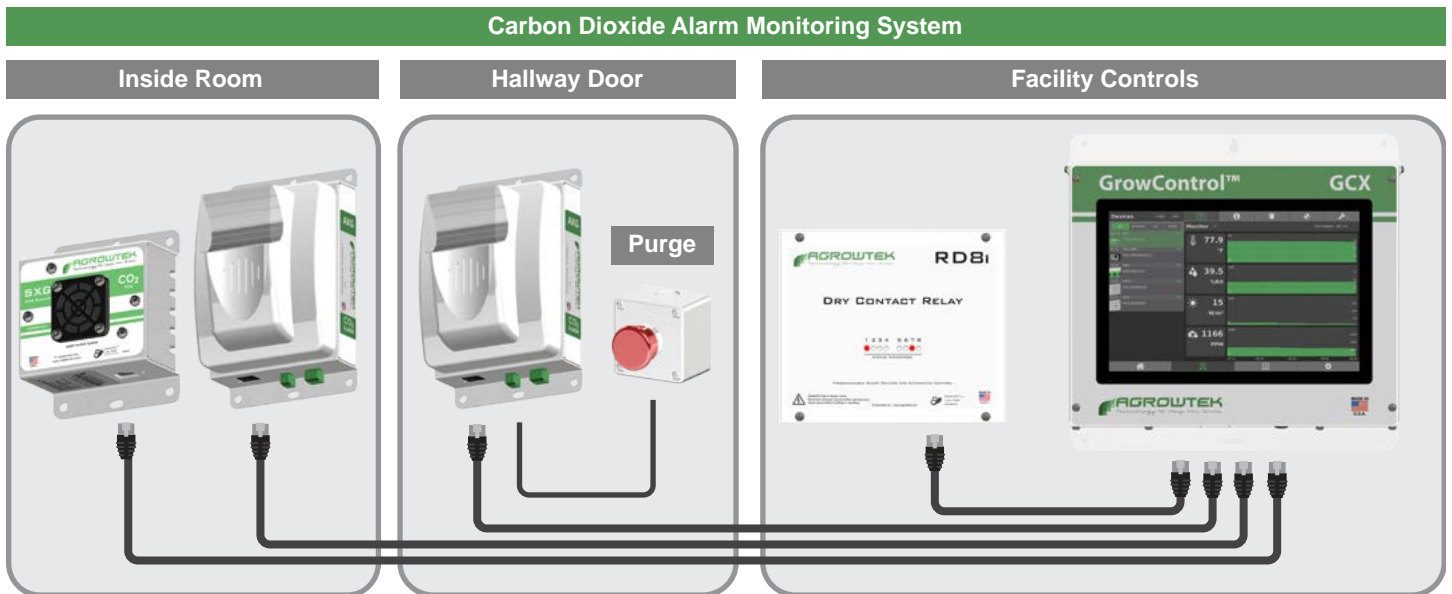
Features

SXG sensors are precision NDIR type CO2 concentration sensors for alarm monitoring applications. Wall mount flanges for easy installation near the room floor. Aspirator fan for fast response and accurate readings.



CO2 Alarm System

A complete, integrated CO2 alarm and control system can be operated by GrowControl GCX control systems using SXG gas sensors, AXG alarm modules and standard relay modules. Integrated control functions in the GCX control system make it easy to configure the alarm control by select the different components on the system to integrate.

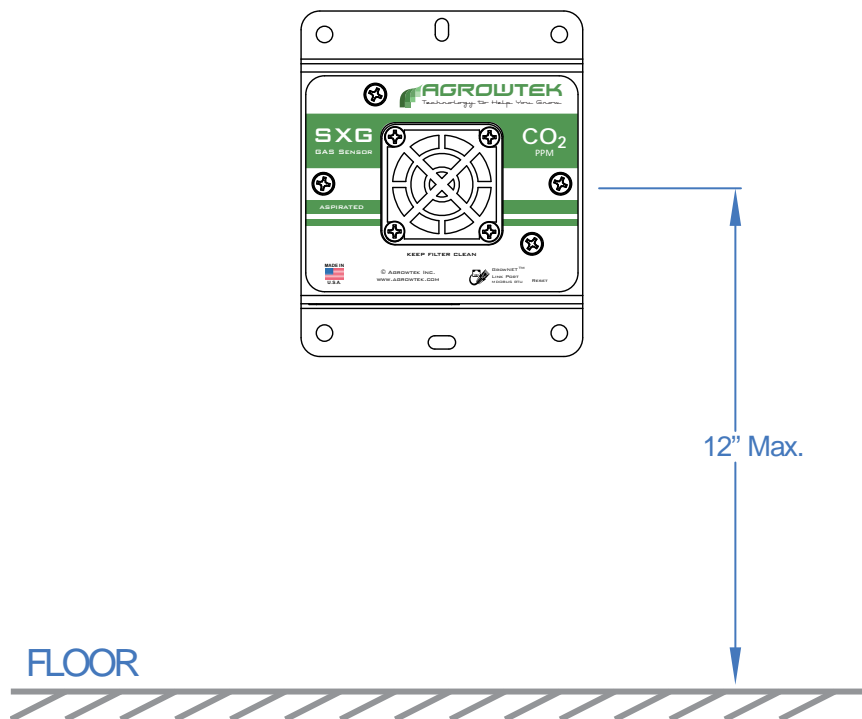


Installation Instructions

SXG sensors are designed for indoor wall mounting near ground level for monitoring carbon dioxide concentration limits. Consult your local authority for the quantity and location requirements for sensors and alarm modules. Typical requirements are outlined below.

Installation Location Requirements:

- Intake fan to be no more than 12" from the floor.
- Locate the sensor on the wall furthest from the entry way.
- Locate the sensor near the center of the wall.
- Avoid areas with condensation or water spray.
- Always mount the RJ-45 connection on the bottom to avoid water ingress through the connection.



Installation Notes

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.*

DIELECTRIC GREASE

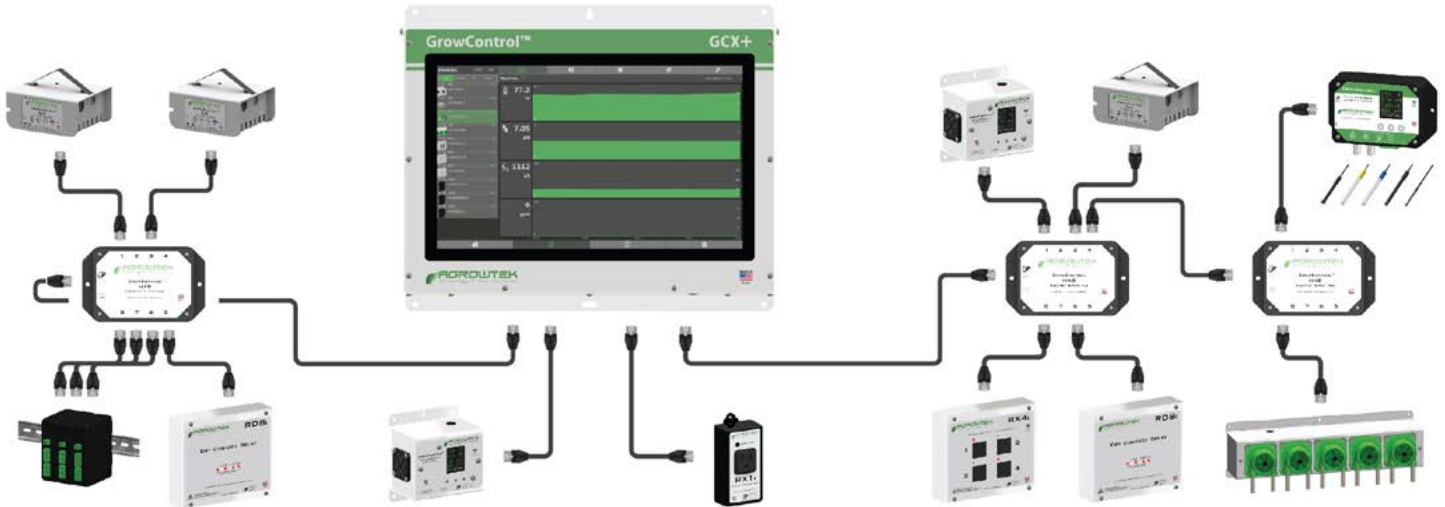
Dielectric grease is recommended on RJ-45 GrowNET™ connections when used in humid environments. Place a small amount of grease onto the RJ-45 plug contacts before inserting into the GrowNET™ port. *Non-conductive grease is designed to prevent corrosion from moisture in electrical connectors.*

- Loctite LB 8423
- Dupont Molykote 4/5
- CRC 05105 Di-Electric Grease
- Super Lube 91016 Silicone Dielectric Grease
- Other Silicone or Lithium based insulating grease

Connection to GrowControl™ GCX

All GrowNET™ devices are connected using standard CAT5 Ethernet cable with RJ-45 connections.

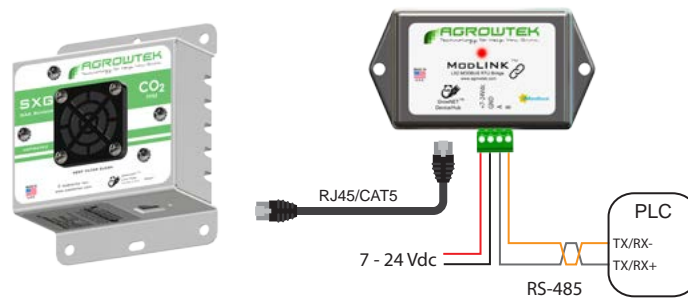
Devices can be connected directly to the GrowNET™ ports on the bottom of the controller, or through HX8 GrowNET™ hubs. It is typical to simplify cabling by locating hubs centrally in hall ways and rooms allowing single runs from an 8-port device hub back to a central hub or back to the controller.



Refer to the GCX controller manual for details on adding the device to the system.

Connection to MODBUS RTU

Use the LX2 ModLINK to connect RS-485 MODBUS devices to the GrowNET™ port.



See MODBUS manual for more information.



3.3/5Vdc Serial Bus Compatible.
Include required bus terminating resistors per EIA standard.

GrowNET™ Hubs

HX8 GrowNET™ hubs expand a single port into eight more ports. Hubs can be daisy-chained to form a network of up to 100 devices per GrowNET™ bus. Individually buffered port transceivers provide excellent signal integrity and extended communication strength and range.

Hubs provide up to 1A of power for operating sensors and most relays directly over the CAT5 cable. A DC jack on the hub provides 24Vdc power to the ports from the included wall power supply. A terminal block power option is also available.



Supported Commands

0x03 Read Multiple Registers

0x06 Write Single Register

A request to use a function that is not available will return an illegal function exception.

Register Types

Data registers are 16 bits wide with addresses using the standard MODICON protocol. Floating point values use the standard IEEE 32-bit format occupying two contiguous 16 bit registers. ASCII values are stored with two characters (bytes) per register in hexadecimal format.

Calibration Registers

Calibration registers are 16-bit signed integers for the purpose of calibrating the sensor values or analog output channels. Calibration may be achieved by writing the desired calibrated value to the associated register. Writing to the calibration registers automatically invokes the calibration routine for that register.

Offset Calibration

Offset, or zero calibration, is an arithmetic positive or negative correction to the sensor reading and is the only type of sensor calibration available on climate/environmental sensors.

MODBUS Holding Registers

Parameter	Description	Range	Type	Access	Address
Address	Device Slave Address	1 - 247	8 bit	R/W	40001
Serial#	Device Serial Number	ASCII	8 char	R	40004
DOM	Date of Manufacture	ASCII	8 char	R	40008
HW Version	Hardware Version	ASCII	8 char	R	40012
FW Version	Firmware Version	ASCII	8 char	R	40016
Toggle Units	Toggle sensor units	1 - 4	16 bit, unsigned	W	41002
Heater Power	RH Sensor Heater	0 - 16 *	16 bit, unsigned	W	41003
Sensor Value	CO2	400 - 10,000ppm	16 bit, signed	R	40101
	CO2	400 - 10,000ppm	32 bit float	R	40201
Calibration Input, Offset (Zero)	CO2	See integer ranges above.	16 bit, signed	W	41101

A request to read or write a register that is not available will return an illegal address error (0x02).

Maintenance & Service

Sensors require periodic maintenance to ensure proper performance.

Cleaning

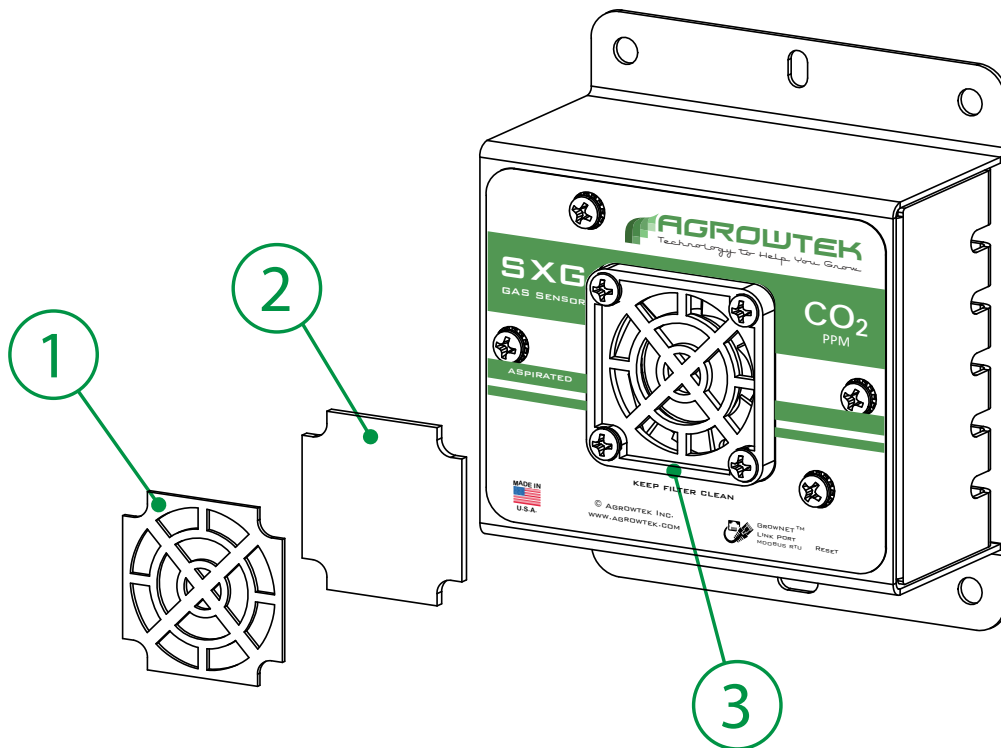
Exterior and label surfaces may be wiped with a damp cloth with mild dish detergent, then wiped dry. Avoid spraying the sensor with chemicals or water spray.

Fan Filter

The fan air filter should be periodically removed for cleaning.

It is NOT necessary to remove the fan.

1. Pry the retaining grate (1) out of the base (3) using a small flat blade eye-glass screwdriver.
2. Remove the foam filter (2) and replace, or clean with mild dish detergent and water, then pat dry.
3. Check for proper fan operation while the filter is removed.
If fan is not spinning or is making noise, replace the fan.
4. Re-install the foam filter (2) and grate (1) into the base (3) gently snapping the grate back into place.



Storage and Disposal

Storage

Store equipment in a clean, dry environment with ambient temperature between 10-50°C.

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 1 year from the date of manufacture. 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. Agrowtek Inc. must be contacted prior to return shipment for a return authorization. No returns will be accepted without a return authorization. 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, high humidity or high temperature conditions. 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.