



Thank you for purchasing this Plug'n'Grow controller.

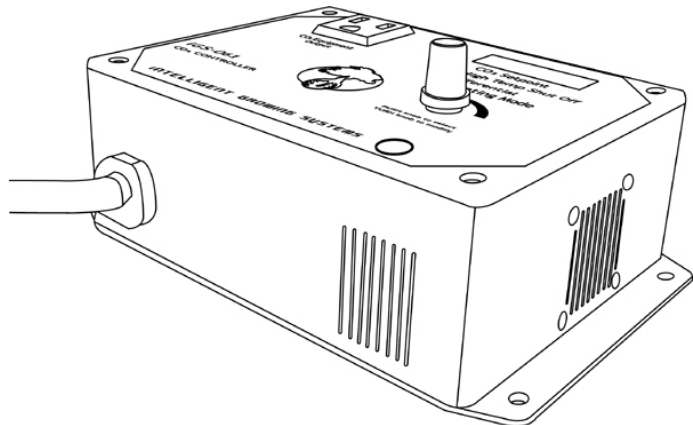
Your wise choice will not only procure you precise and easy to use control but also give you access to our toll free support line (888-577-6274). Our knowledgeable technicians will assist you 24hr a day and 7 days a week in English & French.

Happy gardening !

Proper installation :

Install the iGS-061 CO₂ controller in the grow location in a position where light can be sensed by the photocell. Take care in locating the control unit not too close to intake/exhaust fans or to your CO₂ generator. The control unit should also be protecting from water and dust (install lint filters on velcros).

Once the unit is properly installed, plug in your propane burner or CO₂ regulator electric cord into the panel output.



How does it work :

The iGS-061 will perform CO₂ enrichment during the day only (when light is sensed by the photocell). The enrichment starts when the CO₂ concentration falls below the setpoint minus the differential.

i.e. Setpoint = 1200 ppm Differential = 150

CO₂ enrichment starts below 1050 ppm and stops beyond 1050 ppm

The differential modifies itself until the controller senses no more overshooting or undershooting of user setpoint. Fixed differential values can also be set for more specific needs (goto step 3A).

As a safety feature, the high temperature shut off function will inhibit operation while temperature is over the user setting. This interruption is maintained until temperature falls below the user high temp setting. To inhibit this feature, simply set the limit to its highest value.

The controller can also be set to vent (extract) CO₂ (operating mode 1-02). In this case, the high temp shut off feature becomes a low temp shut off limit to prevent excessive cooling conditions.

Set-up :

Pressing & releasing the black knob will light in sequence the four indicator lights situated under the display. If any of those indicators are lit, the user can modify or view the associated feature.

Function	Controllers Functions	How to access this function	Function Display and Light Indicators
0	<p>Normal control operation and CO2 ppm display</p> <p>The display shows current CO₂ concentration while controlling the CO₂ generator. No CO₂ injection during the night.</p>	<p>Default Mode, active upon power-up</p> <p>If any light indicators is ON, press knob & release until all lights turn OFF.</p>	
0A	<p>Normal control operation and temperature display</p> <p>The display shows current temperature value while controlling the CO₂ generator.</p>	<p>First Step : set the light indicators as in function 0. Second step : press & hold down knob for at least 3 whole seconds until the two first indicators blink. This value CAN NOT be modified, it is a read-only value.</p> <p>Press & release knob to return to default mode</p>	



<p>#1</p>	<p>Setting the CO2 setpoint :</p> <p>Modify your CO2 setpoint between 0 and 5000 ppm.</p>	<p>Press & release knob until first indicator light is ON</p> <p>Modify this value by rotating the knob left & right</p> <p>Press & release knob 4 times to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">1 5 0 0</div> <ul style="list-style-type: none"> <input checked="" type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input type="radio"/> Differential <input type="radio"/> Operating Mode
<p>1A</p>	<p>Altitude correction factor</p> <p>Altitude correction may be required for facilities above 1000 ft. The displayed value is given in 1000-foot units.</p>	<p>First Step : set the light indicators as in function #1.</p> <p>Second step : press & hold down knob for at least 3 whole seconds until the first indicator blinks. Modify this value by rotating the knob left & right : divide the operating altitude by 1000 (i.e. 1500ft/1000 = 1.5)</p> <p>Press & release knob 4 times to return to default</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">A 1.5</div> <ul style="list-style-type: none"> <input checked="" type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input type="radio"/> Differential <input type="radio"/> Operating Mode
<p>2</p>	<p>High temperature shut off :</p> <p>The CO2 generator will be stopped when room temperature reaches this value.</p>	<p>Press & release knob until second indicator light is ON</p> <p>Modify this value by rotating the knob left & right</p> <p>Press & release knob 3 times to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">1 0 4</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input checked="" type="radio"/> High Temp Shut Off <input type="radio"/> Differential <input type="radio"/> Operating Mode
<p>2A</p>	<p>Celsius or Fahrenheit temp. format</p> <p>All temperature can be displayed either in Fahrenheit or Celsius (FAHR or CELS)</p>	<p>First Step : set the light indicators as in function #2.</p> <p>Second step : press & hold down knob for at least 3 whole seconds until the second indicator blinks. Modify this setting by rotating the knob left & right.</p> <p>Press & release knob 3 times to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">C E L S</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input checked="" type="radio"/> High Temp Shut Off <input type="radio"/> Differential <input type="radio"/> Operating Mode
<p>3</p>	<p>Displaying the control differential :</p> <p>The equipment starts when the actual CO2 concentration is below the setpoint minus the differential.</p>	<p>Press & release knob until third indicator light is ON</p> <p>This value CAN NOT be modified, it is a read-only value.</p> <p>Press & release knob 2 times to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">5 0</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input checked="" type="radio"/> Differential <input type="radio"/> Operating Mode
<p>3A Part 1</p>	<p>Fixed differential parameters (low):</p> <p>The differential is modified automatically to minimize overshoot during enrichment. The automatic differential range is limited by a minimum value (part 1) and a maximum value (part 2).</p>	<p>First Step : set the light indicators as in function #3.</p> <p>Second step : press & hold down knob for at least 3 whole seconds until the third indicator blinks. Modify this setting by rotating the knob left & right.</p> <p>Press & release knob once to continue to part 2.</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">L 5 0</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input checked="" type="radio"/> Differential <input type="radio"/> Operating Mode
<p>3A Part 2</p>	<p>Fixed differential parameters (high):</p> <p>See 4A part 1 above.</p>	<p>Modify this setting by rotating the knob left & right.</p> <p>Press & release knob 2 times to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">H 5 0 0</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input checked="" type="radio"/> Differential <input type="radio"/> Operating Mode
<p>4</p>	<p>Setting the Operation Mode :</p> <p>The OPERATING MODE can be either "CO2 Enrichment" or "CO2 extraction".</p>	<p>Press & release knob until fourth indicator light is ON</p> <p>Choose mode by rotating the knob</p> <p>For CO2 enrichment, choose mode 1-01.</p> <p>For CO2 extraction, choose mode 1-02.</p> <p>Press & release knob once to return to default mode</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;">1 - 0 1</div> <ul style="list-style-type: none"> <input type="radio"/> CO₂ Setpoint <input type="radio"/> High Temp Shut Off <input type="radio"/> Differential <input checked="" type="radio"/> Operating Mode



<p>4A Part 1</p>	<p>CO2 sensor Calibration</p> <p>The CO2 sensor calibration can be performed 2 different ways :</p> <ul style="list-style-type: none"> - the Quick Calibration or - the Regular Calibration <p>Quick Calib requires you to bring the unit outdoors in order to calibrate it using the 400 ppm natural CO2 concentration met in most non urban environments.</p> <p>Regular Calib requires you to know the actual CO2 concentration using another CO2 controller or monitor as a reference unit.</p>	<p>First Step : set the light indicators as in function #4.</p> <p>Second step : press & hold down knob for at least 3 whole seconds until the fourth indicator blinks and the display shows CO2 and CAL in sequence</p> <p><u>For Quick Calib.</u> : Hold down knob until display shows CAL & RUN in sequence, and jump to Part 3.</p> <p><u>For Regular Calib.</u> : Press & release knob, the display will show CAL & a numeric value in sequence; jump to Part 2.</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>CAL</p> <ul style="list-style-type: none"> ● CO₂ Setpoint ● High Temp Shut Off ● Differential ☀ Operating Mode </div>
<p>4A Part 2</p>	<p>At this point you need to read the reference controller or monitor : this value must be within 0 and 5000 ppm</p>	<p>Rotate knob to adjust the numeric value to the reference CO2 value.</p> <p>Press & hold down knob until the display only shows CAL & RUN; jump to Part 3</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>655</p> <ul style="list-style-type: none"> ● CO₂ Setpoint ● High Temp Shut Off ● Differential ☀ Operating Mode </div>
<p>4A Part 3</p>	<p>The sensor within the unit is being recalibrated, it may take up to 8 minutes to complete.</p>	<p>The unit will jump automatically to Part 4</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>RUN</p> <ul style="list-style-type: none"> ● CO₂ Setpoint ● High Temp Shut Off ● Differential ● Operating Mode </div>
<p>4A Part 4</p>	<p>The calibration process has completed successfully.</p>	<p>Press & release knob to return to default mode.</p>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>DONE</p> <ul style="list-style-type: none"> ● CO₂ Setpoint ● High Temp Shut Off ● Differential ● Operating Mode </div>



Error, Advice and Alarm Messages

The iGS-061 is able to display three types of message to the user.

The ERROR messages DO require immediate attention. They show up when a hardware failure has been detected. While displaying Error Messages, the module STOPS CONTROLLING the equipment, turning its OUTPUT OFF.

The ADVICE messages (you see “Adu” on display) DO NOT require immediate attention or action to be taken. They simply inform the user that a special condition has been met, that may require some non urgent user validation, although the module KEEPS CONTROLLING the equipment.

The ALARM messages ONLY INDICATE USER ALARM conditions. The module KEEPS CONTROLLING the equipment.

Message	Cause	System Action	Reset condition
ERR3	Co2 Sensor Failure	Output is turned OFF	Auto reset or reboot or permanent
ERR4	Temp Sensor Failure	Output is turned OFF	Auto reset or reboot or permanent
ERR6	Automatic system recovery fail or max system recovery.	Output is turned OFF	Reboot or Permanent
Adu1	Co2 Sensor overflow	no action	Auto reset
Adu2	Co2 Sensor calibration time.	no action	After calibration
Adu3	Automatic system recovery has occurred successfully.	no action	Enter in edit mode
Alrm3	Temperature in the room is currently BELOW the LOW limit.	Output is turned OFF	Auto Reset
Alrm4	Temperature in the room is currently ABOVE the HIGH limit.	Output is turned OFF	Auto Reset

Note on using intake and/or exhaust ventilation :

Adding CO₂ in a closed grow room is made easy with this controller. Unfortunately some grow rooms use intake and/or exhaust ventilation to maintain adequate temperature and relative humidity levels. Adding CO₂ while these fans are ON results in wasted CO₂. An optional OFF switcher (iLS120-OFF 120Vac Off Switcher) can be purchased to prevent the controller from adding CO₂ while other equipment is in operation.

Warranty

Nova Biomatique Inc. (manufacturer of Plug'n'Grow) warrants their product to be free of defects in material & workmanship for a period of one year from date of purchase by the user (proof of purchase needed). The warranty applies only to the original purchaser of the product. The warranty is limited to the repair or replacement, at Nova Biomatique's discretion, of any defective part of the controller or accessories which are covered by the warranty. The warranty does not cover the following : defects resulting from installation, shipping, misuse, negligence or tampering, or improper use.

For warranty, repair or technical support call 888-577-6274.