INTEC CONTROLS

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Step 2

WAIT! Have you completed Installation Verification (Step 1)?

DGC5

Quickstart

Startup & Commissioning Guide

Startup & Commissioning Checklist

(See the DGC5 User's Manual for additional information)

> Upon powering up, the Controller automatically begins to scan for faults, alarms and errors. Failure to place the system in Service Mode after 30 seconds of the initial boot up may trigger faults and alarms which could activate fans and annunciators!
>
> Review these instructions carefully and familiarize yourself with the "**User Interface and Controller Instructions"** (on reverse side) before attempting system startup and commissioning.

1. **Verify system installation and note the system programming password is: 9001.** It is assumed that the project parameters have already been pre-programmed in the DGC5 Controller and the digital transmitters (along with any piggybacked analog transmitters) have all been pre-addressed. The password will be necessary to make programming changes and to exercise the system. ***Keep this password secure!***
2. Turn on the power breaker in the electrical panel and verify 110 VAC +/- at the Controller's AC terminals. Once verified turn on the power breaker in the Controller. *See reverse side "Removing the Controller Cover" for assistance.* The green Power LED illuminates and the Controller LCD will display "Power On Time".
3. **Place the DGC5 Controller in Service Mode:**

Placing Controller in Service Mode (See reverse side for a visual guide)		
Step	**Key Combination(s)**	**LCD Displays...**
1	Press Enter (■) →	"System Errors"
2	Press Up (▲) →	"System Setup"
3	Press Enter (■) then Down (▼) →	"Service Mode"
4	Press Enter (■) then Down (▼) →	"On"
5	Press Enter (■) then ESC x3 (●) (●) (●) →	"INTEC"

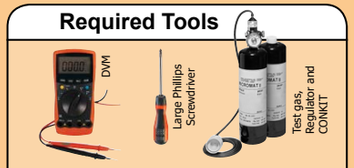
4. Measure and record the trunk DC voltage at terminal block X4 pins 1(+) and 2(-) at the last transmitter on each trunk. Voltage must be between 18 and 28 VDC.

Voltage Reading (VDC)							
T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8

NOTE: If voltage is less than 18 VDC then a REP5-PS1.5 trunk repeater/power booster will be necessary.

5. Return to the Controller and note the status of the LEDs. If after three minutes and the yellow Fault light is not lit, all activated sensors are communicating normally. If the yellow Fault light illuminates, *see User's Manual Section 4.1*. The red Alarm lights may either be blinking or off depending on the measured value of the attached sensors. *See User's Manual Section 3.1.*
6. Press the Enter button (■) once and LCD display will read "System Errors". Press the Enter button (■) again and it should read "No Errors Exist". *If an error exists, refer to "Common Error Codes & Solutions" (on reverse side) for troubleshooting.*

Required Tools



Recommended Additional Tools

7. After verifying that the system is operating without errors, each relay output should be checked for proper operation. Select "Relay Status" submenu and manually activate and deactivate each relay. When a manual command is made, both Alarm LEDs will go on and stay on until all relays are back on the automatic mode.

> Verify that all relays are in automatic mode and both Alarm lights are off before proceeding.

8. Go to "System Setup" submenu and turn "Service Mode Off". The DGC5 Controller is now scanning sensors for gas concentration values and evaluating alarm thresholds.

> Verify all system programming parameters & setpoints prior to applying gas to sensors!

9. Controller programming (sequence of operation) may be verified by applying test gas to each sensor and observing that correct fans are operating. System Programming Sheets identify which sensors/stages control which relays. Typically applying 50 ppm Carbon Monoxide (CO) gas will trigger the first stage to turn on the fans and test gas greater than 200 ppm (CO) will have the fans run and also initiate the high stages of alarm. Test gas is applied to the sensor using a gas regulator and connecting kit. See "*User Interface and Controller Instructions*" on reverse side for additional guidance.
10. In the "System Setup" submenu, verify that the system time and date are correct or update if necessary. (mm:dd:yy, hh:mm am/pm)
11. Set the "Next Maintenance Date" to a year forward from today. On that date, a Fault condition will be triggered indicating system operation/calibration should be reverified.
12. Set the "Phone Number" to identify who to contact when the Service Fault occurs. (Note that the default phone number is for INTEC Controls' technical support.)
13. Escape (●) to the home display. Verify that the Fault and Alarm LEDs are off and that the LCD display is sequentially displaying the sensor readings.

Startup and Commissioning Procedure completed.

Technician/Installer's Name(s):	
Installation Date:	

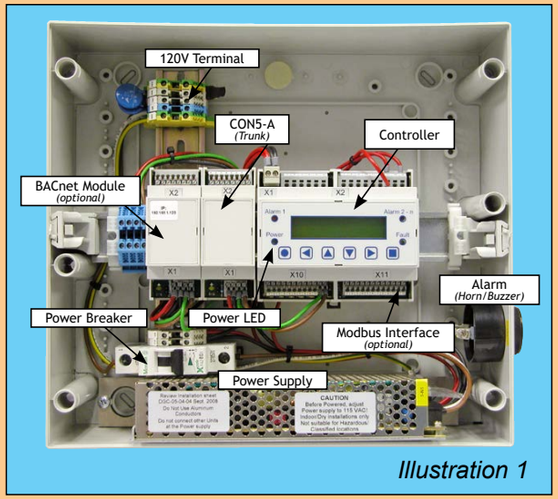


Illustration 1

Error Codes & Visual Guides

Common Error Codes & Solutions

SP XX.1 Error	Communication error to SPXX.1.
Cause:	Bus line interrupted or short circuit, SPXX.1 registered at the Controller, but not addressed. Transmitter defective.
Solution:	Check line to transmitter, check transmitter address, replace transmitter.

SPXX.1 > 22 mA **SPXX.1 < 3 mA**	Sensor signal at transmitter out of the measuring range.
Cause:	Transmitter not calibrated, defective.
Solution:	Calibrate transmitter, replace transmitter.

SPXX.2 > 22 mA	Current signal at analog input SPXX.2 > 22 mA.
Cause:	Short-circuit at analog input, analog transmitter not calibrated, or defective.
Solution:	Check cable to analog transmitter, make calibration, replace the analog transmitter.

SPXX.2 < 3 mA	Current signal to analog input SPXX.2 < 3 mA.
Cause:	Wire broken at analog input, analog transmitter not calibrated, or defective.
Solution:	Check cable to analog transmitter, make calibration, replace the analog transmitter.

GC Error:	Internal communication error I/O Board to LCD Board.
Cause:	Internal error. RS 485 field bus at X10 pin 11 and 12 not correct
Solution:	Check RS 485 field bus at X10 pin 11 and 12. Disconnect RS 485 bus at X10 pin 11 and 12, check function again. Replace the Gas Controller.

EP 0X Error:	Communication error to extension module EP 0X. (Only active, if EP 0X is registered).
Cause:	EP module address not correct. (See Commissioning.) Bus line to EP 0X module interrupted. No power supply at the EP 0X module. EP module defective.
Solution:	Check and correct the EP module address. Check the bus cable and the power supply. Replace the EP 0X module.

Maintenance:	System maintenance is necessary.
Cause:	Maintenance date exceeded.
Solution:	Perform the maintenance.

Still need technical assistance?

Lets us know, we're here to help!

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Poway, CA 92064 USA

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Email: info@inteccontrols.com
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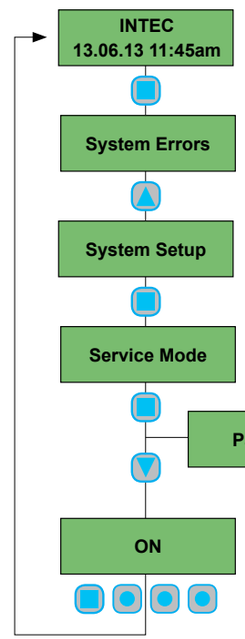
Placing Controller in Service Mode

Failure to place the system in Service Mode after 30 seconds of the initial powering up may trigger faults and alarms! Review these steps and familiarize yourself with the programming buttons before attempting this procedure. Service Mode will auto resets after 60 minutes.



Press the Enter button (■) once until you see "System Errors" on the display. (mm:dd:yy, hh:mm am/pm)

Then press Up (▲) until you see "System Setup" on the display.

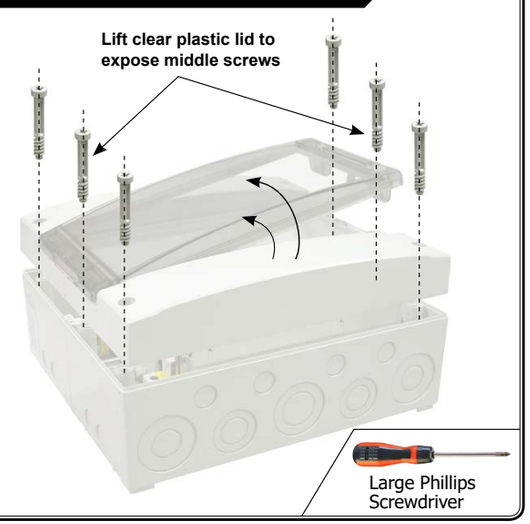
Then press Enter (■) again and Down (▼) arrow to "Service Mode"

Press Enter (■) then Down (▼) to turn the Service Mode "ON".

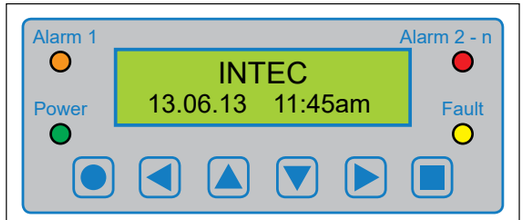
Asks for password if this is the first time the user attempts to access this menu level

Then (■) once and ESC (●) the far left button three times to return to the main display.

Removing the Controller Cover

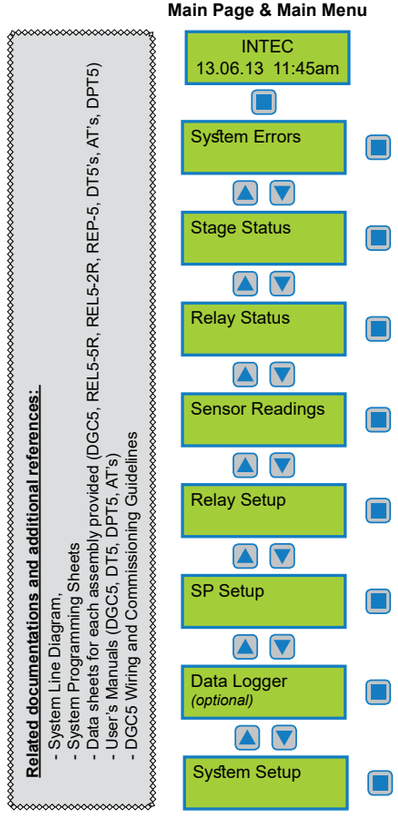


User Interface and Controller Instructions



Power "Green"	Lit when power is applied
Fault "Yellow"	Flashes at system / sensor fault
Alarm 1 "Orange"	Flashes when Stage 1 level setpoint is exceeded; steady when any relay output is in manual override operation
Alarm 2-n "Red"	Flashes when Stage 2 level setpoint is exceeded; steady when any relay output is in manual override operation
●	Exits programming; returns to the previous menu level.
■	Enters sub menus; saves parameter settings.
▲ ▼	Scrolls up & down within a menu; changes a value.
◀ ▶	Moves the cursor position.

Main Page & Main Menu



Related documentations and additional references:
- System Line Diagram,
- System Programming Sheets
- Data sheets for each assembly provided (DGC5, REL5-5R, REL5-2R, REP-5, DT5's, AT's, DPT5)
- User's Manuals (DGC5, DT5, DPT5, AT's)
- DGC5 Wiring and Commissioning Guidelines

System Operation
All programming is made via the keypad user interface in combination with the display screen. Security is provided via two password levels. The lower level password (1234) allows to override or to reset system status functions. The upper level password (9001) allows all programming and override functions.

Main Page Display
After powered on, displays INTEC and Date/Time and changes to sensor reading display unless a system error occurs; then the error is displayed.

Main Menu
Displays headings of "System Errors", "Stage Status" "Relay Status", "Sensor Readings", "Relay Setup", "SP (Sensor Point) Setup", "Data Logger" and "System Setup".

Sub Menu "System Errors"
Displays errors, reset corrected errors, and historical error summary.

Sub Menu "Stage Status"
Displays status of each "SP" sensor point, stage level/setpoint exceeded.

Sub Menu "Relay Status"
Displays status and manual control of each output relay.

Sub Menu "Sensor Readings"
The current or average values are displayed for each "SP" sensor point with sensing type and engineering unit (ppm, %LEL, Vol%, °F, %RH, %, ppk, °C).

Sub Menu "Relay Setup"
Enter and/or change parameters of each relay.
- Assign de-energized or energized normal operation
- Select steady or flashing function
- Select latching or non-latching mode
- Select horn re-annunciation interval
- Select digital input usage, and assign to any output relay
- Set ON/OFF time delay

Sub Menu "SP Setup"
Enter and/or change parameters of each sensor point.
- Activate/deactivate sensor point
- Lock/unlock sensor point
- Alarm on rising or falling value
- Select sensor point type (gas, temperature, humidity)
- Select full scale measuring range
- Select sensor signal
- Select stage/setpoint 1 to 5
- Select hysteresis
- Set delay ON/OFF time
- Select current or average mode
- Assign sensor point fault to stage level activation
- Assign setpoint 1 to 5 to any output relay
- Assign to analog output

Sub Menu "Data Logger"
- Set data logger ON/OFF
- Set sensor data logging ON/OFF
- Set sensor data logging interval
- Set alarm ("stage status") logging ON/OFF
- Set system error logging ON/OFF

Sub Menu "System Setup"
Enter and/or change system parameters.
- Select service mode ON/OFF
- Set next maintenance date
- Select service phone number
- Select averaging function, time and overlay, of any SP
- Set date, time and time format
- Change customer password
- Select analog output function
- Set failure relay
- Select power ON time (alarm suppression)
- Select appropriate hardware configuration
- Assign relay multiplication