INTEC CONTROLS

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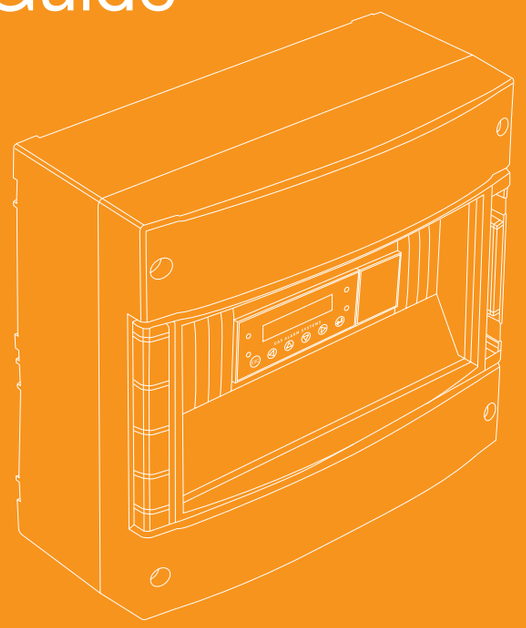
Quickstart 2

DGC6

Startup & Commissioning Guide



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Revision 200228

Have you completed Installation Verification (Quickstart 1)?

Startup & Commissioning Checklist

(See the DGC6 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 Menu" (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 DGC6 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 DGC6 Controller in Service Mode:

PLACING CONTROLLER IN SERVICE MODE
(See reverse side for a visual guide)

STEP	INSTRUCTION	KEY COMBINATION	LCD DISPLAY
1	Press Enter	↵	"System Errors"
2	Press Up Arrow	▲	"Parameter"
3	Press Enter	↵	"Service OFF"
4	Press Enter	↵	"Service OFF"
5	Press Up Arrow	▲	"Service ON"
6	Press Enter	↵	"Service ON"
7	Press Escape 3X	ESC ESC ESC	"INTEC Controls"

☐ 4. Measure and record the DC voltage at the last device on each trunk segment: X4 pins 1(+) and 2(-) for DT6, or X1 pins 3(+) and 2(-) for DC6. Voltage must be between 18 and 28 VDC.

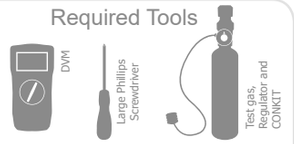
NOTE: If voltage is less than 18 VDC then a REP6-PS1.5 trunk repeater/power booster will be necessary.

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

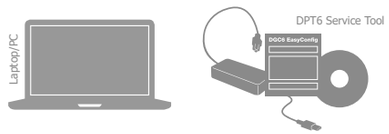
☐ 5. Return to the Controller and note the status of the LEDs. If after three minutes and the yellow Fault light is not lit, all activated sensors are communicating normally. If the yellow Fault light illuminates; *see User's Manual Section 4.1.* The red Alarm lights may either be blinking or off depending 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 "System Messages and Errors" (on reverse side) for troubleshooting.

Required Tools



Recommended Tools



☐ 7. After verifying that the system is operating without errors, each relay output should be checked for proper operation. Select "Parameter > Alarm Relay Test" or "Parameter > Signal Relay Test" and manually activate and deactivate each relay.

Note: All test commands automatically clear if the system is idled for more than 15 minutes.

Verify that all relays are in AUTOMATIC mode.

☐ 8. Go to "Parameter" submenu and turn "Service" OFF. The DGC6 Controller is now scanning sensors for gas concentration values and evaluating alarm thresholds. Yellow Fault LED is off.

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.

☐ 10. In the "Display Parameter" submenu, verify that the system time and date are correct; update if necessary. (mm:dd:yy, hh:mm am/pm)

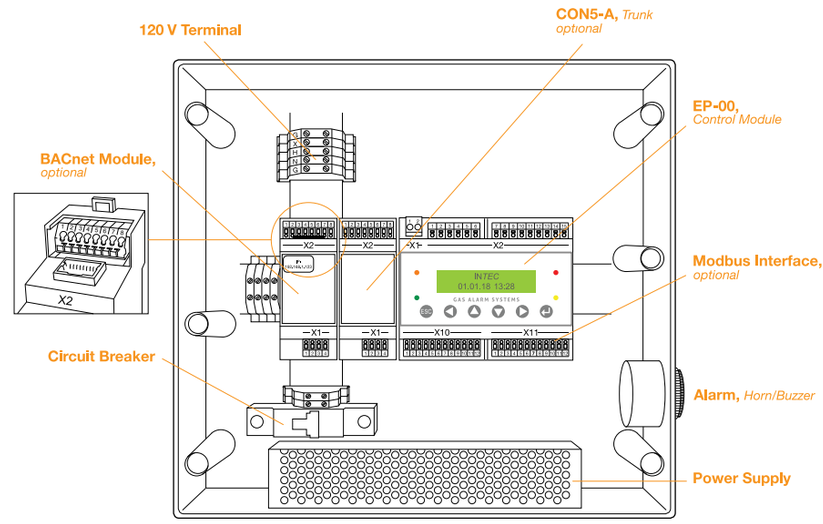
☐ 11. Set the "Next Maintenance Date" to a year forward from today. On that date, a Fault condition will be triggered indicating system operation/calibration should be reverified.

☐ 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 (ESC) 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):	
Commissioning Date:	

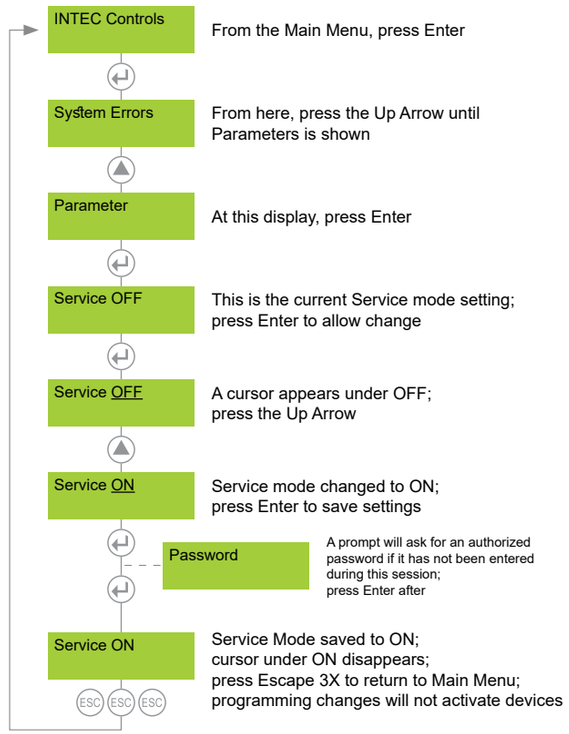


SYSTEM MESSAGES AND ERRORS

ERROR MESSAGE	DESCRIPTION
"DP 0X Sensor Element"	(0x8001) Sensor element at the sensor head – diagnostic function reports an error.
Cause:	Sensor pins broken, mechanical or electrical damage.
Solution:	Exchange sensor head.
"DP 0X ADC Error"	(0x8004) Monitoring of the sensor and/or process power supply, device reports an error.
Cause:	Mechanical or electrical damage of the amplifiers.
Solution:	Replace device.
"DP 0X Voltage"	(0x8002) Monitoring of the amplifier and AD converter circuits at the input device reports an error.
Cause:	Mechanical or electrical damage of the power supply.
Solution:	Measure voltage if too low, replace device.
"DP 0X CPU Error"	(0x8008) Monitoring of the processor function – reports an error.
Cause:	Mechanical or electrical damage of the processor
Solution:	Replace device.
"DP 0x EE Error"	(0x8010) Monitoring of the data storage – reports an error.
Cause:	Electrical damage of the memory or configuration error.
Solution:	Check configuration, replace device.
"DP 0X I/O Error"	(0x8020) Power ON or monitoring of the in/outputs of the processor - reports an error.
Cause:	During restart, electrical damage of the processor or of circuit elements.
Solution:	Wait until Power On is over, replace device.
"DP 0X Overtemp."	(0x8040) Ambient temperature too high; the sensor outputs the measurement value for a determined period and switches to error state after 24 hr.
Cause:	Too high ambient temperature.
Solution:	Protect the device from direct sunlight or check climatic conditions.
"DP 0X Overrange"	(0x8200) Signal of sensor element at the sensor head is out of range.
Cause:	Sensor not calibrated correctly (e.g. wrong calibration gas), defective.
Solution:	Recalibrate sensor, replace it.
"DP 0X Underrange"	(0x8100) Signal of sensor element at the sensor head is out of range.
Cause:	Wire break at sensor element input, sensor drift too high, defective.
Solution:	Recalibrate sensor, replace it.
"SB 0X Error"	(0x9000) Communication error from central unit to SB 0X.
Cause:	Bus line interrupted or short circuit, DP 0X registered at the controller, but not addressed. SB 0X defective.
Solution:	Check line to SB 0X, check SB address or SP parameters, replace sensor.
"DP 0X Error"	(0xB000) Communication error of SB to DP 0X sensor.
Cause:	Bus line between SB and head interrupted or short circuit, DP 0X registered at the controller, but not configured at SB, wrong gas type, DP 0X defective.
Solution:	Check line to DP 0X, check sensor address or parameters, replace sensor.
"EP_06 0X Error"	(0x9000) Communication error to EP_06 0X module.
Cause:	Bus line interrupted or short circuit, EP_06 0X registered at the controller, but not addressed or addressed incorrectly, EP_06 0X module defective.
Solution:	Check line to EP_06 0X, check module address, replace module.
"Maintenance"	(0x0080) System maintenance is due.
Cause:	Maintenance date exceeded.
Solution:	Perform the maintenance.
"DP XX locked" "AP XX locked"	This SP input is locked (SP is physically present, but locked by the operator).
Cause:	Operator intervention.
Solution:	Eliminate the cause of a possible fault and then unlock the SP.
"UPS Error"	(0x8001) UPS doesn't work correctly, can only be signaled by the GC.
Cause:	Defective UPS – too high or too low voltage.
Solution:	Replace UPS.
"Power Failure"	(0x8004) can only be signaled by the GC.
Cause:	Power failure or fuse tripped.
Solution:	Check power supply or fuses.
"Horn Error"	(0xA000) can only be signaled by the GC/EP with available hardware option.
Cause:	Wire break or device defective.
Solution:	??
"Warning Sign Error"	(0x9000) can only be signaled by the GC/EP with available hardware option.
Cause:	Wire break or device defective.
Solution:	??
"XXX FC: 0xXXXX"	Occurs, if there are several errors from one measuring point.
Cause:	Several causes.
Solution:	See the specific errors.

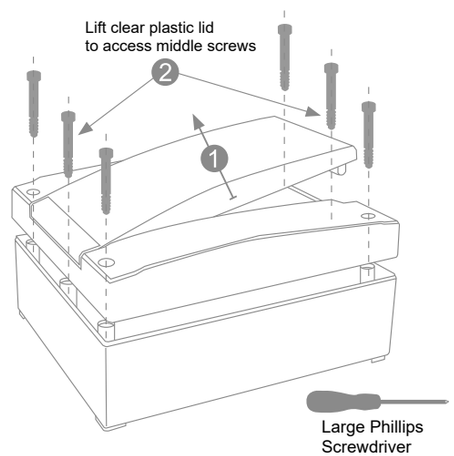
PLACING CONTROLLER IN SERVICE MODE

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 to OFF after 15 minutes.

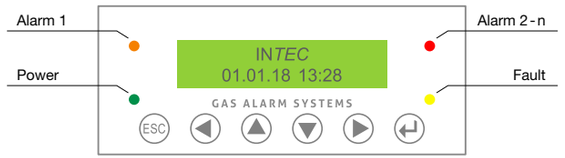


REMOVING THE CONTROLLER COVER

The Controller is secured by durable plastic bolts; the specific number of bolts is determined by the enclosure size. To separate the controller's cover completely, use a large Phillip screwdriver to remove them as shown. Lift the clear plastic lid to access middle screws.



USER INTERFACE AND CONTROLLER MENU



Power "Green"	Power LED
Fault "Yellow"	Flashes at system or sensor failure; maintenance date exceeded; system is placed in Special Mode
Alarm 1 "Orange"	Flashes when alarm one or more alarms are active; permanently on, when at least one relay is in manual mode
Alarm 2-n "Red"	Flashes when alarm two and alarms of higher priority are active; permanently on, when at least one relay is manually operated

ESC	Exits programming; cancels entered parameters; closes editing; returns to the previous menu level
▲ ▼	Scrolls up & down within a menu; changes a value
◀ ▶	Moves the cursor position
↵	Enters sub menu windows; saves parameter value

Main Menu (top-to-bottom)
Refer to the DGC6 User's Manual for Guidance

Main Menu Level	Function Overview
INTEC Controls	Normal operation; scrolls through active sensor details
System Errors	Reading and reset of errors; *see Section 4.1*
Stage Status	Display of the status of actual alarms; *see Section 4.2*
Power Relay Status	Display of the alarm relays status; manual operation of the relays; *see Section 4.3*
Signal Relay Status	Display of the signal relays status manual operation of the relays; *see Section 4.3*
Sensor Readings	Display of measuring values; *see Section 4.4*
Maintenance Information	Information about the connected devices; *see Section 4.5*
Data Logger	Reading and changing of the data logger; *see Section 4.6*
Display Parameter	Controller information and general setup; *see Section 4.7*
Parameter	Reading and changing of the relay, measuring point and security setup; *see Section 4.8*

MOST FREQUENTLY ASKED TROUBLESHOOTING QUESTIONS (FAQs)

CONDITION	RESOLUTION	PROCEDURE
Fault Yellow LED flashing; "maintenance" or a phone number is shown on the display; the horn may be sounding	Sensor calibration due; change the maintenance date, sensor calibration or sensor replacement	To update the next maintenance date: 1) INTEC Controls > Maintenance Info > Maintenance Date 2) Enter new maintenance date After performing the procedure above the system will self-clear the Fault; if it does not, clear the error in History: 1) INTEC Controls > System Errors > History Error

TRAINING & CERTIFICATION

INTEC Controls PolyGard®2 Series Commissioning and Service Certification Classes are available!
2-day factory hands-on certification – installation, programming, commissioning, calibration, troubleshooting and maintenance
Contact your account executive, email info@inteccontrols.com or visit inteccontrols.com/certification-training.html

Still need technical assistance?
Lets us know, we're here to help!

INTEC Controls
Phone: (858) 761-9324 TECH SUPPORT
Fax: (858) 578-4633
Email: info@inteccontrols.com
Web: inteccontrols.com

ADDITIONAL REFERENCES

DGC6 Datasheet
DGC6 UserManual
DGC6 Quickstart1 Installation & Verification Guide
DGC6 Installation & Commissioning Guidelines
DGC6 Modbus-Supplement UserManual
DGC6 EasyConfig Software UserManual
http://www.inteccontrols.com/gas-detection/DGC6.html