



# **PG DRIVES TECHNOLOGY**

## **PC PROGRAMMER INDUSTRIAL MANUAL**

### **OEM VERSION SK76897/4**

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## About this manual

The Electronic Manual gives a complete guide to the PC Programmer its functionality and operations.

Throughout the manual icons are used to draw the reader's attention.

The icons used are:



**Note** - A general point for best practice.



**Caution** - A point of safety which if ignored could result in damage to the control system or the vehicle.



**Warning** - A point of safety which if ignored could cause injury to the individual.



**PG Drives Technology** accept no liability for any losses of any kind if the points are not followed.



## **CHAPTER I**

### **INTRODUCTION**

## I Introduction

The Industrial PC Programmer software allows PG Drives Technology powered industrial controllers to be programmed with a PC. In addition to programming, the PC Programmer can be used to perform diagnostic operations on the vehicle's electrical system.

The main advantage of using programmable controllers is that they can be easily tailored to the specific needs and capabilities of a particular vehicle while taking into account safe performance characteristics.

The programmable controller achieves this great flexibility by referring to a set of internal parameters which govern factors such as the vehicle's speed, acceleration and braking. These parameters can be changed over a wide span to suit different vehicles and users, using a simple, hand-held programmer.



**It is possible to set up a controller so that it is unsuitable for some users or even some vehicles. For all of the above reasons it is important that you contact PG Drives Technology if you have the slightest doubts or if you need any advice on programming.**



**Programming and diagnostics should only be conducted by professionals with in-depth knowledge of PG Drives Technology electronic controllers. Incorrect programming could result in an unsafe setup of a vehicle for a user. PG Drives Technology accept no liability for any losses of any kind if the programming of the controller is altered from the factory preset values.**

## 2 Hardware

The PC Programmer pack comprises of the following items:

- CD ROM
- Programming Cable(s)
- Technical Manual (Hardcopy in Packaging)

### 2.1 CD ROM

The CD ROM contains installation, executable and information files. There are two version of CD ROM

- Dealer programming
- OEM programming. The OEM version is only available to vehicle manufacturers.

It is recommended that you print a copy of the latest Electronic manual and keep it in a convenient place.

### 2.2 Programming Cable(s)

The programming cable connects the PC to the vehicle Controller via a communications port. The cable supplied terminates at one end in a D-type connector and at the other in a Molex 4-way connector suitable for connection to S-Drive, Egis, Trio, Trio+ and Access 120 controllers. As different Controllers and PC's are developed, alternative cables may be necessary.

## 3 Vehicle Controllers

This issue of PC Programmer software has the capability to program:

- Trio and Trio+ Controllers.
- I-Drive Controllers.
- AccessControl Systems.
- X25/X30 Controllers.

See the software update site at [www.pgdt.com](http://www.pgdt.com) for the latest release.



## **CHAPTER 2**

### **USER GUIDE**

## I Connecting to a Controller

For programming operations you can connect the PC Programmer cable to a controller at any time, regardless of the operating condition of the controller.

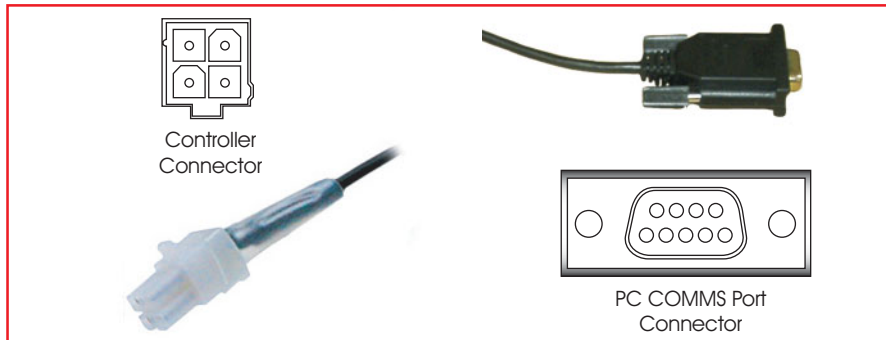


**The control unit must be connected and ON before program transfer can be achieved.**

If you are using the PC Programmer for diagnostics purposes, then to view the current trip code you must connect the PC Programmer while the controller is in a tripped state, i.e. the battery gauge is flashing rapidly.

To attach the controller to the PC use the programming cable as follows:

- Insert the D-type plug into the communications port to be used.



- Insert the Molex 4-way connector into the controller.
- Switch the controller ON.

As long as the connection is correct the PC programmer will register the connection with COMMS ACTIVE in the Status bar.



**Ensure the PC Programmer cable has been disconnected from the Controller before you start driving.**

## 2 Operation Initiation

PC Programmer can be used to edit existing controllers or to perform initial programming acts. Once a program has been loaded into PC Programmer editing tasks can be performed at any time.

If a controller is connected, and ON, then the status bar will state what type the connected controller is and whether the current settings in the file are equal to those on the Controller.



**If the controller is not supported by the version of PC programmer currently installed then the program will alert the user.**

### 2.1 Initial Operation

Upon entering PC Programmer for the first time one of two must occur:

- A New program must be opened.
- An existing program must be opened.

The password for PC Programmer is blank by default when the software is installed. So to enable password protection, a non-blank password must be entered using the Tools\Options>Password menu item. Refer to section 3.1.5.



**This operation is itself password protected, so to enter a new Password, the existing password is required (which in a new installation will be blank).**

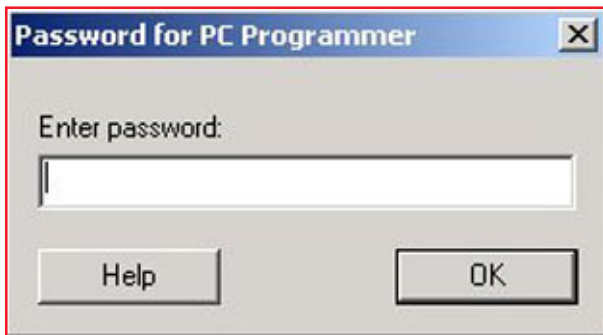


**Once a non-blank password is entered into the software, it is not possible to enter standard operation without it. Also, there is no way in which the original password can be retrieved, so if the password is forgotten, the software will remain in Restricted Mode. To retrieve Normal operation, a utility is supplied on the installation CD called Password Reset.exe. It is not installed onto the computer. To reset the password to blank, run this utility from the CD.**

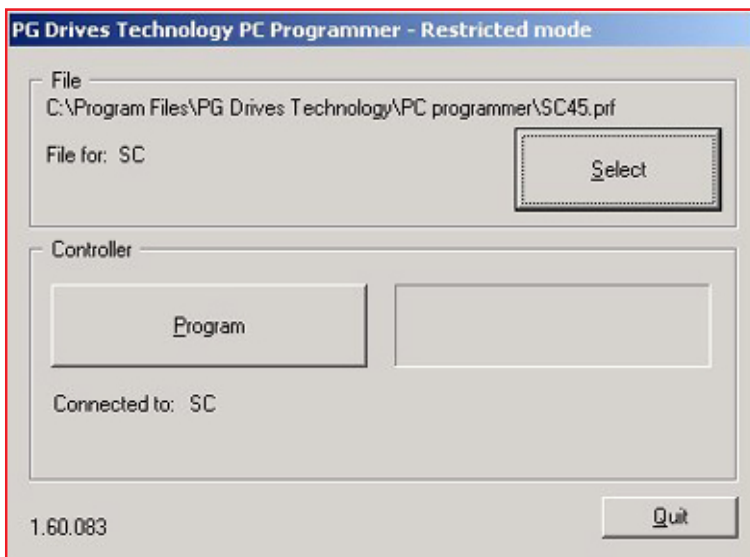


## 2.2 Subsequent Operation

If you are opening a copy of PC Programmer that has been previously password protected, the correct password will be required.



This box will appear, requesting the password.



If the correct password is not entered, the software enters a 'Restricted Mode'

In Restricted Mode, the software allows the user to program a controller (or number of controllers) using a precompiled/downloaded data file. However, no data editing functions are available.

The data file to be downloaded to the controller is selected by pressing the Select button. This opens a standard Windows file dialogue box. When a file is selected in this dialogue box, it may be programmed into a connected controller by pressing the Program button.

The Program button is disabled if:

- There is no data file (i.e. one has not been selected since the software started)
- If the connected controller is of a different type to the controller the data file was downloaded from.

The Restricted Mode is designed to be used in a Production environment where many controllers are to be programmed and access to edit the parameters is not required (or allowed).

## 3 The Application Window

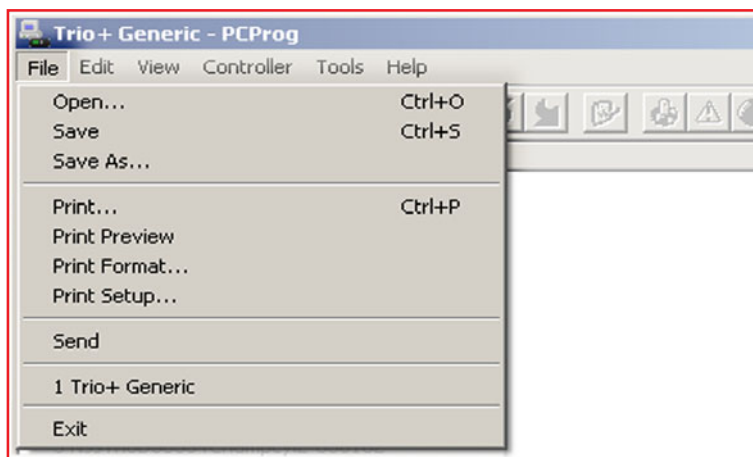
For ease of description the application window will be separated into 5 different sections. These are:

- 3.1 - Drop Down Menus
- 3.2 - Toolbar
- 3.3 - Program Display Area
- 3.4 - Status Bar

### 3.1 Drop Down Menus

#### 3.1.1 File

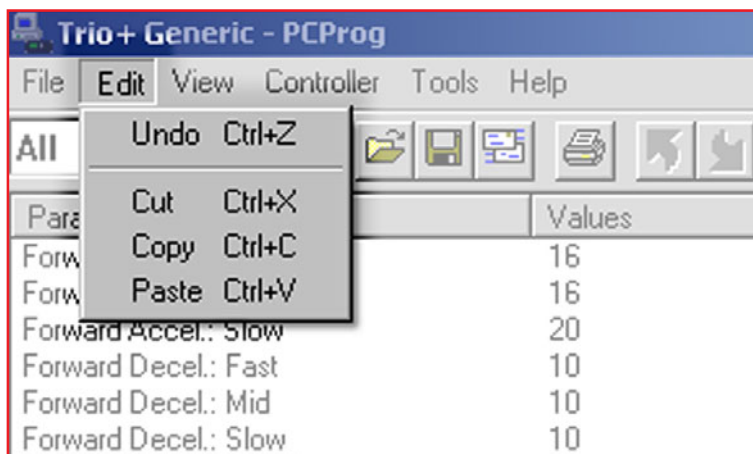
This menu contains standard Windows operational elements.



When the print option is used only the parameters listed within the Group Menu Selection will be printed.

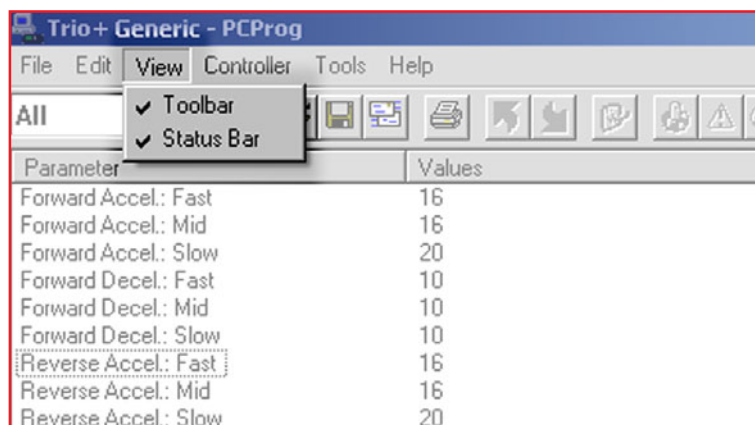
#### 3.1.2 Edit

This menu contains standard Windows editing functions.



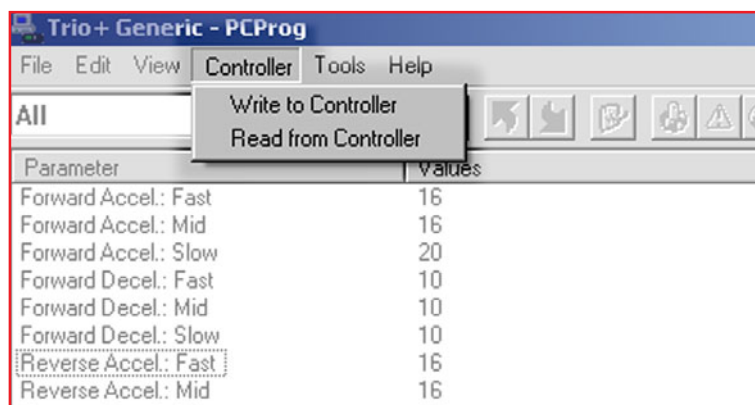
### 3.1.3 View

This menu allows the programmer to select what is seen in the workspace.



### 3.1.4 Controller

This menu contains specific programming tools.

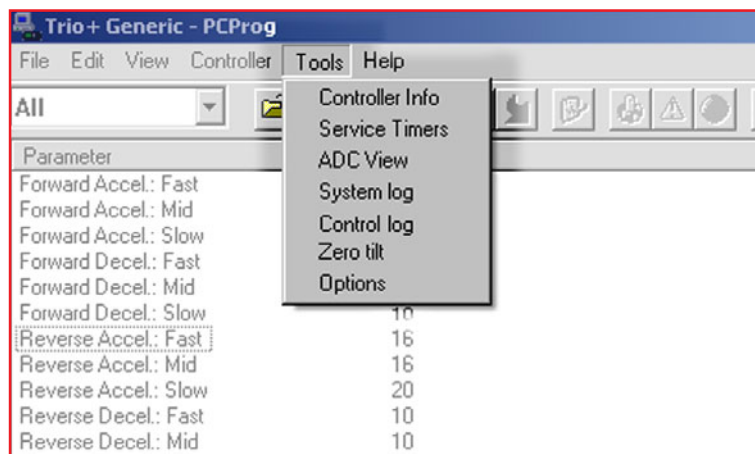


Write Controller - Downloads ALL the program parameter information into the controller connected.

Read Controller - Inputs all the program parameter information from the controller connected.

### 3.1.5 Tools

This menu contains specific controller information tools.



- Controller Info - Displays controller specific information such as the identification number the controller state and, if in a Tripped state, the trip code.
- Service Timers - Displays the timers associated with specific devices on the vehicle which have service requirements.
- ADC View - Allows the user to select and view the actual value of any input parameter read by the microprocessor.
- System Log - A System trip is in response to an issue external to the control system. The System Log lists the last 8 types of system trip that has occurred since the system was either initialized or last cleared. For detailed information on the System & Control Log windows refer to section 4.
- Control Log - A Control trip is in response to an issue internal to the control system. The Control Log lists the last 8 types of Control trip that has occurred since the system was either initialized or last cleared. For detailed information on the System & Control Log windows refer to section 4.
- Zero Tilt - Allows the user to re-calibrate the tilt sensors on an Access 120 controller.

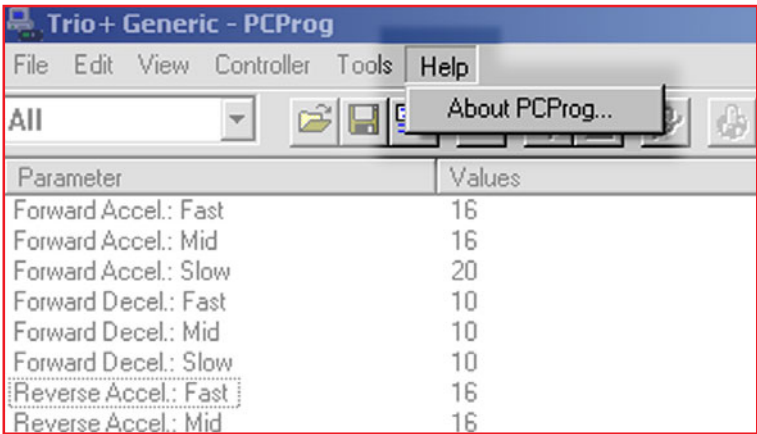


**Only available for selection when connected to an Access I20.**

- Options - Allows the programmer to adjust the Comms port, Browse for the Tag file and Password protect the program.

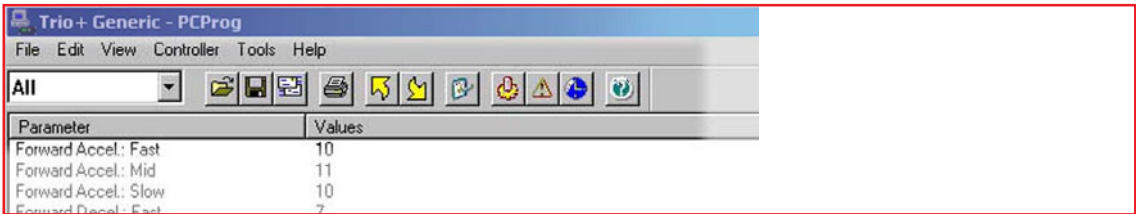
3.1.6 Help

This menu contains specific information about the PC Programmer software.



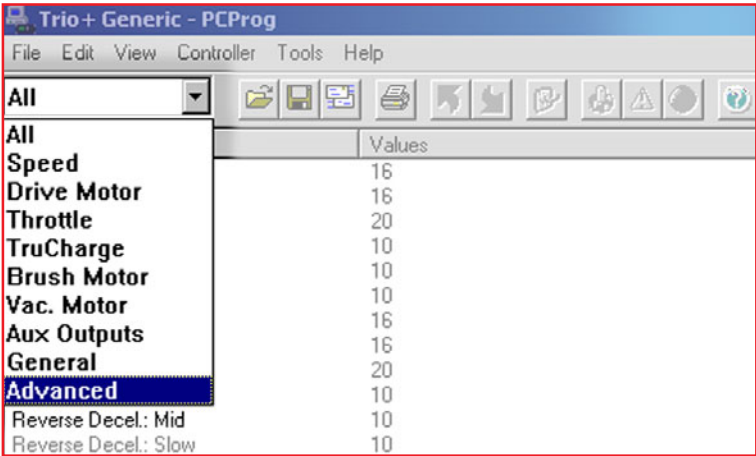
3.2 Toolbar

The toolbar icons are shortcuts to the most regularly used functions within the drop down menus.



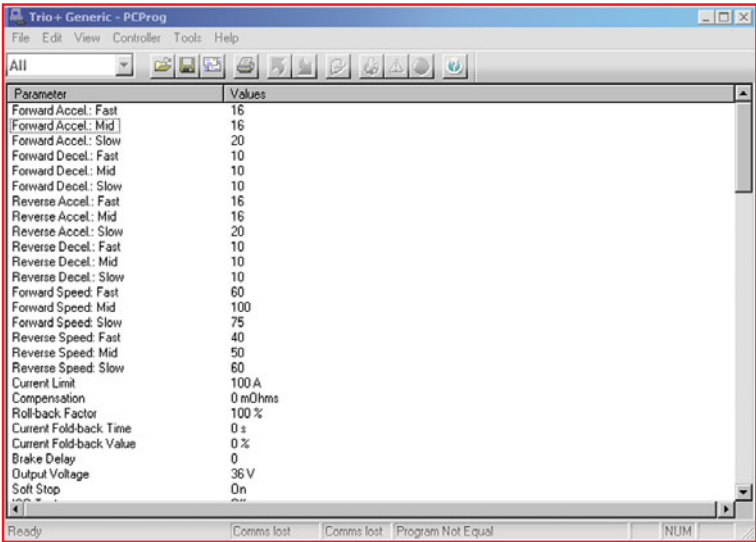
3.2.I Group Menu Selection

The group menu selection is a drop down menu. The menu lists the program parameter groups which are available for display and adjustment either individually or as a whole (All).

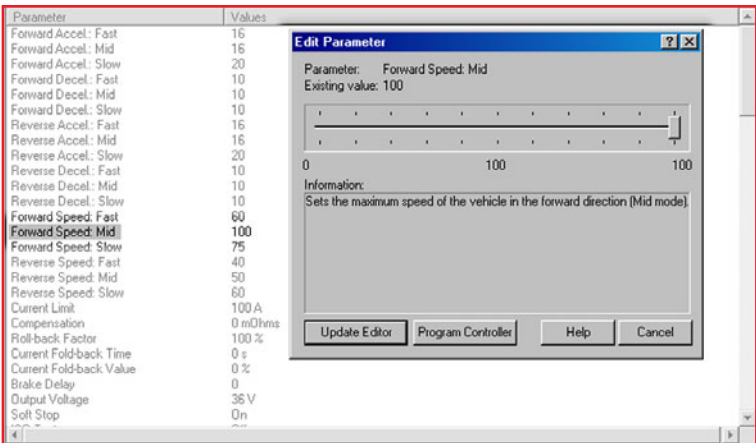


3.3 Program Display Area

The Display Area displays the current programmable parameters and their values.



Each programmable parameter has its own adjustment window which is displayed when selected.



Within the window can be found four buttons:

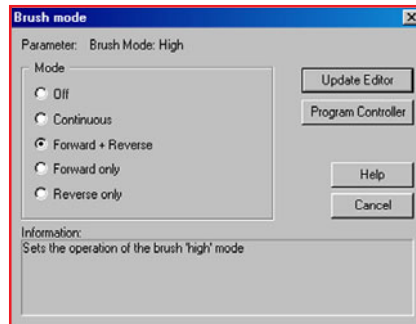
Update Editor - This will adjust the editor's program setting for the specific parameter but not the controller's.

Prog Controller - This will adjust the controller's program setting for the specific parameter and the editor's.

Help - Display a help file specific to the parameter selected.

Cancel - Returns the user to the Display area without making any adjustment to the program.

The most common adjustment method is a slider, as shown above. However in some parameters there is a requirement to select a specific option by clicking the mouse on the desired circle. See below.



### 3.4 Status Bar

Displays program relevant information.



Controller Status - This will display either

OK - When the controller is operating normally

Soft Trip or Hard Trip - When the controller has tripped. Refer to the either the Controller Info or the System Log to see what Trip has occurred.



The above Status bar is showing a Soft-Trip State.

Control Type - Displays the type of Controller currently connected to the PC. In this case a Trio.

Prog. Equality - Displays if the Controller and the Programmer have the same parameter settings. If a file has been worked upon without being down loaded to the controller then the Programmer Equality box will display as below.



## 4 System & Control Log Windows

The Log windows display any trip codes, held within the control systems memory, and their descriptions.

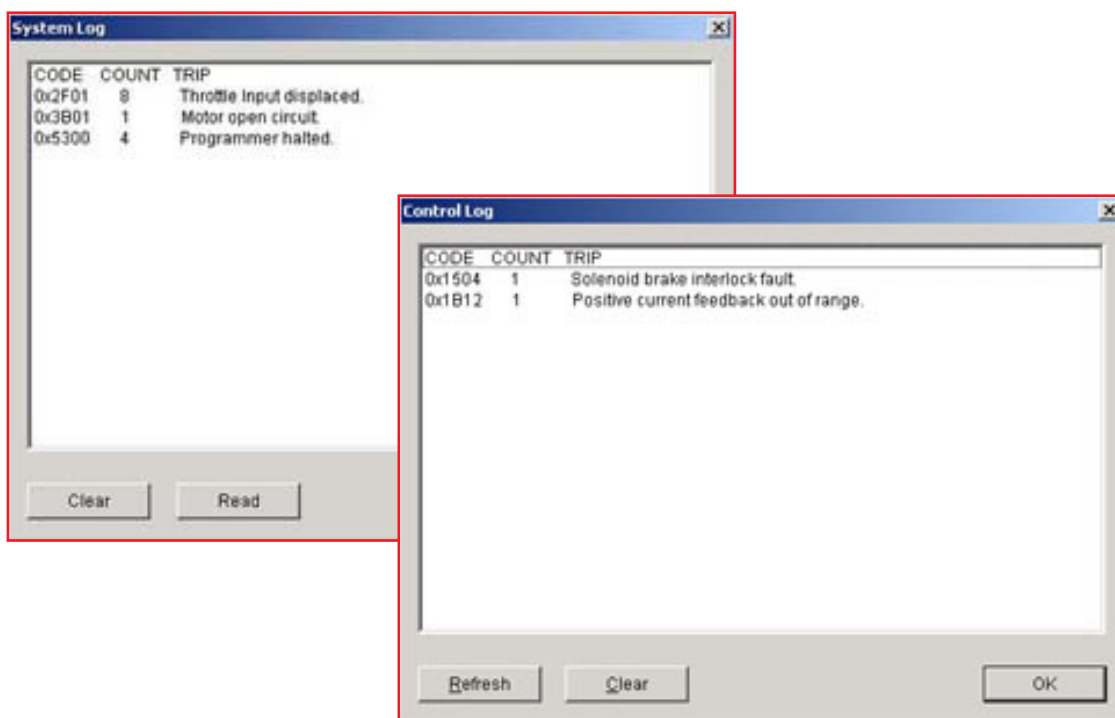
The System Log window and the Control Log window display the information in identical ways.

The Trip codes are displayed as follows:

Code -	0x2F01
Count -	The amount of times the specific code has been logged.
Trip -	A basic description of what the code is.

The windows have a row of options along the base. These are:

Clear	Clears the controller's specific log, i.e. either the System or the Control, not both at the same time.
Refresh-	Refreshes and updates the window by reading the controller's current log.
OK -	Returns the user to the program display area.



**System Log -** The system is tripped out in response to an issue external to the control system. The system log lists the last 8 types of system trip that has occurred since the system was either initialized or last cleared. Each type of trip has an occurrence value and a brief description.



**If there is a control trip then the system log records it under a general code which alerts the technician to check the control log.**

**Control Log -** The control log registers a trip in response to an issue within the control system. The system log lists the last 8 types of control trip that has occurred since the system was either initialized or last cleared. Each type of trip has an occurrence value and a brief description.



**There are no serviceable parts within any of the PG Drives Technology control systems. Consequently, any defective units must be returned to PG Drives Technology or a PG Drives Technology approved service organization for repair. PG Drives Technology accept no liability for any losses of any kind arising from unauthorized opening, adjustment or modification to any component of a control system.**

## 5 Upgrades

If you have purchased a copy of the PC Programmer software you are eligible for free upgrades. This means each time a new programmable function or controller is introduced, then you can upgrade you PC Programmer to the latest version.

To qualify for free upgrades, you need to send the following information to [ftprequest@pgdt.com](mailto:ftprequest@pgdt.com):

- Your name
- Your address
- Your organization (the organization which originally purchased the PC Programmer)
- Product type - this is the number, Dxxxxx/x, which can be located on the packing box, the CD and the cable labels.
- Product serial number – this is the number, \*Hxxxxxx\*, which can be located on the packing box, the CD and the cable labels.

Once qualification has been recognized you will then be sent an Email containing an unique username and password.

This username and password allows you to access the latest software via the [www.pgdt.com](http://www.pgdt.com) website.

This is achieved as follows:

- Upon entering [www.pgdt.com](http://www.pgdt.com) site hover over Service Center and click on the DOWNLOAD SECTION.
- Click on the Relevant Program type folder. i.e. - OEM or Dealer.
- When prompted enter the unique username and password.



**It is recommended that the Issue log .txt file is read prior to a download being attempted. The Issue log contains a complete history of the improvements, adjustments and changes created within each issue.**

- Select the required version upgrade.



**All the upgrades will be kept in separate folders to allow users to install earlier versions of the program if required. Each upgrade overwrites the existing copy on the PC when it is downloaded. Therefore if an old version is downloaded the latest version will need to be downloaded again.**



**You can check the version of software you have currently installed on your PC by using the About Box in the Help pull-down menu of the PC Programmer.**

- Double-click on the Zip file to start the download.
- Follow the instructions within the Zip wizard.
- Now save the Electronic Manual to the desktop.



**Each upgrade will have a new Electronic Manual specific to that version available in PDF format.**