

PGC 4000

POWER GENERATION CONTROLLER

QUICK START GUIDE



PM092 Rev. 1 14/01/22

Preface

The quick reference manual is a brief operating guide. The balance of reference literature is available on the CD that is supplied with the PGC4000 controller. The operating manuals themselves are also installed on the PGC4000 display and can be accessed from the Windows desktop by double-touching the PDF icons.



PGC4000 Quick Start Guide

PGC4000 User Manual

PGC4000 Screen Reference Manual

PGC4000 Gov and AVR Interface Manual

General

The PGC4000 controller is a powerful, flexible power generation controller. The PGC4000 can be applied to all types of generators and a variety of prime movers including gas or diesel reciprocating engines, gas, steam or hydro electric turbines. The PGC4000 integrates all the required elements of a complete power generation system.

- Auto Start Engine Controls.
- Engine Protection.
- Generator Electrical Protection.
- Generator Power Metering.
- Utility Intertie Protection.
- Utility Power Metering.
- Load Metering.
- Automatic and Manual Paralleling (Phase and Voltage Matching).
- Generator Paralleling - Kilowatt and Var Sharing.
- Utility Parallel Operation - Generator kW Load Control and Fixed Power Factor Control.
- Programmable Logic Processor.

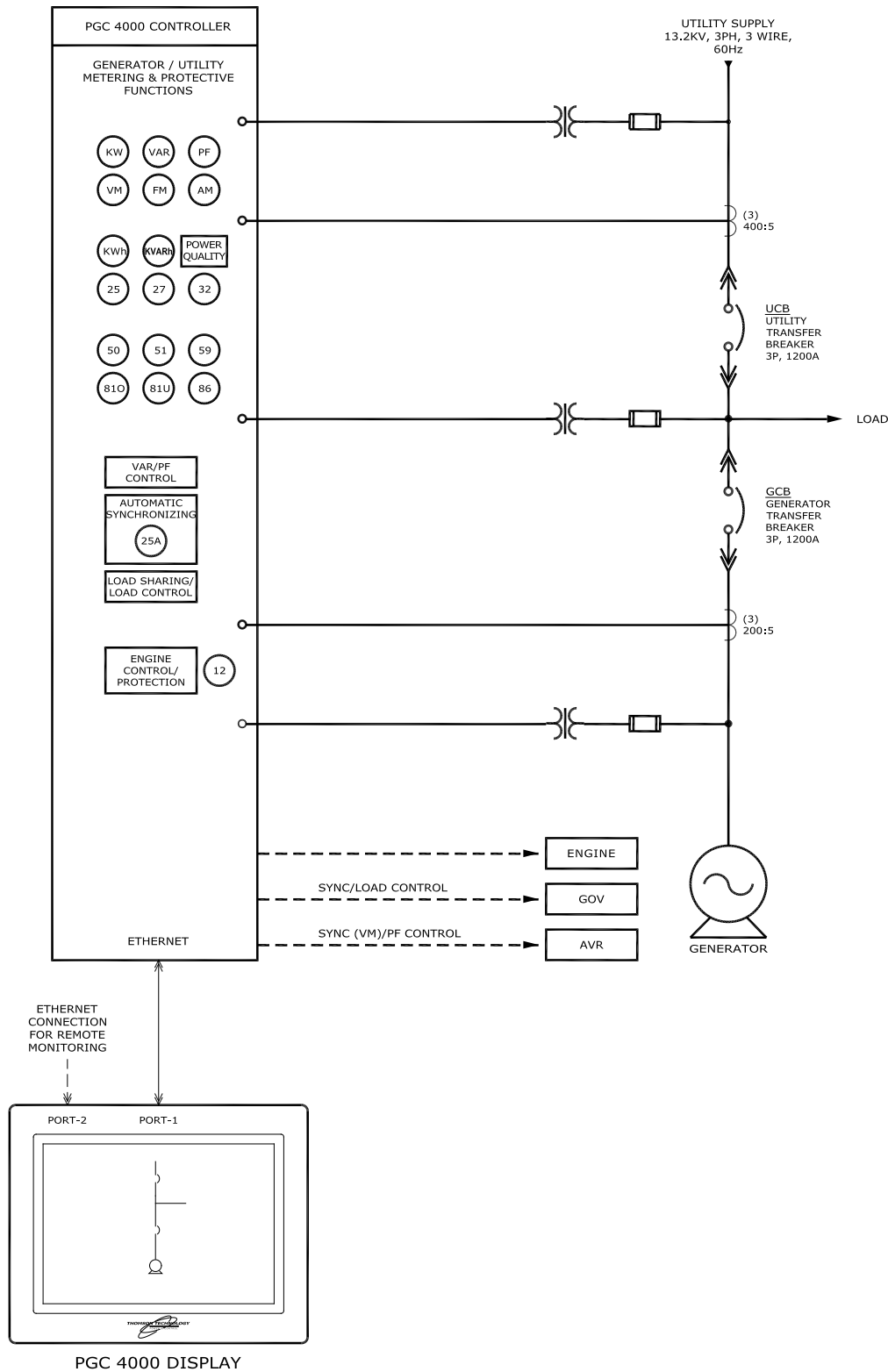
A complete PGC4000 system consists of two physical components; the PGC4000 controller and a PGC4000 display.

One PGC4000 controller incorporates all the digital and analog IO, voltage and current sensing inputs and communications ports required to control, monitor and protect a single generator and utility supply.

For multiple generator systems, additional PGC4000 controllers are provided for each generator. Each PGC4000 controller can monitor and protect the utility supply providing redundancy.

A PGC4000 display completes the system by providing a graphical user interface. Only one display is required per system. The PGC4000 controllers and display are networked on a dedicated high-speed ethernet network. A separate ethernet connection is provided for remote monitoring.

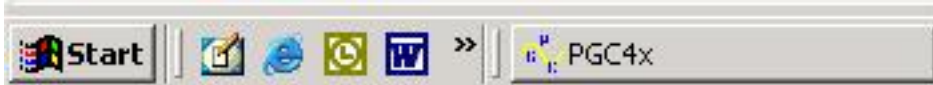
PGC4000 System - Typical Block Diagram.



Getting Started

The PGC display is a panel mounted industrial touchscreen PC. A mouse click is achieved by touching the screen object. A rapid double-touch equates to a double-click. If required a right-click can be achieved on a touchscreen by pressing the object and holding for a couple of seconds. If this does not work go to the start menu and access the touchscreen configuration utility and enable the right-click feature.

The PGC display runs Windows XP. If you are presented with the desktop you have to select the PGC4x program from the windows task bar.



If the PGC4x software is not running you start it by double-touching the shortcut provided on the Windows desktop.

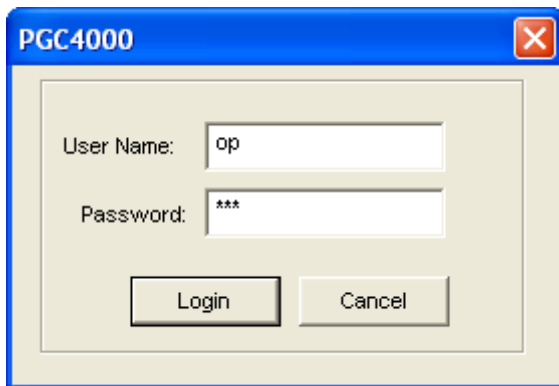


Default Passwords

The user names and passwords listed are the default factory configuration as of April 2008.

PGC4x

To log in to the PGC4000 display select log in on the upper right corner of the display. Enter your user name and password, and touch login.



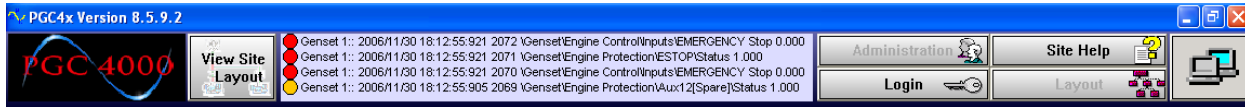
- Not logged in: This is the default level; no user name or password is required for this security level. When the Logoff button is pressed the PGC will return to this security level. The system should be left in this mode when unattended.
- Operator Level: Limited access to mode selections and setpoint adjustments only.
 - User Name: **op**

- Password: 123

Message Centre

The PGC Message Centre is always present at the top of the screen and displays the last four critical events. Double-touching within the event area opens the complete listing of events from all controllers.

PGC4000 Display - Message Centre



View Site Layout takes you to a presentation of the generator electrical system. This screen is intended to be an overview screen and used as a launch point to drill down into specific areas (utility, load, genset1, genset2....).

Login / Logoff allows the user to login or out of the PGC system. The user will be required to enter a user name and password.

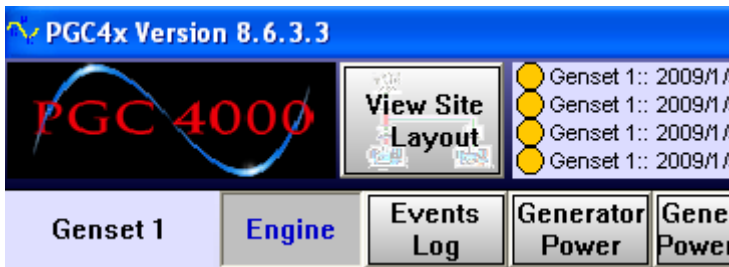
Administration provides for high-level setup of users and networks.

Layout / Op Mode. When logged in with the appropriate rights the user may switch to the Layout Mode which allows customization of the controller screens. When editing values these changes are immediately sent to the controller and stored. Changes made to screen layouts must be saved (save site) prior to exiting the layout mode. Selecting Op Mode returns the PGC to the on line dynamic display mode.

Navigation

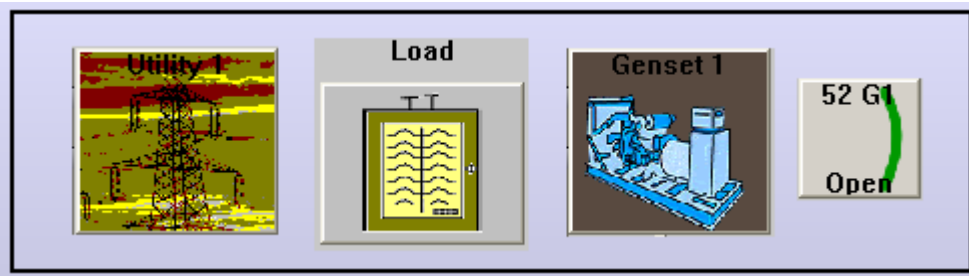
For systems with multiple PGC controllers it is important to always pay attention to which controller you are accessing / affecting. This is indicated in the upper left corner of the screen (ie. Genset 1).

PGC4000 Display - Typical Upper Left Hand Corner



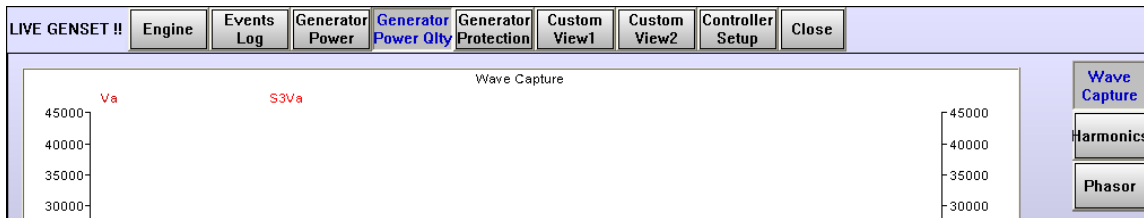
PGC4000 Display - Object Selection Icons

From the Site Layout screen select the object you wish to control or view in detail (breaker, utility, generator or load).

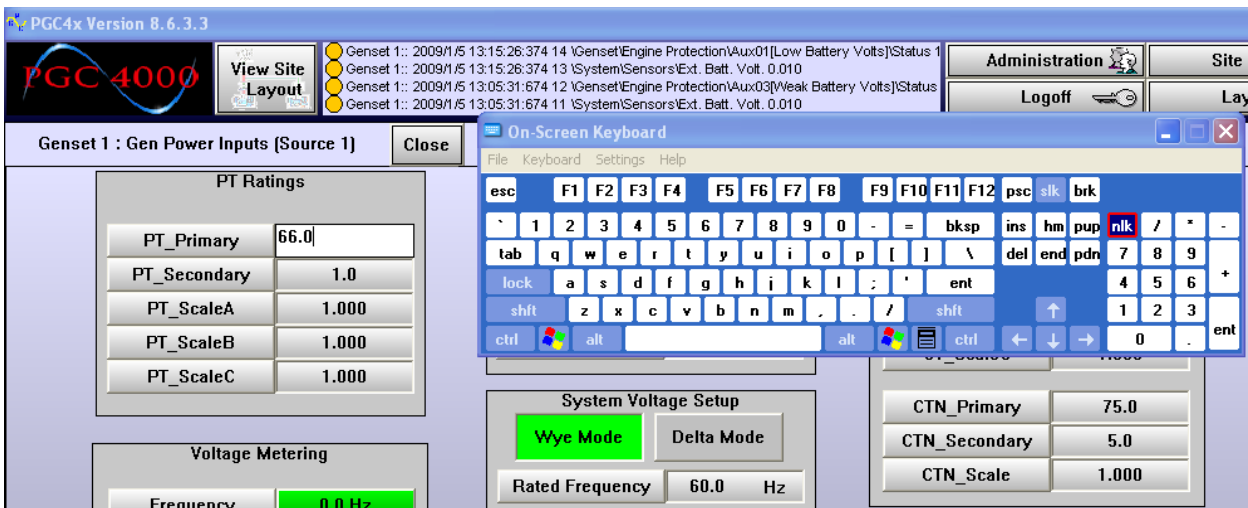


The display will page to the first screen in the series for the selected object. A row of screen selection buttons is presented along the top below the message centre. Additional screen select buttons will be displayed along the right hand side, if applicable. By pressing these buttons you can page through all the available screens for the topic. To return to the Site Layout screen select close or View Site Layout.

PGC4000 Display - Screen Selection Keys



Alpha/Numeric Entry



Numeric settings are changed in the operation mode. Navigate to the entry, select the entry by double-touching; the on-screen keyboard will appear to allow editing. Revise the entry and press the enter button.

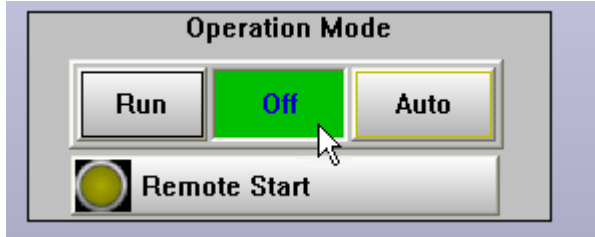
Numeric entries are immediately written to the controller once entered.

If required the keyboard can be manually called up from the windows toolbar by selecting start, programs, accessories, accessibility, on-screen keyboard.

On Screen Selections

Screen selections are provided to allow changing modes and issuing commands.

A single press of the on-screen button will issue the command. The button will flash when pressed. For mode selections the button will change color to indicate the mode selected.



Genset1, Engine Control

The Run/Off/Auto switch controls the generator starting. Alarms can be reset at any time, to reset a shutdown switch the controller to off, then press reset.

Note: If the fault is still present the shutdown message may clear but the engine fail indicator stays illuminated to indicate the generator is still locked out.