

Synergy Controller Security Enhancements



Introduction

This Synergy Controller application note describes the enhanced security features available in application software version 2.8.5. With these enhanced features, user access to specific controller areas can be restricted appropriately for each user function.

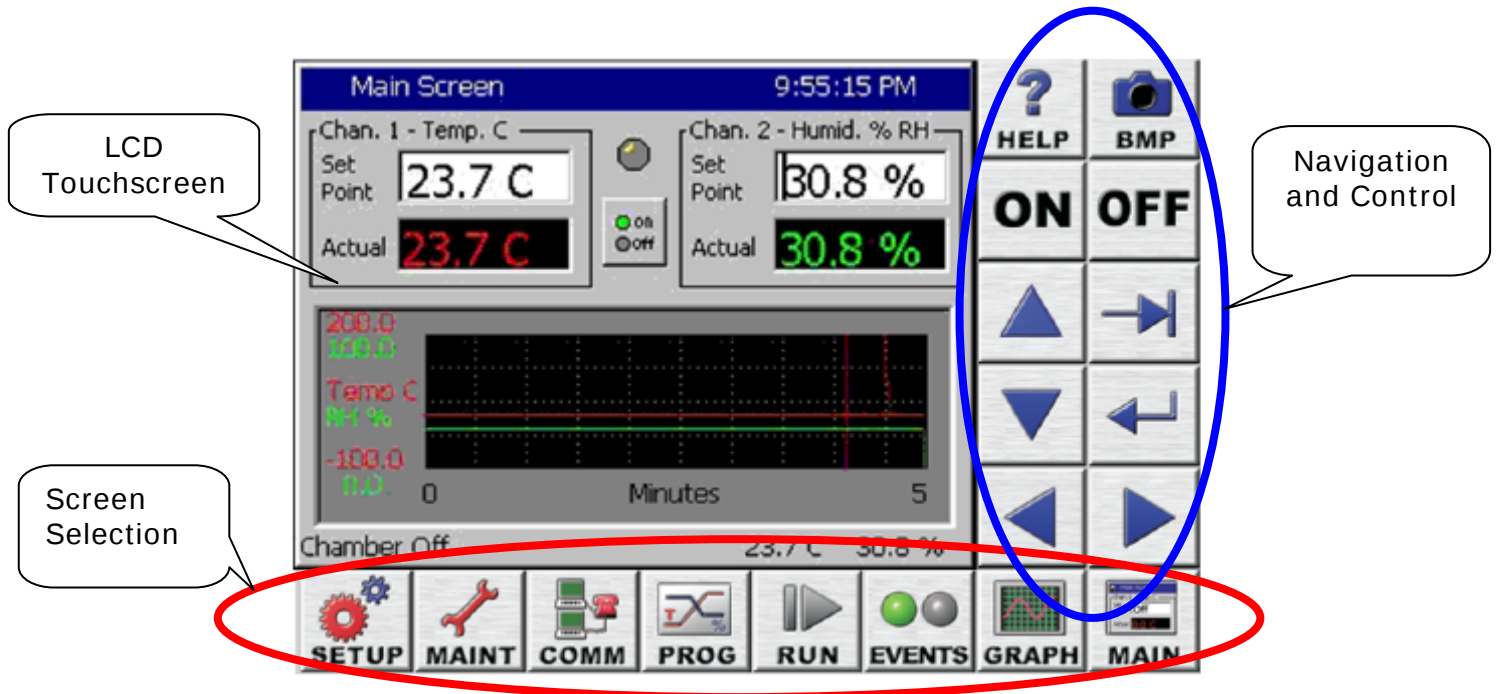
The enhanced Panel Lock feature provides 5 levels of access security:

1. Administrator
2. Maintainer
3. Engineer
4. Operator
5. Unrestricted

Note that these enhanced security features may not be available on all controllers. Contact the factory to find out if your controller supports this feature. Controller upgrades are available.

The Synergy Controller user interface consists of the LCD Touch screen, eight Screen Selection buttons below the LCD, and 10 Navigation and Control buttons to the right.

With the new Panel Lock features, each Screen Selection button is assigned a security level from the five available levels. General Synergy controller screen features and Default user levels are summarized in the table below.



Screen	Screen usage summary	Default Access
SETUP	Chamber Configuration, Settings and PID values	Administrator
MAINT	Time/Date, Monitoring	Maintenance
COMM	Communications setup, Network Setup	Engineer
PROG	Program creation and editing	Engineer
RUN	Program Run	Operator
EVENTS	Input and Output Monitor and User Event control	Operator
GRAPH	Process variable and Setpoint graphing	Unrestricted
MAIN	Steady State control setpoints, Graph, and On/off feature.	Operator

Panel Lock Feature Setup

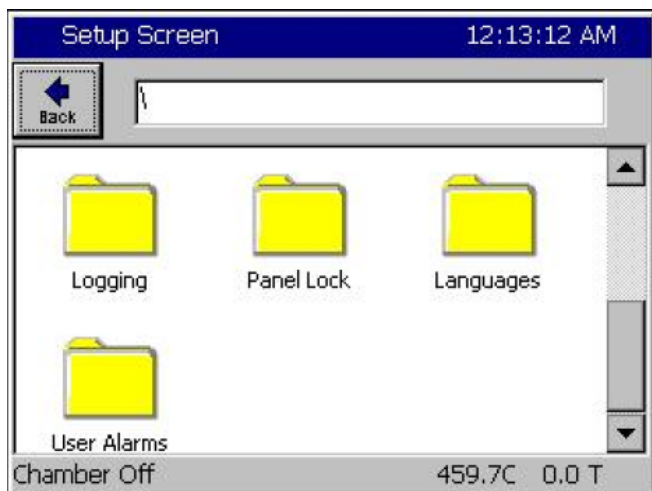
To setup the Panel Lock feature follow these steps:

1. Specify the password for each user level.
2. Specify the user level for each of the 8 Screens.
3. Set the Panel On/Off Keys as required.
4. Set Unlock Duration time (in units of minutes).
5. Set Panel Lock to "Locked".

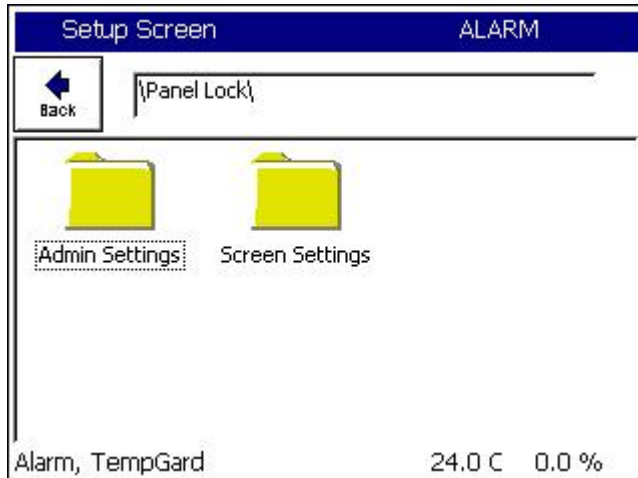
Once locked, access to your controller is now restricted.

Any user touch on a password protected screen, whether locally through the touch screen or via a web browser will pop up a password entry dialog box. The user can enter the password to unlock that screen or press Cancel and return to the Main screen.

The Panel Lock feature setup is done from the Setup screen's Panel Lock Folder.

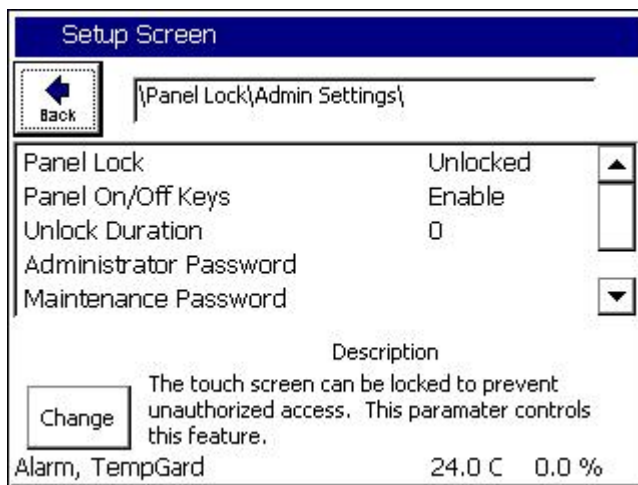


In the \Panel Lock\ folder there are two subfolders; Admin Settings and Screen Settings as shown below.



The \Panel Lock\Admin Settings\ folder is used to enable the Panel Lock feature and control Panel Lock options and passwords. The panel lock options control the function of Panel Lock in two ways:

1. Panel On/Off Keys Enable/Disable.
2. Unlock Timer Duration



1. Panel On/Off Keys, when set to Enable, allow the use of the ON/OFF keys on the controller when the panel is locked. Enabled is the recommend setting for safety reasons.



2. Once unlocked, the touch panel will automatically re-lock after a period of inactivity. The Unlock Duration setting specifies this period in minutes.

The screenshot shows a 'Setup Screen' with a blue header. Below the header is a 'Back' button and a path indicator '\Panel Lock\Admin Settings\'. A list of settings is displayed: 'Panel Lock' (Unlocked), 'Panel On/Off Keys' (Enable), 'Unlock Duration' (0), 'Administrator Password', and 'Maintenance Password'. The 'Unlock Duration' setting is highlighted. Below the list is a 'Description' section with a 'Change' button. The description text reads: 'Once unlocked, the touch panel will automatically re-lock after a period of inactivity. The Unlock Duration specifies that period in minutes.' At the bottom, there is a status bar showing 'Alarm, TempGard', '24.0 C', and '0.0 %'.

The Panel Lock Passwords are listed in the \Panel Lock\Admin Settings\ folder in the order of access privilege. The Administrator password has the highest privilege and can access all the controller screens. The password can be up to 10 alpha-numeric characters. To change the password, select the user level and press the Change button to open the T-9 pad, and then enter the new password.

The screenshot shows the same 'Setup Screen' as the previous one, but with 'Administrator Password' selected in the list. The 'Description' section now reads: 'The Administrator account is the highest level account. It can access all screens. The password can be up to 10 characters.' The status bar at the bottom remains the same, showing 'Alarm, TempGard', '24.0 C', and '0.0 %'.

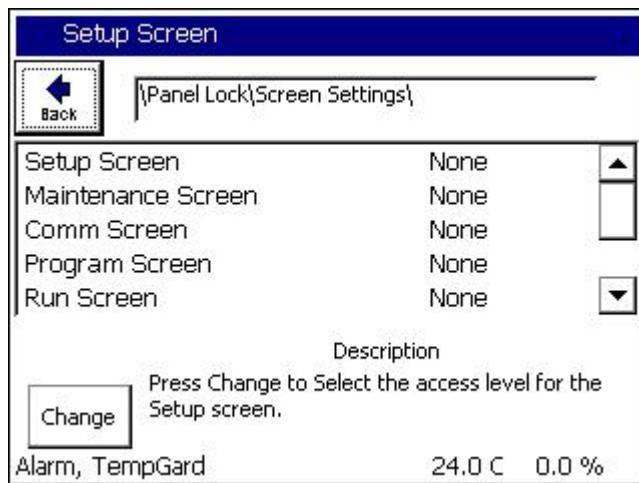
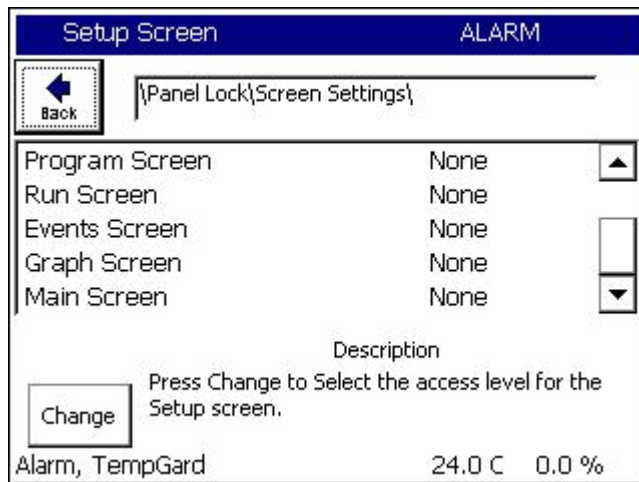
The \Panel Lock\Screen Settings\ folder is used to assign the user level for each screen. The suggested user levels are listed in the table below.

Default User Levels

Screen	Default Access
SETUP	Administrator
MAINT	Maintainer
COMM	Engineer
PROG	Engineer
RUN	Operator
EVENTS	Operator
GRAPH	Unrestricted
MAIN	Operator

The \Panel Lock\Screen Settings\ folder is shown below:

(Note that the vertical scroll bar must be used to view all 8 screens in the list)



When the Panel is locked, access is only permitted on screens assigned a user level other than “none” after the user enters an appropriate password.



When the “Enter Password” dialog appears, the user must enter the password and then press OK to unlock the panel.

Once unlocked, the touch panel will allow access to any screens assigned that access level or any lower level screens.

In addition, the panel will automatically re-lock after a period of inactivity. The unlock duration setting specifies that period in minutes.

The user can go to the \Panel Lock\Admin Setup\ folder to clear the password without waiting for the Unlock Duration inactivity timer to expire by unlocking and re-locking the panel.

Panel Lock remains locked after cycling power. Note that the Panel Lock feature only locks the panel. All TCP/IP, RS-232 and IEEE 488 communications are unaffected by Panel Lock.

For more information regarding the controller please see the full Synergy Controller Technical Manual on our website at:

http://www.tidaleng.com/techmans/Synergy_Controller_Technical_Manual_Rev_F.pdf.

Additional Synergy Controller application notes, videos, technical manuals, free software, and information concerning our other Synergy environmental test control and data acquisition products are available on our website at www.tidaleng.com.

Tidal Engineering's Synergy Controller provides state-of-the-art usability and connectivity for environmental test control and data acquisition and is designed to improve test efficiency by supporting both factory automation and test and measurement protocols and standards.

Synergy Controller feature highlights includes:

- ➔ Color touch screen
- ➔ Ethernet, RS-232 and GPIB communications
- ➔ Built in Data logger with USB drive support
- ➔ Data Acquisition, up to 64 T-type thermocouples (Optional)
- ➔ Built-in Web Server for remote control; WebTouch Remote™ (Optional)
- ➔ Compatibility with Synergy Manager for PC based control, monitoring and programming.
- ➔ Built-in FTP Server for factory automation and test & measurement applications (Optional)

About Tidal Engineering

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for test and measurement and data acquisition applications since 1992. The company further provides product development services together with engineering support, and is recognized for technical expertise in such areas as Embedded IEEE 488, and turnkey SCADA (Supervisory Control and Data Acquisition) systems. Tidal's products are available exclusively through ADI American Distributors Inc., an ISO-9002 certified distributor of electronic and electromechanical components and assemblies.

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