

UPGRADING PGR-5330 FLASH MEMORY

1. GENERAL

The PGR-5330 has one RS-232 local communication port. This port is designed for use with PGW-FLSH firmware update and PGW-5330 relay interface software.

The RS-232 port is non-isolated and operates as a DCE device (for pin-out, refer to the PGR-5330 manual). Cable length should not exceed 10 meters.

The PGW-FLSH software is required for upgrading the PGR-5330 firmware. The file containing the firmware is in Motorola S-Record format and has the ".s19" file extension, and can be downloaded from www.littelfuse.com/protectionrelays.

2. PROCEDURE

Install PGW-FLSH.

Connect the DB-9 serial cable to the computer. If the computer does not have a serial port, a serial-to-USB converter (such as the PGA-0440) is required.

Locate the correct firmware file with the ".s19" extension.

2.1 Initiating PGR-5330 Flash Upgrade

Follow these instructions:

- a) Run PGW-FLSH.
- b) Select the PGR-5330 from the list.
- c) Select the correct firmware file.
- d) Select the COM port you intend to use.
- e) If you are satisfied with the summary and your choices, select "Begin".
- f) The message "Please set unit to UPGRADE mode now" will appear.
- g) Remove supply voltage to PGR-5330.
- h) Set switch S8 (behind access cover on the PGR-5330 front panel) to UPGRADE. See Fig. 1.
- i) Apply supply voltage. The DIAGNOSTIC LED will be on and all relays will be de-energized.
- j) Press "OK" to start the upgrade. Wait until complete.
- k) Remove supply voltage.
- l) Set switch S8 to RUN.
- m) Apply supply voltage.

- n) Optional: Download and run PGW-5330 (available from www.littelfuse.com/protectionrelays) to verify the revision number of the new firmware. Exit PGW-FLSH before running PGW-5330.

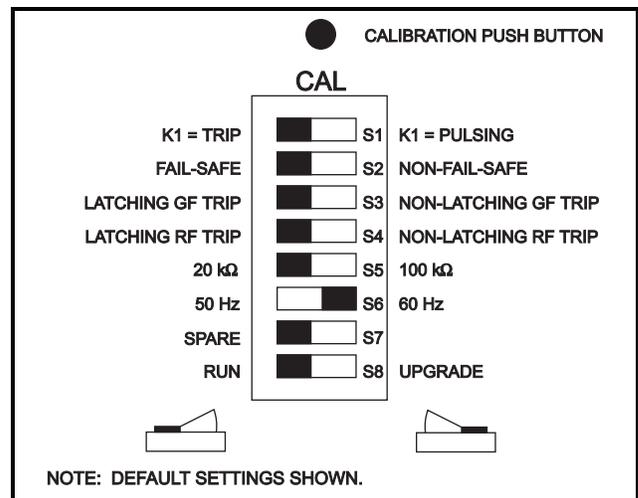


FIGURE 1. Configuration Switches.

3. PGW-FLSH ERRORS

The following is a list of possible errors and a summary of how to correct them:

- a) **The selected COM port is not available. Please try another COM port.**
Click 'Back' and select another COM port. You must have a free COM port to use PGW-FLSH.
- b) **The selected file could not be found. Please select another file.**
The *.s19 filename you previously selected has moved or changed. Click 'Back' and select a new *.s19 filename.
- c) **Could not establish communication with the unit. Please check all connections and try again, or consult the help file.**
This indicates that PGW-FLSH has tried to send information to the unit, but there was no response. Verify that all connections between the computer, converter, and the unit are correct.

- d) **Error 'F': Buffer full error. Please try again, or consult the help file.**
This can occur if the *.s19 file is damaged or incorrect, or if the connection to the unit is incomplete. Locate an undamaged *.s19 file, and verify that all connections between the computer, converter, and unit are correct.
- e) **Error 'E': Flash erase error. Please try again, or consult the help file.**
The unit has attempted to erase the flash memory, but an error occurred. Try the process again; if the error continues to occur, the flash memory may be damaged.
- f) **Error 'R': Byte programming error. Please try again, or consult the help file.**
There was an error during programming of the flash memory. Try the programming process again. If the error reoccurs, there may be a problem with the flash memory.
- g) **Error "V": Byte verification error. Please try again, or consult the help file.**
The information sent to the unit failed verification due to a fault during the transfer. This can be caused by an electrically noisy environment. Check for damaged connections and retry.
- h) **Error "S": Record header error. Please try again, or consult the help file.**
An incorrect format has been detected by the unit. The update file may be damaged. Obtain the file from www.littelfuse.com/protectionrelays. This can be caused by an electrically noisy environment. Check for damaged connections and retry.
- i) **Undefined error returned from units. Please try again, or consult help file.**
This can be caused by an electrically noisy environment. Check for damaged connections and retry.
- j) **An end delimiter error has occurred. Please try again, or consult the help file.**
This can be caused by an electrically noisy environment. Check for damaged connections and retry.
- k) **The S-Record file (.S19) is damaged or is in the wrong format. Please locate the correct file from www.littelfuse.com. No changes were made to the unit.**
(OR) The update file selected is in the wrong format. Please try again, or consult the help file.
(OR) Detected a problem with the S-Record file (DATA beyond FFFF). Programming not complete.
The upgrade file (S19) is verified for the correct format before PGW-FLSH attempts the upgrade. If PGW-FLSH detects an error or an incorrect format, it will not proceed with the upgrade. If the file is damaged after the upgrade is started, the upgrade will halt. Since the programming is not complete, THE UNIT WILL NOT OPERATE until the correct upgrade file is obtained from www.littelfuse.com/protectionrelays and the upgrade process is successfully performed.