

FEATURES

- Three styles of pulses (One Shot, Looped, and Duty Cycle).
- AC/DC capabilities (for both output pulses and supply power).
- Pulse times selectable from .01 seconds to 999.99 hours.
- Analog, DC output (Current 0-20 mA DC, Volt 0-10 VDC, each with 255 steps of resolution).
- Toggle between Minimum and Maximum output values, or use one output value.
- LCD Display is adjustable for contrast. Opening on left side for (small) screwdriver adjustment.
- ON/OFF switch (located on right side)

GENERAL DESCRIPTION:

The PSG will generate several styles of pulses or two types of analog signals. A menu system displayed on its LCD screen leads you through the possible setup parameters. The PSG has a 16-button keypad to set the output values.

PULSE TYPES: 1) Single One Shot pulse
 2) Continuously Looped on/off pulse
 3) Duty Cycle pulse.

One Shot and Looped Pulse modes can be set in Time Units of seconds, minutes or hours. Duty Cycle pulse mode can be set in Time Units of seconds only

ANALOG TYPES: 1) Current
 2) Voltage

KEYPAD DESCRIPTION:

The PSG has eleven keys, labeled 0 - 9 and period '.', used to set output values. Several other keys have multiple purposes.

The YES/UP and the NO/DOWN keys are used to ramp the output (up or down) or are used to answer questions asked by the PSG. The NO/DOWN key is often used to move between choices displayed on the LCD signifying that 'NO' the user doesn't want this choice. Note that the UP and DOWN keys will ramp the output only while generating a Duty Cycle pulse, or a Current or Voltage output.

The BACK key is used to move back to previous menu choices or to correct a number that was entered incorrectly. Scrolling backwards through the menus can be done only until you arrive at a screen where the PSG expects numbers to be entered by the user. At this point you must enter a number(s), as it will not allow you to move back additional menus. You can, however, reset the unit to the first menu by turning the power off and on.

The ENTER/START key is used to select the currently displayed choice. It is also used to restart the output after it has been stopped.

The STOP/RESET key is used to stop the current output, allowing you to change its value, or rearrange wires. To select another output or range, press and hold this key for 3 seconds while the unit is sending its output, and the program will reset back to the first menu. The last entered settings will be displayed. Changes can be made at this time or signal output started again by pressing ENTER/START key.

UNIT AND RANGE DESCRIPTIONS:

Connect red (+) and black (-) leads to 24 volt AC or DC power supply. Turn ON/OFF switch located on right side of PSG to ON (forward).

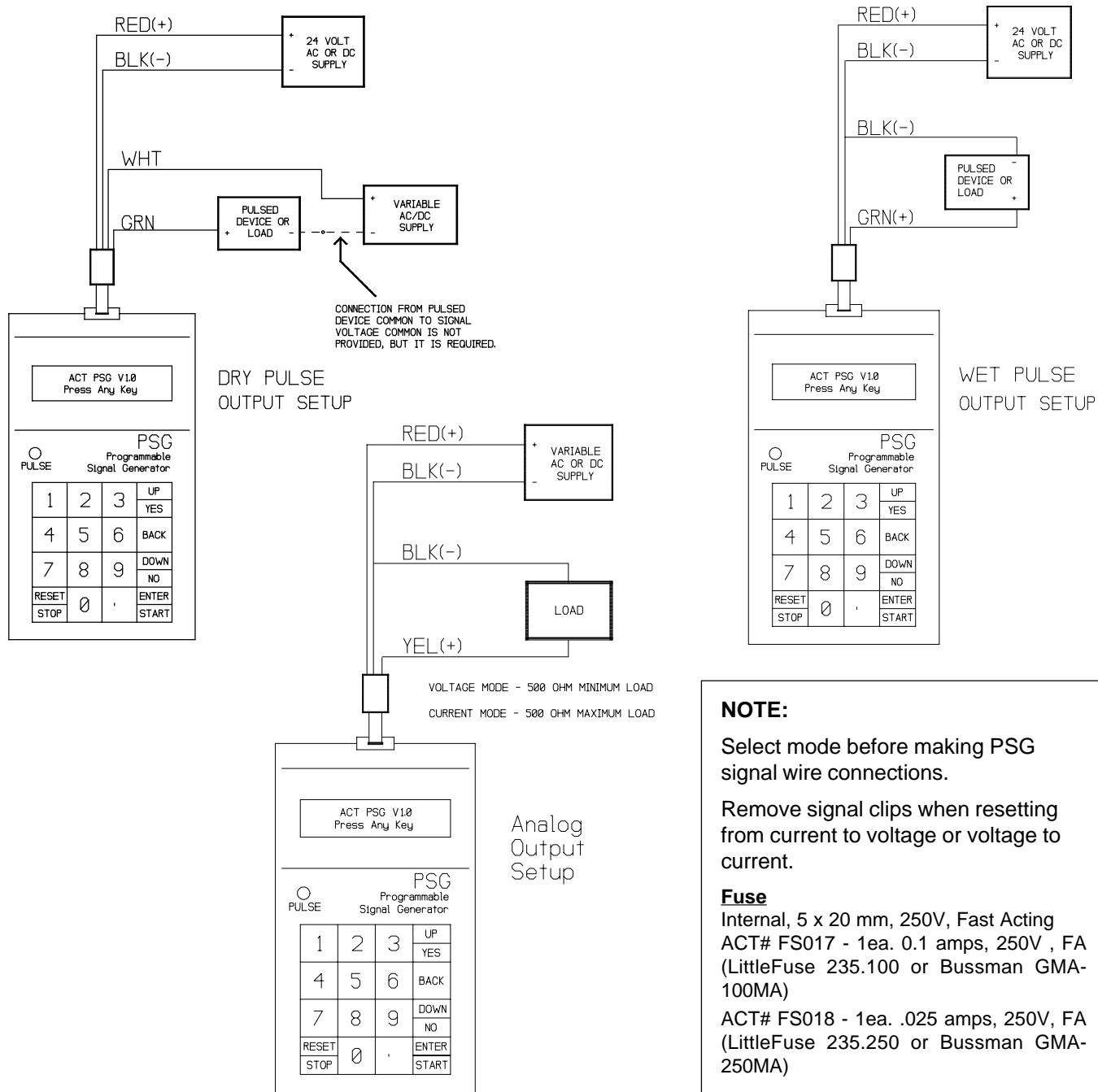
The unit and format of the values entered into the PSG based on the type of output desired. Here are ranges for each style of output:

One Shot and Looped pulses: Pulse times range from .01 - 999.99 (S, M or H).

Duty Cycle Period time: Valid values can range from .01 - 650.00 (Seconds only).

Duty Cycle: Values are entered in percent ranging from 0 - 100% in 1% increments. This percentage value is the percent of the Period time that the pulse will be turned on.

Analog mode offers Voltage spans from 0 - 10.00 volts and Current spans from 0 - 20.00 milliamperes. Each of these analog outputs have 255 steps of resolution.



ENTERING VALUES/STARTING THE OUTPUT:

When the cursor is on the first or middle column of the display, the PSG is ready for a number to be entered. The first character of the number is positioned one column to the right of the cursor.

Set the value using the number keys and the decimal point (the decimal point is not used when entering a Duty Cycle percentage) and press ENTER/START to register your selection. The BACK key will correct mistakes at this point.

One Shot pulse: 1) Type in the value on the keypad for a One Shot pulse. 2) Press the ENTER/START key to register the value and the cursor advances to a letter indicating a Time Unit be selected. 3) Use the NO/DOWN key to select a time unit; (Seconds, Minutes or Hours), and 4) press ENTER/START to accept the unit.

Looped pulse: 1) Type in the ON time for Looped pulse. 2) Press the ENTER/START key to register the value and the cursor advances to the right. 3) Type in the OFF time. 4) Press the ENTER/START key to register the value and the cursor advances to a letter indicating the Time Unit be selected. 5) Use the NO/DOWN key to select which time unit you want; (Seconds, Minutes or Hours), and 6) press ENTER/START to accept the unit.

Duty Cycle: Mode selections are slightly different in sequence: 1) Select Duty Cycle mode, then 2) enter the Time Period in seconds (the only Time Unit choice for this mode). 3) Press the ENTER/START key to store the value and advance the PSG to the next screen where you 4) enter the Duty Cycle value(s) in percent (the only unit choice), and 5) register the percent by pressing ENTER/START.

Analog mode: 1) select Voltage or Current. 2) Press ENTER/START to accept selection and PSG advances to the next screen. 3) Select Min/Max or Absolute 3) Press ENTER/START to accept the selection. 4) Type in the output value (minimum value in the case of Min/Max) 5) Accept by pressing the ENTER/START key. If you are entering values for Min/Max the cursor then moves to the right for the Max value. 6) Enter the maximum value and 7) Press ENTER/START to accept the selection.

Note: When dual values modes are used, (i.e. Looped pulses, Min/Max Duty Cycle or Min/Max Analog outputs), make sure you have selected and entered the second value or the output will not start. If two values are being used, only one is valid at a time. Use the BACK key to toggle between the two, and select which one is valid.

RAMPING THE OUTPUT:

Analog Voltage and Current, and Duty Cycle output values can be ramped up or down. Pressing the UP or DOWN keys while the output is being generated will increment and decrement the output value. As the value on screen changes, the output will respond immediately. Use the BACK key to select which value will be changed, before using the UP/DOWN keys. This, of course, only applies when two values are being used.

WARNINGS AND LIMITATIONS MESSAGES

The PSG will generate warnings for you at several points. Looped and One Shot pulses ranges have a lower limit of .01. If this limit is broken the PSG says so and won't accept the value until the value is changed to something within range. When an entered value exceeds the upper limit, the PSG ignores what was entered and instead automatically enters the upper limit value for that particular mode.

Since the PSG can send several different and electrically incompatible signals on the same wire, a warning is generated when the output style is changed from its defaults or the last setting. This warning says "OUTPUT CHANGED" on the top line, and it will ask you if you want to "KEEP CHANGES?" on the bottom line. If you choose YES, the screen will tell you to "PLEASE CHECK CONNECTIONS". At this point it is recommended that you disconnect the clips from the load, or monitoring device (like a multi-meter), and press any key to move ahead. After pressing a key, the mode is internally switched and it is safe to make the connections for the new mode that is displayed on the LCD. If you choose NO, then the output will not change and the PSG will allow you to backspace through the menus to correct the output selection.