

# Quanta-Flame Simulator

Model 5004-04FS

## Description

The 5004-04FS is a multifunctional tester that simulates flame rod or UV scanner flame signals to all the major brands of combustion controls.

It also functions as a current loop checker. It provides a variable 4-to 20-milliamp-output level and can read 4 to 20 milliamp at 5 signal levels indicated by lights on the front.

This is an ideal tool for troubleshooting combustion control systems including the temperature control loop and actuator.

The unit is powered by 2 standard 9-volt batteries and has 2 separate connector terminals for wire connections. One connector is for the milliamp output and input functions. The other connector is for the flame simulation function.

Two control knobs allow continuous adjustment of the milliamp output level and the flame signal intensity. A battery light illuminates when the switch is on and the battery power is sufficient for proper operation. The Flame Rod function does not use the batteries.



## *Specifications:*

Edgemont Precision Rebuilders, Inc  
Matlack Industrial Center  
207 Carter Dr Suite C  
West Chester, PA 19382  
800-356-3774

Power:	Two 9V Batteries
Temperature range:	0°F to 120°F
Milliamp indicator Accuracy	5%
Maximum Current Loop Resistance	300 Ohms for 20 milliamps
Current Loop input Resistance:	250 Ohms
Dimensions:	4"L x 2 7/8"W x 2 2/16"D
Weight:	10 ounces
Case Material:	Phenolic

## **G N ELECTRONICS, INC.**

9958 N ALPINE ROAD, UNIT 104 MACHESNEY PARK, IL 61115  
(815) 637-8624 FAX (815) 637-8626



## Current Operation



### *Milliamp Output (current source)*

Connect wires from the +mA terminal to the device + input connector and the -mA terminal to the device -input connector. Be sure all external wires are disconnected from the device. Turn the selector switch to the OUT position (left). Adjust the 4-20mA OUT knob while observing the 5 signal level lights. When finished testing, turn the switch to the center off position to prevent battery drain.

### *Milliamp Input (current read)*

Connect wires from the -IN terminal to the device + output connector and the +IN terminal to the device - output connector. Turn the selector switch to the IN position (right). Adjust the device and observe the 5 signal level lights. The light will turn on when the device current is equal or above the light value.



**Warning:** Flame simulation must only be used for troubleshooting and testing by trained and qualified technicians experienced in combustion control. The flame simulator must not be used for the operation of the burner.

## Flame Simulation



### *Flame Rod Simulation*

Connect wires from the COM terminal to the flame amplifier common or earth connector and the UV/FR terminal to the flame amplifier flame rod connector. Be sure all external flame sensor wires are disconnected from the flame amplifier. Keep the switch in the center FR position and adjust the FLAME SIGNAL knob until the flame amplifier responds

### *UV Scanner Simulation*

For Fireye, Siemens/Landis, PCI, Eclipse controls: Connect wires from the COM terminal to the flame amplifier common connector and the UV/FR terminal to the flame amplifier UV connector. Be sure all external flame sensor wires are disconnected from the flame amplifier. Turn the selector switch to either UV position (right or left) and adjust the FLAME SIGNAL knob until the flame amplifier responds.

For Honeywell: The connection polarity must be reversed so that the UV/FR terminal attaches to the G connection and the COM terminal attaches to the UV input connection.

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