

# Digital Control/Readout Electronics and Power Supply For Mass Flow Controllers

## Features

### Model 951

- 5 digit LED display
- Front-panel pushbutton set point, calibration and alarms
- Integral power supply (+/- 15 VDC)
- Compact size—1/8 DIN
- CE Approved

### Model 954

- 4 line, 20 character LCD display
- Valve Close, Valve Open (Purge) pushbutton override
- Front-panel menu adjustable:
  - Flow units
  - Set Point
  - Totalizer
  - Gas K-factors
  - Alarms
  - Master/Slave Ratio Control
  - Calibration
- Analog Outputs: 0 to 5, 0 to 10 VDC and 4 to 20 mA
- Digital Output: RS-232 and RS-485
- CE Approved



# Flo-Box™ Model 951/954



## Description

Sierra Instruments' Flo-Box™ Models 951 and 954 include a compact, single channel device for operation of one mass flow meter or controller and a deluxe, multi-channel device for operation of up to four devices. Designed specifically for use with the Sierra Model 830 flow meters and Model 840 flow controllers, both of these powerful digital systems supply power (+/- 15 Vdc), display the flow rate, and offer set point control for MFC's.

The Model 951 is an ultra-compact digital device that is designed to operate a single unit. In addition to power, readout and set point, it offers multiple alarm points and can be easily calibrated in the field to operate both new and existing devices. It is designed for easy panel mounting (1/8 DIN). An optional stand facilitates benchtop usage.

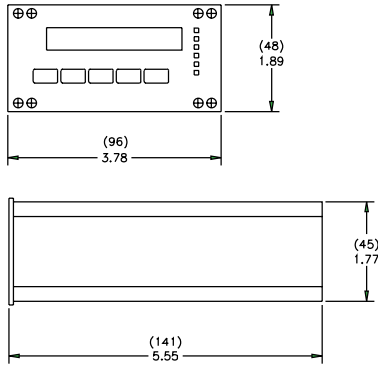
The Model 954 is a state-of-the-art digital system that can operate up to four units. In addition to power, readout and set point, it offers front-panel override for valve shut and purge functions for MFC's, user programmable K-factors for different gases, engineering units, alarms, independent totalizer for all four channels, master slave ratio control and multiple alarms. It also offers both RS-232 and RS-485 communication via rear-mounted serial ports. The Model 954 is designed for easy panel mounting (1/2 rack) and includes a convenient stand for benchtop usage.

For information online...

[www.sierrainstruments.com](http://www.sierrainstruments.com)

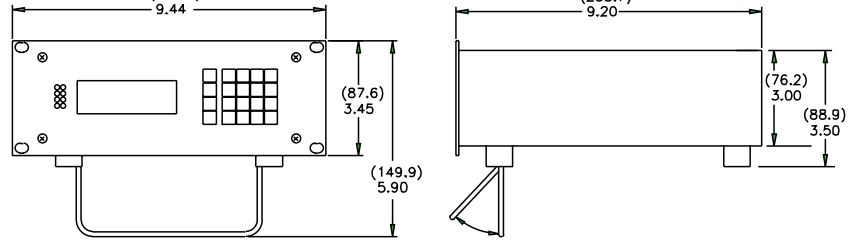
## Dimensional Specifications

### Model 951 Dimensions



All dimensions are inches. Millimeters are in parentheses.

### Model 954 Dimensions



## Operating Specifications

### Ambient Temperature

32° to 120°F (0° to 50°C)

### Storage Temperature

-5° to 160°F (-20° to 70°C)

### Relative Humidity

0 to 50% non-condensing

### Power Requirements

Model 951 . . . . . 100, 110 or 240 VAC (specify when ordering), 50/60 Hz

Model 954 . . . . . 100, 110 or 240 (+/- 10%) VAC, switch selectable, 50/60 Hz

### Power Output

Model 951 . . . . . +/- 15 VDC, 250-500 mA

Model 954 . . . . . +/- 15 VDC, 250-400 mA per channel

### Signal Input

Model 951 . . . . . 0-5 VDC only, >1 Megohm input impedance

Model 954 . . . . . User selectable: 0 to 5 & 0 to 10 VDC, 4 to 20 mA  
Input impedance: voltage >10 Megohm, current 120 ohms

### Signal Output-Analog

Model 951 . . . . . Set point 0-5 VDC only (10K ohm resistance), 2 alarms

Model 954 . . . . . Set point and output user selectable: 0-5 & 0-10 VDC,  
4 to 20 mA (250 ohm max load resistance)  
2 alarms per channel

### Serial Communications

Model 951 . . . . . N/A standard, optional RS-232 (contact factory)

Model 954 . . . . . RS-232, RS-485

Baud Rate . . . . . 9600, 19200 (user selectable)

### Programmable Functions

Model 951 . . . . . Set point, Alarm #1 (high and low values), Alarm #2  
(high and low values), Alarm hysteresis (deadband)  
for #1 and #2, Calibrate Full Scale, Calibrate Zero,  
decimal point location

Model 954 . . . . . Four Independent Channels:  
Valve override: Run, Close, Purge  
Display Flow or Totalizer, Engineering Units, Gas  
name/symbol, A/D filter rate, Input Signal type, Alarm  
high and low values, Ratio Control, Calibrate Full  
Scale, Calibrate Zero, Gas Correction Factor

### Display

Model 951 . . . . . 0.4" red LED's, 5 digits, over-range display  
LED indicators for Calibration, Zero, Alarms

Model 954 . . . . . Four Independent Channels, 4 X 20 LCD, backlit  
LED indicators for Valve Open (Purge), Valve Closed,  
Valve Run (set point)  
Set point adjust, Totalizer Active, Master, Slave,  
Flow Value, Engineering Units or 0 to 100%, Gas  
Identification

## Ordering the Model 951/954

