



## FEATURES

- UNIVERSAL INPUT 90-264 VAC, 47-400 Hz
- HIGH SURGE / TRANSIENTS AND EMI INPUT PROTECTION
- HIGH ISOLATION
- TWO ISOLATED OUTPUTS
  - FIRST: 24 VDC +/- 1%, 420 mA
  - SECOND: 24 VDC, +/- 2 %, 42 mA
- VERY LOW RIPPLE
- SHORT CIRCUIT OUTPUT PROTECTION
- OVER CURRENT OUTPUT PROTECTION
- 72 % EFFICIENCY, SAVES POWER
- SMALL SIZE
- WEIGHT 59 g (2.1 oz)
- SCREW TERMINALS FOR WIRES 22-12 AWG (2.5 mm<sup>2</sup> max)

## APPLICATIONS

- TO POWER [GMAG100](#), [GFC110](#), [GFC111](#) OR OTHER FLOW COMPUTERS / TOTALIZERS
- MOUNTABLE IN THE ENCLOSURE OF GFC100/200 SERIES FLOW COMPUTERS
- TO POWER OTHER DEVICES IN THE SAME ENCLOSURE
- TO BE USED AS A STAND ALONE POWER SUPPLY FOR OTHER EXTERNAL DEVICES



## 1. DESCRIPTION

The GPS123D is a regulated power supply with an universal input, two isolated outputs, very high regulation and isolation, high efficiency and very low ripple. It has surge and fast transients' protection and very high EMI and noise immunity at the input, and overload and short circuit protection at the outputs. It can be mounted in the enclosure of GFC100/200 series flow computers thus saving space and reducing the cost. It can also be used as a stand-alone high quality power supply for many different devices. For an example the first output can power both [GMAG100](#) magmeter and a GFCxxx flow computer, the second output can be used to power the isolated analog output, loop power transmitters or some other devices. This way GPS123D can help providing a high quality but small size complete solution while keeping the cost down.

With its very low noise and ripple and two isolated outputs it is an excellent choice for powering high quality instrumentation and industrial control devices.



## 2. ABSOLUTE MAXIMUM RATINGS \*

Operating temperature	-25 °C to +65 °C, at 50% load
Operating temperature	-25 °C to +50 °C, at 100% load
Maximum Input Voltage	264 VAC
Minimum Input Frequency	47 Hz
Maximum output current, 1 <sup>st</sup> output	420 mA DC, 25 °C, <b>NOTE 1</b>
Maximum output current, 2 <sup>nd</sup> output	42 mA DC, 25 °C, <b>NOTE 1</b>

**NOTICE: Stresses above those ratings may cause permanent damage to the device.**

## 3. CHARACTERISTICS

Parameter	Conditions	Min	Typ	Max	Units
Input Voltage, AC		90		264	V AC
Input Frequency		47		400	Hz
<b>First Output</b>					
Output Voltage	Input 115VAC, 60 Hz, 25 °C, output current 420 mA, NOTE 1	23.76	24.00	24.24	V DC
Output Ripple	Input 115VAC, 60 Hz, 25 °C, output current 420 mA, NOTE 1			50	mV <sub>pp</sub>
<b>Second Output</b>					
Output Voltage	Input 115VAC, 60 Hz, 25 °C, output current 20 mA, NOTE 1	23.52	24.00	24.48	V DC
Output Ripple	Input 115VAC, 60 Hz, 25 °C, output current 20 mA, NOTE 1			30	mV <sub>pp</sub>
Total Efficiency	Input 115VAC, 60 Hz, 25 °C, 10 W total		72		%

**NOTE 1:** The power consumption on both outputs combined must not exceed 10 W. If the second output provides 42 mA, the first output maximum current will be reduced to 370 mA. If the second output is used to loop power a 4-20 mA device (like the analog outputs of our flow computers) then the first output maximum current will be 395 mA

## 4. APPLICATION

### 4.1 MECHANICAL

Fig. 1 shows the dimensions of GPS123D. The board is designed to be mounted into the enclosure of GFC100 / 200 series flow computers / totalizers.

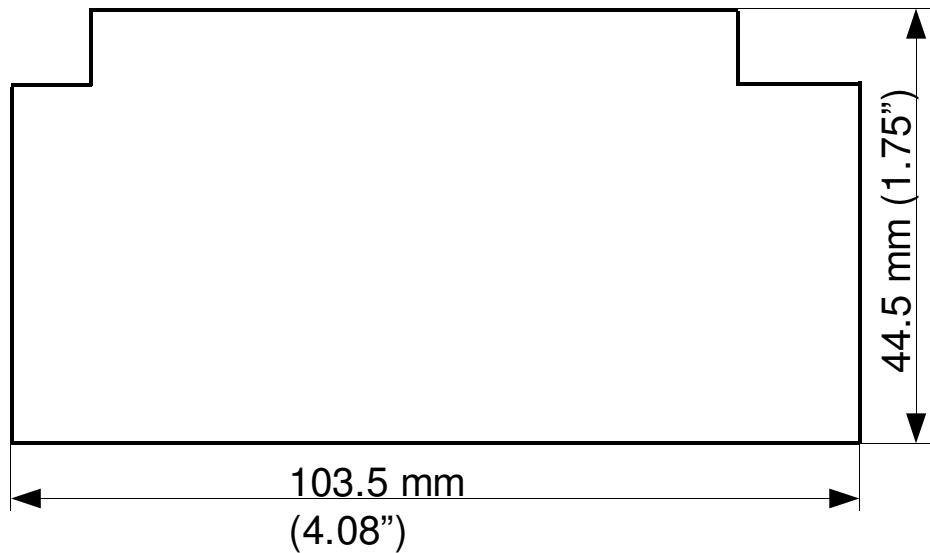


Fig. 1 Dimensions of GPS123D

### 4.2 ELECTRICAL

The input voltage 90 -264 V AC has to be applied to the terminals J1.

**NOTE: For safety earth ground must be connected to the “GND” terminal !  
Disconnect the high voltage before doing any work on GPS123D !**

The earth ground must be connected to the “GND” terminal in order to achieve the best performance of GPS123D.

The first output voltage is on terminals J2. The second out is on terminals J3

Fig. 2 shows the proper connections of the input and output voltage.

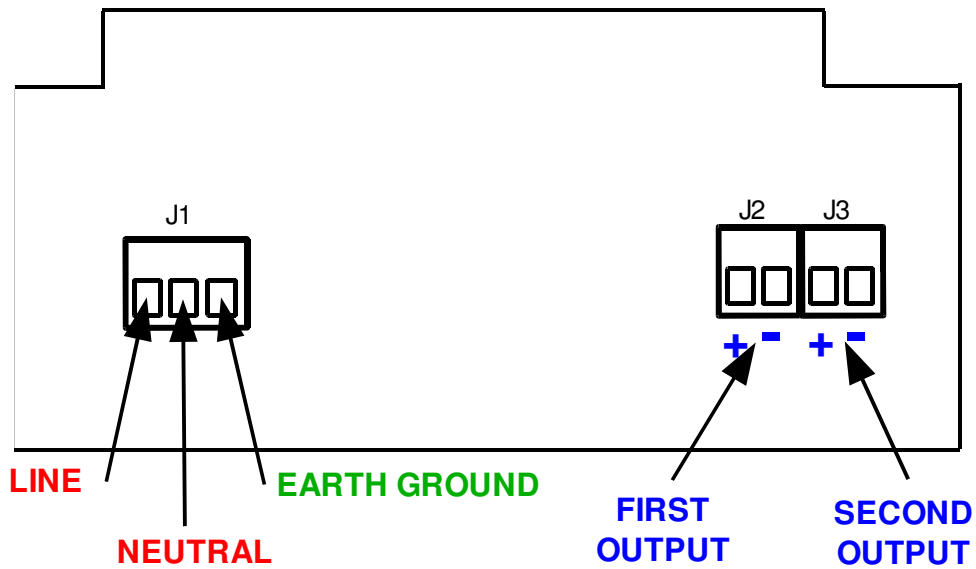


Fig. 2 Electrical connections to GPS123D

## 5. ORDERING

For ordering please use the following G Instruments part numbers:

<i>Description</i>	<i>G Instruments PN</i>
GPS123D power supply board	30580
GPS123D mounted in a blind weather proof enclosure with 2 cable glands	30581



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