

# RO-HV 30-1

## 30W 30kV 1mA

### HV Variable Voltage Power Supply

#### Basic Data

Input	Output
115 to 230Vrms 47-63Hz	0 to +30kV 0 to 1mA or 0 to -30kV 0 to 1mA
WxDxH: 266x276x70mm	Weight: 2.5kg max
Operating Temperature: 0°C to +40°C	



#### Description

The RO-HV 30-1 is a high voltage dc output bench power supply. Voltage and current can be varied up to 30kV and 1mA (ten turn controls). Polarity is indicated on the rear panel and must be specified at time of ordering.

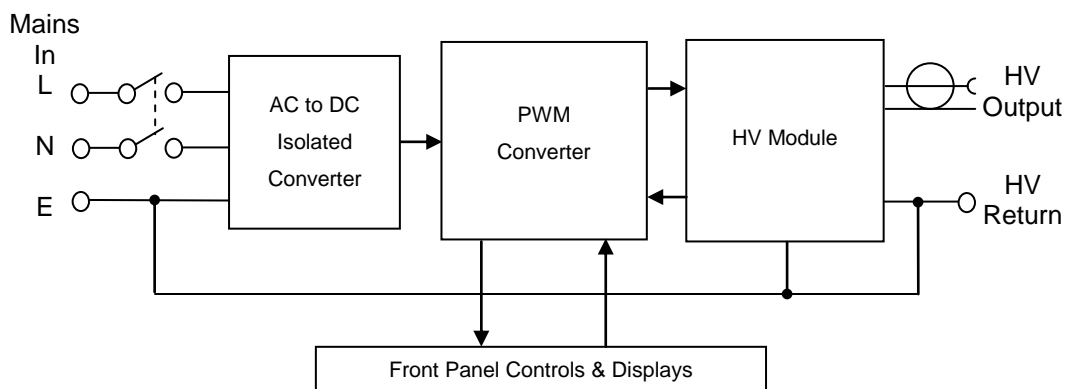
Output voltage and current are displayed on digital meters with resolutions of 100V and 1 $\mu$ A respectively. Output voltage and current limit can be set before enabling the output and adjusted when in use. Current limit can be constant or trip, selectable by front panel switch.

At switch on or following a power interruption the unit defaults to output disabled and constant current mode.

The output is via a screened connector, with 2m of cable supplied as standard. The output connector is touch proof even when unmated. The caution note must be read prior to operation.

All units are manufactured on site in accordance with Roband's approved Quality Management System.

#### Block Diagram



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## Specification

### Input

Voltage	: 90 to 264V <sub>rms</sub>
Frequency	: 47 to 63Hz
Current	: 0.6A at 230V <sub>ac</sub> 1.2A at 115V <sub>ac</sub>

### Output

Voltage (specify polarity when ordering)	: 0 to 30kV
Current	: 0 to 1mA
Current mode	: Constant or trip, set by front panel control
Ripple Voltage (1mA load)	: <4 V <sub>p-p</sub>
Line regulation	: <1V
90 to 264V <sub>rms</sub>	: <10V for 1 to 500μA <40V for 500 to 1000 μA
Load regulation, static load	
Transient response	: <60V per 100uA
Stability (after 1hr)	: <1V/hr
Rise time (resistive load)	: 1s to 30kV
Fall, time constant (no load)	: 0.8s (1000pF × 800MΩ)

### Display Resolution

Voltage	: 100V
Current	: 1μA

<b>Temperature Coefficient</b>	: 100 ppm per °C
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### Connectors

Input	: 2m mains lead, detachable
HV output	: GES HS40 screened connector, 2m lead supplied as standard. User replaceable. Separate HV return. See caution note.

### Environment

Operating temperature	: 0°C to +40°C
Storage temperature	: -20°C to +75°C
Altitude	: 3000m max
Humidity	: up to 85%,

### Protection

Input	: Internal fuses
Current limit	
Continuous / Trip	: Set via front panel switch
Short Circuit	: 6A peak

Output Voltage	: Trips if output exceeds the set voltage by approximately 3kV.
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### Housing

: Flame retardant (UL94-V0) high impact polystyrene
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### Weight

: 2.5kg maximum
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For other voltage and current combinations please contact sales office

### Regulations

RoHS compliant  
REACH compliant

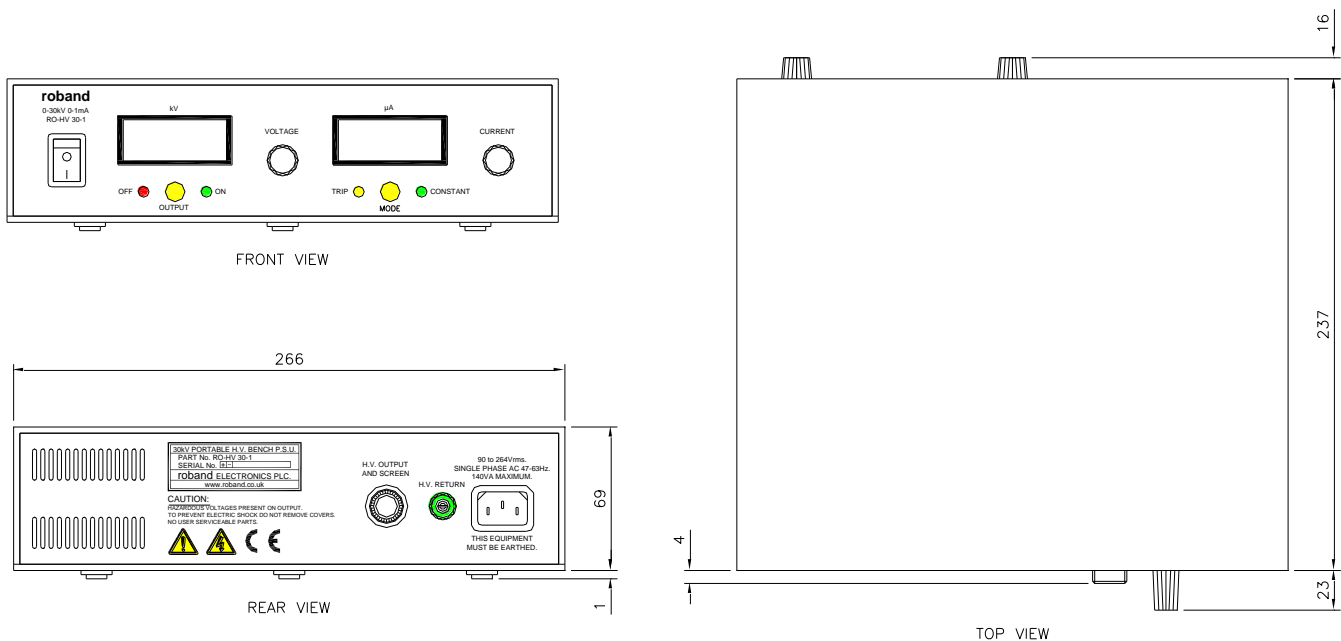
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## Outline Drawing

Dimensions in mm



**Caution:** This equipment is intended for professional use. Hazardous voltages are present at the output. Ensure the output lead is in good condition, safely terminated and the HV return is connected before use. Stored energy in the output capacitance is capable of giving a painful shock. Additional load capacitance connected to the output can significantly increase this hazard and will also increase the discharge time constant. When switching off the user should ensure that the output voltage has fallen to a safe level and the supply has been isolated before working on any equipment connected to this supply.

If the unit is moved from a cold to a hot environment, allow temperature to stabilise before use. This ensures that condensation does not compromise the creepage distances.

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## EMC Performance

RO-HV 30-1 is designed to meet the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC. Compliance was demonstrated by conformance to the following specifications, which have been listed in the Official Journal of the European Communities.

- Emissions:
- a) BS EN61000-6-3:2001 Radiated, Class A
  - b) BS EN61000-6-3:2001 Conducted, Class A
  - c) BS EN61000-3-2 Ed.2:2001, Harmonics, Class A
- Immunity:
- BS EN61000-6-1: 2001
  - a) Part 4-2 Electrostatic Discharge, Performance B
  - b) Part 4-3 Electromagnetic Field, Performance A
  - c) Part 4-4 Fast Transients, Performance B
  - d) Part 4-5 Surges, Performance B
  - e) Part 4-11 Voltage Dips, 30% Reduction, Performance B
  - f) Part 4-11 Voltage Dips, 60% Reduction, Performance C
  - g) Part 4-11 Voltage Interruptions, Performance C

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## Safety

RO-HV 30-1 is designed to conform to EC directive 73/23/EEC, BS EN61010-1: 2001, as demonstrated by safety analysis REL 10196.

The HV connector supplied complies with IEC60664-1

The seller reserves the right to amend or alter the specification without notice.  
Roband recognizes that different applications may require specific amendments to the unit.  
Whenever possible we will accommodate these special requirements seamlessly.