

# RO-GEN 101

## 3 Phase Static Inverter

### 1.2kVA 400Hz Variable Voltage 0 to 140VAC RMS

#### Basic Data

Input	Output
115-230V, 50-60Hz	Isolated 3 Phase Sine Wave 0 to 140Vac rms, 400Hz 1.2kVA Continuous 2kVA Surge Rating (500ms)
WxDxH: 107x375x190mm	Weight: 10kg max
Operating Temperature: 0°C to +40°C	



#### Description

The RO-GEN 101 converts single phase mains input into three phase 400Hz variable voltage output, from 0 to 140Vac rms. It is ideal for service workshops, test facilities and research laboratories.

The input is EMC filtered and power factor corrected. The output frequency is quartz crystal controlled. Efficiency at full load conditions is typically 80%.

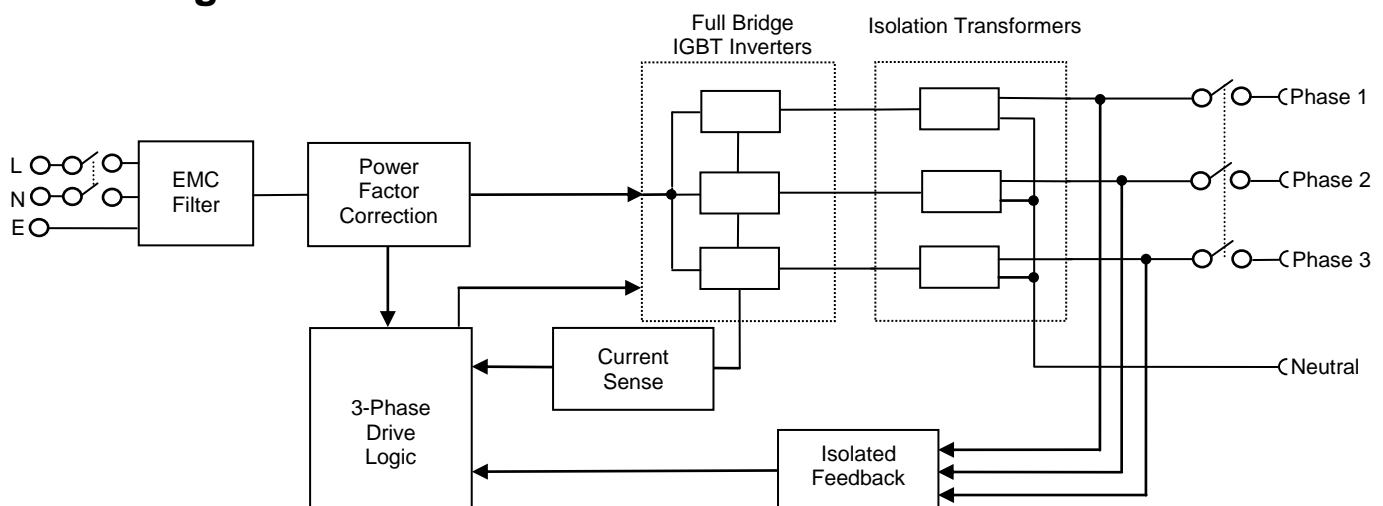
The outputs are independent from each other and isolated from the input by transformers. This makes for robust and reliable performance with enhanced safety. Safeguards include over-temperature and two stage overload protection.

A 2kVA 500ms surge rating enables the unit to start complex loads that demand high inrush currents.

The RO-GEN 101 has a variable output monitored by an rms voltmeter. Internal temperature is limited by a thermostatically controlled fan. The housing is a rugged black anodised aluminium construction.

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

#### Block Diagram



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## Specification

### Input

Voltage : 100 to 254Vac  
Frequency : 47 to 63Hz single phase  
Protection : Internal fuse  
Power Factor : >0.9 at full load

### Output

Voltage : 0 to 140Vac rms variable 3 phase  
Current : 3.5Arms per phase  
Power : 1.2kVA total (400VA per phase) at 115V output and unity power factor  
Current Limit : > 5.8A per phase  
Power Surge : 2kVA for 500ms (667VA per phase)  
Frequency : 400Hz  $\pm$  0.1Hz  
Voltage Distortion : <5% typical (resistive loading)  
Output Regulation : <1% zero to full load  
Meter :  $\pm$ 1% Vrms (reading of phase 3 only)

### Efficiency

Full Load : 80% typical

### Dynamic Characteristics

Start Up Time : <1.5s

### Protection

Overtemperature Shutdown  
Autorecovery Overload Protected  
Overload of any phase will shutdown all 3 phases

### Environment

Operating Temperature : 0 to +40°C  
Storage Temperature : -20 to +50°C  
Relative Humidity : 85% maximum

### Connectors

Input : 2m mains lead supplied, detachable  
Output : 4mm shrouded sockets, 5 off, mating plugs supplied

### Housing

Size : 107x375x190mm  
Weight : 10kg maximum  
Material : Anodised Aluminium Alloy

### Regulations

RoHS compliant  
REACH compliant

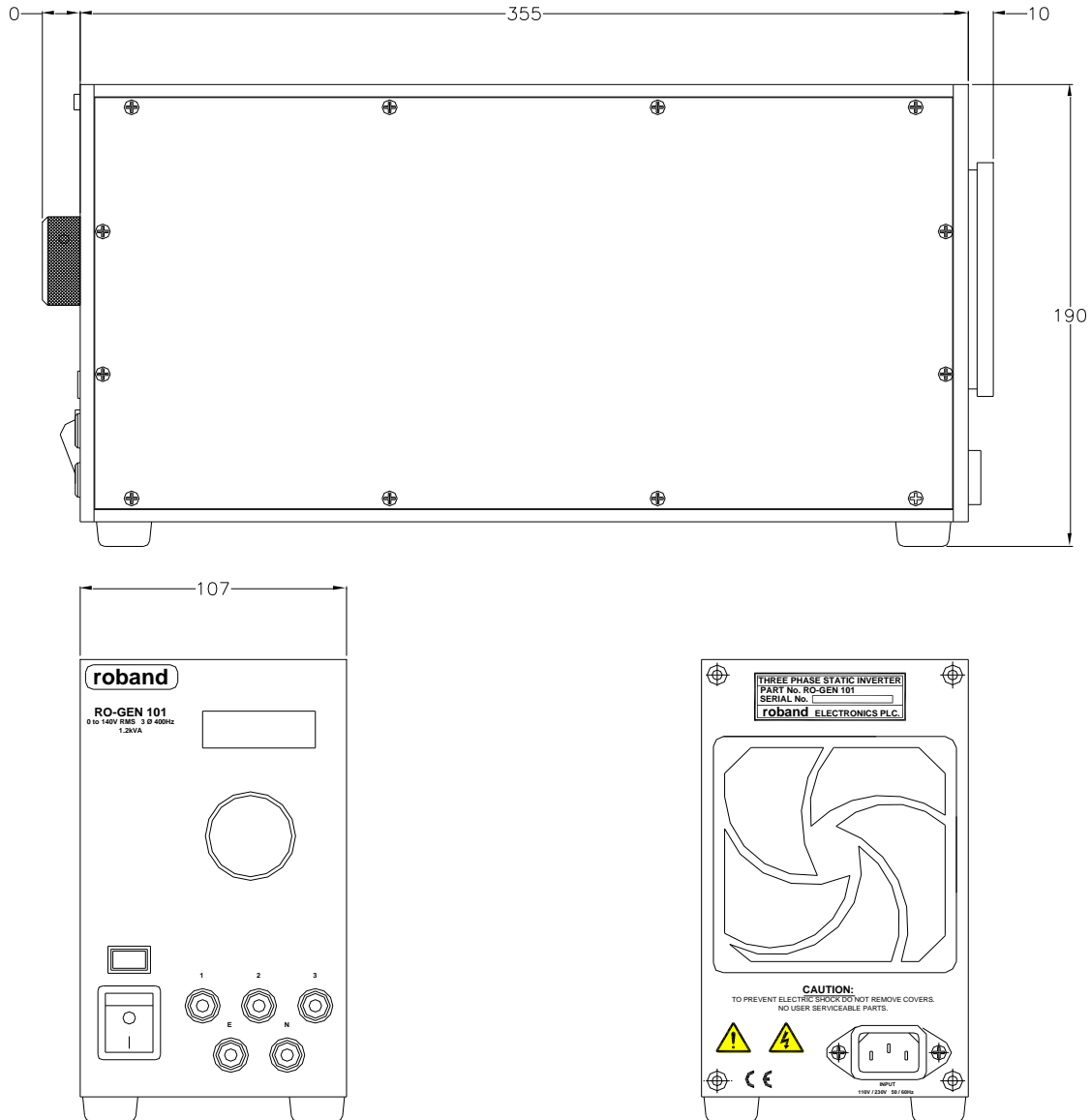
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## Outline Drawing

Dimensions in mm



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## EMC Performance

Roband RO-GEN 101, 3 Phase Static Inverter, 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

Roband RO-GEN 101, 3 Phase Static Inverter, is designed to conform to BS EN61010-1: 2001, as demonstrated by safety analysis REL10213.

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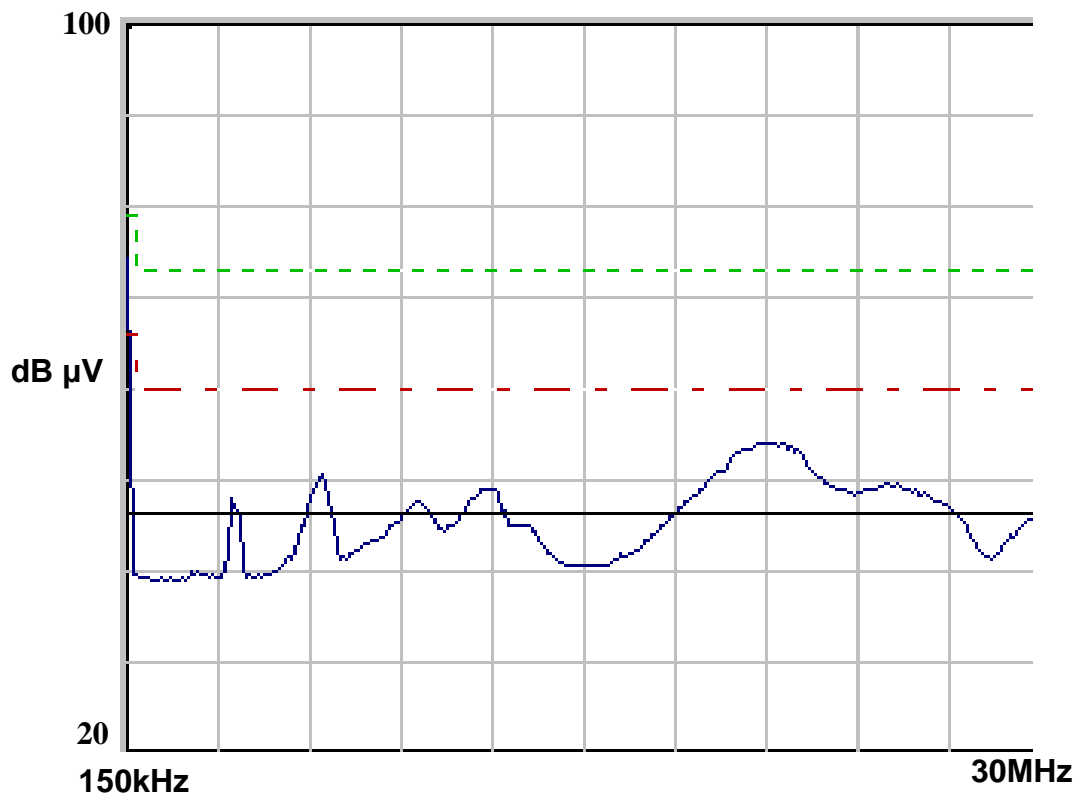
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## EMI Performance Curve

### Conducted Emissions to EN55011- Class A



Input EMI Noise Generated (dB µV) vs. Frequency (Hz) – Full Load

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.