

Power Conditioning

BALANCED POWER ISOLATION TRANSFORMER, INTERNATIONAL

MODELS: IT-2315, SCHUKO, 15A

IT-2315U, UK, 13A

IT-2315F, FRANCE, 15A

IT-2315S, SWISS, 10A

IT-2315A, AUSTRALIA, 15A

IT-2315I, ITALY, 15A

IT-2315B, BRITISH

COMMONWEALTH, 15A



The IT-2315 is available with seven optional AC configurations. Specify your country when ordering.

FEATURES

- Provides tightly balanced, isolated AC power for international use
- Available with seven different outlet configurations to meet the requirements of almost every nation
- Available in 10A, 13A and 15A models (15A typical)
- Provides precisely balanced AC power for ultra-low-noise installations
- Typically gives a 16 dB improvement in background noise floor
- Toroidal transformer with center-tapped secondary is the most efficient and compact design, with minimal magnetic field leakage
- Exclusive "Soft Start" circuit prevents turn-on transients and high inrush currents
- Faraday shield reduces electrostatic coupling between primary and secondary
- Extreme Voltage Shutdown circuit protects against dangerously high or low input voltages
- Microprocessor-controlled "smart" AC voltmeter monitors line voltage, flashes alerts for marginal and extreme conditions
- Provides basic power conditioning (spike suppression, RFI filtering) plus gas discharge tube to dissipate spikes
- Current fault protection system (equivalent to GFCI)
- CE C-tic listed

recording studios, video or film production facilities, broadcast stations, home theater, etc. The IT-2315 drastically reduces hum and buzz caused both by ground currents and radiation from supply cables into sensitive lines (particularly low level and unbalanced sources).

The IT-2315 not only dramatically reduces the noise floor, but also noticeably improves dynamic range and sonic clarity.

At the heart of this unit is a specially wound and shielded toroidal isolation transformer with a center-tapped secondary. This precision transformer, in conjunction with output spike protection, makes this unit an excellent power conditioning solution for any situation.

An IT-2315 can be installed in minutes without the need for an electrician. The IT-2315 provides clean and completely safe power - there is no need to "lift grounds" or compromise the integrity of safety ground wires to achieve hum reduction.

Special features include an accurate, self-checking AC voltmeter that not only measures normal voltages, but also flashes an eye-catching special pattern alert for off-scale conditions (170-180 or 270-280 volts). The Extreme Voltage Shutdown circuit will cause a protective shutdown if the unit is exposed to dangerous voltages (like accidental connection to 460V). Furman's exclusive "Soft Start" circuit will prevent the large inrush surge currents and spikes that would otherwise occur at turn-on and turn-off with such a large transformer.

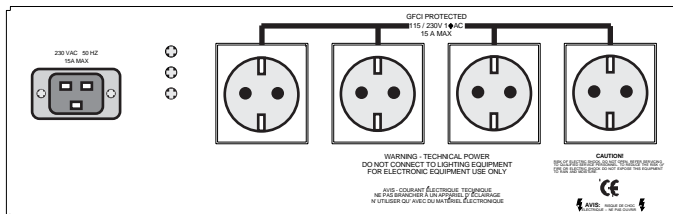
The IT-2315 occupies three rack spaces (133 mm high).

The IT-2315 rear panel provides 4 outlets of the selected style; the front panel provides one. All outlets are balanced and incorporate our Current Fault Protection System.

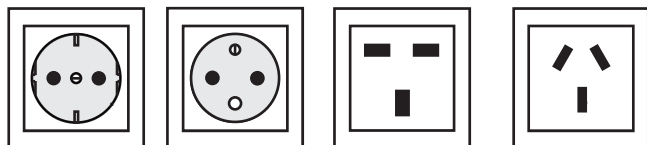
DESCRIPTION

Designed for the most critical, ultra-low-noise installations, the IT-2315 can supply up to 15 amps of balanced AC power to

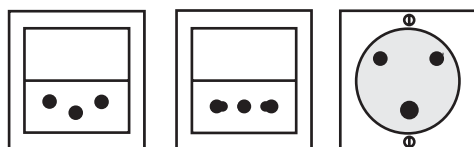
IT-2315 Rear View



IT-2315 Optional AC Configurations



IT-2315 Schuko (most of Europe)
IT-2315F France and Belgium
IT-2315U United Kingdom and Ireland
IT-2315A Australia New Zealand



IT-2315S Switzerland
IT-2315I Italy
IT-2315B (British Commonwealth) India, Central and South Africa

For other countries, consult your Furman Sound dealer for the correct AC configuration.

BACKGROUND

In much the same way that balanced audio lines can reduce the pickup of hum and other types of electromagnetic interference (EMI), the use of balanced AC power lines in sensitive audio, video, or computer installations can make an enormous difference in system noise. Typically, household and commercial power is not balanced. The distribution standards currently in use were derived from practices established over a century ago, when electric power use was limited to lighting and motors—long before any EMI-sensitive applications existed. The emphasis then was on convenience (from the power utilities' standpoint) and safety, but not noise cancellation. The result was a three-wire distribution scheme in which 230V branch circuits have a hot wire and a neutral wire, with the neutral tied to a third wire connected for safety to an earth ground. The third wire does not carry any current unless there is a fault. This unbalanced scheme causes hum in audio circuits for two main reasons. First, the current flowing in the hot wire induces hum in any other nearby wires, which may carry vulnerable low-level audio signals. Second, because the impedance of chassis and cable shielding to ground is greater than zero, ground current flowing from power supply capacitors and from EMI pickup causes a voltage drop at 50 Hz and its harmonics. This low level noise becomes part of the audio signals.

With a center-tapped isolation transformer, the AC power feeding a home or studio can be balanced at its source. The current-carrying wires then are no longer "hot" (230V) and "neutral" (0V), but two 115V lines of opposite polarity (referenced to the safety ground connected to the center tap), whose difference is 230V. This type of power, when run around a room, does not induce hum into nearby audio wiring, because the two conductors induce equal and opposite voltages that cancel each other out. Similarly, ground currents are all but eliminated by the same common-mode cancellation effect. No longer is it necessary to adopt

cumbersome and expensive star-ground systems or use massive bus bars or heavy ground rods. Most such systems are far more trouble than the less than ideal results they produce, because the ground impedance cannot be reduced to zero. The common-mode rejection of a truly balanced AC supply is simpler, cheaper, and more effective.

Balanced power is recognized by the IEC for technical power applications. Its use is restricted to electronic equipment only. Balanced power may not be used for lighting equipment, and access should be restricted to use by qualified personnel only.

OPTION

● **RRM-2 Rear Rack Mount Ears:** Adjustable depth rear rack ears for the IT-2315. Adjustment depth is 432 mm to 464 mm from inside front panel.

Warranty and Service Information

Contact your distributor.

IT-2315 SPECIFICATIONS

Output current:	IT-2315S: 10 amps (2300 watts at 230/115 V 1Ø AC, 50 Hz) IT-2315, IT-2315I, IT-2315F, IT-2315B: 15 amps (3450 watts at 230/115 V 1Ø AC, 50 Hz) IT-2315U: 13 amps (2990 watts at 230/115 V 1Ø AC, 50 Hz) IT-2315A: 15 amps (3600 watts at 240/120 V 1Ø AC, 50 Hz)
Voltage Ranges:	Normal, 180-256; Marginal (flashes alert), 170-180 or 260-270; Extreme (causes shutdown), below 170 or above 270
Inlets:	IT-2315 /B, I, A, F: Detachable heavy duty power cord with 16A three-prong plug to IEC-320 C-19 connector IT-2315U: Detachable heavy duty power cord with 13A three-prong plug to IEC-320 C-19 connector IT-2315S: Detachable heavy duty power cord with 10A three-prong plug to IEC-320 C-13 connector
Outlets:	IT-2315 /B, I, A, F: 4 rear, 1 front, each rated at 15A IT-2315U: 4 rear, 1 front, each rated at 13A IT-2315I: 4 rear, 1 front, each rated at 10A (all outlets are Current Fault System protected)
Isolation, Input to Output:	Breakdown Voltage: 1500V minimum. Capacitance: 300 pf maximum
Turns Ratio:	1:1; windings separated with Faraday shield
Transformer Regulation:	(Full load/no load) 3% at full load
Spike Protection Modes:	Line to neutral, neutral to ground, line to ground
Spike Clamping Voltage:	TVSS rating of 650 volts peak L-N, 400 volts peak L-G, N-G
Spike Response time:	1 nanosecond
Maximum surge current:	6,500 amps (8 x 20 mS pulse)
Maximum spike energy:	80 joules per mode, 240 joules total
Noise attenuation:	Transverse mode: Greater than 60 dB at 1 to 200 MHz Common mode: Greater than 80 dB from DC to 1 MHz
Mechanical:	Dimensions: IT-2315: 88mm. H x 475mm. W x 425mm. D. Weight: IT-2315: 79 lbs (35 kg) Construction: Steel chassis, powder coated; glass epoxy printed circuit boards
Power Consumption:	8.5 watts for display and control circuits, independent of actual load
Safety information:	IT-2315 CE C-tic Listed

The IT-2315 is manufactured in the United States of America.