



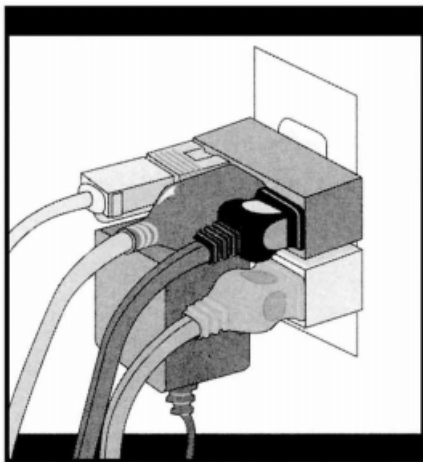
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Essential Travel Tips



Converters & Adaptors

While most people travel to experience the sights and sounds of strange, far away lands, they also want to take along some of the comforts of home. Hair dryers, shavers, radios and other small appliances all make the journey more pleasant.

Electrical appliances built for use in Singapore are designed to operate on 230 volts AC (alternating current). There are many countries, however operating on 110 volts AC. To use your favourite 230V appliances while travelling overseas, you need to convert their 110V electricity to match 230V appliance. Failure to do so could severely damage or destroy your appliance. The device made for these purpose is called voltage converter. The Planet Traveller offers two types of voltage converters for use with a wide range of electrical appliances.

IMPORTANT NOTE: *Singapore's 230 volt appliances can operate without a converter in countries with voltage from 220 to 240 volts. A converter must be used in countries with voltage from 100 to 127 volts.*

TYPES OF CONVERTERS Transformer

This voltage converters can be used with any electrical appliance that meets the transformer wattage rating requirement. Transformer produce a sine wave output that is identical to normal household electricity. Transformers can either increase (step up) or decrease (step down) voltage. Mostly designed for use with electronic, motorized or heating appliances. Some are not designed for continuous use and should be removed from the electrical outlet when not in use. Low wattage transformer (15 - 50W) is merely used for contact lens sterilizers, curling irons, calculators, electrical shavers, battery chargers, electric toothbrushes, etc.

Heavy Duty Transformer

When continuous power is needed for large appliances, computer, power tools or any permanently installed electrical equipment, you must use a heavy duty transformer. Step up, step down, grounded and ungrounded models are available in wattage ratings from 200 to 1,500 watts.

Suitable for use of hair dryers, travel irons, clothes steamers, food/bottle warmers, etc.

Solid State

This voltage converters can only be used with non-electric heating appliances. They do not produce a normal sine wave output and will damage motorized or electronic appliances. Solid State converters will only decrease (step down) voltage. It is mostly designed for use with non-electric heating appliances rated up to a maximum of certain wattage ratings. They are not designed for continuous use and should be removed from the electrical outlet when not in use.

Suitable mainly for appliances which has no electric motors in them; e.g. hair dryers, heating irons, lamps, etc.

How To Find Voltage and Wattage Ratings?

To determine the correct model voltage converter or heavy duty transformer you need, you must know the voltage and wattage requirements of your appliance. You can find this information listed on the appliance manufacturer's label located on the back or bottom of the appliance or in the specifications section of the appliance owner's manual. The label or manual will show the input voltage (110, 220, 230, 240 written as : 110volts, 110V, 110 volts AC or 110VAC), the wattage (100 watts or 100W) or the amperage (0.5Amps or 0.5A or 500mA).

IMPORTANT NOTE: *If only the amperage rating is shown, multiply the input voltage by the amperage rating to find the wattage rating. Volts x Amps = Watts or 120V x 0.5A = 60W. (It is necessary to use a transformer that is rated at least 10% higher in wattage than the intended appliance; i.e. if the appliance requires 100W, it is a must to step up to the next size, e.g. a 250W transformer).*

Cycles - 50Hz vs. 60 Hz

Singapore 230 volts electricity is generated at 50Hz (Cycles) Alternating Current. Some foreign 110 volt electricity is generated at 60Hz (Cycles) Alternating Current. This different in cycles may cause the motor in your 50Hz Singapore appliance to operate faster when used on 60Hz foreign electricity. It will also cause clocks and timing circuits that use Alternating Current as a timing base to keep incorrect time. Most modern electronic equipment including battery chargers, computers, printers, stereos, tape and CD players, VCR's, etc. will not be affected by the different in cycles.

IMPORTANT NOTE: *Voltage converters and heavy duty transformers do not carry cycles.*

Dual Voltage Appliances

Many travel appliances are designed to work on either 110V or 220V AC without a converter by simply flipping a switch; e.g. hair dryers, shavers, clothes, steamers, travel irons, etc. However, you may need the proper adapter plugs to use them in the countries you plan to visit.

Adapter Plugs

Electrical wall outlets around the world differ in shape, assortment and arrangement of plug holes. The most common outlet requires two round pins. Many countries, however, use other types of outlets. In fact, some countries have more than one type of outlet. The Planet Traveller sells many adaptor plugs which allow voltage appliances to fit most of the electrical outlets found worldwide. Adapter plugs DO NOT CONVERT electricity; they simply modify foreign outlets.

Grounded Appliances

If your appliance is grounded, you will need to use a grounded transformer to convert the voltage or a grounded adaptor plug if your appliance is dual voltage.

IMPORTANT NOTE: *If you plan to use a surge protector with a computer, a stereo or video equipment, you must use a grounded transformer or a grounded adaptor plug for the surge protector to operate properly.*

European Shaver Sockets

The 220 volt AC electrical outlets found in many European bathrooms are only for use with low wattage appliances (15 - 50W) : i.e. electric shavers, battery charger, etc. Hair dryer or other high wattage appliance on this outlet, even with a converter will blow the main fuse or circuit breaker and may damage your converter and appliance.

A Few Reminders

- Voltage converters will not operate on Direct Current voltage (volts DC).
- In foreign country, always check the type of electrical current (AC or DC) and voltage (110 volts AC or 220 volts AC) before using your converter or dual voltage appliances.
- Read all instructions and always check the appliance you plan to use with a converter of voltage requirement, wattage ratings and type (motorized, electronic or heating) and be sure that the appliance is operating properly before you leave.