

## INTERNATIONAL VOLTAGE REFERENCE GUIDE

Country	Frequency	Single phase Voltage	Three phase Voltage	Country	Frequency	Single phase Voltage	Three phase Voltage
Afghanistan	50 Hz	220 V	220/380 V	Lesotho	50 Hz	220 V	220/380 V
Algeria	50 Hz	127/220 V	220/380 V	Liberia	60 Hz	120/240 V	208/240/440 V
Angola	50 Hz	220 V	220/380 V	Libya	50 Hz	127/220 V	220/230/400 V
Antigua	60 Hz	230 V	230/440 V	Luxembourg	50 Hz	120/208 V	220/380 V
Argentina	50 Hz	220 V	230/380 V	Malawi	50 Hz	230 V	220/400 V
Australia	50 Hz	240 V	240/415 V	Malaysia	50 Hz	115/240 V	240/415 V
Austria	50 Hz	220 V	220/380 V	Mali	50 Hz	220 V	220/380 V
Bahamas	60 Hz	120 V	120/208 V	Martinique	50 Hz	220 V	220/380 V
Bahrain	50 Hz	110/230 V	220/380/400 V	Mauritius	50 Hz	230 V	230/400 V
Bangladesh	50 Hz	230 V	230/400 V	Mexico	60 Hz	110/220 V	208/220 V
Barbados	50 Hz	110/220 V	120/208 V	Monaco	50 Hz	127/220 V	220/380 V
Belgium	50 Hz	127/220 V	220/380 V	Montserrat	60 Hz	230 V	230/400 V
Belize	60 Hz	110/220 V	–	Morocco	50 Hz	115/220 V	220/380 V
Bermuda	60 Hz	115/230 V	230 V	Nepal	50 Hz	230 V	230/440 V
Bolivia	50 Hz	115/230 V	220/380 V	Netherlands	50 Hz	110/220 V	220/380 V
Botswana	50 Hz	220 V	220/380 V	Netherlands Antilles	50/60 Hz	115/220 V	127/208/220/380 V
Brazil	60 Hz	110/127/220 V	220/380 V	New Zealand	50 Hz	230 V	230/400 V
Bulgaria	50 Hz	220 V	220/380 V	Nicaragua	60 Hz	120/240 V	240 V
Burma	50 Hz	230 V	230/440 V	Niger	50 Hz	220 V	220/380 V
Cambodia	50 Hz	120 V	220/380 V	Nigeria	50 Hz	230 V	230/400 V
Cameroon	50 Hz	127/220 V	220/380 V	Northern Ireland (see United Kingdom)			
Canada	60 Hz	120/240 V	220/240 V	Norway	50 Hz	230 V	230 V
Cayman Islands	60 Hz	120/240 V	120/208/240/480 V	Pakistan	50 Hz	230 V	230/400 V
Chad	50 Hz	220 V	220/380 V	Panama	50 Hz	110/120/220 V	220/240 V
Chile	50 Hz	220 V	220/380 V	Paraguay	50 Hz	220 V	220 V
China, People's Rep.	50 Hz	220 V	220/380 V	Peru	60 Hz	220 V	220 V
Colombia	60 Hz	110/220 V	220 V	Philippines	60 Hz	115/230 V	220 V
Costa Rica	60 Hz	120/240 V	240 V	Poland	50 Hz	220 V	220/380 V
Cyprus	50 Hz	240 V	240/415 V	Portugal	50 Hz	110/190/220 V	220/380 V
Czech Republic	50 Hz	120/240 V	220/380 V	Puerto Rico	60 Hz	120/240 V	240 V
Denmark	50 Hz	220 V	220/380 V	Qatar	50 Hz	240 V	240/415 V
Dominican Republic	60 Hz	110/220 V	220/440 V	Romania	50 Hz	220 V	220/380 V
Ecuador	60 Hz	120/127 V	208/220 V	Russia (USSR)	50 Hz	127/220 V	220 V
Egypt	50 Hz	220 V	220/380 V	Rwanda	50 Hz	220 V	220/380 V
El Salvador	60 Hz	110/220 V	220/230 V	St. Kitts and Nevis	60 Hz	230 V	230/400 V
Ethiopia	50 Hz	220 V	220/380 V	St. Lucia	50 Hz	240 V	240/415 V
Falkland Islands	50 Hz	230 V	230/415 V	St. Vincent	50 Hz	230 V	230/400 V
Fiji	50 Hz	240 V	240/415 V	Saudi Arabia	60 Hz	120/208 V	220/380 V
Finland	50 Hz	220 V	220/380 V	Senegal	50 Hz	110/220 V	220 V
France	50 Hz	115/220 V	220/380 V	Sierra Leone	50 Hz	220 V	220/440 V
Gambia	50 Hz	230 V	220/400 V	Singapore	50 Hz	115/230 V	230/400 V
Germany	50 Hz	110/220 V	220/380 V	Somalia	50 Hz	110/220 V	220/380 V
Ghana	50 Hz	220 V	220/400 V	South Africa	50 Hz	220/230 V	220/380 V
Gibraltar	50 Hz	240 V	240/415 V	Spain	50 Hz	127/220 V	220/380 V
Great Britain (See United Kingdom)				Sri Lanka	50 Hz	230 V	220/400 V
Greece	50 Hz	220 V	220/380 V	Sudan	50 Hz	240 V	240/415 V
Grenada/Windward Is.	50 Hz	220 V	220/400 V	Surinam	50/60 Hz	110/220 V	220/230 V
Guadeloupe	50/60 Hz	220 V	220/380 V	Swaziland	50 Hz	230 V	230/400 V
Guam	60 Hz	120/240 V	120/208/480 V	Sweden	50 Hz	120/127/220 V	220/380 V
Guatemala	60 Hz	120/127/220 V	200/240 V	Switzerland	50 Hz	220 V	220/380 V
Haiti	60 Hz	110/220 V	220 V	Syria	50 Hz	115/200 V	220/380 V
Honduras	60 Hz	110/220 V	220 V	Taiwan	60 Hz	110/220 V	220 V
Hong Kong	50 Hz	200/230 V	346 V	Tanzania	50 Hz	230 V	230/400 V
Hungary	50 Hz	230 V	220/380 V	Thailand	50 Hz	220 V	220/380 V
Iceland	50 Hz	220 V	220/380 V	Togo	50 Hz	127/220 V	220/380 V
India	50 Hz	230 V	220/380 V	Tonga	50/60 Hz	240 V	240/415 V
Indonesia	50 Hz	220 V	220/380 V	Trinidad & Tobago	60 Hz	115/230 V	230/400 V
Iran	50 Hz	220 V	220/380 V	Tunisia	50 Hz	127/220 V	220/380 V
Iraq	50 Hz	220 V	220/380 V	Turkey	50 Hz	127/230 V	220/380 V
Ireland (Eire)	50 Hz	230 V	220/230/380/400 V	Uganda	50 Hz	240 V	240/415 V
Israel	50 Hz	230 V	230/400 V	United Arab Emirates	50 Hz	220 V	220/240/380/415 V
Italy	50 Hz	220 V	220/380 V	United Kingdom	50 Hz	240 V	240/415 V
Ivory Coast	50 Hz	220 V	200/380 V	U.S.A.	60 Hz	110/240 V	240/480 V
Jamaica	50 Hz	110/220 V	200 V	Venezuela	60 Hz	–	120/208/240 V
Japan	50/60 Hz	100/200 V	220 V	Vietnam	50 Hz	120/240 V	220/380 V
Jordan	50 Hz	220 V	220/380 V	Virgin Islands	60 Hz	120/240 V	240 V
Kenya	50 Hz	240 V	240/415 V	Wales (See United Kingdom)			
Korea, South	60 Hz	110/200 V	200/220/380 V	Yemen, Rep. of	50 Hz	230 V	230/400 V
Kuwait	50 Hz	220/240 V	220/380 V	Yugoslavia	50 Hz	220 V	220/380 V
Laos	50 Hz	–	220/380 V	Zaire	50 Hz	220 V	220/380 V
Lebanon	50 Hz	110/190 V	220/380 V	Zambia	50 Hz	220 V	220/380 V