



GUIDELINE FOR TYPICAL APPLIANCE RATINGS AND SIZING OF BACK - UP SYSTEMS

This List applies to products operating on single Phase 230Volt / 50Hz (South Africa)

ELECTRICAL APPLIANCES		Minimum Watts	Average Watts	Maximum Watts	High Start up Current
Energy Saver Globes / Lamps	8W	8W	8W	8W	
	9W	9W	9W	9W	
	11W	11W	11W	11W	
	13W	13W	13W	13W	
	15W	15W	15W	15W	
	18W	18W	18W	18W	
	20W	20W	20W	20W	
Incandescent Globes / Lamps	40W	40W	40W	40W	
	60W	60W	60W	60W	
	100W	100W	100W	100W	
Modem		8W	12W	15W	
Alarm System		10W	15W	20W	
Network Switch		15W	20W	25W	
DSTV Decoder /M-Net Decoder		15W	20W	30W	
Electric Blanket		40W	50W	70W	
Electronic Sewing Machine		50W	70W	100W	Yes
Electric Fan		50W	60W	80W	
Standard Fridge		80W	100W	150W	Yes
Standard Deep Freezer		100W	120W	150W	Yes
54cm Television		80W	100W	120W	Yes
74cm Television		100W	120W	150W	Yes
Slow Cooker		120W	150W	250W	
Hi - Fi Equipment		100W	150W	250W	
Desk Top Printer		100W	150W	200W	
Electric Fence		200W	250W	300W	
42" LCD Flatscreen Television		200W	250W	300W	Yes
Personal Computer		200W	300W	450W	Yes
File Server		350W	500W	650W	Yes
Laser Printer		300W	600W	1000W	Yes
Power Drill		350W	600W	900W	
Iron		1600W	2000W	2200W	
Hair Dryer		400W	600W	1000W	
Microwave		600W	800W	1300W	Yes
Washing Machine (Bosch)	Cold Wash	800W	1000W	1500W	Yes
	Hot Wash	2000W	2300W	2500W	Yes
Vacuum Cleaner		800W	1000W	1600W	Yes
Swimming pool Pump		800W	1000W	1200W	Yes
Express Coffee Machine		1000W	1200W	1400W	
Electric Frying Pan		1200W	1500W	2000W	
Cordless Kettle		1500W	1800W	2500W	
Bar Heater	1Bar	1000W	1000W	1000W	
	2Bar	2000W	2000W	2000W	
	3Bar	3000W	3000W	3000W	
Dish Washer (Bosch)		2000W	2300W	2500W	Yes
Tumble Dryer (Bosch)		2400W	2800W	3000W	Yes
Geyser		2000W	3000W	3500W	
Stove					
Small Hotplate (on high)		1000W	1500W	2000W	
Small Hotplate (on low)		300W	400W	500W	
Large Hotplate (on high)		400W	2000W	600W	
Large Hotplate (on low)		1500W	600W	2200W	
Oven		1500W	2000W	2500W	

Inrush Current Rating

- Average Watts x 2
- Average Watts x 3
- Average Watts x 6
- Average Watts x 10

The above list of appliances with power ratings is a guideline only and should help the user to calculate his back-up requirement. The power ratings are average rating and would vary from supplier to supplier. We would advise that the user should look first at all the appliances rating plates they want to back up (which is usually fixed at the rear or bottom panel of the appliance) or at the manual to obtain the correct " Watt" rating.

If you only find Amp. ratings use the following formula : $V \times A = W$ For example : the value you find is indicated at 2.5A $2.5 A \times 230 \text{ Volts} = 575 \text{ Watts}$. That means that this appliance is using 575 Watts per hour.

If you cannot obtain any values, use the value in the middle, "The Green" Column from the table above.

Back-up power is expensive and therefore choose only items you really need while you have a power failure

Make an exact list of all items you require and add them all together to achieve a total Watt value.

For Example :

42" LCD Flatscreen Television	250W
DSTV Decoder /M-Net Decode	20W
Alarm System	15W
Electric Fan	60W
Electric Fence	250W
Standard Fridge	100W
Standard Deep Freezer	120W
Personal Computer	300W
Desk Top Printer	150W
Microwave	800W
5 x 15 Watt Power saver Lights	75W
Motorized Garage Door	500W
Total Watts	2640W

The above is an example of a typical small to medium household requirement

The Back-up System you could use would be : XPC 2200 - 24B

As you correctly noticed the XPC - 2200 can only supply 2200Watts and if you would have all appliances and devices switched on, you would overload the system. Under this condition the back-up system would protect itself and switch off on overload or a circuit breaker would trip. Under extreme circumstances the system can be damaged.

This is not what we want. But if we consider that you will use the Microwave only once for 10 - 15 minutes and your Garage Door maybe only once or twice for 20 second in a 2 -3 Hour power failure, this unit would be adequate. As long as you not use the microwave and the garage door for example at the same time and have all devices switched on.

As our Studer range of " Pure Sine wave Inverters " have a very high overload capability on startup of up to 3 times, we can comfortably avoid to oversize the inverter system in contrast to other manufacturers and are therefore able to save major costs

As far as we know the Studer inverters are the only ones on the South African market with these fantastic features and specification.

As " Modified Sine wave Inverters " have basically **no** overload or startup capability you would have to overate the Inverter by at least 2 times to achieve similar results. If you take this into consideration, modified sine wave inverters are not necessarily more cost-effective and can create additional operating problems. (See our explanation)

And than again in some applications they work very well without any problems.

The user must just make sure that this Back - up system is not overloaded, it is not replacing Eskom.