

## Topaz 800

140 VA to 25 kVA

*Superior Power Conditioning  
for Industrial, Commercial and  
Medical Equipment*

### **Advanced Features**

- ▶ Superior isolation
- ▶ Tight voltage regulation
- ▶ High immunity to distortion
- ▶ Lightning & surge protection
- ▶ Protection against power interruptions
- ▶ Power factor correction
- ▶ Bi-directional harmonic filtering
- ▶ Meets ANSI standards for computers with inputs as low as 50% of nominal
- ▶ UL 1012, UL 544 and CUL Listed
- ▶ 10 year core and coil warranty

**Topaz 800** power conditioners provide high quality power with inherent surge protection, noise and bi-directional harmonic filtering, as well as superior isolation. With units ranging from office models to floor or wall/panel mounted industrial models, the **Topaz 800** provides an excellent solution for any application with noisy or poor power quality.

**M G E**  
UPS SYSTEMS

THE UNINTERRUPTIBLE POWER PROVIDER



## Why Power Conditioning?

Every facet of our daily life is being automated by faster microprocessors and microprocessor-based equipment which require steady continuous power. As market pressures force the deregulation of the electrical industry, utility companies have less and less control over the quality of power supplied to sensitive electronic equipment.

In industry, the effects of unreliable power can be seen in the erroneous motion of computer-controlled milling machines, causing irreparable damage to expensive manufacturing equipment or finished products. Additionally, poor power quality can cause motor driven equipment to operate inefficiently and overheat, causing premature failure.

In data processing and medical applications, the effects of unreliable power can be translated into incorrect data, lost memory, premature component failure, mixed and garbled data and inaccurate diagnostics.

*Power conditioning alleviates these problems.*

### Computers Introduce More Problems...

Today almost every computer uses a switch mode power supply. They are light weight, inexpensive to manufacture, and provide a variety of voltages required by the computers. These switch mode power supplies also introduce harmonics into the power lines, which can cause overheating and possible failure of conductors and transformers.

For this reason, the Topaz 800 was designed using a special high "K-Factor" transformer capable of handling these harmonics without overheating. The Topaz 800 has one of the highest "K-Factors" in the industry.

Additionally, the Topaz 800 virtually eliminates any transient harmonics being inserted back onto the power lines, thus preventing damage to building wiring.

### Benefits

- ▶ Reliable
- ▶ Low cost installation
- ▶ Quiet operation
- ▶ Isolation and regulation
- ▶ Short circuit proof
- ▶ Power factor correction
- ▶ Removal of harmonics
- ▶ Immune to distortion
- ▶ Ride-through capability

### Applications

- ▶ Data centers
- ▶ Industrial facilities
- ▶ Medical applications
- ▶ Process control
- ▶ Sensitive electronic equipment
- ▶ Instrumentation
- ▶ Robotic control

### Unique "Ride-through" Capability

The Topaz 800 generates its output voltage by a circuit operating as a powerful stored energy oscillator. Even with a loss of input voltage for one entire cycle, the output retains its tight regulation. The Topaz 800 offers battery back-up behavior without the space required by the batteries or the cost.

### Immunity to Distortion

With an input waveform distortion as high as 40%, the output of the Topaz 800 delivers a transient-free sinewave with no more than 5% harmonic distortion.





## Specifications

### Short Circuit Proof

The Topaz 800 sustains operation under short circuit conditions without damaging the unit.

### Power Factor Correction

The Topaz 800 corrects for load generated poor power factor. Additionally, the input power factor remains within 0.95 with a load power factor of 0.6.

### K-Factor

The Topaz 800 has a K-Factor rating of 30 and handles high harmonic content loads without overheating.

### Medical Applications

All Topaz 800 models carry the UL 544 listing for Medical Applications. Receptacle based Office Models require factory installed hospital grade receptacles (additional price).

### Variable Range Regulation (VRR)

Variable Range Regulation, extends the usable input voltage window, depending on load. VRR provides regulated voltage under extreme brownout conditions or surges up to 200%. The output voltage remains tightly regulated under the following conditions.

Variable Range Regulation (VRR)\*

Load	Input	Output Regulation
25%	+10, -45%	+/-3%
50%	+10, -40%	+/-3%
75%	+10, -35%	+/-3%
100%	+10, -20%	+/-3%

\*hardwired models



- ▶ **Line Regulation:** +/- 3% Vout for +10% to -20% Vin
- ▶ **Load Regulation:** +/-3% for 0% to 100% load
- ▶ **Immunity to Distortion:** @40% THD Vin, 5% Max THD Vout
- ▶ **Ride-through Capability:** 1 cycle
- ▶ **Voltage Recovery:** 2 cycles to 95%, 3 cycles to 100%
- ▶ **K-Factor:** K-30 Rated
- ▶ **Power Factor Correction:** Input of 0.95 typical
- ▶ **Harmonic Attenuation:** -23dB for load reflected harmonics
- ▶ **Galvanic Isolation:** NEC 250-5d, 0.001 pf
- ▶ **Surge Protection:** UL 1449 Rating 330v; ANSI/IEEE C62.41-Cat B3
- ▶ **Common Mode Noise Attenuation:** 140 dB
- ▶ **Transverse Mode Noise Attenuation:** 120 dB
- ▶ **Reliability:** 200,000 (MTBF)
- ▶ **Audible Noise:** 1 meter A scale, 45dB to 60dB
- ▶ **Efficiency:** Approx. 90% at full load
- ▶ **Operating Temperature:** -20°C to +40°C
- ▶ **Safety:** Underwriters Laboratories UL 1012 - UL 544 - CUL

# Characteristics

## Office Models (with receptacles)

Model Number	VA Rating	Watt Rating	Input Voltage	Output Voltage	Input Interface	Output Interface	Dimensions W x D x H (inches)	Weight (lbs)
T800R-00200	200	200	120	120	5-15P	2-5-20R	8.5 x 12.75 x 9.5	29
T800R-00250	250	250	120	120	5-15P	2-5-20R	8.5 x 12.75 x 9.5	29
T800R-00500	500	400	120	120	5-15P	4-5-20R	8.5 x 12.75 x 9.5	32
T800R-00700	700	500	120	120	5-15P	4-5-20R	8.5 x 12.75 x 9.5	35
T800R-00850	850	600	120	120	5-15P	4-5-20R	8.5 x 12.75 x 9.5	37
T800R-01000	1,000	700	120	120	5-15P	4-5-20R	8.5 x 12.75 x 17.5	46
T800R-01600	1,600	1,200	120	120	5-15P	4-5-20R	8.5 x 12.75 x 17.5	62
T800R-02100	2,100	1,500	120	120	5-20P	4-5-20R	8.5 x 12.75 x 17.5	65
T800R-02500	2,500	1,750	120	120	5-30P	4-5-20R	8.5 x 12.75 x 17.5	68
T800R-03500	3,500	2,450	120	120/240	5-50P	4-5-20R	8.5 x 12.75 x 17.5	72
T800R-03501	3,500	2,450	208/240	120/240	6-20P	4-5-20R	8.5 x 12.75 x 17.5	73
T800R-05000	5,000	3,500	208/240	120/240	HW	Custom	15 x 23.75 x 22.5	176
T800R-07500	7,500	5,250	208/240	120/240	HW	Custom	15 x 23.75 x 22.5	210
T800R-10000	10,000	7,000	208/240	120/240	HW	Custom	15 x 23.75 x 22.5	256
T800R-15000	15,000	10,500	208/240	120/240	HW	Custom	15 x 23.75 x 22.5	314

## Industrial Models (hardwired wall/panel mount)

T800P-00140	140	140	Range 1	120	HW	HW	8.5 x 10.50 x 8.0	29
T800P-00250	250	250	Range 1	Range 3	HW	HW	8.5 x 10.50 x 8.0	29
T800P-00500	500	500	Range 1	Range 3	HW	HW	9.0 x 14.00 x 10	52
T800P-00750	750	750	Range 1	Range 3	HW	HW	9.0 x 14.00 x 10	60
T800P-01000	1000	1000	Range 1	Range 3	HW	HW	9.0 x 14.00 x 10	82
T800P-01500	1500	1500	Range 1	Range 3	HW	HW	13.0 x 16.50 x 14.75	106
T800P-02000	2000	2000	Range 1	Range 3	HW	HW	13.0 x 16.50 x 14.75	125
T800P-03000	3000	3000	Range 1	Range 3	HW	HW	13.0 x 16.50 x 14.75	142
T800P-05000	5000	5000	Range 1	Range 3	HW	HW	27.0 x 22.50 x 28.50	437
T800P-08000	8000	8000	Range 2	Range 3	HW	HW	27.0 x 22.50 x 28.50	495
T800P-10000	10,000	10,000	Range 2	Range 3	HW	HW	27.0 x 22.50 x 28.50	537

## Industrial Models (hardwired floor mount)

T800F-05000	5000	5000	Range 1	Range 3	HW	HW	23.00 x 20 x 28.50	407
T800F-08000	8000	8000	Range 2	Range 3	HW	HW	23.00 x 20 x 28.50	465
T800F-10000	10,000	10,000	Range 2	Range 3	HW	HW	23.00 x 20 x 28.50	507
T800F-15000	15,000	15,000	Range 2	Range 3	HW	HW	35.00 x 25 x 39.50	830
T800F-20000	20,000	20,000	Range 2	Range 3	HW	HW	35.00 x 25 x 39.50	950
T800F-25000	25,000	25,000	Range 2	Range 3	HW	HW	35.00 x 25 x 39.50	1070

Range 1: 120/208/240/480

Range 2: 208/240/480

Range 3: 120/208/240

## Custom Output Receptacles - 5kVA to 15 kVA Office Models ONLY

NEMA Number	Hubbell Cross Ref.	Volts	Amps	Number of Recept.	Output Panels Used	NEMA Number	Hubbell Cross Ref.	Volts	Amps	Number of Recept.	Output Panels Used
5-15R-1	H5261	120	15	1	1	L5-15R-1	H4710	120	15	1	1
5-15R-2	H5262	120	15	2	1	L5-15R-2	H4700	120	15	2	1
5-20R-1	H5361	120	20	1	1	L5-20R-1	H2310	120	20	1	1
5-20R-2	H5362	120	20	2	1	L5-30R-1	H2610	120	30	1	1
5-30R-1	H9308	120	30	1	1.5	L6-15R-1	H4560	208/240	15	1	1
6-15R-1	H5661	208/240	15	1	1	L6-15R-2	H4550	208/240	15	2	1
6-15R-2	H5662	208/240	15	2	1	L6-20R-1	H2320	208/240	20	1	1
6-20R-1	H5461	208/240	20	1	1	L6-30R-1	H2620	208/240	30	1	1
6-20R-2	H5463	208/240	20	2	1	L14-20R-1	H2410	120/240	20	1	1
6-30R-1	H9330	208/240	30	1	1.5	L14-30R-1	H2710	120/240	30	1	1
6-50R-1	H9367	208/240	50	1	1.5						
14-20R-1	H8410	120/240	20	1	1						
14-30R-1	H9430	120/240	30	1	1.5						

### MGE UPS SYSTEMS

USA (headquarters)  
1660 Scenic Avenue  
Costa Mesa, CA 92626  
tel (800) 523-0142  
(714) 557-1636  
fax (714) 557-9788

CANADA  
#9, 2798 Thamesgate Dr.  
Mississauga, ON L4T 4E8  
tel (905) 672-0990  
(877) 672-0990  
fax (905) 672-7667

ARGENTINA  
Thames 91  
1609 San Isidro  
Prov de Buenos Aires  
tel (54) 11-4766-8777  
fax (54) 11-4766-6008

BRAZIL  
Avenida Guido  
Caloi 1985 (GALPAO 23)  
Guarapiranga  
Sao Paulo - SP CEP 05802  
tel (55) 11-5891-2274  
fax (55) 11-5890-3353

MEXICO  
Ave. Congreso de la  
Union  
#524 Colonia Santa Anita  
Mexico D.F. 08300  
tel 525 538 9687  
fax 525 530 7625

www.mgeups.com  
info@mgeups.com  
TPZ 800 100  
Effective: February 2002