

# TQ SERIES

**FAST DELIVERY**

## 100 KW TO 750 KW DC POWER SUPPLIES

### FEATURES

- 31 Models: 16 to 1000 Vdc, 100 to 7500 Adc
- 100 kW and 150 kW standardized models
- Up to 750 kW with 5 modules
- Series and parallel master/slave operation
- High dielectric withstand: 2500 Vac
- Digital control lines optically isolated
- Exclusive control loop diagnostics
- Power factor corrected for low AC input current

- OVP shutdown standard, SCR crowbar optional
- Automatic V/I crossover
- Digital meters standard
- Optional IEEE-488 programming
- Air exhaust in front of cabinet
- Enhanced transient response with electronic damping circuit

### MODELS AND RATINGS

MODEL	VOLTS Vdc	AMPS Adc	RIPPLE mVrms	POWER kW
TQ16-6000	0-16	0-6000	50	100
TQ20-5000	0-20	0-5000	45	
TQ32-3000	0-32	0-3000	30	
TQ40-2500	0-40	0-2500	35	
TQ50-2000	0-50	0-2000	40	
TQ80-1250	0-80	0-1250	50	
TQ100-1000	0-100	0-1000	55	
TQ125-800	0-125	0-800	60	
TQ160-620	0-160	0-620	70	
TQ200-500	0-200	0-500	80	
TQ250-400	0-250	0-400	90	
TQ375-270	0-375	0-270	100	
TQ500-200	0-500	0-200	130	
TQ625-160	0-625	0-160	150	
TQ800-120	0-800	0-120	175	
TQ1000-100	0-1000	0-100	225	
TQ20-7500	0-20	0-7500	45	150
TQ32-4500	0-32	0-4500	30	
TQ40-3750	0-40	0-3750	35	
TQ50-3000	0-50	0-3000	40	
TQ80-1850	0-80	0-1850	50	
TQ100-1500	0-100	0-1500	55	
TQ125-1200	0-125	0-1200	60	
TQ160-900	0-160	0-900	70	
TQ200-750	0-200	0-750	80	
TQ250-600	0-250	0-600	90	
TQ375-400	0-375	0-400	100	
TQ500-300	0-500	0-300	130	
TQ625-240	0-625	0-240	150	
TQ800-180	0-800	0-180	175	
TQ1000-150	0-1000	0-150	225	

### OPTIONS

SCR Crowbar  
Electronic Damping Circuit  
Custom output voltage

EMI Filter  
Custom input voltage  
IEEE-488 Interface



### SPECIFICATIONS:

**Input voltage:** 440/480 Vac, 50-60 Hz, 3-phase  
**Regulation line and load combined:** 0.10%  
**Stability:** 0.10% for 8 hours after 30 minute warm up  
**Transient response:** 75 ms to recover within 2% of regulated output with 50% to 100% or 100% to 50% load change; 75 ms to recover within 10% of regulated output with 0% to 50% or 50% to 0% load change with Electronic Damping Circuit  
**Ambient Temperature:** 0 to 50°C  
**Programming resistors:** 1K full scale for output voltage, output current, and over voltage shutdown  
**Temperature coefficient:** 0.04%/°C of maximum output current  
**Size:** 64¼" H x 47¼" W x 24¾" D  
**Weight:** 1600 lbs for 100 kW models and 2100 lbs for 150 kW models

### NOTES:

1. Specifications subject to change without notice.
2. Other options consult factory.



**MAGNA-POWER**  
ELECTRONICS, INC.

81 Fulton Street, Boonton, NJ 07005  
 (973) 263-0017 FAX: (973) 263-1928  
 E-mail: sales@magna-power.com  
 http://www.magna-power.com

# TQ SERIES

## HIGH POWER, DC POWER SUPPLIES

### WITH ADVANCED POWER PROCESSING CIRCUITRY

Magna-Power Electronics' **TQ SERIES** sets a new standard for high powered dc supplies. Based upon a medium frequency link (MFL), power is processed with extremely high utilization of power components. This advanced power condition process allows dramatic reduction in size, weight, and cost. **TQ SERIES** can be ganged to 750 kW and be made to operate with one set of simple controls.

**TQ SERIES** power supplies are fully programmable via resistance, voltage, current, or optional IEEE-488/RS232. While other supplies can remotely control only output voltage and current, **TQ SERIES** units also allow programming of over voltage and over current protection. Program lines are constantly monitored for range of operation. If a line should open or if a programmable input is set beyond that anticipated, the unit safely shuts down protecting the load.

Differential feedback amplifiers allow remote load sensing at any distance from the power supply. Additional differential amplifiers are provided for master slave series or parallel operation.

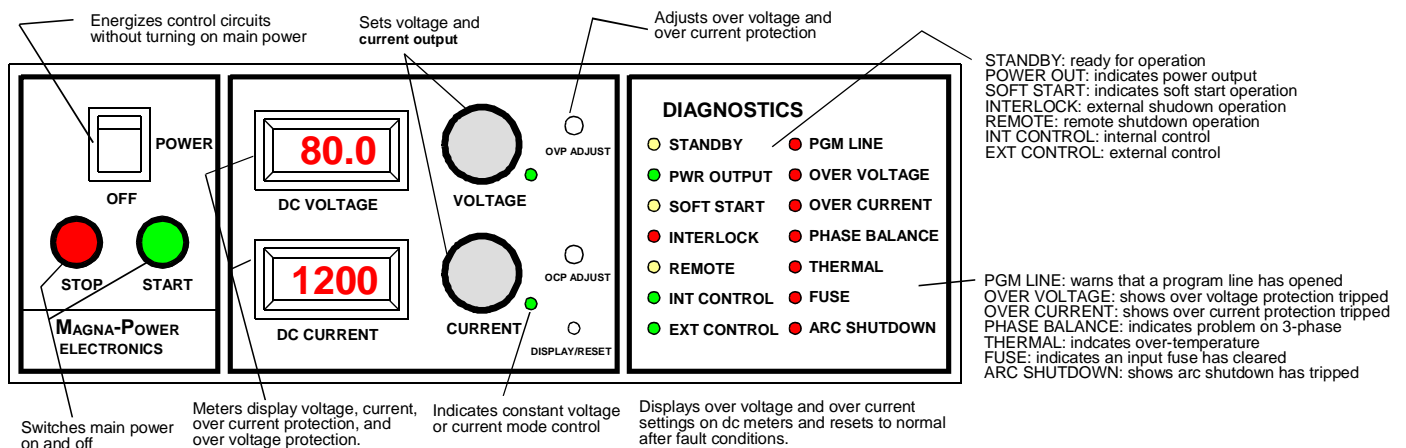
Diagnostic functions are contained directly within the supply's control loop. Exclusive circuitry eliminates guesswork about which function has control -- voltage, current, soft start, or a fault condition. If the fault condition requires user attention, main power is also disconnected. All diagnostic functions are monitored with optical isolators that can be paralleled for master/slave operation. In addition, control functions are also set through optical isolators to allow simultaneous control of one or more **TQ SERIES** units.

**TQ SERIES** supplies contain power factor correction capacitors for low input current demand — typically 20% to 30% less than competing models. Ganged higher power systems can be produced with low kVA phase-shifting transformers to produce very low levels of input harmonic currents. **TQ SERIES** supplies operate with efficiencies in the range of 82% to 88%.

**TQ SERIES** supplies have three levels of over voltage protection: shutdown of controlling thyristors, disconnect of main power, and optional SCR crowbar. After an over voltage condition, the supply must be reset forcing the user to observe the over voltage setting.

Unlike competing products, off means a mechanical break in the power circuit — not break in an electronic switch. Safety comes first at Magna-Power Electronics.

The transient response of **TQ SERIES** supplies is enhanced by feed forward compensation and optional electronic damping. Feed forward compensation detects line changes and offsets feedback signals before being corrected with slower, error amplifiers. Optional electronic damping maintains output rectifiers with continuous current regardless of load conditions. This prevents peak charging of output capacitors and minimizes drooping under transient loading. Transient response under light load conditions is an order of magnitude better than conventional SCR supplies!



**MAGNA-POWER**  
ELECTRONICS, INC.

81 Fulton Street, Boonton, NJ 07005  
 (973) 263-0017 FAX: (973) 263-1928  
 E-mail: sales@magna-power.com  
 http://www.magna-power.com