



# MPTS®

---

MAXIMUM POWER TRANSFER SOLUTION

AMICI ENTERPRISES, LLC  
FOR MORE INFORMATION GO TO | [WWW.AMICIENTERPRISE.COM](http://WWW.AMICIENTERPRISE.COM)

## How MPTS Works

by Alex Wenger

### COOL, CLEAN CONDITIONED POWER™

The Maximum Power Transfer Solutions (MPTS) are next generation power quality products that decrease the electrical demand, total electrical power generation (KVA), and carbon footprint, without replacing inefficient electrical and mechanical equipment in facility.

The MPTS is patented in the U.S. and 27 other countries and is a UL approved solution.

MPTS is unique and innovative. It is an industry changing technology. The MPTS precisely senses the supply input and demand output, matches the impedance parameters, adjust the resonance of the resulting network loop, synchronizes and optimizes the output. This occurs at very high speeds in the device eliminating nearly all the wasted electrical power in the system. This significantly reduces total electrical consumption and enhances the electrical efficiency of the network to near unity (1).

Maximum Power Transfer Theorem (Jacobi's Law - 1840) focuses on increasing total electrical efficiency by decreasing losses using impedance matching.

When losses decrease, the phase angle is zero (0) and the Power Factor approaches unity (1).

When phase angle is zero (0) as a result of Impedance matching

$KVA = KW$  and  $KVAH = KWH$

When current decreases, power consumption will decrease

MPTS dynamically matches, optimizes and reduces the KVA requirements of connected loads which also decreases losses in an electrical network.

MPTS compliments and/or replaces capacitors, automatic Power Factor correction systems (APFCs), harmonics filters, power conditioners, voltage stabilizers and surge protectors providing the next generation in power quality.

## MPTS Features and Benefits

- 1) **COMPETITION:** There are no products that directly compete with MPTS. Some power solution providers offer some MPTS features but none have a fully integrated system equivalent to MPTS. No one competes for price either.
- 2) **CUSTOMER REFERENCES:** Several MPTS customers are reference customers.
- 3) **INSTALLATION HISTORY:** The first MPTS systems were installed in 2010. Most installations have been made during the last 3 years.
- 4) **LEAD TIME:** Standard MPTS units are usually delivered from inventory. Increased demand may create a 12 to 16 week lead time, especially for custom orders.
- 5) **LEASE FINANCING:** Lease financing is available to qualified customers.
- 6) **MPTS BENEFITS:**
  - a) Avoids Overload conditions and hot spots in panels and equipment.
  - b) Annual Return: For every \$200,000 investment the annual return is \$100K to \$150K.
  - c) Decreases Current and Electrical Demand (20 to 40%) of inductive loads
  - d) Decreases I<sup>2</sup>R losses, KVAR and Harmonics
  - e) Decreases total current requirements for the facility
  - f) Delays replacement of mechanical equipment
  - g) Typically extends useful life of connected inductive equipment by 20%
  - h) Minimizes and solves several electrical power issues in the electrical networks
  - i) Typically reduces service, repair, and maintenance costs by 25%.
- 7) **LOW MAINTENANCE COSTS:** Routine annual inspections should be conducted. The only moving parts are small inexpensive fans that cost less than \$100 to replace.
- 8) **NO INTERRUPTION:** MPTS is "Fail Safe" - no interruption to the connected load whether the MPTS is ON, OFF or down for maintenance
- 9) **PATENTED:** MPTS is patented in 28 countries. First Patent issued 12/2012.
- 10) **SCALEABLE:** MPTS technology scales up and down and operates at the same efficiency from 20 % to 100 % of rated capacity.
- 11) **STANDARD MPTS SIZES:**
  - a) 100 Amp/480/3 phase,
  - b) 225 Amp/480/3 phase and
  - c) 450 Amp/480/3 phase.
  - d) 600 Amp/480/3 phase

The 225 Amp and 450 Amp models comprise about 80 % of sales. Custom orders are available for other size/capacity requirements.