



High Voltage
Power Supplies
product
summary

TMD

...the power in microwaves!

Power Supplies

For Radar, EW & Communications Applications

“At the heart of things”

In the late 1980s TMD, then a microwave tube company, took a very important decision which proved key to our subsequent growth.

We began building a new team of skilled power supply engineers and, in 1989, launched the first in a range of ruggedised military power supplies, which could be configured to drive virtually any manufacturer's TWT. This design was based on innovative switched mode technology, and is at the heart of all TMD's amplifier and transmitter products. It offers many features desirable for modern radar and EW applications; high efficiency, ultra low voltage ripple (low noise), high inverter frequencies, ultra low pulse to pulse jitter, low throughput delay and high power density. The units are lightweight and compact with excellent thermal management and the high voltage sections are encapsulated with an oil free, silicone based compound. This provides excellent protection in harsh environments but also enables easy maintenance.

Power supply development continued steadily throughout the next few decades resulting in a Queen's Award for Innovation in 2005. The subject of this award was a radar power supply with a noise figure of better than -140 dBc/Hz CW equivalent single sideband random noise and better than -80 dBc spurious noise; improvement over the previous state of the art by a factor of 100 times!

This low noise achievement made possible dramatic improvement to radar performance and resulted in many important contracts for TMD.

Power supply development continues at TMD, most recently in the area of modular high voltage, high power capacitor charging power supplies.

The following table shows a selection of generic products in this range – but don't worry if you can't see exactly what you are looking for – bespoke solutions are available, although the impossible may take a little longer! Our Business Development Team is always eager to discuss the ways in which TMD can contribute to new technology areas.

For more details of TMD's products and capabilities, please go to www.tmd.co.uk, or request a copy of our capability brochure.

We also offer a comprehensive repairs service for our microwave products; contact us at wecare@tmd.co.uk for an evaluation.

We provide after sales support wherever you are in the world.

TMD is approved to the rigorous Quality Standard BS EN ISO9001:2008 – quality is at the heart of everything we do.



High Voltage Power Supplies

Please note - these are generic types only – many other variants are available to order

Type Number	Max Voltage V	PSU Power Capability W	Pulse or CW	Pulse Length us	Prime Power	Tube/Gun Type	Cooling	Size Lxwxh mm	Weight kg	Application & Other Notes
PTM8103	5000	500	PULSE/CW		270 VDC	Focus Electrode Mini TWT (Single or Dual)	Conduction	160x250x32	2	EW, Comms, Radar
PTM6594	6000	1600	CW	-	280 VDC	Diode TWT	Conduction	230x160x135	5	EW
PTM6611	9000	1000	CW	-	100 VDC	Diode TWT	Conduction	330x178x103	7	Comms
PTM6593	10000	1000	CW	-	115 VAC, 3-Ph 400 Hz	Focus Electrode TWT	Conduction	340x120x56	4	EW
PTM6259	11000	1500	CW	-	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9.5	EW
PTM6263	15000	1000	PULSE	40	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	10	Radar Single collector
PTM6288	15000	1500	PULSE	50	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9	Radar Dual collector
PTM6688	15000	1500	PULSE	50	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	360x194x103	9	Radar Triple collector
PTM6395	15000	1000	PULSE	25	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	345x120x56	4	Radar
PTM6597	15000	1000	PULSE	10	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	308x152x95	7	EW
PTM7721	15000	1500	PULSE	150	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	440x187x120	13	Ultra low noise Radar
PTM7599	15000	1500	PULSE	100	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	440x187x120	13	Ultra low noise Radar
PTM6363	35000	6000	PULSE	120	115 VAC, 3-Ph 400 Hz	Grid TWT	Conduction	500x300x300	20	Radar

Capacitor Chargers

TMD can provide customised capacitor charger power supplies to special order. From 20-100 kW (average) 6-65 kV

TMD is also able to provide control boxes and filters according to customers' requirements.

Control Boxes and Filters

Control Boxes

Custom control boxes can be provided for many of TMD PTX MPMs and rugged amplifiers (Datasheet EVD6106 describes the range)

EMI Filters

PTF6483	Designed to operate with PTM6482 power supply, meeting the emissions requirements of MIL-STD-461E
PTF6959	Designed to supplement the input filter already fitted within the PTM6688 and PTM6559 series high voltage power supplies meeting the emissions requirements of MIL-STD-461E

EVD6056 Issue 6



© TMD Technologies Ltd
Swallowfield Way Hayes Middx UB3 1DQ
Telephone +44 (0)20 8573 5555
Fax +44 (0)20 8569 1839
www.tmd.co.uk

This document gives only a general description of the products and/or services and is liable to update or improvement without notice. TMD Technologies accepts no responsibility for any interpretation of or reliance placed in this document.