

Specialist Test & Instrumentation

PPM Test has been manufacturing test and measurement equipment since 1995 to support testing in:

- EMC Aircraft, including certifications
- EMP & NEMP
- HV & Utilities
- Harsh Environment.

A wide range of industries use PPM Test products, including:

- Internationally recognised UK aircraft testing organisations, such as QinetiQ and BAE Systems
- Military/Defence and Government
- National EMP test laboratories, such as RINA Consulting Defence Ltd
- The UK's Science and Technology Facilities Council.

QINETIQ

BAE SYSTEMS

RINA

Pulse Power & Measurement Ltd is accredited to the latest ISO Standard:
ISO 9001:2015.

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EMC Test and Measurement

- Fibre optic links
- Electric field sensors
- Magnetic field sensors
- Wideband RF Baluns
- Current probes

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PPM Test - fully shielded fibre optic links

Sentinel 3 and **point2point** high performance transmission systems for test and measurement.



PPM Test offers two fibre optic systems for applications such as EMC testing and monitoring in hazardous environments. Sentinel 3 is an intelligent RF over fibre system which allows for multiple-inputs and variable gain. **point2point** RF over fibre links are simple, single-input, fixed (calibrated) gain links.

The Sentinel 3 fibre optic system allows multipoint links with added functionality such as remote adjustable gain and self-calibration. The system allows detection and measurement of small disturbances - even over distance. Sentinel 3 transmitters have been designed to support easier installation in tight spaces and the units are double-screened to maximise shielding effectiveness.

PPM Test products support standards testing for EMC, EMP, HIRF, NEMP etc., including key standards such as:

- MIL-STD-188-125
- MIL-STD-461G
- DEF STAN 59-188
- DEF STAN 59-411.

How it works

Each link uses intensity modulation to convert between the electrical and optical domains and can therefore convey data of almost any format. An RF signal applied to the input of the optical transmitter is amplified, conditioned and converted into an optical signal for transmission over optical fibre.

In the DC links, the input signal is converted into a 14 bit optical digital signal before transmission. At the receiver side, the signal is then converted back into an electrical signal, meaning the link is transparent in any system.

All modules are available with either single or multi-mode fibre interfaces.



Types of fibre optic link

- **point2point** AC fibre optic links
- **point2point** DC fibre optic links
- Sentinel 3 fibre optic system (multi-point configuration with system controller)

Electric field (D-DOT) sensors

PRODYN electric field sensors are small to medium sized high frequency sensors that measure the rate of change over time in electric displacement.

Sensors are available in two types:

- Free-field
- Ground plane.

Probes with sensitive areas of up to 1 m² or upper 3 dB points of 28 GHz are available. The voltage output from the probe is proportional to the rate of change of the incident electric field.



PRODYN's precision high frequency ground plane electric field (D-DOT) sensors are designed to measure the rate of change over time in electric displacement over a wide frequency spectrum. They can also be used to measure the rate of change over time in surface current density.

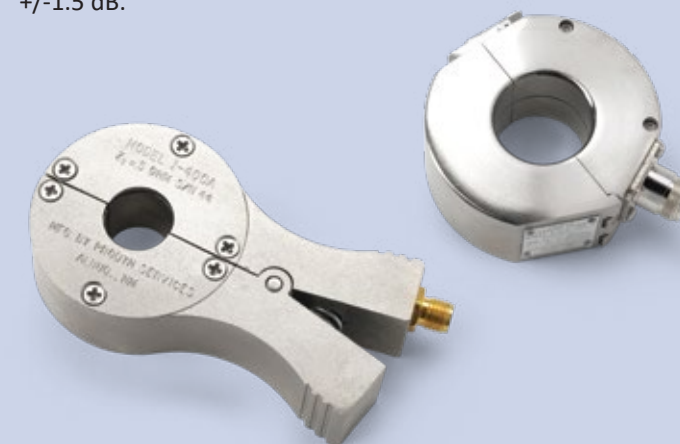
Surface or through-the-ground plane output configurations are available.

Current probes

PPM Test offers a wide portfolio of RF current monitoring probes, also known as current clamps or current transducers.

These range from the tiny, high frequency IP series to specialised I-DOT sensors for pulsed or high power measurements. The Prodyn I-125 and I-262 series offer a good core capability for EMC measurements, including various MIL-STD, DEF STAN and US Department of Energy (DOE tests).

The probes have a split core for easy installation onto cable bundles and typically exhibit a frequency response within +/-1.5 dB.



Wideband RF baluns

High frequency baluns are designed to convert the differential outputs from free-field sensors to a single ended 50 Ω output for capture on a recording or measuring device.

Features include:

- Bilateral balanced to unbalanced passive converters
- All three ports offer an excellent TDR (low VSWR)
- The two differential ports are well isolated from each other.

These features make them particularly well suited for use with unmatched sources, such as a D-DOT (open circuit) or B-DOT (short circuit) where maximum clear-time is required. They are also available in radiation-hardened versions.



Magnetic (B-DOT) sensors

PRODYN's magnetic field B-Dot sensors are small to medium sized high frequency sensors that measure the rate of change over time in magnetic fields.

Probes are available in the following formats with sensitive areas of up to 0.1 m² or upper 3 dB points of 11 GHz:

- Free-field
- Surface type
- Radiation hardened.

The voltage output from the probe is proportional to the rate of change of the incident magnetic field.

