

RF Voltage-Current Probe for Plasma Processing Applications

VIGILANT™
SENSOR

- Displays RF Voltage & Current waveforms
on your Oscilloscope

TO OSCILLOSCOPE

Customized to your application
High sensitivity
High Power rating

GENERATOR



RF POWER

LOAD

USERS

- RESEARCHERS
- R&D ENGINEERS
- EQUIPMENT MAINTENANCE ENGINEERS

APPLICATIONS

- STUDY OF RF DISCHARGES
- DEVELOPMENT OF PROCESSING TOOLS
- TROUBLESHOOTING OF RF SYSTEMS



SOLAYL
RF MEASUREMENT & CONTROL

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The Vigilant™ Sensor uses two innovative sensors to achieve accurate simultaneous measurement of both the voltage and current waveforms with a minimal perturbation. It provides two analog signals optimized for analysis by your test instrument (oscilloscope, spectrum analyzer). The probe can be inserted before or after the matching unit of your plasma system.

The electrical connectors and the length of the signal cable are customized to your needs.

We combine many proprietary innovations to offer the most advanced analog RF voltage-current probe commercially available today:

- Customizable high performance electrical sensors: wideband, robust, low-perturbation and compact voltage and current sensors developed through extensive experimental work and electromagnetic modeling. The characteristics of these sensors are customized during calibration to maximize performance for your application (maximized sensitivity and power rating while minimizing the perturbation).
- Automated highly accurate calibration process to ensure the best measurement accuracy and probe-to-probe repeatability. Our calibration process is NIST-traceable and uses the best available electronic test instruments in a temperature and EMI controlled environment.



Each probe is provided with its own certificate of calibration. The calibration is performed with the non-detachable signal cable.

Specifications

Frequency band	1-500MHz (max) *
RF excitation mode	Single frequency (CW, pulsed, frequency agile)
Max power	10kW **
Calibration factors accuracy	+/- 2% (typical)
Insertion Loss	<0.5% at the excitation frequency
Connections	50Ω coaxial line with customized input & output connectors
Signal cable	Pair of shielded 50Ω coaxial cables terminated with BNC connectors
Size	90mm x 90mm x 45mm (without the signal cable and connectors)

(*) The frequency band depends on the RF excitation frequency.

(**) The ratings depend on the RF excitation frequency and the type of connector installed.

Ordering information

In order to provide you with the best suitable probe for your application, please use the following model numbering: **VSN-FREQ-POWER-IN-OUT-LEN** (Example: VSN-13.56-1000-1F-1M-100)

Code	Details	Values
FREQUENCY	Excitation frequency in MHz	2, 3.39, 4, 6.78, 13.56, 27.12, 40.68, 60, 81.36
POWER	Max generator power in Watt	30, 60, 100, 300, 600, 1000, 3000, 6000, 10000
IN	Input connector and gender	0: No connector (M5 threaded hole) C: Custom 1F: N Female 1M: N Male 2F: HN Female 2M: HN Male 3F: 7/16 Female 3M: 7/16 Male 4F: LC Female 4M: LC Male
OUT	Ouput connector and gender	
LEN	Length of the signal cable in cm	Between 30 and 300 (100 by default)

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