

OCTIV | SUITE

VI Probe



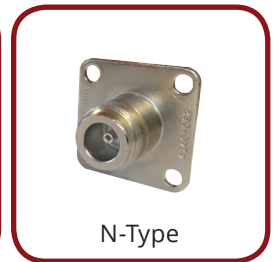
Multi-Frequency RF System with Plasma Diagnostics and Complex Waveform Analysis



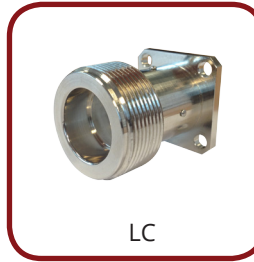
Interchangeable Connectors



7/16's



N-Type



LC



HN

Custom on Request

Measures

- Voltage
- Current
- Phase
- Harmonics
- Impedance
- Ion Flux
- Waveform Reconstruction

Functionality

- Time averaged
- Pulse profile
- Pulse trend
- Smith chart

Features

- Interchangeable connectors
- Compact probe design
- Frequency agile software
- API for extending software
- USB 2.0, serial and ethernet connectivity available

The Octiv Suite RF diagnostic is an in-line RF voltage, current, phase, harmonics and plasma diagnostic system. It can measure all the parameters of RF power, break them down to their individual components and reconstruct the waveforms of multiple fundamental frequencies simultaneously.

This cutting edge system can also measure plasma parameters such as ion flux by using the RF electrode as a sensor. The Octiv Suite is truly in a class of its own when it comes to analysing power delivery into a plasma reactor. The Octiv Suite measures voltage, current, phase, impedance and harmonics and the measurements can be viewed from a PC or direct on the optional meter unit.

Measuring Parameters (Range)

Voltage Range	Voltage 20 – 3000 Vrms
Current Range	0.1 – 20 Arms
Phase Range	± 180°
Harmonic (Voltage, Current and Phase)	Up to 15 harmonics
Frequency Range	350 kHz - 300 MHz
Fundamental Frequencies	5 simultaneous
Impedance	1 to 500 Ω
Power Real, Forward and Reflected (Watt)	200 mW to 12 kW
Power Real, Forward and Reflected (dBm)	23 dBm to 70.8 dBm

Measuring Plasma Parameters

Ion Flux (based on 300 mm electrode)	1 A/m ² to 100 A/m ²
Plasma Resistance	1 to 500 Ω
Non Linear Sheath Impedance	0.1 to 500 Ω

Pulsed Parameters (Time)

Voltage Time	1 μs
Current Time	1 μs
Phase Time	1 μs
Harmonic (Voltage, Current and Phase) Time	1 μs
Frequency Time	1 μs
Impedance Time	1 μs
Power Real, Forward and Reflected Time	1 μs

Measuring Parameters (Accuracy)

Voltage Accuracy	± 1%
Current Accuracy	± 1%
Phase Accuracy	± 1°
Harmonic (Voltage, Current and Phase) Accuracy	± 5%
Frequency Accuracy	± 10 kHz
Impedance	± 1%
Power Real, Forward and Reflected (Watt)	± 1%
Power Real, Forward and Reflected (dBm)	± 1%

Measuring Parameters (Resolution)

Voltage Resolution	0.25 V
Current Resolution	10 mA
Phase Resolution	0.01°
Harmonic Voltage Resolution	0.25 V
Harmonic Current Resolution	10 mA
Harmonic Phase Resolution	0.01°
Frequency Resolution	1 kHz
Impedance Resolution	± 1%
Power Real, Forward and Reflected (Watt) Resolution	± 1%
Power Real, Forward and Reflected (dBm) Resolution	± 1%

Sensor Specifications

Number of fundamentals	(F0) Maximum of 5 simultaneously
RF Power	Max 12.5 kW (limited by connector)
Operating Temperature	0 to +40° C (32 to 104° F)
Storage Temperature	-20 to +80° C (-4 to +176° F)
Uniformity	2% Maximum
Harmonic Content	Measured (No Limit within Range)
Connectors	All Standard Connectors Available
Sensor Impedance	50 Ω
Certification	CE mark
Calibration Cycle	12 Months
Dimensions	107mm x 70mm x 55mm

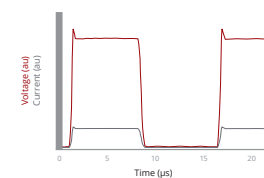
Operating Parameters

Impedance	0 Ω to 5,000 Ω
Pulsed Repetition Frequency	10 Hz to 100 KHz
Voltage	20 V to 3,000 V
Current	0.1 A to 100 A
Phase	± 90°, ± 180°
Power Frequency	MF (350 kHz to 1 MHz) • RF (1 MHz to 100 MHz)

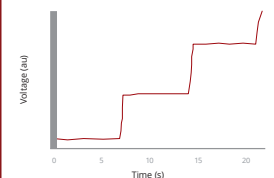
Application Software

Operating System	Windows 2000 / XP / Vista / Windows 7 / Windows 8 / Windows 10
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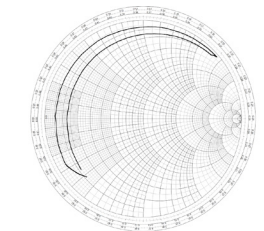
Pulse Profile



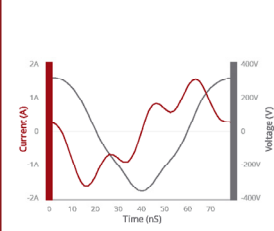
Voltage Step



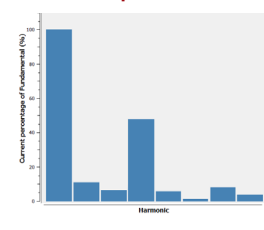
Smith Chart



Waveform Reconstruction



Harmonic Spectrum



Ion Flux Time Trend

