INDUSTRIAL | OCTIV

VI Probe Technology

Monitor RF Process Health | Prevent Product Scrap | Improve Process Yield

Interchangeable Connectors

Custom on Request

Measures

- Voltage
- Current
- Phase
- Harmonics
- Impedance

Functionality

- Time averaged
- Pulse profile
- Pulse trend

Features

- 1 x USB, 1 x serial & 2 x RJ45 Ethernet ports
- Can communicate through any TCP/IP network
- API enables communication with device using LabVIEW, C/C++, Visual Basic (VB_ and C # through .NET framework

The Octiv VI probe is an advanced and versatile radio-frequency (RF) voltage and current sensor. It can be used in a variety of installation environments and has a wide range of applications. It sees widespread deployment on RF processing equipment used in the semiconductor (and related industries) and in the medical device market.

The industrial Octiv is the first device of its type to address the needs of the industrial customer, in terms of communication standards.

The Octiv is a fully enabled internet network node that paves the way for monitoring and control of automated industrial plasma and/or RF processes in real-time to increase efficiency in ways impossible until now.

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Measuring Parameters (Range)

Voltage Range	Voltage 20 – 3000 Vrms
Current Range	0.1 – 100 Arms
Phase Range	± 180°
Harmonic (Voltage, Current and Phase)	Up to 15 harmonics per frequency
Frequency Range	350 kHz - 100 MHz
Fundamental Frequencies	5 simultaneous
Power Real, Forward and Reflected	200 mW to 12 kW (23 dBm to 70.8 dBm)*
Impedance	N/A

*Connector dependent

Pulse Parameters (Time)

Pulse Repetition Frequency (SYNC)	10 Hz to 100 kHz
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%

*depending on V,I Ø

Measuring Parameters (Resolution)

Voltage Resolution	0.25 V
Current Resolution	10 mA
Phase Resolution	0.01°
Harmonic (Voltage, Current and Phase) Resolution	As above
Frequency Resolution	1 kHz

Sensor Specifications

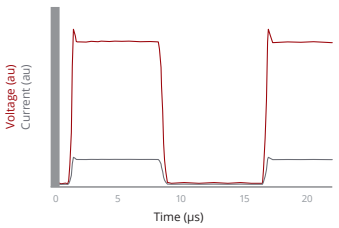
Connectors	N, HN. 7/16's, LC (custom available on request)
Number of Fundamentals	(F0) Maximum of 5 simultaneously
RF Power	Max 12 kW (limited by connector)
Power Requirements	USB
Dimensions	107 mm x 70 mm x 55 mm
Operating Temperature	0 to +55° C
Storage Temperature	-20 to +80° C (-4 to +176° F)
Humidity	95% Max (non-condensing)
Uniformity	2% Maximum
Sensor Impedance	50 Ω
Certification	CE mark
Calibration Cycle	12 Months

Application Software

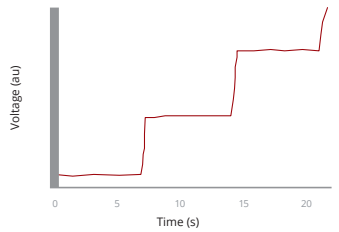
Operating System	Windows 2000 / XP / Vista / Windows 7 / Windows 8 / Windows 10
Connectivity	Ethernet Web Service Protocol*

*EtherNet/IP and EtherCAT available on request

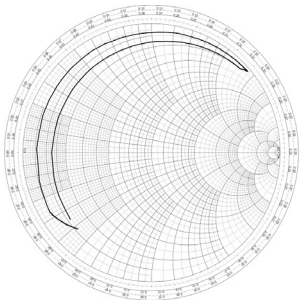
Pulse Profile



Voltage Step



Smith Chart



Harmonic Spectrum