Impedans
PLASMA MEASUREMENT

Octiv™ Mono 2.0

The world's most accurate RF Power meter

For accurate in-line RF Power and Impedance measurement

CW and advanced pulsed RF applications

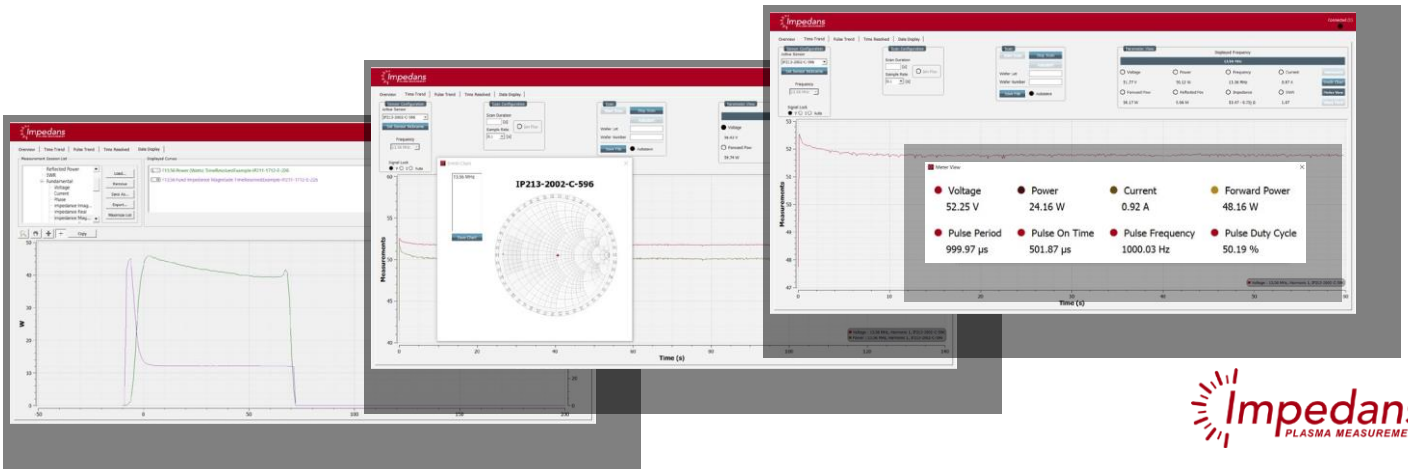
The Impedans Octiv Mono 2.0 is the most advanced sensor on the market for in-line power and impedance measurement, with unrivalled accuracy and functionality. It has 1% power measurement accuracy for VSWR beyond 6.0:1 and has exceptional impedance measurement accuracy, verified over a wide range of impedances. Our calibration standards are NIST traceable through our advanced calibration laboratory (Lab RFx) to guarantee unit-to-unit repeatability.

Key Features

- Auto-switching between CW and Pulsed RF monitoring in time average mode (TAM).
- Reports pulse frequency and duty cycle with sub-microsecond precision in TAM.
- Integrates over pulse profile for accurate average power and impedance measurement.
- Time-resolved mode with 1 microsecond resolution for detailed pulse waveform analysis.
- Pulse-trend mode to monitor a number of points within the pulse profile, with 1 microsecond gate times.
- RF Frequency tracking band of +/-10% around the fundamental frequency.
- Ethernet, EtherCAT, RS232 and USB APIs available; external sync input and software trigger available.

Key Benefits & Applications

- Five fundamental frequencies on a single sensor, saving cost.
- Thin profile model (24 mm) available for match unit integration.
- Achieve in-line accuracy specifications comparable to expensive offline vector network analysers for precise match unit or plasma chamber characterisation.
- Data report rates of up to 500 Samples/second as standard, up to 30k Samples/second on request.
- With the advanced pulse features, real-time in-pulse matching is now achievable.
- Advanced harmonic rejection ensures accurate power measurement at the selected frequency only.
- Calibrated up to 80° C to compensate for temperature variation.



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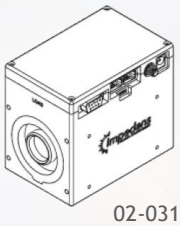
Model Specifications

Model #	Fwd Power Range*	Frequency Range*	Connector Interface
02-0231-01	1.5 W - 12 kW	350 kHz - 240 MHz	QC Type
02-0323-01	0.5 W - 5 kW	40 kHz - 4 MHz	QC Type
02-0311-01	1.5 W - 12 kW	350 kHz - 240 MHz	B6N Multicontact Socket
02-0313-01	1.5 W - 12 kW	350 kHz - 240 MHz	B20N Multicontact Socket
02-0318-01	3 W -30 kW	350 kHz - 240 MHz	EIA 1-5/8”
02-0320-01	9 W - 90 kW	350 kHz - 240 MHz	EIA 3-1/8”

02-0231-01

02-0311-01



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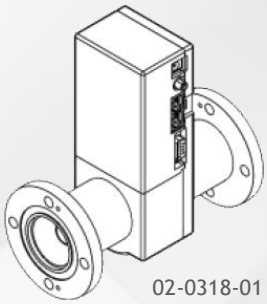
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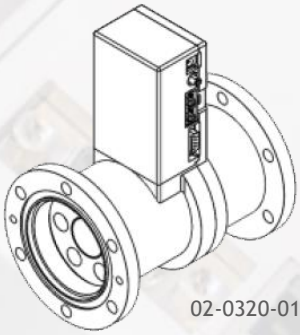
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General Specifications

Calibration Standard	NIST traceable [Power, Impedance]
Calibration Cycle	1 year to maintain quoted accuracy
Sensor Characteristic Impedance	50 Ohms as standard
RF Connectors	QC, EIA and custom options
RF Power Range @ 50 Ohms impedance	Standard: 12 kW typical (connector dependent) High Power: 30 kW & 90 kW
Operating Temperature Range	10° C - 80° C, calibrated versus temperature
Sensor Power Requirements	15-24 V DC, 0.5 A
Communication Interfaces	Micro USB, RJ45x2
Connectivity (Impedans Software)	USB 2.0, Ethernet
Communication Protocols (Standard)	USB 2.0, HTTP Web Service, Serial, RS232
Communication Protocols (OEM Options)	EtherCAT, EtherNet/IP
Parameter Report Rate (Standard)	USB: 500 S/s, Ethernet: 10 S/s, Serial: 10 S/s
Parameter Report Rate (Upgrade Options)	USB: 30 kS/s or EtherCAT: 50 S/s
Sensor Pulse Synchronisation	External sync: TTL input Internal sync: Software level trigger

Base Model Power, Voltage & Current Specifications

Power Dynamic Range	> 40 dB
Power Range	See model specifications
Power Resolution	0.25 W
Power Uncertainty (95% confidence)	±1%
Voltage Dynamic Range	80 dB
Voltage Range (Typical)	0.3 V to 1850 V_{pk}, custom available
Voltage Resolution	0.1 V_{RMS}
Voltage Uncertainty (95% confidence)	±1%
Current Dynamic Range	80 dB
Current Range	2.5 mA_{RMS} to 9 A_{RMS}, custom available
Current Resolution	2.5 mA_{RMS}
Current Uncertainty (95% confidence)	±1%

*Custom options available
Publication list available at: impedans.com/octiv-publications


N Type | N Type (F) | HN (M) | HN (F) | C Type | 7/16 (F) | 7/16 (M) | LC (F) | LC (M) | EIA (M) | EIA (F)