

Power Sensor/Meter with USB Interface – Connect Directly to a PC

ST series power sensors are complete miniature power meters. The sensors contain a CPU that controls the sensor, processes the measurement results and operates the interface. All measurement data and settings can be transmitted via a USB interface to and from a PC. This gives the concept of using a PC as the user interface in classic microwave power measurement.

Connecting a sensor directly to a PC is the most cost-effective method for high-precision power measurements, especially if a PC is used already for data acquisition and evaluation. This is commonly the case in production environments that include a process controller. Omitting the display unit saves space in the rack and reduces costs.

The ST Series has the ability have multiple sensor heads connected to the PC and operated simultaneously. An added advantage to the production user Service technicians too will also appreciate this product since the power sensor is only 1.9 x 1.2 x 6.7 inches 34x 43 x 125mm and can easily be operated from a laptop. Satori currently plan to use the ST Series with a PDA as a controller to improve usability for the I&M Market.

The Power Meter is controlled using the Satori software loaded on a PC. It can be used with windows XP operating system. This Software is powerful and flexible but easy to use. This is a virtual power meter with basic measurement functions for the PC workstation.

A software toolkit is supplied to control the power sensors via the PC. This toolkit is supplied as standard with every ST sensor. It includes a DLL (dynamic link library) for individualized use of the entire sensor functionality with Windows and the user Interface.

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Revision: Jan 2008

ST Series Current Options and Ordering Information

ST124SMA: 10MHz to 12.4GHz

(Includes 6’ USB sensor cable)

Opt 001: removes sensor cable

ST185SMA: 10MHz to 18.5GHz

(Includes 6’ USB sensor cable)

Opt 001: removes sensor cable

ST265: 10MHz to 26.5GHz

(Includes 6’ USB sensor cable)

Opt 001: removes sensor cable

Accessories Provided

ST 101 Getting Started Guide with Operating Manual

ST 103 User Software on CD and Programming Manual

Accessories Available

ST 301 Type N (m) to sma (f)

ST 302 Type N (m) to sma (m)

ST 303 Type K(m) to sma(f)

ST 304 Type N(m) to K(f)

ST 305 Type N(m) to 2.4(f)

ST 306 3dB attenuator sma(m) to sma(f)

ST 307 6dB attenuator sma(m) to sma(f)

ST 308 10dB attenuator sma(m) to sma(f)

ST 309 6’ USB Sensor cable

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ST Series Schottky Diode CW USB Power Sensor ST124SMA

Frequency	10MHz to 12.4GHz
Measurement range	-50 to +20dBm CW
Operating Temperature	0 to 50 deg C
Shock	25G, 11 ms
Vibration	15G, 100 to 2000Hz
Linearity error 25 +/- 5 deg C	+/-0.26 dB; -40dBm to +10dBm; 50MHz ≤ f ≤ 12.4GHz +/-0.46 dB; +10dBm to +20dBm; 50MHz ≤ f ≤ 12.4GHz +/-0.43 dB; -40dBm to +10dBm; f < 50 MHz +/-1.46 dB; +10dBm to +20dBm; f < 50 MHz
Linearity variation 25 +/- 25 deg C	+/-0.5 dB; 50MHz ≤ f ≤ 12.4GHz +/-0.7 dB; 10 MHz ≤ f < 50MHz
Cal factor error 25 +/- 5 deg C	+/-0.17 dB; 10 MHz < f < 12.4 GHz
Cal factor variation 25 +/- 5 deg C	±0.45 dB; f ≥ 50MHz ±0.67dB; f < 50MHz
Zero set	+/-1.8 nW
Noise	0.15 nW RMS
Input SWR - max	1.2:1
Measurement Speed -50 to -35 dBm -35 to -20 dBm -20 to +20 dBm	 8 measurements per sec 33 measurements per sec. 50 measurements per sec.
Max input power (damage level)	200mW CW (+23dBm)
Connector type	SMA (m)
Connectivity	USB 2.0 (cable length up to 5m)
USB power supply current	Approx. 50mA
Sensor Cable Length (std)	193cm
Dimensions (max)	34H x 43W x 125L (mm)
Weight	83 grams

Specifications include expanded uncertainty of measurement stated as the standard uncertainty of measurement multiplied by the coverage factor k=2 which corresponds to a coverage probability of approximately 95% for a normal distribution.

Specifications subject to change – contact Satori Technology for latest information.

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ST Series Schottky Diode CW USB Power Sensor ST185SMA

Frequency	10MHz to 18.5GHz
Measurement range	-50 to +20dBm CW
Operating Temperature	0 to 50 deg C
Shock	25G, 11 ms
Vibration	15G, 100 to 2000Hz
Linearity error 25 +/- 5 deg C	+/-0.26 dB; -40dBm to +10dBm; 50MHz ≤ f ≤ 12.4GHz +/-0.46 dB; +10dBm to +20dBm; 50MHz ≤ f ≤ 12.4GHz +/-0.57 dB; -40dBm to +10dBm; 12.4 GHz < f ≤ 15 GHz +/-0.44 dB; +10dBm to +20dBm; 12.4 GHz < f ≤ 15 GHz +/-0.87 dB; -40dBm to +10dBm; 15 GHz < f ≤ 18.5GHz +/-0.66 dB; +10dBm to +20dBm; 15 GHz < f ≤ 18.5GHz +/-0.43 dB; -40dBm to +10dBm; f < 50 MHz +/-1.46 dB; +10dBm to +20dBm; f < 50 MHz
Linearity variation 25 +/- 25 deg C	+/-0.5 dB; 50MHz ≤ f ≤ 18.5GHz +/-0.7 dB; 10 MHz ≤ f < 50MHz
Cal factor error 25 +/- 5 deg C	+/-0.17 dB; 10 MHz < f < 18.5 GHz
Cal factor variation 25 +/- 5 deg C	±0.45 dB; f ≥ 50MHz ±0.67dB; f < 50MHz
Zero set	+/-1.8 nW
Noise	0.15 nW RMS
Input SWR - max	1.2:1
Measurement Speed -50 to -35 dBm -35 to -20 dBm -20 to +20 dBm	 8 measurements per sec 33 measurements per sec. 50 measurements per sec.
Max input power (damage level)	200mW CW (+23dBm)
Connector type	SMA (m)
Connectivity	USB 2.0 (cable length up to 5m)
USB power supply current	Approx. 50mA
Sensor Cable Length (std)	193cm
Dimensions (max)	34H x 43W x 125L (mm)
Weight	83 grams

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ST Series Schottky Diode CW USB Power Sensor ST265

Frequency	10 MHz to 26.5 GHz
Measurement range	-50 to +20dBm CW
Operating Temperature	0 to 50 deg C
Shock	25G, 11 ms
Vibration	15G, 100 to 2000Hz
Linearity error /- 525 + deg C	±0.27 dB; -35dBm to +20dBm; 10 MHz to 26.5 GHz
Linearity variation 25 +/- 25 deg C	±0.2 dB; 10 MHz to 6 GHz; -35dBm to +20dBm ±0.25 dB; 6 GHz to 18.5 GHz; -35dBm to +20 dBm ±0.46 dB; 18.5 GHz to 26.5 GHz; -35 dBm to +20 dBm
Cal factor error 25 +/- 5 deg C	±0.16 dB; 10 MHz to 6 GHz ±0.19 dB; 6 GHz to 18.5 GHz ±0.21 dB; 18.5GHz to 26.5 GHz
Cal factor variation 25 +/- 5 deg C	±0.2 dB; 10 MHz to 6 GHz ±0.3 dB; 6 GHz to 18.5 GHz ±0.35 dB; 18.5 GHz to 26.5 GHz
Zero set	±1.6 nW
Noise	0.14nW standard deviation
Input SWR - max	1.25:1 10 MHz to 18 GHz 1.35:1 18 GHz to 26.5GHz
Measurement Speed -50 to -35 dBm -35 to -20 dBm -20 to +20 dBm	 8 measurements per sec 33 measurements per sec. 50 measurements per sec.
Max input power (damage level)	200mW CW (+23dBm)
Connector type	K type* (m)
Connectivity	USB 2.0 (cable length up to 5m)
USB power supply current	Approx. 50mA
Sensor Cable Length (std)	193cm
Dimensions (max)	34H x 43W x 125L (mm)
Weight	83 grams

Specifications include expanded uncertainty of measurement stated as the standard uncertainty of measurement multiplied by the coverage factor k=2 which corresponds to a coverage probability of approximately 95% for a normal distribution.

**K Connector is a registered trademark of the Anritsu Company.*

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