

TW4602 USB CW Power Sensor



Order Code

TW4602

Features:

- Frequency range from 9kHz to 40GHz
- With internal and external zeroing function
- Accurate continuous wave signal absolute power measurement function
- Support USB programmable function, IVI drivers, USBTMC protocol
- Compatible with USB interface on a computer or measuring instrument

Maxwellon TW4602X series is a diode detector USB Power Sensor based on a USB 2.0 full-speed/high-speed adaptive interface. It has a wide frequency range and large power dynamic range. It can be connected to a computer or other electronic measuring instruments, easy to set up a power test system, particularly useful for field and other low-cost production line testing and power testing.

Specifications

Parameters	Specifications
Frequency Range	TW46020: 9 kHz to 6 GHz, TW46021: 10 MHz to 18 GHz, TW46022: 50 MHz to 26.5 GHz, TW46023: 50 MHz to 40 GHz
Power Range	TW46020: -50dBm to +20dBm, TW46020/231/232/233: -60dBm to +20dBm
Zeroing Accuracy	TW46020: $\leq 10\text{nW}$, TW46020/231/232/233: $\leq 1\text{nW}$
Input Port VSWR	TW46020: <ul style="list-style-type: none"> • 100kHz – 6GHz: 1.15 TW46021: <ul style="list-style-type: none"> • 10MHz – 50MHz: 1.21 • 50MHz – 2GHz: 1.15 • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 TW46022: <ul style="list-style-type: none"> • 50MHz – 2GHz: 1.15 • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 • 18GHz – 26.5MHz: 1.30 TW46023: <ul style="list-style-type: none"> • 50MHz – 2GHz: 1.15

	<ul style="list-style-type: none"> • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 • 18GHz – 26.5MHz: 1.30 • 26.5GHz – 40MHz: 1.50
Input Connector	TW46020: Type-N (m), TW46021: Type-N (m), TW46022: 3.5mm (m), TW46023: 2.4mm (m)
Calibration Factor Uncertainty	TW46020: ± 0.16 dB TW46021: ± 0.25 dB TW46022: <ul style="list-style-type: none"> • 50MHz-18GHz: ± 0.25dB • 18GHz – 26.5GHz: ± 0.35dB TW46023: <ul style="list-style-type: none"> • 50MHz-18GHz: ± 0.25dB • 18GHz – 40GHz: ± 0.35dB
Linearity Power	TW46020: <ul style="list-style-type: none"> • +10dBm to +20dBm: ± 0.18dB • -40dBm to +10dBm: ± 0.14dB • -50dBm to -40dBm: ± 0.79dB TW46021/232/233: <ul style="list-style-type: none"> • +10dBm to +20dBm: ± 0.18dB • -40dBm to +10dBm: ± 0.14dB • -50dBm to -40dBm: ± 0.39dB • -60dBm to -50dBm: ± 0.79dB
Max. Input Power	+ 23dBm
Power Supply	Mini USB port
Power Consumption	≤ 1.8 W
Dimension	<ul style="list-style-type: none"> • TW46020/231: 46.2 (W) × 35.6 (H) × 142.6 (D) mm • TW46022: 46.2 (W) × 35.6 (H) × 135.4 (D) mm • TW46023: 46.2 (W) × 35.6 (H) × 125.9 (D) mm
Weight	<ul style="list-style-type: none"> • TW46020/231: 235g • TW46022: 225g • TW46023: 216g
Frequency Range	TW46020: 9 kHz to 6 GHz, TW46021: 10 MHz to 18 GHz, TW46022: 50 MHz to 26.5 GHz, TW46023: 50 MHz to 40 GHz
Power Range	TW46020: -50dBm to +20dBm, TW46020/231/232/233: -60dBm to +20dBm
Zeroing Accuracy	TW46020: ≤ 10 nW, TW46020/231/232/233: ≤ 1 nW
Input Port VSWR	TW46020:

	<ul style="list-style-type: none"> • 100kHz – 6GHz: 1.15 TW46021: <ul style="list-style-type: none"> • 10MHz – 50MHz: 1.21 • 50MHz – 2GHz: 1.15 • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 TW46022: <ul style="list-style-type: none"> • 50MHz – 2GHz: 1.15 • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 • 18GHz – 26.5MHz: 1.30 TW46023: <ul style="list-style-type: none"> • 50MHz – 2GHz: 1.15 • 2GHz – 12.4MHz: 1.20 • 12.4GHz – 18MHz: 1.27 • 18GHz – 26.5MHz: 1.30 • 26.5GHz – 40MHz: 1.50
Input Connector	TW46020: Type-N (m), TW46021: Type-N (m), TW46022: 3.5mm (m), TW46023: 2.4mm (m)
Calibration Factor Uncertainty	TW46020: $\pm 0.16\text{dB}$ TW46021: $\pm 0.25\text{dB}$ TW46022: <ul style="list-style-type: none"> • 50MHz-18GHz: $\pm 0.25\text{dB}$ • 18GHz – 26.5GHz: $\pm 0.35\text{dB}$ TW46023: <ul style="list-style-type: none"> • 50MHz-18GHz: $\pm 0.25\text{dB}$ • 18GHz – 40GHz: $\pm 0.35\text{dB}$
Linearity Power	TW46020: <ul style="list-style-type: none"> • +10dBm to +20dBm: $\pm 0.18\text{dB}$ • -40dBm to +10dBm: $\pm 0.14\text{dB}$ • -50dBm to -40dBm: $\pm 0.79\text{dB}$ TW46021/232/233: <ul style="list-style-type: none"> • +10dBm to +20dBm: $\pm 0.18\text{dB}$ • -40dBm to +10dBm: $\pm 0.14\text{dB}$ • -50dBm to -40dBm: $\pm 0.39\text{dB}$ • -60dBm to -50dBm: $\pm 0.79\text{dB}$
Max. Input Power	+ 23dBm
Power Supply	Mini USB port
Power Consumption	$\leq 1.8\text{W}$
Dimension	<ul style="list-style-type: none"> • TW46020/231: 46.2 (W) \times 35.6 (H) \times 142.6 (D) mm • TW46022: 46.2 (W) \times 35.6 (H) \times 135.4 (D) mm • TW46023: 46.2 (W) \times 35.6 (H) \times 125.9 (D) mm

Weight	<ul style="list-style-type: none">• TW46020/231: 235g• TW46022: 225g• TW46023: 216g
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Ordering Information

Part No.	Name	Description
TW46020	USB CW Power Sensor	9 kHz to 6 GHz
TW46021	USB CW Power Sensor	10 MHz to 18 GHz
TW46022	USB CW Power Sensor	50 MHz to 26.5 GHz
TW46023	USB CW Power Sensor	50 MHz to 40 GHz

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