

OWH9800 Series Digital Power Meter Technical Specifications

The instrument must be operated continuously for more than 30 minutes at the specified operating temperature to meet the following specifications.

Model	OWH9811		OWH9830	
Display	TFT 3.95 inch Screen		TFT 3.95 inch Screen	
Update rate	0.1s, 0.2s, 0.5s, 1s, 2s, 5s		0.1s, 0.2s, 0.5s, 1s, 2s, 5s	
Measurement items	V, A, W, VA, var, λ , fU, CfU, Cfl, Upk, Ipk, THD		V, A, W, VA, var, λ , fU, CfU, Cfl, Upk, Ipk, THD	
Measurement method	CH1 1ph-AC	CH2 1ph-AC+DC	CH1 3ph-AC	CH2 1ph-AC+DC
Voltage measurement range	3.0V-600Vrms	0V-1000Vpk ^{*1}	3.0V-600Vrms	0V-1000Vpk ^{*1}
Voltage range	CF=3: 75V/150V/300V/600V CF=6: 37.5/75V/150V/300V	50V/100V/500V/1000V	CF=3: 75V/150V/300V/600V CF=6: 37.5/75V/150V/300V	50V/100V/500V/1000V
Voltage accuracy	$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$		$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$	
Voltage resolution	0.01V/0.1V		0.01V/0.1V	
Current measurement range	0~20.0Arms	0-20Apk ^{*1}	0~20.0Arms	0-20Apk ^{*1}
Current range	CF=3: 0.2A/1A/4A/20A CF=6: 0.1A/0.5A/2A/10A	0.2A/1A/4A/20A	CF=3: 0.2A/1A/4A/20A CF=6: 0.1A/0.5A/2A/10A	0.2A/1A/4A/20A
Current accuracy	$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$		$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$	
Current resolution	0.001A		0.001A	
Range Switching	Auto/Manual		Auto/Manual	
Power Range	0~12kW	0~20kW	0~36kW	0~20kW
Power accuracy	$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$		$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$	
Power Resolution	0.01W/0.1W/1W		0.01W/0.1W/1W	
Power Factor Range	-1.000~1.000		-1.000~1.000	
Power Factor Accuracy	$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$	----	$\pm(0.4\% \text{ of reading} + 0.1\% \text{ of range} + 1 \text{ digit})$	----
Operating Frequency	40Hz~70Hz	DC+40Hz-70Hz	40Hz~70Hz	DC+40Hz-70Hz
Frequency Accuracy	$\pm(0.1\% \text{ of reading} + 1 \text{ digit})$	----	$\pm(0.1\% \text{ of reading} + 1 \text{ digit})$	----
Harmonic Analysis	2.8 kHz bandwidth, up	----	2.8 kHz bandwidth, up	----

	to 63rd order		to 63rd order	
Integration Function	Watt-hour (Wh), Ampere-hour (Ah)		Watt-hour (Wh), Ampere-hour (Ah)	
Warm-up Time	>30 min		>30 min	
Peak Current	60A	30A	60A	30A
Maximum Continuous Input	Vrms=700V; Irms=24A	Vpk=1100V; Ipk=24A	Vrms=700V; Irms=24A	Vpk=1100V; Ipk=24A
Interface	RS232			
Communication Protocol	Standard SCPI , Modbus protocol			
Baud Rate (bps)	2400、4800、9600(default)、19200、38400、57600、115200,			
Display Hold	YES		YES	
Mute	YES		YES	
Key Lock	YES		YES	
Power Supply	AC 100V~240V, 50/60Hz			
Operation environment	18 °C ~ 28 °C, 30% ~ 75% RH (When operating temp. is outside 18 °C ~ 28 °C, add temp. coefficient: 0.05% of reading / °C)			
Storage Environment	-10 °C ~ 50 °C, ≤ 80% RH (non-condensing)			
Operating Altitude	≤2000 meters			
Weight	1.3kg		1.3kg	
Dimensions	235mm(L) × 110mm(H) × 295mm(W)		235mm(L) × 110mm(H) × 295mm(W)	

***1: DC peak maximum value.**

The test range specified above applies to voltage/current ratings above 20% of the full scale, and the definition of error tolerance for 1 character is detailed in User Manual Section 4.1.

B Series Model:

Model	OWH9811B		OWH9830B	
Display	TFT 3.95 inch Screen		TFT 3.95 inch Screen	
Update rate	0.1s、0.2s、0.5s、1s、2s、5s		0.1s、0.2s、0.5s、1s、2s、5s	
Measurement items	V, A, W, VA, var, λ, fU, CfU, Cfl, Upk, Ipk, THD		V, A, W, VA, var, λ, fU, CfU, Cfl, Upk, Ipk, THD	
Measurement method	CH1 1ph-AC	CH2 1ph-AC+DC	CH1 3ph-AC	CH2 1ph-AC+DC
Voltage measurement range	3.0V-600Vrms	0V-1000Vpk*1	3.0V-600Vrms	0V-1000Vpk*1
Voltage range	75V/150V/300V/600V	50V/100V/500V/1000V	75V/150V/300V/600V	50V/100V/500V/1000V
Voltage accuracy*2	±(0.1%*reading + 0.1%*range + 1 digit)		±(0.1%*reading + 0.1%*range + 1 digit)	
Voltage resolution	1mV/10mV		1mV/10mV	
Current measurement	5.0mA~20.0Arms	5mA-20Adc	5.0mA~20.0Arms	5mA-20Adc

range				
Current range	0.2A/1A/4A/20A	0.2A/1A/4A/20A	0.2A/1A/4A/20A	0.2A/1A/4A/20A
Current accuracy*2	±(0.1%*reading + 0.1%*range+ 1 digit)		±(0.1%*reading + 0.1%*range+ 1 digit)	
Current resolution	1mA/0.1mA		1mA/0.1mA	
Range Switching	Auto / Manual		Auto / Manual	
Power Range	1W~12kW	1W~20kW	1W~36kW	1W~20kW
Power Accuracy*3	±(0.1%*reading + 0.1%*range+ 1 digit)		±(0.1%*reading + 0.1%*range+ 1 digit)	
Power Resolution	0.001W/0.01W/0.1W		0.001W/0.01W/0.1W	
Power Factor Range	-1.0000~1.0000		-1.0000~1.0000	
Power Factor Accuracy*4	±[λ-λ/1.001 + cosφ-cos(φ+asin(γ)) +1 digit]	----	±[λ-λ/1.001 + cosφ-cos(φ+asin(γ)) +1 digit]	----
Operating Frequency*5	40~400Hz	DC+40Hz-70Hz	40~400Hz	DC+40Hz-70Hz
Frequency Accuracy*5	±(0.1%*reading)	----	±(0.1%*reading)	----
Harmonic Analysis	2.8kHz bandwidth, up to 63 order	----	2.8kHz bandwidth, up to 63 order	----
Integration Function	Watt-hour (Wh), Ampere-hour (Ah)		Watt-hour (Wh), Ampere-hour (Ah)	
Warm-up Time	>30 min		>30 min	
Peak Current	60A	30A	60A	30A
Maximum Continuous Input	Vrms=700V; Irms=24A	Vpk=1100V; Ipk=24A	Vrms=700V; Irms=24A	Vpk=1100V; Ipk=24A
Interface	RS232			
Communication Protocol	Standard SCPI , Modbus protocol			
Baud Rate (bps)	2400、4800、9600(default)、19200、38400、57600、115200,			
Display Hold	YES		YES	
Mute	YES		YES	
Key Lock	YES		YES	
Power Supply	AC 100V~240V, 50/60Hz			
Operation environment	18℃~28℃, 30%~75%RH (When operating temp. is outside 18 ℃ ~ 28 ℃, add temp. coefficient: 0.05% of reading / ℃)			
Storage Environment	-10℃~50℃, 80% RH (non-condensing)			
Operating Altitude	≤2000 meters			
Weight	1.3kg		1.3kg	
Dimensions	235mm(L) × 110mm(H) × 295mm(W)		235mm(L) × 110mm(H) × 295mm(W)	

***1: DC peak maximum value.**

***2: Test conditions: 18~28 °C , 30~75%RH, voltage/current waveform is sinusoidal, input range of voltage/current is 1 – 100%, power factor = 1.**

***3: Test conditions are the same as Note 2.**

***4: Tested at rated voltage and current, $\gamma = 0.002$.**

***5: For frequency measurement, the input signal level shall be no less than 5% of the measuring range, with a frequency measurement range of 40-400Hz. Accuracy of voltage, current and power values listed in the table is guaranteed at 40-70Hz; readings at 70-400Hz are for reference only.**

Adjustment Interval: A calibration interval of one year is recommended.



V1.1.1