



Datasheet

Digital Power Meter

Stock number : 180-4805 **RSPM-8213**

EN



FEATURES

- 4" TFT LCD
- Basic Accuracy : $\pm(0.1\%$ of reading + 0.1% of range)
- Two Data Display Modes
 - Standard Display : Displaying Two Major Measurement Items+Six Minor Measurement Items
 - Simple Display : Displaying Test Data of Four Different Measurement Items
- Met the Requirement of IEC 62301 Power Measurement
 - Voltage/Current Test Frequency Bandwidth : DC ~ 6 kHz
 - Watt Resolution : 1 mW
 - Current Resolution : 0.1 μ A
 - Current/Voltage Measurements Reach CF=3 for Distorted Wave and CF=6 for Half Range
 - W-h Power vs Time/A-h Current vs Time Integration Function
 - Total Harmonic Distortion Measurement
- Front Panel Test Terminal
- Standard Interfaces : RS-232C, USB Device, LAN
- Optional Test Fixture : GPM-001

RSPM-8213 power meter is designed specifically for single-phase (1P/2W) AC power supply's power measurements. Powerful features, including 4" TFT LCD, five-digit measurement display, 19 power measurement parameters, integral measurement function, high-accuracy voltage/current/power measurement capabilities, front/rear panel input terminals, various communications ports to facilitate users with clear, convenient, and accurate power measurements.

RSPM-8213 provides as many as 19 power measurement parameters, including voltage ($V_{rms}/V_{pk}/V_{-pk}$), current ($I_{rms}/I_{pk}/I_{-pk}$), frequency (VHz/IHz), power (P/P+pk/P-pk), crest factor (CFV/CFI), apparent power (VA), reactive power (VAR), power factor (PF), phase angle (DEG), total harmonic distortion (THDV/THDI), high-accuracy voltage/current/power measurement capabilities (reading: $\pm 0.1\%$; level: $\pm 0.1\%$). The advantages of TFT LCD have been efficiently deployed to simple mode and standard mode. Simple mode displays conventional power meter's four measurement parameters to meet the requirement of accuracy and clarity for the test on manufacturing process. Standard mode extends the display to the maximum of 8 measurement parameters (2 major measurements + 6 monitor measurements) to satisfy the various measurement application requirements of R&D, design, and quality verification.

For DUT requiring IEC 62301/EN 50564 standby power consumption test, RSPM-8213 provides the optimal measurement supports, including test frequency bandwidth of DC-6 kHz, the minimum current level of 5 mA (resolution: 0.1 uA), power measurement resolutions (1 uW for minimum current and voltage levels; 1 mW for maximum current and voltage levels), crest factor reaching 3 (half range reaching 6), and measurement of total harmonic distortion (at least 13th order power harmonic). For large voltage/large current measurement applications of general power measurement, RSPM-8213 provides PT/CT rate function to collocate with external potential transformer or current transformer to meet the measurement requirements.

With respect to data retrieval and storage, the standard RS-232C/USB interfaces (virtual COM)/LAN can be utilized to edit and retrieve programs or the optional GPIB interface (installed by manufacturer) can be selected to meet users' automatic test system requirements.

PANEL INTRODUCTION



1. 4" TFT LCD
2. Display 8 Measurement Items or 4 Measurement Items Depends on Mode Selection
3. Operation Key
4. Navigator Key
5. Front Panel Input Terminal (<10 A)
6. Rear Panel Input Terminal
7. Standard Interfaces : RS-232C, LAN, USB Device
8. Optional Interface : GPIB
9. Universal Input Power

SPECIFICATIONS

MEASUREMENT CHARACTERISTICS

INPUT		
ITEM RATING VOLTAGE RATING CURRENT IMPEDANCE(50/60Hz)	Voltage Current Current	Range 600 Vrms 20 Arms 2.4 MΩ 5 mA-200 mA/500 mΩ 0.5A 20 A/5 mΩ
MAXIMUM VOLTAGE MAXIMUM CURRENT MAXIMUM COMMON MODE VOLTAGE LOW PASS FILTER	Cutoff frequency	700 Vrms 25 Arms 300 V 500 Hz
PARAMETERS		
ITEM MEASUREMENT	Voltage Current Power Crest Factor Power Factor Frequency Angle Total Harmonic Distortion Integration	Symbol Vdc, Vrms, V+pk, V-pk Idc, Irms, I+pk, I-pk P, P+pk, P-pk, VA, Var CFV, CFI PF VHz, IHz Deg THDV, THDI Time, WP, WP+, WP-, q, q+, q-
DISPLAY DIGITS FREQUENCY BANDWIDTH AVERAGE PT RATE CT RATE DISPLAY MODE	Standard Simple	5 digits DC, 45 Hz-6 kHz 1, 2, 4, 8, 16, 32, 64 1 - 9999.999 1 - 9999.999 8 measurement Item 4 measurement Item
VOLTAGE		
ITEM RANGE CREST FACTOR ACCURACY	CF=3 CF=6 Effective Range DC 45Hz ≤ f ≤ 66Hz 66Hz < f ≤ 1kHz 1kHz < f ≤ 6kHz Filter(ON)	Range 15V, 30V, 60V, 150V, 300V, 600V 7.5V, 15V, 30V, 75V, 150V, 300V 3 or 6 (selectable) 1% - 105% of range ±(0.2% of reading+0.2% of range)±(0.1% of reading+0.1% of range)±(0.1% of reading+0.2% of range)±3% of reading Add 0.3% of reading@45Hz - 66Hz Add 0.03% of reading/± C 0.5% of range
TEMPERATURE EFFECT RESIDUAL NOISE	5-18° C / 28-40° C	C

CURRENT

ITEM MEASUREMENT	CF=3 CF=6	Range 5mA, 10mA, 20mA, 50mA, 100mA, 200mA, 500mA, 1A, 2A, 5A, 10A, 20A 2.5mA, 5mA, 10mA, 25mA, 50mA, 100mA, 250mA, 0.5A, 1A, 2.5A, 5A, 10A 3 or 6 (selectable)
CREST FACTOR ACCURACY	Effective Range DC 45Hz ≤ f ≤ 66Hz 66Hz < f ≤ 1kHz 1kHz < f ≤ 6kHz Filter(ON)	1% ~ 105% of range ±(0.2% of reading+0.2% of range) ±(0.1% of reading+0.1% of range) ±(0.1% of reading+0.2% of range) ±3% of reading Add 0.3% of reading@45Hz - 66Hz
TEMPERATURE EFFECT RESIDUAL NOISE	5-18° C/28-40° C	C 0.5% of range
POWER		
ITEM ACCURACY	Effective Range DC 45Hz ≤ f ≤ 66Hz 66Hz < f ≤ 1kHz 1kHz < f ≤ 6kHz Filter(ON)	Range 1% ~ 110% of range ±(0.2% of reading+0.2% of range) ±(0.1% of reading+0.1% of range) ±(0.1% of reading+0.3% of range) ±3% of reading Add 3% of reading@45Hz-66Hz Add ±0.03% of reading/° C
TEMPERATURE EFFECT RESIDUAL NOISE	5-18° C/28-40° C	C
FREQUENCY		
ITEM MEASUREMENT	Filter(ON) Filter(OFF)	Range 30.000 Hz-9.9999 kHz 30.000 Hz-499.99 Hz Voltage, Current 10%-105% of voltage input ±0.06% of reading
PARAMETER EFFECTIVE RANGE ACCURACY		
INTEGRATION		
ITEM INTERGRATION TIME	Accuracy Range Accuracy	Range ±(voltage or current accuracy+0.1% of reading) 0 hour 00 min - 9999 hour 59 min ±0.01%±1 second

GENERAL INFORMATION

DISPLAY STANDARD INTERFACE POWER SOURCE POWER CONSUMPTION DIMENSION & WEIGHT	4" TFT LCD RS-232C, USB device, LAN AC 100-240 V, 50-60 Hz Max. 25 VA 270(W) x 110(H) x 350(D) mm, Aapprox. 2.9 kg
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Specifications subject to change without notice.

ORDERING INFORMATION

RSPM-8213 with GPIB	Digital Power Meter (RS-232C/USB device/LAN/Opt.01 GPIB)
RSPM-8213	Digital Power Meter (RS-232C/USB device/LAN)

ACCESSORIES

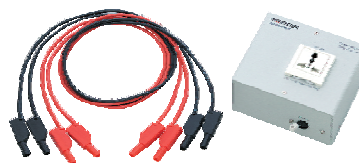
Safety Sheet x 1, Power Cord x 1, Test Lead GTL-209 x 1
CD x 1 (User manual/ USB driver)

OPTION

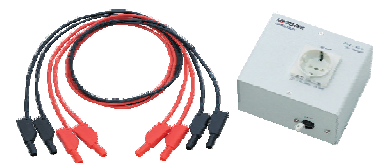
Opt.01 GPIB card (factory installed)

OPTION ACCESSORIES

GPM-001	Test Fixture
GTL-232	RS-232 Cable, 9-pin Female to 9-pin, null Modem for Computer
GTL-246	USB Cable, A-B type, approx. 1200 mm
GTL-248	GPIB Cable, approx. 2000 mm
GTL-251	GPIB-USB-HS+ (high Speed)
GRA-422	Rack Adapter Panel (19", 2U)



GPM-001 Test Fixture



GPM-001 Test Fixture(EU)



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