

Digital Ripple & Noise Meter

RM-103

Indispensable tool for DC Power Supply periodic check



No hesitation on reading.

Digital Ripple & Noise Meter

RM-103



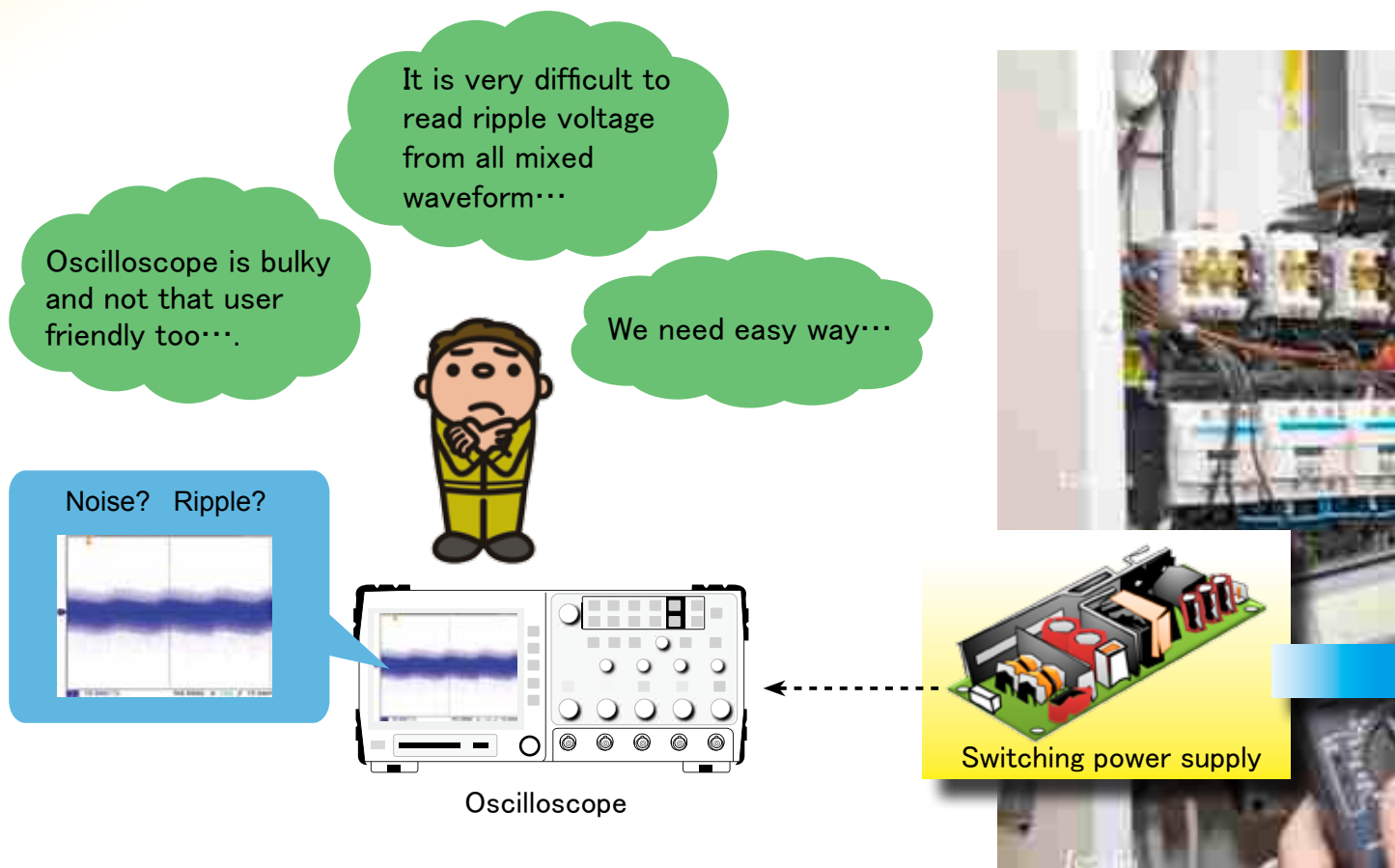
- Automatic measurement possible which is correlated to oscilloscope reading.
- Realized “One touch measurement without hesitation” by digital technology!
- Automatic “PASS” or “FAIL” judgment!
- Conforming to JEITA standard.
(JEITA: Japan Electronics and Information Technology Industries Association.)

It is mandatory to conduct periodic maintenance of the power supplies in industrial equipment used in power plant or other public services.

As power supply is the key device in the system and their system will shut off when power supply failed and will cause serious damage to our life. Normally ripple voltage and noise voltage of the power supply are measured in the periodic check but those are not that straightforward.

Since the measuring object is “NOISE”, reading waveforms on the oscilloscope is very complicated and good experience is needed. However digital ripple & noise meter can discriminate them and read them accurately.

Up to now.....



Measurement by oscilloscope

The reading result is heavily relying to the operator.

Panel operation is not simple

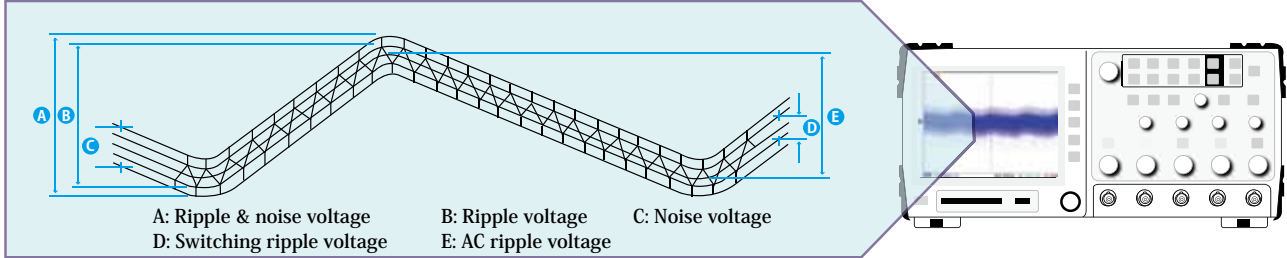
Need additional differential probes to measure



RM-103 measures five voltages simply!

The output of switching power supply contains various kinds of waveforms and are all combined. With RM-103, 5 different voltages can be measured easily.

Diagram of Ripple & Noise waveform



*It is possible to judge if the capacitance of the electrolytic capacitor used inside of the switching power supply is in allowable range or not by measuring D (Switching ripple) or B (Ripple) above.

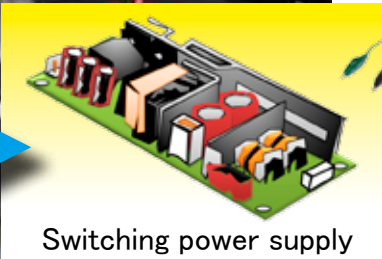
From now on...



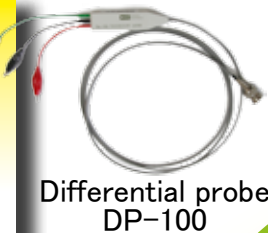
Do by whoever,
it is the same!



One touch simple measurement



Switching power supply



Differential probe DP-100

No hesitation
at the site!



Ripple & Noise Meter RM-103

Measurement by RM-103

No reading error due to digital display

One touch simple measurement

Passive type differential probe as a standard accessory

Specification



RM-103 Ripple & Noise Meter

DC Volt. Measurement			
Range	± 6.0000V	± 60.000V	± 500.00V
Resolution	0.1mV	1.0mV	10.0mV
Accuracy (*5)	± 0.025% of rdg. ± 0.025% of f.s.		
Max. Applied Volt.	± 500V		
Measurement Time	less than 90ms(Fast Mode) / less than 250ms(Slow Mode)		
Ripple & Noise Measurement			
Ranges	300.0mVp-p	3000.0mVp-p	
Resolution	0.1mV	1.0mV	
Accuracy (*1,*2,*3)	± 2% of rdg. ± 1% of f.s.		
Nominal Bandwidth	100MHz		
LF Bandwidth	50Hz~ 2kHz		
HF Bandwidth	2kHz~		
THRU Bandwidth	50Hz~ 100MHz		
Band Pass Filter	20MHz		
Ripple Ratio (*3)	0.5%~ 50.0% (Resolution 0.5%)		
Measurement Time (*4)	approx.170ms (TYP)		
Allowed Input Voltage	4Vp-p		
Input Condition			
Impedance	DC:1MΩ , High Frequency :50 Ω		
Input Cable	50 Ω Signal Cable RG-58 / Differential Probe DP-100		
Interface			
GP-IB	Conform to IEEE488-1987		
PASS/FAIL Judgment	PhotoCoupler Output same Common (14 pin Connector)		
Start Trigger	PhotoCoupler Input same Common (14 pin Connector)		
4CH Output	Photo Coupler Output for SC-81 Control		
Input Connector	BNC Connector		
Other Function	Automatic RipplNoise Ratio Selection Function		
General			
Input Voltage	AC90-264V(50Hz/60Hz)		
Power Consumption	20VA		
Dimensions , Weight	180(W)x85(H)x300(D) mm , approx.1.7kg		

*1 Effective when Ripple Ratio is setup between 0% and 10%. *2 Effective when Frequency Range is between 10kHz and 10MHz. *3 Operates when Frequency Range is between 10kHz and 100MHz. *4 Measurement Time in the same Measurement Range. *5 Guaranteed for 6 months when Operational Temp. is 23+5degree C and Humidity is less than 70degree C.

DM-100A Differential probe

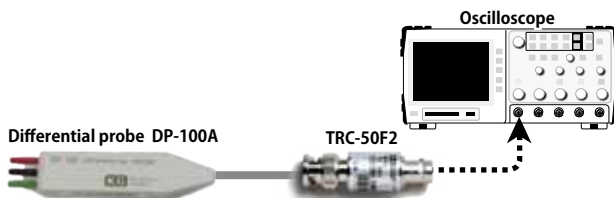
The DP-100 reduces common mode noise drastically then measures the signal between two measurement points accurately. No power to the probe is required.



Common mode rejection ratio	CMRR = 40dB (100MHz)
Maximum input voltage	± 200V DC or AC p-p
Attention ratio	1 : 1
Frequency bandwidth	DC ~ 100MHz
Impedance	50 Ω (> 1MHz)
Input capacitance	0.01uF (When terminated by RM-103)

TRC-50F2 HF terminator

When measuring Ripple & noise with an oscilloscope, using this 50 ohm terminator (50 ohm resistor and DC cut capacitor inclusive) is recommended for accurate measurement because it can reduce Noise Reflection due to impedance unbalance. The TRC-50F2 conforms JEITA specification.



Max. Input Voltage	DC ± 500V
Impedance	50 Ω
Frequency bandwidth	1MHz ~ 100MHz
Allowable continuous power	0.25W
Connector	BNC
Dimensions	17 φ × 54 (L) mm

※ RM-103 is equipped with a terminator equivalent to TRC-50F2.

● The content of this catalog is generated based on the latest data as of June 2012. ● Please consult us for the latest specification, price and availability of the product prior to ordering. ● All brand names, product names and company name are registered trademarks of their respective companies. ● Information in this document is subject to change without notice.

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