

# sanwa®

## TOKYO JAPAN

### ANALOG MULTITESTER

# EM7000

### APPLICATIONS AND FEATURES

This instrument is a highly sensitive "FET electronic tester" having the DC voltage function of which the internal resistance is as high as 2.5~12M $\Omega$ , and also the DC current function with the 0.12 $\mu$ A range. This is used at small communications equipments, home electric appliances, voltage of lump line, and measurement of various types of batteries. You can also measure P-P value(the value between positive and negative peak values os sine wave alternating current) and very small electric current.

- Zeto center meter(NULL) of DC Voltage and DC Current
- The frequency characteristic of AC low voltage ranges(3V and 12V) is 40Hz~1MHz(sine wave AC)
- The Vp-p of triangular-wave, square-wave over 20% duty cycle voltages of waveforms can also be measured(at 3V range)
- Wide ohm range 0.2 $\Omega$ ~200M $\Omega$

### SPECIFICATIONS

	Measuring range	Best accuracy
DCV	0.3/1.2/3/12/30/120/300/1000V	$\pm$ 3% of full scale
$\pm$ DCV	$\pm$ 0.15/0.6/1.5/6/15/60/150/600V	$\pm$ 7% of full scale
ACV rms(50/60Hz)	3V(approx. 2.5 $\Omega$ )/12V(approx. 1.1M $\Omega$ ) 30V(approx. 800k $\Omega$ )/120/300V(approx. 800k $\Omega$ )/ 750V(approx. 10M $\Omega$ )	$\pm$ 3% of full scale
ACV P-P	Sine wave : 8.4V(approx. 2.5M $\Omega$ /V)/33V(approx. 1.1M $\Omega$ /V) 84V(approx. 800M $\Omega$ /V)/330/840V(approx. 800k $\Omega$ /V)	$\pm$ 5% of full scale
	Square symmetric wave : 8.4V(2.5M $\Omega$ /V)	$\pm$ 6% of full scale
	Triangular symmetric wave : 8.4V(2.5M $\Omega$ /V)	$\pm$ 6% of full scale
DCA	0.12 $\mu$ /0.3m/3m/30m/300m/6A	$\pm$ 3% of full scale
DCA(NULL)	$\pm$ 0.06 $\mu$ / $\pm$ 0.15m/1.5m/15m/150mA	$\pm$ 7% of full scale
ACA	6A	$\pm$ 3% of full scale
Resistance	2k/20k/200k/2M/20M/200M $\Omega$	$\pm$ 3% of arc
dB	-10~+51dB	$\pm$ 3% of arc

Meter type	Internal magnet, Taut-band meter(48 $\mu$ A)
AC rectifier form	p-p voltage rectifier form
Meter drive circuit	FET differential amplifier
Accuracy assurance temperature / humidity	23 $\pm$ 2 $^{\circ}$ C 75%RH max. No condensation
Operating temperature / humidity	5~40 $^{\circ}$ C, Humidity must be as below, and No condensation 5~31 $^{\circ}$ C, 80%RH(Max). 31~40 $^{\circ}$ C, 80~50%RH(decreasing linearly)
Storage temperature / humidity	-10 to 50 $^{\circ}$ C, 70% RH or less, No condensation
Operating environment	Altitude 2000 m or less, indoor use, environmental pollution degree II
Battery life	Continuous 500 hours(When power switch is ON/input terminals open)
Bandwidth	40Hz~1MHz(below 12V range)
Battery	R6P x 2, 6F22 x 1
Fuse	$\Phi$ 5.0 x 20mm ceramic(250V / 0.5A) $\Phi$ 5.0 x 20mm ceramic(250V / 6.3A)
Size / Mass	H165 x W106 x D46mm / approx.375g
Standard accessories included	Test lead(TL-21a), Instruction manual, Spare fuse(250V / 0.5A)



A battery for monitoring has been installed prior to shipment from the factory. It may be discharged before the expiration of the described battery life. This battery is used to check the functions and performance of the product. Specifications and external appearance of the product described above may be revised for modification without prior notice.

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