

SANWA

TOKYO JAPAN

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Digital kit for basic theory + assembly training



*Holster is an optional accessory.



DIGITAL MULTI MESTER **PC20TK**

Wide range of experiments in conjunction with the PC

Measured data can be saved on a CSV file, so it is easily processed on Excel. The ease of use in a variety of applications from data retrieval, processing and analysis results in its extensive acceptance for business, education and personal use.



Distributed by

SANWA

SANWA ELECTRIC INSTRUMENT CO., LTD.

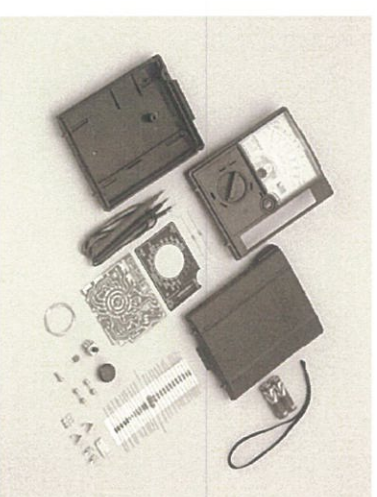
Dempa Bldg, 4-4 Sotokanda 2-Chome, Chiyoda-Ku, Tokyo 101-0021 Japan

Tel:+81-3-3251-0941 Fax:+81-3-3256-9740
www.sanwa-meter.co.jp

Analog kit for basic theory + assembly training

Easy to assemble
Break-proof body cover
Solded test leads providing better safety
Portable analog multimeter.

ANALOG MULTI TESTER **KIT-8D**



www.sanwa-meter.co.jp

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ANALOG MULTI TESTER KIT-8D



Can be used in training of basic theory of analog and assembly theory of analog and assembly. Can also be used as a textbook, and easy-to-understand manual. We have described in detail the principles and characteristics of analog tester, so that customers can also use it as a textbook, have been incorporated in line with teaching contents.

In addition the basis of the electrical circuit is also discussed, and the contents are made easier to understand. Therefore, after assembly, you can use it as reference material of the electrical circuit.

After assembly, the performance of our equivalent commercially available tester

After assembly of the training kit, Sanwa guarantees the same levels of performance and accuracy in our self assembly kits as our factory made kits.

The kit's scale plate gives maximum visibility when used on-site
The scale plate has been designed with on-site use in mind and therefore measurements can be clearly read. The scale plate is clearly laid out, and also features a mirror to improve accuracy of measurements.



Drop shock proof fault-band meter

The kit is equipped with a taut-band meter that can withstand being dropped onto concrete floor from 1m.

Protective cover

The included protective cover can also be used as a stand to make it easier to take measurements, and can also be folded behind the meter for mobile use.

Test lead

Test lead can be stored in the body reducing the risk of students losing the test lead.

The kit also features an easy-to-carry hand strap

| Function | Measuring range | Accuracy |
|---------------|----------------------------------|-------------------|
| DCV | 0.3/1/2/10/120/300/600V (20KΩ/V) | ±3% of full scale |
| ACV | 1/2/3/120/300/600V (9KΩ/V) | ±4% of full scale |
| DCA | 60μA/3m/30m/0.3A | ±3% of full scale |
| Resistance | 20/200/20KΩ | ±3% of arc |
| Battery check | 1.5V | |
| Bandwidth | 50 or 60Hz (sine wave) | |
| Battery | UM-3(1.5V)X2 | |
| Fuse | φ 5.2X20mm (250V/0.5A) | |
| Size / Mass | H159.5XW129XD41.5mm/approx.320g | |

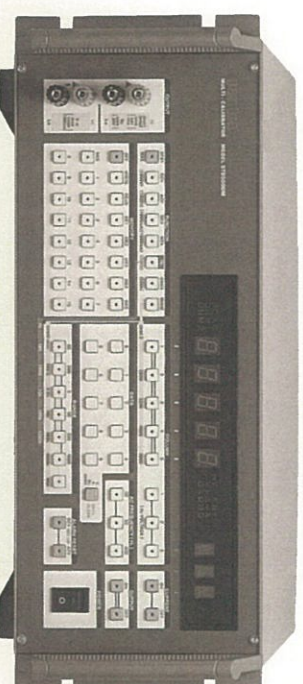
Standard accessories included

Instruction manuals

For Post-assembly Calibration. Why not use the Sanwa Calibrator!

CALIBRATOR

STD5000M



| Function | Measuring range | Generation range | Resolution | Set accuracy | Maximum load |
|-----------|-----------------|------------------------|---------------|----------------|----------------------------|
| DCV | 50mV | 0~50mV | 1μV | ±(0.05%+30μV) | |
| | 500mV | 0~500mV | 10μV | ±(0.03%+30μV) | |
| | 5V | 0~5V | 100μV | ±(0.03%+200μV) | |
| | 50V | 0~50V | 1mV | ±(0.03%+2mV) | |
| | 500V | 0~500V | 10mV | ±(0.03%+20mV) | 10mA |
| ACV | 50mV | 0~1000V | 100mV | ±(0.05%+0.3V) | |
| | 500mV | 0~50mV | 10μV | ±(0.1%+50μV) | |
| | 5V | 0~500mV | 100μV | ±(0.06%+100μV) | |
| | 50V | 0~5V | 1mV | ±(0.06%+4mV) | |
| | 500V | 0~500V | 10mV | ±(0.06%+40mV) | 10mA |
| DCA | 50μA | 0~1000V | 100mV | ±(0.1%+0.4V) | |
| | 500μA | 0~500μA | 10nA | ±(0.05%+30nA) | |
| | 5mA | 0~500μA | 100nA | ±(0.05%+30nA) | 13V (Open circuit voltage) |
| | 50mA | 0~5mA | 1μA | ±(0.05%+2μA) | |
| | 500mA | 0~50mA | 10μA | ±(0.05%+20μA) | |
| ACA | 50μA | 0~500mA | 100μA | ±(0.1%+300μA) | |
| | 500μA | 0~50μA | 10nA | ±(0.12%+60nA) | |
| | 5mA | 0~500μA | 100nA | ±(0.1%+0.5μA) | 13V (Open circuit voltage) |
| | 50mA | 0~50mA | 1μA | ±(0.1%+5μA) | |
| | 500mA | 0~500mA | 10μA | ±(0.1%+50μA) | |
| OHM1 | 20000Ω | 0~2000mA | 100μA | ±(0.15%+0.5mA) | |
| | 2000Ω | 0~500KΩ | 10Ω | ±(0.15%+0.2V) | |
| | 40~99.9Hz | 0.1Hz | ±(0.1%+0.1Hz) | | |
| | 40~999Hz | 1Hz | ±(0.1%+1Hz) | | |
| | 100~99.9kHz | 10Hz | ±(0.1%+10Hz) | | |
| Frequency | 1K~999kHz | 1kHz(rectangular wave) | ±(0.1%+1kHz) | | |
| | 0~7V | 0.1V | ±(2%+0.2V) | | |

Function Measuring range Accuracy

OHM2 160/260/360/460Ω ±(0.05%+0.1Ω)

1.6K/2.6K/3.6K/4.6KΩ ±(0.05%)

16K/26K/36K/46KΩ ±(0.05%)

160K/260K/360K/460KΩ ±(0.05%)

1.6M/26M/36M/46MΩ ±(0.05%~0.2%)

Memory 6X(15/90)

50mV adjust digit 4-1/2 digit(except for 1000V, 2000mA, OHM2)

Max. display 50099

Output adjust LOCAL(surface panel)

Operating range 23°C ±3°C below 70%RH

Preheating time 30~60m.

Power supply AC100V±10%, 50Hz, 60Hz

Power consumption 30VA

Protection DC and 50V or higher AC ranges. Overload protection device with reset switch. DC and 5V or lower AC ranges: Overload protection circuitry.

Size / Mass Standard accessories included

H180XW480XD590mm/25kg

Instruction manual

DIGITAL MULTI METER PC20TK



4000 count
If you connect the PC20TK to your PC by using the optionally available PC Link Software(PC Link 7) and PC Link cable(KB-USB20), changes in electric quantity can be displayed as values or graphs on the PC monitor.

A safety cover that prevents the user from inserting a test lead into it by mistake.

Capacitance measurement(40nF~100μF)

Temperature measurement(-50 to 300°C) by using the optionally available temperature probe(T-300PC).
Micro-current can be measured in both DC and AC in the range 400μA.

*Holster is an optional accessory.



| Function | Measuring range | Best accuracy | Resolution | Input impedance |
|----------------|---|-----------------|------------|-----------------|
| DCV | 400m/4/40/400/750V | ±(1.0%rdg+2dgt) | 0.1mV | |
| ACV | 4/40/400/750V | ±(1.5%rdg+5dgt) | 0.001V | DCV: |
| DCA | 400μ/4000μ/40m/400m | ±(1.5%rdg+2dgt) | 0.1μA | 10MΩ |
| ACA | 400μ/4000μ/40m/400m | ±(2.0%rdg+5dgt) | 0.1μA | 100MΩ |
| Resistance | 400k/40k/400k/4M/40M | ±(1.5%rdg+5dgt) | 0.1Ω | ACV:10M |
| Capacitance | 40n/400n/4μ/40μ/100μF | ±(7%rdg+5dgt) | 0.01nF | |
| Continuity | Buzzer sounds at between 10Ω and 120Ω. Open voltage: approx. 0.4V | | | |
| Diode test | Open voltage: approx. 1.5V | | | |
| Bandwidth | 40~400Hz (sine wave) | | | |
| Fuse / Battery | 0.5A/250V /R300 A φ6.3X30mm /R6X2 | | | |
| Size / Mass | H158XW70XD41mm/230g | | | |

Standard accessories included

Test lead (TL-21 a), Instruction manual

Optional accessories

Software : PC Link7, Optical PC Link cable : KB-USB20

Clamp probe : CL-20D, CL-22AD, CL33DC

Temperature probe : T-300PC(PC Link software is necessary)

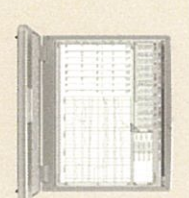
Clip adapter : CL-11, CL-13, CL-15, CL-DG3A, TL-81C

Holster : H-70

Max 8 Channels PC Link 7

Major features:

- Automatically detects a port connected with a digital multimeter
- No additional driver installation required with Windows standard USB drivers
- The retrieval interval can be set by seconds. The shortest reading interval of 0.2 - 0.3 seconds depending on the digital multimeter measuring function.
- Allows setting for vertical/horizontal zoom, reading at the cursor position, and Y axis split while retrieving data.
- Allows automatic retrieval by schedule setting.
- Allows data saving into CSV files and sending e-mails of alert information with alarm setting.
- Allows data saving into CSV files with the date and time appended.
- Multi-window, separated graphs by each channel
- Allows automatic e-mail of measurement data.
- Allows limited operations depending on the user with usage restriction function.
- Allows conditional recording by event function.



KB-USB20