

TH1941/TH1942 Digital Multimeter



TH 1942

Features

- 21,000/51,000-count display
- Large VFD dual-display with high brightness
- True RMS AC voltage and current measurements, frequency up to 100kHz
- 12 measurement functions, including DCV/ACV, DCI/ACI, Ω , frequency/period, diode, conduction, dBm, etc.
- Parameters AC+DC, AC+Hz, Readout+%, and Readout+dBm synchronously displayed
- Measurement speed up to 15times/second (TH1941), and 30 times/second (TH1942)
- DCV measurement accuracy up to 0.02%, resolution of 10 μ V
- Measured value displayed in the form of percentage
- REL measurement mode to eliminate stray reading
- Calibration without uncovering
- Limit function (HI/IN/LO) for fast sorting
- Standard RS232C communication interface providing convenient system communication mode

Brief Introduction

■ TH1941 4 1/2-digit and TH1942 50,000-count digital multimeters are voltage/current/resistance tester with multi functions and low cost. The instrument can stably perform measurement at high speed as several times as other instruments at the same level. It provides excellent performance, such as maximum reading of 21,000/51,000 counts, maximum DC voltage accuracy of 0.02%, and low cost to give you a best choice.

Having VFD dual-display with high brightness, TH1941/TH1942 can synchronously display measurement parameters, such as AC/DC voltage or current, AC voltage/current and frequency to improve measurement efficiency and display results clearly.

The instrument is equipped with SMD component inside to reduce density and physical size.

The instrument comes standard with RS232C communication interface and common communication software is optional to meet the need of communication with computer, data analysis and statistics, and building up automatic test system. The instrument receives SCPI command to ensure compatibility of communication software.

Specifications

Model		TH1941					TH1942						
Test condition		The following specifications are in slow-speed mode. Please refer to manual for other specifications. Calibration period: one year Working temperature & humidity: 18 ~-28 , ≤90%RH, and ≤70%RH (at resistance range of 5MΩ and 50MΩ) Warm-up time: 30 minutes Accuracy: ± (reading% + range%) Temperature coefficient: +0.1×specified accuracy/ (from 0 to 18 or 28 ~-40)											
Rate (reading/second)		Slow		Medium		Fast		Slow		Medium		Fast	
DCV,DCI		2.5		8		15		2.5		12		30	
Ω		2.5		8		15		2.5		12		30	
AC+DC		0.5		1.5		3.5		0.5		1.5		3.5	
AC+Hz		0.5		1.5		3		0.5		1.5		3	
Freq		4		8		12		4		8		12	
DC voltage		Max. reading	Resolu tion	Accurac y	Input impedance	Max. reading	Resoluti on	Accurac y	Input impedance				
Range	200mV/500mV	210.00	10μV	0.03+0.02	10MΩ	510.00	10μV	0.02+0.016	10MΩ				
	2V/5V	2.1000	100μV	0.03+0.01	11.1MΩ	5.1000	100μV	0.02+0.008	11.1MΩ				
	20V/50V	21.000	1mV	0.03+0.01	10.1MΩ	51.000	1mV	0.02+0.008	10.1MΩ				
	200V/500V	210.00	10mV	0.03+0.01	10MΩ	510.00	10mV	0.02+0.008	10MΩ				
	1000V	1200.00	100mV	0.03+0.01	10MΩ	1200.00	100mV	0.02+0.008	10MΩ				
DC current		Max. reading	Resolu tion	Accurac y	Load voltage/shunt resistance	Max. reading	Resoluti on	Accurac y	Load voltage/shunt resistance				
Range	2mA/5mA	2.1000	0.1μA	0.1+0.010	<0.3V/100Ω	5.1000	0.1μA	0.05+0.010	<0.6V/100Ω				
	20mAV/50mA	21.000	1μA	0.1+0.008	<0.04V / 1Ω	51.000	1μA	0.05+0.008	<0.08V / 1Ω				
	200mA/500mA	210.00	10μA	0.1+0.008	<0.3V / 1Ω	510.00	10μA	0.05+0.008	<0.8V / 1Ω				
	2A/5A	2.1000	100μA	0.3+0.010	<0.05V / 10mΩ	5.1000	100μA	0.25+0.010	<0.1V / 10mΩ				
	20A	20.000	1mA	0.3+0.010	<0.6V / 10mΩ	20.000	1mA	0.25+0.010	<0.6V / 10mΩ				
AC voltage		200mV	2V	20V	200V	750V	500mV	5V	50V	500V	750V		
Resolution		10μV	100μV	1mV	10mV	100mV	10μV	100μV	1mV	10mV	100mV		
Accuracy	20~50 Hz	1.20+0.16			-----		1.20+0.16			-----			
	50~20 kHz	0.5+0.1	0.4+0.05		0.8+0.08		0.4+0.06	0.35+0.02		0.50+0.03			
	20k~50 kHz	2.0+0.2	1.5+0.08				1.5+0.1	1.00+0.04					
	50k~100 kHz	5.0+0.8	5.0+0.3				3.0+0.3	3.0+0.1					
AC current		2mA	20mA	200mA	2A	20A	5mA	50mA	500mA	5A	20A		
Resolution		0.1μA	1μA	10μA	100μA	1mA	0.1μA	1μA	10μA	100μA	1mA		
Accuracy	20~50 Hz	1.50+0.2			2.00+0.2		1.50+0.16			2.00+0.16			
	50~2 kHz	0.5+0.12			0.5+0.2	-----	0.5+0.08			0.5+0.1	-----		
	2k~20 kHz	2+0.2	2+0.15		-----		2+0.16	2+0.12		-----			
Load voltage/shunt resistance		The same to DC current					The same to DC current						
Resistance		Max. reading	Resolu tion	Test current	Accuracy	Max. reading	Resoluti on	Test current	Accuracy				
Range	200Ω/500Ω	210.00	10mΩ	0.5 mA	0.10+0.02	510.00	10mΩ	0.5 mA	0.10+0.010				
	2 kΩ/5 kΩ	2.1000	100mΩ	0.45 mA	0.10+0.01	5.1000	100mΩ	0.45 mA	0.10+0.008				
	20 kΩ/50 kΩ	21.000	1Ω	45μA	0.10+0.01	51.000	1Ω	45μA	0.10+0.008				
	200 kΩ/500 kΩ	210.00	10 Ω	4.5μA	0.10+0.01	510.00	10 Ω	4.5μA	0.10+0.008				
	2MΩ/5 MΩ	2.1000	100 Ω	450nA	0.15+0.01	5.1000	100 Ω	450nA	0.15+0.008				
	20MΩ/50 MΩ	21.000	1kΩ	45nA	0.30+0.02	51.000	1kΩ	45nA	0.30+0.010				
Frequency		Max. reading	Resolu tion	Accurac y	Sensitivity	Max. reading	Resoluti on	Accurac y	Sensitivity				
Range	500 Hz	510.00	0.01Hz	0.05+0.02	200mV rms	510.00	0.01Hz	0.05+0.02	200mV rms				
	5kHz	5.1000	0.1Hz	0.01+0.02	300mV rms	5.1000	0.1Hz	0.01+0.02	300mV rms				
	50kHz	51.000	1Hz	0.01+0.008	300mV rms	51.000	1Hz	0.01+0.00	300mV rms				

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500kHz	999.99	10Hz	0.01+0.008	500mV rms	999.99	10Hz	0.01+0.008	8	500mV rms

Measurement Functions

Measurement parameters	DC voltage, AC voltage, DC current, AC current, resistance, frequency, period, conduction, diode
Math function	%, dBm, REL
Range	Auto, Manual
Display	VFD, dual display
Reading mode	Single display: all measurement parameters Dual display: V AC+V DC, I AC+I DC, V AC+Hz, I AC+Hz, Readout+%, Readout+dBm, Readout+Max/Min
Trigger mode	INT/MAN/BUS
Reading hold	To find out the best stable reading for each data block of the given reading number according to set accuracy
Comparator	To judge HI, IN, LO and display, with ALARM at HI/LO (selectable)
Communication interface	RS232C, SCPI

General Specifications

Working temperature & humidity	0°C -40°C, ≤90%RH	
Power supply	Voltage	198V -242V
	Frequency	47.5Hz -63Hz
Power consumption	≤ 20 VA	
Dimensions (W×H×D)	226mm×100mm×318mm	
Weight	Approx. 2.2 kg	

Ordering Information

TH1941 4 1/2 True-RMS Digital Multimeter

TH1942 50000-count Digital Multimeter

Instrument Accessories

TH26036 1 pair of test lead (red and black)

3-wire power cord

Options

TH26034 RS232C interface connection cable

TH12025 RS232C communication software

TH12024 Accuracy calibration software

