

Micro Signal Type Tester

II. TH2690 Series fA meter/pA meter/Electrometer/High Resistance Meter



Features

- 5.0-inch capacitive touch screen
- 6½-bit measurement resolution
- Four measurement modes: high resistance meter, voltmeter, ammeter, electrostatic meter
- Independent current and voltage measurement
- Built-in voltage source: $\pm 3000V$, resolution: 1mV
- Current range: 2pA-20mA, current resolution up to 0.01fA ($10^{-17}A$)
- Internal resistance voltage drop in the lowest current range $<20 \mu V$
- Measurement resistance up to 3000P Ω ($10^{15}\Omega$)
- Charge measurement down to 2nC range
- Input impedance $>200T \Omega$
- Supports voltage measurements up to 20V
- Temperature and humidity measurements
- Time-domain view to capture transient signal effects and select specific measurements
- Support data recording
- Configure special shielding test box



RS232	LAN	HANDLER	USB DEVICE	USB HOST	INTERLOCK
standard	standard	standard	standard	standard	standard

TH2690 Series

Application

- Material science
Biomaterials, ceramics, rubber, films, dielectric materials, electrochemical materials, ferroelectric materials, graphene, metals, organic materials, nanomaterials, polymers, semiconductors, etc.
- Electronic Component
Types of transistors such as capacitors, resistors, diodes, sensors, TFT and CNT, photoelectric devices, solar cells, etc.
- Electronic/non-electronic system
Ion beam, electron beam, sensor system, particle measurement, embedded precision instrument, etc.

Specifications

Display			
Display device	5.0-inch capacitive touch color LCD display, 6½-digit Measurement resolution		
Current measurement			
Range	Accuracy	Resolution	Remarks
2pA	$\pm(1\%+3fA)$	0.01fA	It is applicable to TH2695 / TH2695A / TH2690H / TH2691H.
20pA	$\pm(0.5\%+3fA)$	0.1fA	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H.
200pA	$\pm(0.5\%+5fA)$	0.1fA	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H.
2nA	$\pm(0.2\%+50fA)$	1fA	It is applicable to all models.
20nA	$\pm(0.2\%+3pA)$	10fA	It is applicable to all models.
200nA	$\pm(0.2\%+5pA)$	100fA	It is applicable to all models.
2µA	$\pm(0.1\%+50pA)$	1pA	It is applicable to all models.
20µA	$\pm(0.05\%+500pA)$	10pA	It is applicable to all models.
200µA	$\pm(0.05\%+5nA)$	100pA	It is applicable to all models.
2mA	$\pm(0.05\%+50nA)$	1nA	It is applicable to all models.
20mA	$\pm(0.05\%+500nA)$	10nA	It is applicable to all models.

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Resistance measurement			
Range	Accuracy	Resolution	Remarks
1MΩ	±(0.135%+1Ω)	1Ω	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10MΩ	±(0.135%+10Ω)	10Ω	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
100MΩ	±(0.185%+100Ω)	100Ω	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
1GΩ	±(0.285%+1kΩ)	1kΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10GΩ	±(0.41%+10kΩ)	10kΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
100GΩ	±(0.41%+100kΩ)	100kΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
1TΩ	±(0.45%+1MΩ)	1MΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10TΩ	±(0.75%+10MΩ)	10MΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
100TΩ	±(2.6%+100MΩ)	100MΩ	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
Range	Current range	Voltage source	Remarks
1MΩ	200μA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10MΩ	20μA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
100MΩ	2μA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
1GΩ	200nA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10GΩ	20nA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
100GΩ	2nA	20V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
1TΩ	2nA	200V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
10TΩ	200pA	200V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
100TΩ	20pA	200V	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
Max measurable resistance	3000PΩ(10^{15})		It is applicable to TH2695.
	1500PΩ(10^{15})		It is applicable to TH2695A.
	100PΩ		It is applicable to TH2690.
	1000TΩ		It is applicable to TH2690A.
	1000PΩ		It is applicable to TH2690H.
Voltage measurement (independent input unit)			
Range	Accuracy	Resolution	Remarks
2V	±(0.05%+40μV)	1μV	It is applicable to TH2690 / TH2690A / TH2690H .
20V	±(0.05%+400μV)	10μV	It is applicable to TH2690 / TH2690A / TH2690H .
150V	±(0.05%+300μV)	100μV	It is applicable to TH2695A.
300V	±(0.05%+600μV)	100μV	It is applicable to TH2695.
1500V	±(0.05%+300μV)	1mV	It is applicable to TH2695A.
3000V	±(0.05%+6mV)	1mV	It is applicable to TH2695.
Input impedance	>200TΩ(TH2690, TH2690A, TH2690H)		It is applicable to TH2695 / TH2695A / TH2690 / TH2690A / TH2690H .
Charge measurement (The indicators are valid within 1 second)			
Range	Accuracy	Resolution	Remarks
2nC	±(0.5%+50fC)	1fC	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
20nC	±(0.5%+500fC)	10fC	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
200nC	±(0.5%+5pC)	100fC	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
2μC	±(0.5%+50pC)	1pC	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H .
Voltage source			
Range	Accuracy	Resolution	Maximum output current
20V	±(0.05%+2mV)	1mV	±20mA
40V	±(0.05%+4mV)	1mV	±20mA
200V	±(0.05%+20mV)	1mV	±10mA
			Remarks
			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
			It is applicable to TH2695.
			It is applicable to TH2695A .

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400V	±(0.05%+40mV)	1mV	±10mA	It is applicable to TH2695.
1000V	±(0.05%+100mV)	1mV	±1mA	It is applicable to TH2690 / TH2690A / TH2690H .
1500V	±(0.05%+150mV)	1mV	±10mA	It is applicable to TH2695A .
3000V	±(0.05%+300mV)	1mV	±10mA	It is applicable to TH2695
Function of the voltage source	Direct current, scanning (single scan, double scan, list scan), ARB (square wave)			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
Temperature measurement range and accuracy				
-40°C-10°C	1°C			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
10°C-55°C	0.5°C			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
55°C-80°C	1°C			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
Humidity measurement range and accuracy				
0-20%RH	4%			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
20-80%RH	3%			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
80-100%RH	4%			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
View mode	Meter view, Graph view, Histogram, Scroll view			
Test terminal				
Voltage input	Triaxial BNC (For TH2695/TH2695A, it is high-voltage BNC)			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
Current input	Triaxial BNC			It is applicable to all models.
Voltage output	√			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
COMMON	√			It is applicable to all models.
GROUND	Banana jack			It is applicable to all models.
interface				
D/A output	±2VFS			It is applicable to all models.
HANDLER	√			It is applicable to all models.
Communication interface	RS232、USB DEVICE、USB HOST、LAN			It is applicable to all models.
Sensor input	Temperature and humidity			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
Interlock input	√			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
Ambient temperature and humidity				
Operating temperature and humidity range	0°C--45°C, 30%--80%, Without condensation			
Storage temperature and humidity range	-20°C--60°C, 10%--90%, Without condensation			
Temperature and humidity for ensuring accuracy	23°C±5°C, 30%-80%RH			
Warm-up time	1 hour			
Ambient temperature change	Less than ±3°C after self-calibration			
Calibration period	1 year			
General specifications				
Power supply	AC: 90V-264V,50/60Hz; or DC: 127V-370V			
Power	60W			
Mounting dimensions	215(W)×88(H)×480(D)			It is applicable to TH2695.
	215(W)×88(H)×335(D)			It is applicable to all models except TH2695.
Overall dimensions	235(W)×111(H)×590(D)			It is applicable to TH2695.
	235(W)×111(H)×440(D)			It is applicable to all models except TH2695.
Weight	5.5kg			It is applicable to TH2695.
	4kg			It is applicable to TH2695A.
	3.5kg			It is applicable to all models except TH2695 and TH2695A.