

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: $\pm 3000\text{V}$, resolution: 1mV
- Current range: 2pA - 20mA , current resolution up to 0.01fA (10^{-17}A)
- Internal resistance voltage drop in the lowest current range $<20\text{ }\mu\text{V}$
- Measurement resistance up to $3000\text{P }\Omega$ ($10^{15}\text{ }\Omega$)
- Charge measurement down to 2nC range
- Input impedance $>200\text{T }\Omega$
- 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	±(1%+3fA)	0.01fA	It is applicable to TH2695 / TH2695A / TH2690H / TH2691H.
20pA	±(0.5%+3fA)	0.1fA	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H.
200pA	±(0.5%+5fA)	0.1fA	It is applicable to TH2695 / TH2695A / TH2690 / TH2690H / TH2691 / TH2691H.
2nA	±(0.2%+50fA)	1fA	It is applicable to all models.
20nA	±(0.2%+3pA)	10fA	It is applicable to all models.
200nA	±(0.2%+5pA)	100fA	It is applicable to all models.
2μA	±(0.1%+50pA)	1pA	It is applicable to all models.
20μA	±(0.05%+500pA)	10pA	It is applicable to all models.
200μA	±(0.05%+5nA)	100pA	It is applicable to all models.
2mA	±(0.05%+50nA)	1nA	It is applicable to all models.
20mA	±(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±(%+ error)	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±(%+ error)	Resolution	Maximum output current	Remarks
20V	±(0.05%+2mV)	1mV	±20mA	It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
40V	±(0.05%+4mV)	1mV	±20mA	It is applicable to TH2695.
200V	±(0.05%+20mV)	1mV	±10mA	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℃-10℃	1℃			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
10℃-55℃	0.5℃			It is applicable to TH2695A / TH2690 / TH2690A / TH2690H .
55℃-80℃	1℃			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℃--45℃, 30%--80%, Without condensation			
Storage temperature and humidity range	-20℃--60℃, 10%--90%, Without condensation			
Temperature and humidity for ensuring accuracy	23℃±5℃, 30%-80%RH			
Warm-up time	1 hour			
Ambient temperature change	Less than ±3℃ 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.