

# Micro Signal Type Tester

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

### Features

- 5.0 inch capacitive touch screen
- 6½ Digit measurement resolution
- Four measurement modes: high resistance meter, voltmeter, ammeter, electrometer independent current and voltage measurement
- Built-in voltage source:  $\pm 1000V$ , resolution:  $700\mu V$
- Current range:  $20pA-20mA$ , current resolution up to  $0.1fA$  ( $10^{-16}A$ ), the internal resistance voltage drop in the lowest current range  $<20\mu V$
- The measurement resistance is as high as  $10P\Omega$  ( $10^{16}\Omega$ ), and the charge measurement is as low as  $2nC$ . The input impedance is  $>200T\Omega$
- Support voltage measurement up to  $20V$ , temperature and humidity measurement
- Time domain view, capture transient signal effects and select specified measurement data to support data recording
- With dedicated shielding test box

### 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

Model	fA meter/ Electrometer/ High Resistance Meter	pA meter/ Insulation Resistance Meter	fA meter	pA meter
	TH2690	TH2690A	TH2691	TH2691A
Measurement resolution	6½ Digit			
Current measurement	1fA - 20mA	0.01pA - 20mA	0.1fA - 20mA	0.01pA - 20mA
Minimum range	20pA	2nA	20pA	2nA
Resistance measurement	10PΩ	10TΩ	-----	-----
Voltage measurement	1μV - 20V	1μV - 20V	-----	-----
Input resistance	$>200T\Omega$	$>200T\Omega$	-----	-----
Charge measurement	1fC - 2μC	-----	-----	-----
Temperature measurement	√	√	-----	-----
Humidity measurement	√	√	-----	-----
power source	$\pm 1000V$	$\pm 1000V$	-----	-----
Minimum resolution	700μV	700μV	-----	-----

### Current measurement accuracy

Range	Display resolution	Accuracy $\pm$ (% + deviation)
20pA	1fA	1%+5fA
200pA	1fA	0.5%+5fA
2nA	1fA	0.2%+50fA
20nA	10fA	0.2%+3pA
200nA	100fA	0.2%+5pA
2μA	1pA	0.1%+50pA
20μA	10pA	0.05%+500pA
200μA	100pA	0.05%+5nA
2mA	1nA	0.05%+50nA
20mA	10nA	0.05%+500nA



NEW

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

Rack mount (mm): 215(W)×88(H)×412(D)  
Dimension (mm): 235(W)×111(H)×440(D)

Weight: 3.5kg

### Resistance measurement accuracy

Range	Display resolution	Voltage Source	Current Range	Accuracy $\pm$ (% + deviation)
1MΩ	1Ω	20V	200μA	0.135%+1Ω
10MΩ	10Ω	20V	20μA	0.135%+10Ω
100MΩ	100Ω	20V	2μA	0.185%+100Ω
1GΩ	1kΩ	20V	200nA	0.285%+1kΩ
10GΩ	10kΩ	20V	20nA	0.285%+10kΩ
100GΩ	100kΩ	20V	2nA	0.41%+100kΩ
1TΩ	1MΩ	200V	2nA	0.45%+1MΩ
10TΩ	10MΩ	200V	200pA	0.625%+10MΩ
100TΩ	100MΩ	200V	20pA	0.75%+100MΩ

### Voltage measurement accuracy

Range	Display resolution	Accuracy $\pm$ (% + deviation)
2V	1μV	0.05%+40μV
20V	10μV	0.05%+400μV

### Charge measurement accuracy

Range	Display resolution	Accuracy $\pm$ (% + deviation)
2nC	1fC	0.5%+50fC
20nC	10fC	0.5%+500fC
200nC	100fC	0.5%+5pC
2μC	1pC	0.5%+50pC

### Voltage source accuracy

Range	Display resolution	Accuracy $\pm$ (% + deviation)	Output Current
20V	700μV	0.05%+2mV	$\pm 20mA$
1000V	35mV	0.05%+100mV	$\pm 1mA$

### Standard Accessories

Three-core power cord

TH26058B Triax to Alligator Cable

TH26058C Plug

USB Cable

TH90003D High Voltage Test Cable (For TH2690/A only)

TH90003E High Voltage Test Cable (For TH2690/A only)

TH2690\_THS Temperature and Humidity Sensor (For TH2690/A only)