

CircuitTrim™ TS900

Standalone Process Measurement & Test System



High accuracy resistance voltage, or current measurements with high throughput.

- Full Kelvin measurement with under 1 millisecond switching time
- Performs 0.02% resistance measurements in 5 milliseconds
- Expandable with VXI and GPIB instrumentation
- VersiTrim™ software for easy application programming and automation integration
- Hardware trigger lines for accurate and repeatable process control
- Prober/handler interface kits available
- Built-in guard drive electronics



Measure, control and test in a single system

Utilizing a unique current bridge design, the *TS900* is capable of 0.02% resistance measurements in 5 milliseconds. Complex circuits can be measured with built-in guard driver electronics and complementary switching matrix control. The *TS900* is the ideal measurement, control or test system for virtually any resistor fabrication process.

Wide measurement and process capability

The *TS900* has a built-in current-nulling bridge that ensures fast and accurate resistance measurements over a range of 0.1 Ohm to 1 GigaOhm. A low-Ohm option is available for applications requiring 0.01 Ohm process capability. Individual resistors which are part of a complex

networks can be measured using the *TS900* guard driver instrumentation. Functional measurements are addressed with the *TS900*'s dual-precision voltage sources and DC voltmeter. An expandable crosspoint matrix is standard in the *TS900* package and allows program control connection of DUT pins and instrumentation for Kelvin or guarded measurements. The matrix is designed for high throughput with less than 1 millisecond switching time and is available to 120 pins.

Lost cost flexible expansion

The *TS900* is designed to provide the lowest possible cycle time, without sacrificing accuracy or production yield. The result is benchmark CpK process capability without proprietary architectures. Compatible with VXI form and function, the *TS900* offers a wide range of expansion possibilities.

The system additionally supports GPIB and RS232 extensions. The *TS900* is configured in standard VXI "C" format, assuring maximum flexibility at minimum cost. Expansion is easy with either VXI or GPIB instruments and the system matrix can accommodate additional measurement channels. Hardware trigger lines provide instant response and synchronization, assuring the lowest possible cycle time for process control applications. Interface kits are available for industry-standard handler and probers.

Industry-standard PC controller

The *TS900* uses an industry-standard PC controller for fast startup and easy interfacing to networks and factory automation.

Specifications

System Controller:

- Industry standard PC controller
- SVGA Monitor
- 3.5 inch floppy drive

Software:

- VersiTrim system software includes resistor programming using spreadsheet format, Microsoft® C++ compiler, GSI Group laser trim language library, and on-line data statistics

Options:

- Additional matrix
- Stored data bit PIO card
- PC/AT IEEE interface card
- Selection of many analogue cables
- Low-ohm option

Physical:

- Power:
 - System: 2.5 KVA (configurable 100 240VAC single phase input)

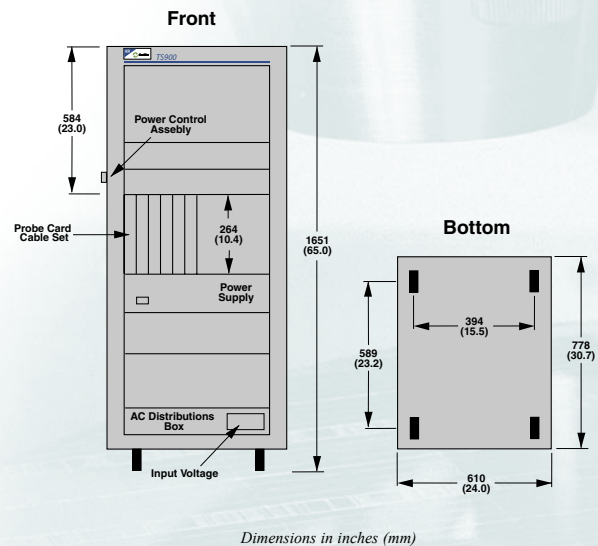
Measurement System:

- Type: High-speed, Force V, current-nulling bridge
- Range: 0.1 Ohms – 1000 MegaOhms
- Resistance measurement accuracy (full Kelvin):
 - Low range (<50 Ohms): $\pm 0.02\% \pm (1.0\%/R)$
 - Mid range: $\pm 0.02\%$ of value
 - High range (>160 K): $\pm 0.02\% \pm 0.02\%$ per MegaOhm
- Voltage source:

Range	Resolution	Accuracy (%FSR)
± 4 V	31 μ V	$\pm 0.008\%$
± 16 V	125 μ V	$\pm 0.005\%$
± 32 V	250 μ V	$\pm 0.005\%$
- Current measurement:

Range	Accuracy
20 μ A–20mA	$\pm 0.05\%$
200mA	$\pm 0.1\%$
- DC voltage (range 100 mV – 160 V):

Range	Accuracy	%FSR
100 mV–400mV	$\pm 0.1\%$	± 1 mV
1 V–16V	$\pm 0.05\%$	± 1 mV
10 V–160V	$\pm 0.05\%$	± 5 mV



Specifications are subject to change. Please consult Product Center for complete details.

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