**General**

- **Maximum Analog Test Points:** 3200 or Maximum Digital Test Points: 1600
- **Operation System:** Microsoft® Windows 2000/XP/Windows 7 32 Bit
- **Power Requirement:** 200 – 240 V, Single Phase, 50/60 Hz 3 kW
- **Conforms to SMDA standards:**
  - **Air Requirement:** Dry Air 4 – 8 kg/cm², Air Consumption: 4 liters/minute
  - **Fixture Type:** Inline
- **PCB and Connector System**
  - **PCB Size Standard:** (W) 450 mm x (D) 300 mm x (H) 0.6 – 5 mm
  - **Min.:** (W) 70 mm x (D) 70 mm
  - **Max. PCB Weight:** 2 kg (6.6 lbs)
- **Component Height Limitations**
  - **Top Surface of Connector:** 90 mm
  - **Bottom Surface of Connector:** 30 mm
  - **Connector Height:** 800 – 1100 mm
- **Analog Hardware**
  - **Measurement Switching Matrix:** 6-wire measurement
  - **Programmable Frequency:** 100 Hz, 1 kHz, 10 kHz, 100 kHz, 1 MHz
  - **Programmable DC Voltage Source:** ±10V max, Resolution: 6.1 mV
  - **Programmable DC Current Source:** ±10 mA max, Resolution: 0.2 mA
  - **Programmable AC Voltage Source:** 10 Vpp max, Resolution: 6.1 mV
  - **Programmable High Voltage DC Source:** 43 V at 43 mA max
- **Component Measurement Capability**
  - **Resistance:** 1 ohm – 40 Mohm
  - **Capacitance:** 10 pF – 40 nF
  - **Inductance:** 10 mH – 40 H
- **Optional Hardware**
  - **Analog Test**
    - **TestJet Technology:** Vectorless open circuit detection
  - **Arbitrary Waveform Generator (AWG)**
    - **Digital Test**
      - Frequency Range: 0 – 100 kHz; Resolution: 0.15 Hz
  - **Non-multibiting 1:1 per pin architecture**
  - **Pin Drivers**
    - Programmable levels 0.5 V to 4 V
  - **Pin Receivers**
    - Programmable levels -5 V to 5 V
  - **Pull-up/Pull-down Resistor: 4.7 K ohm**
  - **DUT Power Supplies**
    - 5V83 A, 3.3 V83 A, 12 V83 A, 18 V83 A, -12 V83 A and 24 V83 A
  - **Programmable DUT Power Supplies**
    - 25 V8 A, 75 V8 A, 2.5 A
  - **On-board Programming of Flash & EEPROM Memories**
  - **MAC Address Programming**
    - Supports MAC address programming with server supplied MAC addresses
  - **Boundary Scan**
    - Includes B-Scan Chain Test, B-Scan Cluster Test, Bisan Virtual Nails Test and IEEE1149.6 Test
  - **ToggleScan Test**
    - Advanced test technology that combines with B-Scan and Vectorless test functions to detect pin open or short issues
  - **Tree Test Facilities with BGA Test**
    - Dimensions: (W) 900 mm x (D) 900 mm x (H) 1600 – 1850 mm
    - (Not including signal tower, signal tower height: 515 mm)
  - **Weight:** 500 kg

**Specifications**

- **Powerful Software Environment**
  - **Microsoft® Windows operating system software**
  - User friendly interface
  - **Automatic Test Program Generator (ATPG)**
  - **Automatic protection of specific points during debug**
  - **Auto-learning and test program generation for opens/shorts clamping diode and TestJet tests**
  - **Auto-debugging of passive components**
  - **Built-in self-diagnostic function**
  - **Board view displays test fail devices and pins instantly**

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**TR5001 INLINE FEATURES**

### The Most Cost-Effective Test Strategy

Non-Multiplexing Pin Design, Driver/Receiver to Pin Ratio 1:1.
- Optimized Nail Placement with 1:1 Ratio Flexibility
- ECNs only require moving few existing wires compared with 2:8/2:9 driver/receiver per pin
- 1:1 Driver/Receiver per pin provide for the fastest test program development and debugging

The most flexible ICT+FCT solution in the market. TR5001 INLINE can integrate with external instruments for functional tests such as: PXI, Labview, ...etc.

### Limited Access Solution

**Drive Through Test**

Greatly reduces test probes for passive analog components connected in series with JTAG and BScan capable devices and connectors.

**Boundary Scan Test**

Virtual nails tests for RAM, ROM, TTL, and TREE devices, and IEEE1149.6 Test.

**TRI ToggleScan® Test**

A powerful vectorless test technology that significantly reduces number of test probes. ToggleScan utilizes BScan and vectorless probes to test non-BScan devices.

**Vreg Test®**

Test PWM circuits without test probes.

**TRI CPU Socket Test**

Quickly tests LGA CPU sockets using a specialized vectorless probe in connection with an onboard BSCAN device.

**OTA (Optimal Test Analyzer)**

Optimal Test Analyzer helps production test managers achieve full inspection and testing coverage to ensure stable production quality.

### Inline Fixture Design

- Fast-insertion mechanism
- Conforms to SMT1012 standards
- Dual-stage press unit
- Fast, easy fixture swap
- Reduced labor costs
- Increased productivity
- Enhanced efficiency
- Automatic test without human interruption
- Test program compatibility with TR5001/TR5001E
- PCBA protection mechanics

### Reference Production Layout

This example production line setup connects 3 ICT systems for higher production rate by inspecting multiple boards at once. When a board arrives at a busy ICT, it is forwarded thru the bypass conveyor to the next available ICT without waiting for the end of the test cycle.

### Shop Floor System Support

TR5001 Inline can integrate with many shop floor systems to help centralize production line management and improve production quality using gathered testing data.

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**Key Features**
- Inspection results and data integration
- Real-time SPC and production yield management
- Quality reports and closed loop tracking
- Support defect component analysis and improvements
- Knowledge Management (KM)
- Productivity and Quality Management
* Optional