

Keysight Technologies

Medalist i1000D Small Foot Print In-Circuit Test Technical Overview



Overview

The Keysight Technologies, Inc. Medalist i1000D in-circuit test (ICT) system is a revolutionary platform with best-in-class price-performance offerings. It comes with award-winning state-of-the-art features to answer most test challenges faced by today's manufacturers. Advanced limited access test features, coupled with a simplified, automated software model, shortens the learning curve of new users.

Field evaluations have demonstrated that the i1000D delivers the fastest ramp up of test coverage among all similar-category testers.

As the pressure to lower labor costs continues, improving quality and increasing throughput, as well as automation in the SMT lines have become hot topics.

The i1000D can now be deployed with offline and inline configuration to provide electronics manufacturers with even greater ease of use and flexibility in their automated in-circuit test strategy. Coupled with low-cost fixturing requirements and superior signal quality, these result in significant improvements in throughput, coverage and cost savings for electronics manufacturers.

Unified Offline and Inline Platform

Keysight has unified both the i1000D small foot print offline system and inline system into the same platform. Customers will be able to purchase an offline system with the possibility to move it to inline usage when automation is needed. All previous investments, including test system, fixturing and programming are protected in this platform.

When it is in offline configuration, the i1000D small foot print ICT is not only a true digital ICT with advanced digital features for production run, users can also develop test programs and fixtures which can be re-used should they decide to deploy the system inline. It offers customers maximum flexibility in both production test and test development.



Figure 1. Inline Keysight Medalist i1000D small-footprint ICT



Figure 2. Offline Keysight Medalist i1000D small-footprint ICT

SMEMA Support

When it is upgraded to inline, the same system can be plugged into the SMT lines and all existing fixtures/ programs are ready to run. Most of the existing hardware parts are shared for an efficient service and maintenance environment.

The system handler hardware and its control signals are fully controllable from the i1000D software graphical user interface. The hardware is SMEMA compatible with additional pass/fail signals communicable to downstream conveyors to separate 'passed' and 'failed' boards for follow up actions.

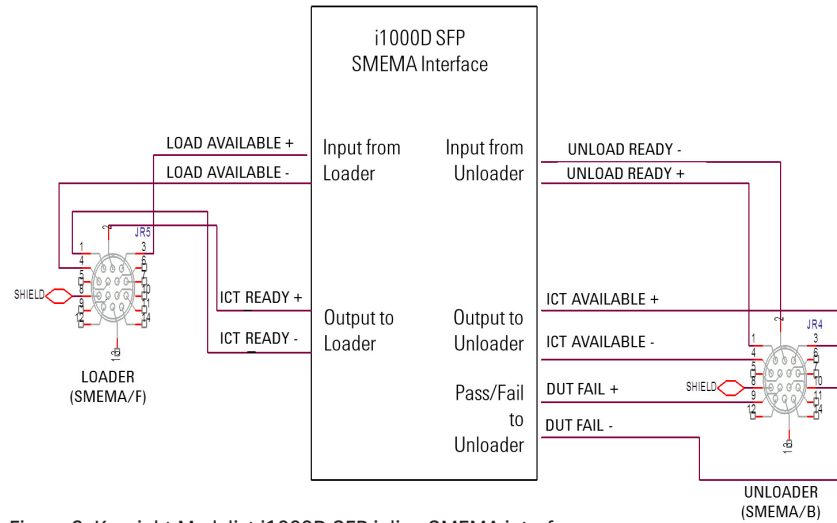


Figure 3. Keysight Medalist i1000D SFP inline SMEMA interface

Ensuring Board Safety

A specially designed control path for board alignment verification, together with a protective mechanism, prevent the press-down fixture from engaging when the board is not accurately placed on the fixture. High clearance space on both the upper and lower sides provide greater flexibility by allowing boards with very long connector pins, such as fuse contact fins found in automotive applications, to flow through without obstruction along the SMT conveyor. Deploying the i1000D with a board handler is easy, with its simple and robust design enabling excellent reliability, ease of maintenance, and of course, automation.

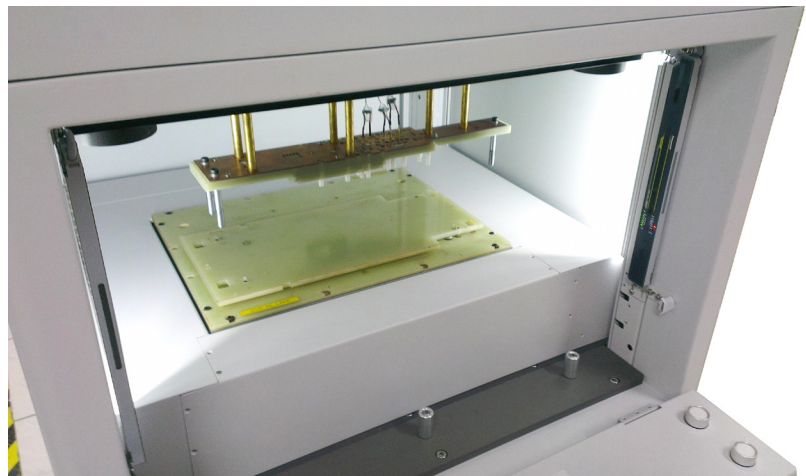


Figure 4. Internal board placement area of the i1000D SFP offline system

Keysight Medalist i1000D Small Foot Print Inline ICT Specifications

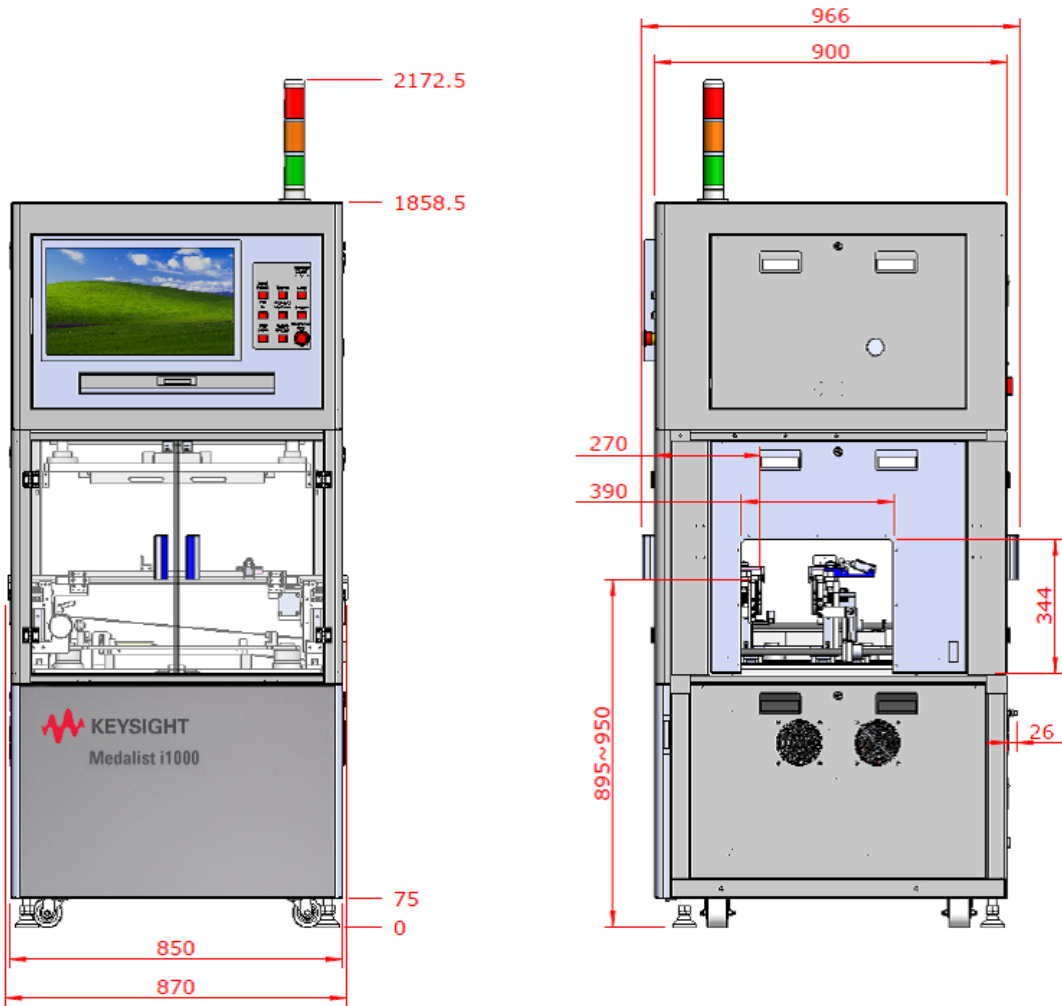
Device under test specifications

Maximum PCB size	430 mm x 300 mm
Minimum PCB size	50 mm x 50 mm
PCB guide hole diameter	2 - 4 mm
PCB guide hole location	Minimum 10 mm from center
Bottom side clearance height	40 mm
Top side clearance height	100 mm
PCB thickness	0.5 - 4.0 mm
PCB shape	Square
Deviation	1 mm (maximum)
PCB weight	3 kg (maximum)
PCB margin for conveyor	3 mm
PCB alignment	Fixed by 2-4 guide pins
Maximum test points	1,664

Mechanical specifications

Dimension	850 mm (W) x 900 mm (D) x 1,883 (H)
Conveying direction	Left to right / Right to left
Conveyor belt width	3.0 mm
Height of conveyer	895 mm ~ 1,000 mm
Power	200 V - 240 V AC
Power frequency	50 Hz / 60 Hz
Air pressure	6 ~ 8 kg/cm ²
Working temperature	5 to 45 °C
Working humidity	20 to 80%
PCB Exchange time	5 seconds
Board markers	Up to 7
Fixture lock mechanism	Automatic engagement

Dimensions



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