

InPressure HD TEST MODULE

High Parallel Test of TPMS & Pressure Sensors



Inertial sensor test equipment

Standard strip handler



Physical stimuli module



Tilt axes / Rational axis

Applications:

- TPMS and other pressure sensors with 100 mbar to 15 bar absolute pressure
- Other MEMS applications on request

Solution for:

- All leaded and leadless packages, including tiny and fragile devices
- Typical carrier size 215 mm x 65 mm
- Strip sizes from 20 mm to 150 mm to 70 mm x 250 mm
- Tri-temp test from -40 °C to +125 °C

Facts:

- High-parallel test in composites, i.e. strips, panels, or carriers
- Scalable, modular architecture: convertible to various sensor applications and package types
- Support of a large variety of packages incl. tiny and fragile packages
- Robust handling with minimum number of device contacts and low jam rates
- Real-world (physical) sensor stimuli with high accuracy



InPressure HD TEST MODULE

1. Base System

- 1.1 InPressure HD Module
- Module for physical stimulation of tire pressure monitoring systems TPMS and other absolute pressure sensors
 - Compatible with Xcerra InStrip test handler for automatic strip or carrier handling, compatible to InCarrier process
 - Compatible with external pressure generator, e.g. Mensor 9415
 - Enabling high-parallel test based on 1440 cable docked signal lines optional on demand:
1440 + 72 coax or 2268 hard docked signal lines
- 1.2 Temperature Test Options
- Ti-temp – 40 °C to 125 °C
 - Cooling standard: LN₂ at 30 to 78 PSI
 - Chiller option on request
- 1.3 Test Interface
- Cable dock (available) or hard dock (optional)
 - Tester interface: IEEE 488.2 (TCP/IP optional)
 - Pressure control from tester: RS232 (Mensor 9415)
 - Test pressure selection from tester: parallel interface
- 1.4 Human Machine Interface
- Panel PC with 15" touch screen, Windows 7
 - Remote recipe management
 - User configurable menus and run-screen
 - Online help system

2. Conversion

- 2.1 Conversion Style
- InCarrier / strip style conversion
- 2.2 Conversion Time
- Package conversion time required: <30 min, depending on number of parts that need to be converted
 - Only 1 person necessary
- 2.3 Adjustment / Calibration after Conversion
- Semi automatic adjustment at InStrip, e.g. width adjustment of conveyer system

3. Packages

- 3.1 Possible Package Style
- Singulated packages (with InCarrier process)
 - Packages in strips (e.g. lead frames, BGA strips)
 - Package types: leaded and leadless devices (e.g. BGA, LGA, QFN, MLF, WLCSP, SOIC, SOT, QFT)

4. Contacting

- 4.1 Number of Contact Sites
- Max. number of pins tested simultaneously: 1440, optional 1440+72 coax or 2268
 - Contacting force: 30 g/pin
 - Index: column indexing
 - Indexing distance: max. ± 19 mm
- 4.2 Type of Contacting
- Typical: spring probe

5. Performance

- 5.1 Pressure
- Pressure range: 100 mbar – 15 bar
 - Pressure ports: 5
 - Settling time: <2 s (typ with Mensor pressure generator)
 - Accuracy control: 0.01 % FS (with Mensor pressure generator)
 - Leakage at maximum pressure delta to ambient pressure: < 40 mbar/min (w/o tank attached), < 4 mbar/min (with Mensor tank attached); no pressure drop in control mode
 - Calibration sensor accuracy: 0.01 % IntelliScale-50

5.2 Temperature

- Range: -40 °C to +125 °C
- Accuracy at contact site: ± 3 °C
- Uniformity across strip/carrier: ± 2 °C
- Offset reference sensor to DUT: < ± 1 °C
- Reference sensor reading accuracy: PT100 class A, optional PT 100/PT 1000 class Y (1/3B), reference sensors next to DUT's

5.3 Throughput

- Dependent on:
 - Tester capability (number of parallel contact sites, number of devices, layout of panel, test time)
 - Contact index time: 6 s
 - Strip/carrier exchange time: 12 s
 - Parallel temp. soak capacity: 3 strips/carriers

6. Facility Requirements

- 6.1 Supply Requirements
- InStrip test handler: see InStrip fact sheet
 - InPressure HD module supplied by InStrip handler
 - Mensor pressure generator: 200-240 V, 47-63 Hz, max. 1000 W; shop air supplied by InStrip handler
- 6.2 Weight of InPressure HD Module
- ~220 kg incl. supply unit
- 6.3 Size of InPressure HD Module
- ~120 cm x 71 cm x 16 cm to 26 cm (w/ or w/o alignment pin)
- 6.4 Mobility
- InStrip + InPressure HD + loader/unloader movable on casters by 2 persons as one system; pressure generator to be moved separately

7. Compliance and Standards

- 7.1 Compliant to
- CE, SECS GEM E142

This document is a general overview of the product capabilities. For actual use cases the detailed technical specifications apply. All information on this document about configurations and performance data are subject to the individual conditions of the actual use case. All performance figures such as MTBF, MTBA, Uptime, Yield, Jam Rate, Life Span, Cleaning Cycles etc. can vary with the actual use case / application. They assume that only original Cohu spare and consumable parts are used, recommended maintenance intervals and procedures are respected, operators/maintenance technicians have successfully participated in formal equipment training by Cohu to the appropriate level, and only Cohu approved software is used on the systems. Cohu assumes no warranty or liability if any of these requirements is not met. For application specific binding specification please contact your sales person.

