InPressure HD Test Module

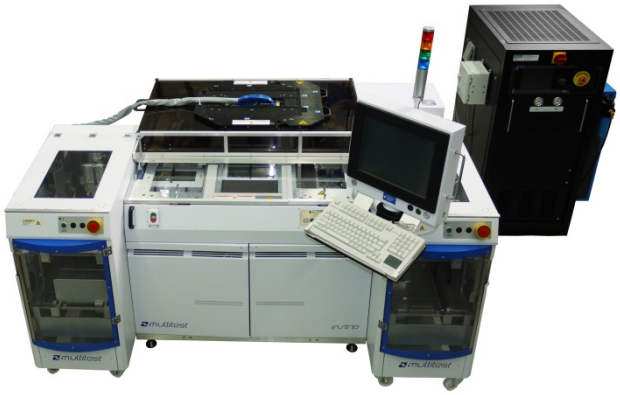
High Parallel Test of TPMS & Pressure Sensors

Applications

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

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 stimulus with high accuracy



Solution for

- all leaded and leadless packages, including tiny and fragile devices
- typical carrier size 215 mm x 65 mm
- strip sizes from 20 x 150 mm to 70 x 250 mm
- tri-temp test from -40° C to +125° C

inertial sensor test equipment

standard strip handler + **physical stimuli module** **tilt axes / rotational axis**

Rev20170323

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InPressure HD Test Module

High Parallel Test of TPMS & Pressure Sensors

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 Multitest 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
- tri-temp - 40° 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 sec (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 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

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