

# InBaro Test Module

High Parallel Test of Barometric Pressure Sensors



## Environmental sensor test equipment

Standard strip handler



Physical stimulus module



Peripherals

### Applications:

- Barometric pressure sensors with 100 mbar to 1.5 bar absolute pressure
- Other MEMS applications for same base handler available

### Solution for:

- All leaded and leadless packages, including tiny and fragile devices
- Typical carrier size: 215 mm x 65 mm
- Strip sizes from 40 mm x 150 mm to 70 mm x 248 mm
- Tri-temp test from -40 °C to +125 °C

### Facts:

- High parallel test in structure, 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



# InBaro TEST MODULE

## 1. Base System

- 1.1 InBaro Module
  - Module for physical stimulation of barometric pressure sensors
  - Compatible with Cohu InStrip test handler for automatic strip or carrier handling, compatible to InCarrier process
  - Compatible with external pressure generator, e.g. Mensor 9415 LP
  - Enabling high-parallel test based on 2400 signal lines
- 1.2 Temperature Test Options
  - Tri-temp – 40 °C to 125 °C
  - Cooling medium: LN<sub>2</sub>
  - Chiller option on request
- 1.3 Test Interface
  - Tester interface: IEEE 488.2 (TCP/IP optional)
  - Pressure control from tester: RS232 (Mensor 9415 LP)
  - 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: <30min, 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. leadframes, BGA strips)
  - Package types: leaded and leadless devices (e.g. BGA, LGA, QFN, MLF, WLCSP, SOIC, SOT, QFP)

## 4. Contacting

- 4.1 Number of Contact Sites
  - Max. number of pins tested simultaneously: 2400
  - Index: column indexing
  - Indexing distance: max. 25 mm
- 4.2 Type of Contacting
  - Typical: spring probe
- 4.3 Typical Contact
  - 30 g / pin

## 5. Performance

- 5.1 Pressure
  - Pressure range: 100 mbar – 1.5 bar
  - Pressure ports: 5
  - Settling time: <1 s (typ with Mensor pressure generator)
  - Accuracy control: 0.01 % FS (with Mensor pressure generator)
  - Leakage at maximum pressure delta to ambient pressure: <10 mbar/min (w/o tank attached), <1 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: ± 1 °C
  - Stability at contact site: ± 0.5 °C
  - Uniformity across strip/carrier: < 1 °C
  - Reading accuracy: PT100 class A, system sensor; optional PT 100/PT 1000 class Y (1/3B) reference sensors at DUT's
- 5.3 Throughput
  - Dependent on:
    - Tester capability (number of parallel contact sites, number of devices, layout of panel, test time)
    - Index time: 1 s
    - Strip exchange time: 6 s
    - Soak time: 6 s / 60 °C (typical)

## 6. Facility Requirements

- 6.1 Supply Requirements
  - InStrip test handler: see InStrip fact sheet
  - InBaro 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 InBaro Module:
  - 100 kg
- 6.3 Dimensions:
  - 100 cm x 60 cm x 30 cm
- 6.4 Mobility
  - InStrip + InBaro + 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, 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.

