



# HTA INSTRUMENTATION (P) LTD.,

*Committed to the customer since 1989*

## PRODUCT CATALOGUE

### Equinox<sup>TM</sup>



*Your One Stop For Instrumentation Supply, Automation & Calibration*

# 73, Ramachandra Agrahara, Near T.R. Mills, Chamarajpet, Bangalore - 560018, India

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**Profile**

**Equinox**



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ISO 9001:2015 CERTIFIED  
Certificate No. IQSC2010014

HTA Instrumentation (P) Ltd., founded in the year 1989, is a leading professional Supplier and Service Provider for Industrial Test & Measuring Instruments. HTAIPL has anNABL ISO- 17025 Accredited Calibration Laboratory & is certified for maintaining Quality Standards and Procedures as per the ISO 9001-2015 norms. A wide range of Instrumentation Products for every conceivable operation is offered. Our valued clientele include the industry majors from Govt. Sectors, Pharmaceutical, Defence, Food, Automobile, Machine Building, R&D Centers, Different Process Automation Sectors, etc., we offer awhole range of improvised instruments which help our customers in monitoring their processes efficiently and cost effective manner.

## SCOPE

- INDUSTRIAL TEST & MEASURING INSTRUMENTS
- TURNKEY PROJECTS
- CALIBRATION
- THERMAL MAPPING & VALIDATION
- INDUSTRIAL AUTOMATION
- IOT DEVICES & PROJECTS



Ref: HTAIPL/CATL/DOC-42/14PG/AUG-22(5000)

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# CALIBRATION SCOPE



## Electrical Related



- Multimeters (Upto 6½ Digit DMM)
- Volt Meters & Ammeters
- Process Indicators / Controllers
- Frequency Meters & Counters
- High Voltage Testers
- Decade Resistance Box
- Oscilloscope / Ohm Meters
- Insulation Testers / Meggers
- Power Meters / Energy Meter
- Digital Stop Watch
- Clamp Meters & LCR Meters
- Panel Meters

## Temperature Parameters



- Handheld / Glass Thermometers
- IR thermometers / Transmitters
- Temp. Transmitters / Indicators / Sensors (All Types of T/C & RTD's)
- Temp. Recorders and Temp. Gauges
- Temperature Calibrator
- Dew Point meter & Sling Psychrometer
- From -100°C to 1100°C Calibration



## Mechanical Parameters



- Digital / Analog Vernier Calipers
- Tachometer, Stroboscope & RPM
- Dial / Digital Micrometers
- Digital Vibration Meter
- Weighing Balance / Force Gauge
- Shore Hardness Tester & Weights
- Refractometer & Torque Wrenches
- Protractor, Spirit Level, Gauge blocks & Dial Calipers



## Environmental Parameters



- Sound Level Meters & Calibrators
- Weather Station
- Light (Lux) Meters / UV Meters
- Anemometers / Air Velocity Transmitters
- Temperature, RH Meters & Transmitters



## Pressure Parameters



- Pressure / Vacuum / Diff. Pr. Gauges
- Pressure / Vacuum / Differential Pressure Transmitters
- Pressure / Vacuum / Differential Pressure Switches
- Ultra Vacuum (Pirani Gauges)

## Flow Related



- Liquid Flow Meter
- Compressed Air Flow Meter

## Pipettes & Volumetric Wares



- Piston Operated Pipettes and Burettes
- Glass Pipettes & Glass Burettes
- Measuring Flask & Graduated jar
- Volumetric Cylinders

## Water Parameters



- pH, TDS, Cond., Resistivity, ORP, Turbidity Meters

# THERMAL MAPPING / VALIDATION

## ☞ Why Validate

- Validation helps to find errors in the process or system over a period of time
- Validation minimizes the failure of products at the final stage
- It reduces the cost of maintaining quality in the long run
- Due to validation, final product complaints and rejections can be reduced
- Validation helps to find flaws (big or small) in the manufacturing process
- Validation helps to study the system and equipment thoroughly
- Validation offers a significant cost reduction as compared to a process running without validation

## ☞ Masters Used For Mapping / Validation

### Paperless Recorder



- Paperless Recorder - Upto 48 Channel
- High Precision RTD Sensor -100°C to 200°C
- High Accuracy MI Thermocouple upto 1000°C
- High Precision Temp. & Humidity Transmitters
- Fast Response "T" Type Thermocouple upto 400°C

### Wireless Temperature & %RH Dataloggers



## ☞ Capability to Validate in Pharmaceutical Equipment

### Vials with Media Filled



- Walk-In / Stability, Temp. & RH Chamber
- Validation & Mapping to meet USFDA, MHRA Requirements.
- BOD Incubator, Refrigerator
- Autoclave (Vertical / Horizontal)
- Deep Freezer / Ultra Low Freezer

### BOD Incubator



## ☞ Thermal Mapping in Heat Treatment

### Tunnel Sterilizer



- Single & Double Chamber Furnace
- Muffle Furnace & Pit / SQF Furnace
- Tunnel Sterilizer, Dry Heat Sterilizer
- Hot Air Oven / Vacuum Oven
- Ageing, Annealing & Hardening Furnace
- Thermal Mapping to meet AMS 2750F & DKD Standards

### Steam Sterilizer



## ☞ Other Services Available

### Ware House Temp. & Humidity Mapping



- Area / Room Mapping (Only Temperature / Temperature and Humidity)
- Light Intensity Measurement
- Noise / Sound Level Measurement
- Air Velocity Measurement
- Vibration Measurement

### Walk-in Stability Chamber



# CLEAN ROOM VALIDATION SERVICES



Particle Counter



Photo Meter



Capture Hood

**HTA Instrumentation Pvt Ltd., with the backing of over 20 Years of Experience in Calibration & Mapping Services now Offers Cleanroom Validation Services**

We offer a complete range of Cleanroom Validation Services for HVAC Systems serving Pharma Aseptic Cleanrooms to ensure GMP compliance. We carry out Cleanroom Validation at Periodic Intervals to ensure that our Clients are Compliant to the relevant standards, issue reports in Video & Certificate form.

## Our Value Added Services Include :

- Cleanroom Validation in line with ISO 14644 & EUGMP-ISO:2015
- Airborne Particulate Count Analysis
- Room Recovery Tests
- Air Volumes / ACPH Calculations
- Temperature / Humidity Mapping
- Luminance Level Measurement
- Noise Level Measurement



HEPA Filter Integrity / Leak Testing



Laminar Air Flow Validation



Air Velocity Measurement



Air Flow Pattern Test

# AUTOMATION PRODUCTS

**Equinox**™



## Universal Input Touch Screen Paperless Recorder

- Extendable upto 48 Channels(6,12,18, 24, 48)
- Webview & LAN Connectivity
- FDA 21 CFR Part 11 Compliant & CE Approved

Model : PR Series (PR10/20/30)

## IOT Datalogger

- Temperature & Relative Humidity  
Pressure Differential Pressure, CO & CO<sub>2</sub>
- Illuminance (lux) and UV Irradiance

Model : HD35 Series / Airosensor / T20



## Human Machine Interface

- Available in : 4.3", 5", 7 & 10.1" Sizes
- TFT LCD Touch Screen
- Easy to Program

Model : HMI & Proop Series



## IO Modules

- Monitoring upto to 1024 Tags
- 200 Display Pages (1-24 tags/page)
- Real Time & Historical Trends

Model : IO & SIO Series



## 8 Channel Scanner

- TFT LCD Screen
- Data Logging with USB Flash Memory
- Adjustable time interval for data logging
- Modbus RTU Communication Protocol
- With PT100 & Universal Input option

Model : Channel 8AN

## PLC

- IEC 61131-3 Standard Instructions
- Programming via Integrated USB Connection Point
- CPU Freq.:16 MHz, Real-time Clock

Model : VB / MP210 Series



## SMS Based Control Unit

- Supports MODBUS RTU Protocols
- Network & Remote configuration by SMS
- 3G / 4G SIM Compatible

Model : S240 / CWT5018 / MPP110

# TEMPERATURE/RH DATALOGGERS **Equinox**™



## Temperature / RH Datalogger with Display

- Configurable Logging Interval
- 32,700 Records Memory depending on the Model

Model : EQ-172 / 20248 / TMU 306U

## Reusable USB Datalogger with External Probe

- Range: from -80°C ~ +47°C
- Large, Easy to read LCD Display
- CFR21 Compliant
- NIST Traceable and CE Mark

Model : Deltatrak 20902 / 20903



## Pen Type Temperature / RH Datalogger

- Compact Datalogger
- Stores over 16,000 Readings depending on the Model

Model : EQ- 171 / EL-21CFR-2-LCD

## Cold Chain Temperature Datalogger - Single Use

- Range Starting from -80°C
- Plug & Play PDF Temperature Datalogger

Model : EQ-88182 / Temp U08 / Deltatrak 20764



## Temperature / RH Datalogger with Buzzer

- Range : -20°C ~ +70°C / 0%~100%RH
- With Alarm & Logging Function
- 16,000 Readings
- LED Display

Model : EQ-8809

## Plug & Play Temperature / RH Datalogger

- Range: -30°C~+70°C/0.1%~99.9%RH
- 48,000 Readings
- No Software Required

Model : EQ-88162



## 4 Channel Datalogger with SD Card and Buzzer

- Thermistor / K Type Thermocouple input
- 47 x 104mm Backlight LCD Display

Model : 88598 / 88599

## 4 Channel Temperature Datalogger

- T/C Input - K, J, E & T Type
- Resolution : 0.1°C / 0.01°C depending on the Model
- 16,000 Records per Channel

Model : C376 / C378



## Wireless / Bluetooth Datalogger

- T/C Input - K, J, E, T Type
- 32,000 Records per Channel
- 4-Channel Input

Model : C521

# CUSTOM MADE TURNKEY PROJECTS **Equinox**<sup>TM</sup>

**Online Temperature & RH Monitoring with Voice System**



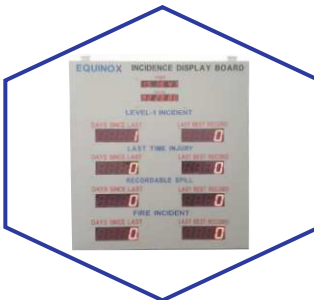
**Online Temperature & RH Monitoring with Alarm System**



**Online Pressure Monitoring & Alarm System**



**Custom Incidence Display Board**



**Online PH Monitoring & Alarm System**



**Custom Zigbee Monitoring System**



**Online Level Monitoring & Controlling System**



**Online LPG Monitoring System**



**Online Weather Monitoring System**



**Online Temperature Humidity, CO<sub>2</sub> Monitoring System**



**Jumbo Temp. / Humidity / Clock Display**



**Online Temperature & Timer Alarm System**





# INDUSTRIAL CONTROLLERS **Equinox**™



## Smart Process Controller with Communication Interface

- Universal Input, RTD, TC
- RS232 / RS485 Interface
- 4 ~ 20mA Output Modules

Model : ESM-9950

## PID Process Controller

- Universal Input, RTD,TC
- Auxiliary 15VDC Power Supply
- Dual Relay & SSR Output / 4~20mA

Model : ESM-4430



## PID HOT Runner Control Unit

- Process Input (TC, RTD)
- Display & ON / OFF Control
- 3 Digit Process (PV), 4 Digit(SV)

Model : ECO HR

## PID Temperature Control Unit

- Process Input (TC)
- RS485 Communication
- 3 Digit Process (PV), 4 Digit (SV)

Model : ECO PID



## Flow Rate / Flow Totalizer

- 6 Digits LED Display
- Relay Output Module
- NPN / PNP Type Operation

Model : EZM-9950

## Universal Input Process Controller

- Large LED Display
- Two Relay & 4 ~ 20mA Output
- Configurable Universal Input

Model : EQ-DS8B-IRRB



## Din Rail Mount PID Controller

- 4 Digit LED Single Display
- High Stability & Low Cost
- Input-T/C, RTD, mA, VDC, mV

Model : EQ-211

## ON / OFF Temperature Control Unit

- Process Input (TC, RTD)
- Display & ON / OFF Control
- 3 Digit Process (PV), 4 Digit(SV)

Model : ECO LITE



## DIN Rail Mount Temperature Controller

- RTD, K, J Type Inputs
- Compact & Easy to Operate
- Relay / SSR Control Output

Model : ESM-1510

# SHOP FLOOR INSTRUMENTS

**Equinox**<sup>TM</sup>



## Temperature Sensors

- RTD / Thermocouple
- Bulk Head / Immersion Type
- Customized as per Requirement

Model : EQ-PT100 / EQ-BLK-100 / EQ-TC

## Laser IR Thermometer

- Range Starting from -50°C up until 2200°C
- Single Dot Laser Targeting
- °C or °F Display Switch

Model : C-350 / EQ-DT530 / EQ-8869H



## Vane Type & Rugged Hot Wire Anemometer

- CFM / CMM Measurement
- Metal Vane Option
- Fast Response Probe

Model : EQ-619 / EQ-TM4001

## 2-in-1 Tachometer & Force Gauge

- Contact / Non-Contact Type
- 5 Digit LCD Display
- USB Interface Option

Model : EQ-801B / EQ-TM4100



## LEQ Sound Level Meter

- Fast / Slow Response
- A / C Time Weighting
- Class-1 & Class-2 Available
- Optional Data Recording
- Fast / Slow / Impulse Response

Model : C-390 / EQ-107 / EQ-805

## Digital Moisture Meter

- For Corrugated Box, Wooden Chips, Textile, Grains, etc.,

Model : Moisture Meter / Textile / Grain Moisture Meter



## Digital LUX Meter

- LCD Display counts
- Auto Zero & Hold Function
- Auto Ranging

Model : C-337 / EQ-1308

## Coating Thickness Gauge

- High Accuracy & Resolution
- For Metals, Ceramic, Plastics
- Ultrasonic Option available
- For Ferrous / Non Ferrous
- m /  $\mu$ m Measuring Unit

Model : EQ-TM8812 / EQ-156 / EQ-CM-8826FN



## Pocket Laser Distance Meter

- Range : 0.2m ~ 100m (810~32ft)
- Accuracy :  $\pm$  2mm(0.08in)
- Displays in Meter / Inch / Feet

Model : EQ-LDM100

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# SHOP FLOOR INSTRUMENTS

**Equinox**<sup>TM</sup>



## Vernier Calliper & Micrometer

- Range : 0~150/300/600mm
- Analog & Digital Models Available
- Repeatability : 0.01mm

Model : Vernier Caliper / Micrometer

## Heat Stress WBGT Meter

- Indoor / Outdoor
- LCD Display with LED Backlight

Model : EQ-TM-188D

- Viewing data records



## Counters & Timers

- 4 Digits Display
- Operation with one set value

Model : EZM-3735

- External Start Input

## Portable Gas Detector

- Low Cost Indoor Air Quality
- NDIR Technology
- Audible Alarm
- Hold Functions

Model : AZ8755 / CO180 / SPD201/O<sub>2</sub>



## Digital Particle Counter

- Ch-0.3, 0.5,1.0,2.5,5.0,10µm
- Temperature / RH Dewpoint / Wet Bulb Temperature
- 2.8" TFT Color LCD Display

Model : EQ-9880/ 9881

## Force Gauge

- Range : 0 ~ 100kg
- Peak Hold Function
- USB Option

Model : FG-100KG



## Torque Meter

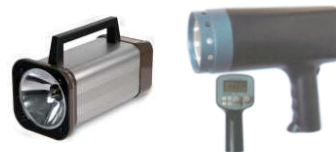
- Range : 0 ~ 100 Kg-cm
- Display "Real-time" or "Peak" Force
- 1,000 Data Memory

Model : HTG2

## Digital Stroboscopes

- Display 5 Digits, 10 mm High, Red LED
- 100–30,000 RPM / FPM & Higher with harmonics
- High Accuracy and most stable flash rate

Model : EQ-DT-2350PB



## Master Calibraor

- Calibrators for Sound , RH, Pressure, Temperature etc.,

Model : Please ask for Model numbers

# PRESSURE/VACUUM SWITCH/GAUGE **Equinox**™



## Compact Steel Body Pressure Switch

- Range : 0.1bar ~ 300bar
- NO / NC Contact Type
- Field Settable
- Zinc Plated Steel Body

Model : 311 Series

## Brass Body Pressure Switches

- Range : 0.1bar ~ 300bar
- NO / NC Contact Type
- Field Settable
- Brass Body

Model : 311 Series



## Rotatable / Pressure Switch- High Range

- Range : 0.2bar ~ 400bar
- SPDT Contact
- IP65 Protection

Model : 24 / 27N Series

## Diaphragm Steel & Brass Body Pressure Switches

- Tolerance@20°C ( in bar)
- Adjustable Hysteresis
- SPDT Contacts
- IP65 Protection

Model : 27 Series



## Pressure Switch - High Range

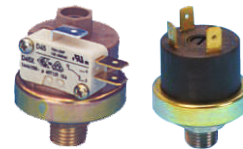
- Range : 50bar ~ 400bar
- SPDT Contact Type
- IP65 Protection

Model : 48 Series

## Pressure Switch with External Relay

- 16 A Rated Relay Contact
- SPDT Contact Type
- Max Temp upto 125°C

Model : XP110 / XP 600 Series



## Vacuum Switches

- Range : -150mbar ~ 1000mbar
- SPDT Contact
- ½" BSP male Port

Model : XV 600 / XV 110 Series

## Digital Pressure / Vacuum Gauge / Digital Manometer

- Range : 0.1bar ~ 600bar
- 4 Digits LCD Display with back
- Light & Peak hold Facility
- Range : -10mbar ~ 2bar

Model : EQ-DPG-801S / EQ-8890A / B



## DIN Connector / Plastic, Rubber Protective Cap

- IP54 CAP

Model : DIN Connectors

# TRANSMITTERS

**Equinox**™



## Pressure Transmitter / Vacuum Transmitter

- Range : 2bar ~ 1000bar
- Zero / Span Adjustment
- Operating Temp: -40°C ~125°C
- mA / VDC Output

Model : EQ-PT1003 / ESP Series

## Bulk Head & Din Rail Mount Temperature Transmitter

- For RTD, TC Inputs
- Onsite Calibration Trimpots
- Dual 4 ~ 20mA Output

Model : EQ-TMT-131 / TR4 / TM196



## Temperature & Relative Humidity Transmitter

- 2 Analog Outputs for Temperature and Humidity
- High output Accuracy, Long-term Stability

Model : PRONEM MIDI / EQ - TRH 304H

## Online Light Intensity Transmitter

- Range : 0.02k Lux ~ 200k Lux
- mA / VDC Output
- High Accuracy in measuring- ambient light.

Model : LXT101/ 201 / HD2021T / LP-UVA Series



## Differential Pressure Transmitter

- Range : 0.05bar ~ 10bar
- High & Low Port
- For Air, Oil and Liquids

Model : EQ-PT500

## Pressure Transmitter with Local Display

- Configurable Range
- Built-in LED Display
- Two Opto switch output

Model : PT-LEDD-1000-X



## IR Transmitter with Double Laser Aiming

- Range : -40°C ~ 1800°C
- Optional communication Interface
- mA / VDC output
- Small Spot Measurement of 0.9mm

Model : CT Laser 3M

## Differential Clean Room Pressure Transmitter

- Range : ±12.5mm H<sub>2</sub>O~2bar
- mA / VDC Output
- For Air / Gas / Media

Model : EQ-DP-101S



## CO<sub>2</sub> / O<sub>2</sub> / CO Transmitter

- NDIR Technology
- Sampling Diffusion
- 4 ~ 20 mA Output

Model : EQ-GS33 / GM33

# MISCELLANEOUS

**Equinox**<sup>®</sup>



## Flow Meters

- Flow Rate Measure
- Suitable for Aggressive Fluids
- Application : Gas, Liquid, Steam

Model : EQ-FLW-101 / EQJT-122 / LUGB Series

## Online pH / Conductivity / TDS Controller

- 3.5 Digit Display LCD
- Dual Relay Output
- 4 ~20mA Output

Model : EQ-pH / ORP/5520 /EQ-CCT-5520E / EQ-TDS-230



## Microprocessor Based5 - 1 Bench Top Meter

- Combined pH / ORP / Conductivity / TDS / Salinity / Temperature Meter
- 5 Point Calibration
- Rs232 Interface

Model : EQ-86505

## Water Testing Instruments & Digital Refractometer

- pH / Conductivity / TDS Measurements
- Digital Refractometer Meters
- Auto Temperature Compensation

Model : EQ-8685 / 8351/ 8361/ HNE Series



## PH / Conductivity Electrodes

- Bench Top / Online Type
- Temp. upto 120°C (Optional)
- Variety of Models to suit different Applications

Model : TL-42 / ASPSA2121 / ASD-0-01K

## Online Thermal Imager

- Range : -20°C ~ 100°C / 0 ~ 250°C/150 ~ 900°C with Hz Frame Rate
- 7.5 to 13  $\mu$ m spectral Range

Model : PT 160



## Signal Converter / Isolaters

- Current / Voltage Output
- Isolated Single / Dual Output
- 4~20mA to Single / Dual Output

Model : EQ-IISS

## Pyrgometer / Pyranometer / Albedometer

- Infrared Radiation Measurement
- Solar Radiation Measurement
- As per WMO Standard

Model : LP PIRG01 / LP PYRA Series



## Thermo - Hygrometers

- In / Out Temperature Display
- Cost Effective
- Max / Min Readout

Model : C31 / EQ-410CTH / EQ-803