

**HALLMARK**  
ADVANCED TECHNOLOGY PVT. LTD.

**AUTOMATION DIVISION**

# REVOLUTION IN MOTION CONTROLLER & PRECISION MEASURING EQUIPMENTS **THE IIOT4 WAY**



- HALLMARK CONTROLLER™ •
- HALLMARK L-PROFILER™ •
- SUBMIC CALIBRATOR™ •
- PROBEPLUS IIOT4™ •
- PRECIPLUS SLIDE™ •
- CALICARB PINS™ •

# HALLMARK CONTROLLER™

EXPERIENCE A NEW REALM IN PRECISION 6-AXIS MOTION CONTROL

- Synchronized G-Code High Speed Motion Controller for up to 6-Axis.
- Inbuilt CAD programming with DXF generation for G-Code & Import/Export options.
- Macro Plug-ins for CAM Profiles: Pocket milling, Array drilling, Text Engraving, Drag knife, Helical interpolation, Thread milling, Tabs, Profiling, etc.
- User-Configurable Database for Materials, End mills, Stock, etc.
- Z Mapping to Compensate for Z-plane Non-uniformity.
- Edit and Visualize G-Code During & Before Operation.
- Real-Time Operating System For Smooth Profiling During Motion & machining.
- Robust Platform for Trouble-Free Operation.
- Ability to Process Millions of Lines of G-Code Seamlessly from any Commercial CAM software..

- Work Coordinate System (G54 - G59), Tool offsets, Homing, etc.
- MPG Compatibility.
- Speed & Feed Override During Motion.
- Remote Monitoring & Control with Video Support.
- 3D Graphic Visualization of Motion Path with Pan & Zoom During Operation.
- WiFi & Bluetooth Connectivity.
- Operator Friendly, as Standard Operations Does Not Require a CNC Programming.
- Customised GUI for Specific Type of Job.
- Additional Features Available Upon Request.

FEATURES

- Synchronized Axis Motion
- CNC Machines
- Robotics
- Packaging Machines
- Laser/Plasma Welding
- Processing Industry
- Inspection Equipments
- 3D Printing
- Pick & Place Machines
- Jewellery Machinery
- Gluing Applications
- Many More Applications

# VERSATILE APPLICATIONS



# HALLMARK L-PROFILER<sup>TM</sup>

## ABSOLUTE 2D PROFILE MEASUREMENT IN SUB-MICRON DOMAIN USING LASER MICROMETER

HALLMARK L-PROFILER Is a Unique World Class Laser Profile Generator With IIOT4 Capability. It Offers Sub-micron Accuracy Within  $\pm 0.5$  Microns & Repeatability Within  $\pm 0.2$  Micron Over Full Range of 38mm.

- Combines Rotary Axis & Linear Motion For Profile Mapping At Different Angular Positions.
- Various Parameter Like Diameter, At Various Position, Tapers, Length, Radius Profiles, etc Can Be Programmed & Automatically Recorded.
- Can Measure Both, Symmetrical & Non-symmetrical Jobs.
- It Is a Non Contact Type Of Automatic Measurement System Having High Accuracy Resulting In Very Low Percentage GRR (Gauge Repeatability & Reproducibility).
- Accuracy Surpasses Other Accurate Measurement Tools Like Vision Measurement Machine (VMM), etc.
- The Recorded Parameter Are Routed To The Main Sever Over Wifi, Which Analyses  $\sigma$ , Cp, Cpk. Histogram, etc.
- A 'Master Template' of The Profile To Be Scanned Can Be Generated For Direct Comparison With The Generated Profile On The GUI.
- One Can Set Different Scan Speed At Different Sections of Profile, Resulting In Optimization of Scan Time.
- Possible To Visualize The Last Few Previous Scans Simultaneously For Direct Comparison.
- Line Fitting And Curve Fitting Algorithm Results Is More Precise Values of Distances or Average Diameters As They Are Based on Hundreds of Values of Individual Diameters.
- Dimension Selection Of Maximum, Minimum, Average Mode For Required Parameters.
- Export of Scan In Spreadsheet CSV (Comma Separated Values) Format. This Format Can Be Shared With The Customers Who Can Verify The Profile of The Spreadsheet Graph.
- Extremely User Friendly & Versatile.

# FEATURES

# APPLICATIONS

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- An Excellent Tool For Reverse Engineering & Can Reproduce The Exact Profile Within Minutes.
- Continuous Online Monitoring For Process Control.
- Ok / Not Ok Report Generation.
- Calibration Services.



# SUBMIC CALIBRATOR™

ULTRA PRECISE DIAL STAND IN SUB-MICRON ACCURACY  
WORKING ON IIOT4 PLATFORM

SUBMIC CALIBRATOR Is a PC Based Ultra Precise Dial Stand  
Type Comparator With Option of Single or Double Probes.



## APPLICATIONS

- Statistical Analysis,  $\sigma$ , Cp, Cpk Data Recording.
- Medical Instruments
- Precision Components & Tools.
- Calibration Services For Process Control.
- Continuous Online Monitoring.

SUBMIC CALIBRATOR Works On **IIOT4**  
Module With Wifi Data Transfer & Remote Monitoring.

- Option of Using Single Probe or Double Probe For Calibration.
- Allows Easy Interaction With The Measuring And Recording System Thus Enhancing User Experience And Simplifies Data Management.
- Customised GUI Makes It Convenient For The Engineer Since Same Terminology of Inspection is Used.
- Measurement Probe Aligned as Line Stylus Perpendicular to Job Axis With Sub-micron Precision For Accurate Sub-micron Measurements With Enhanced Precision, Thereby Guarantees Repeatability Within  $\pm 0.1$  Micron.
- Traditional Millimess Type of Graphic Interface For Good Operator Feel.
  - Calculates & Displays Statistical Process Control Metrics. Provides Information On  $\sigma$ , Cp, & Cpk.
  - It Incorporates Hardest Grade of Tungsten Carbide Material Having 93HRA, That Enhances The Probe's Life.
- Repeatability of  $\pm 0.1$  Micron for Upto  $\varnothing 50$ mm Job Size.



- Job Placed On V-blocks Designed For Step Pins; Ensures Stable Positioning.
- Ok/ Not Ok Report For Monitoring.
- Can Measure & Record Minimum Size, Maximum Size & Ovality of Job.
- Robust Design As Well As Accurate Parts Ensure Sub-micron Repeatability of Measurement.
- SUBMIC CALIBRATOR Can Be Merged With Automatic Production Inspection as a Process Quality Check.
- We Offer Calibrated Carbide Pins (CALICARB PINS) With An Accuracy of  $\pm 0.2$  Micron On Diameter From  $\varnothing 1$ mm Upto  $\varnothing 20$ mm in Steps Of 1mm.

# FEATURES

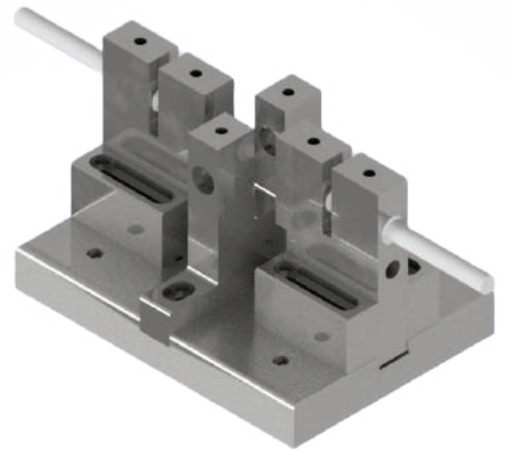
# ProbePlus IIOT4<sup>TM</sup>

## HARNESS THE ACCURACY IN SUB-MICRON DOMAIN ON IIOT4 PLATFORM

PROBEPLUS IIOT4 is a PC based dimension Inspection System & can simultaneously measure many Probes. It works on IIOT4 module with WiFi data transfer & Remote monitoring having repeatability of  $\pm 0.1$  micron upto 50mm Job size.

## APPLICATIONS

- Medical Instruments
- Continuous Online Monitoring.
- Most Precise Components & Tools
- Statistical Analysis,  $\sigma$ , Cp, Cpk Data Recording.
- Calibration Services



## FEATURES

- Automated Measurement of Diameters at Various Positions For Both Flat & Cylindrical Jobs.
- User-friendly GUI Allows Easy Interaction With The Measuring & Recording System Thus Enhancing
- User Experience & Simplifies Data Management.
- Customised GUI Makes It Convenient For The Engineer, Since Same Terminology of Inspection Is Used.
- Traditional Millimess Type of Graphic Interface For Good Operator Feel.
- Utilizes Line Edge Instead of Point Probe For Enhanced Precision, Thereby Guarantees Repeatability Within  $\pm 0.1$  micron Upto  $\varnothing 50$ mm Job Size.



Actual  Result **PASS**

USL  LSL  Type  Ref.

Op. ID  Wrk Order  Size  Bin No.  PASS 8  
OVER 0  
 Loc.   Type  Qty.  UNDER 0

Actual  Result **PASS**

USL  LSL  Type  Ref.

Op. ID  Wrk Order  Size  Bin No.  PASS 7  
OVER 0  
 Loc.   Type  Qty.  UNDER 0

Messages  
Finished Upload  
File Processed  
Created Data file BPS08\_CH1\_DATA\_2023-07-04\_11-20-36.txt  
Pending upload 1 files  
Successfully uploaded BPS08\_CH1\_DATA\_2023-07-04\_11-20-36.txt  
Finished Upload  
File Processed

Settings

Status: RUNNING

Actual	Date	Type
2 6.834	2023-07-04 11:20:59	PASS
3 6.837	2023-07-04 11:21:03	PASS
4 6.838	2023-07-04 11:21:16	PASS
5 6.836	2023-07-04 11:21:21	PASS
6 6.835	2023-07-04 11:21:27	PASS
7 6.835	2023-07-04 11:21:31	PASS
8 6.837	2023-07-04 11:22:40	PASS

Actual	Date	Type
1 6.543	2023-07-04 11:21:48	PASS
2 6.543	2023-07-04 11:21:58	PASS
3 6.545	2023-07-04 11:22:04	PASS
4 6.543	2023-07-04 11:22:10	PASS
5 6.544	2023-07-04 11:22:15	PASS
6 6.543	2023-07-04 11:22:19	PASS
7 6.542	2023-07-04 11:22:26	PASS

- Calculates & Displays Statistical Process Control Metrics. Provides Information on  $\sigma$ , Cp & Cpk.
- Enables Time Study & Quality Inspection, Tracks Work Order Numbers & Operator IDs Thereby Facilitating Productivity Measurement & Analysis, if Used Directly in Production Line.
- It Incorporates Hardest Grade of Tungsten Carbide Material Having 93HRA Hardness to Ensure Good Usage Life.
- Easy Report Generation Possible in Spreadsheet Format (CSV Supported). Can Be Readily Automated For Inline Measurement & Recording Through Automation.
- We Offer Calibrated Carbide Pins (CALICARB PINS) Within an Accuracy of  $\pm 0.2$ micron on Diameter From  $\varnothing 1$ mm To  $\varnothing 20$ mm In Steps Of 1mm.

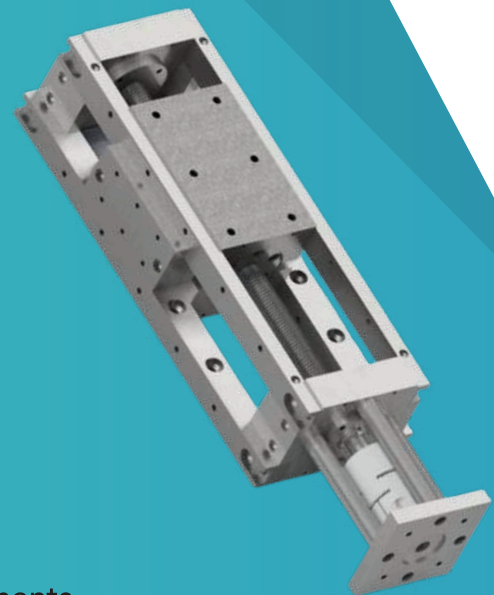
# FEATURES

# PRECIPLUS SLIDE™

PRECIPLUS SLIDE IS A COMPACT, RIGID & ACCURATE  
AXIS MOTION STAGE WITH  
'BOX TYPE GUIDE WAYS'

## Features

- Compact, Rigid & Accurate Axis Motion Stage.
- Box Type Guide Ways.
- Minimal Backlash, Measuring Within 10microns For Type "A" & 20microns For Type "B".
- Exceptional Position Repeatability Of 5microns For Type "A" & 10microns For Type "B".
- Sliding Components Hardened To Approximately 60HRC.
- Ensured Very Good Service Life Due To Hardened Components.
- Continuous Lubrication System Implemented.
- Smooth Operations, Improved Service Life, Enhanced Load Bearing.



THE PRECIPLUS SLIDE IS A TECHNOLOGICALLY ADVANCED MOTION STAGE THAT EXCELS IN TERMS OF PRECISION, RELIABILITY, LOAD - BEARING CAPABILITIES & LONGEVITY.

ITS UNIQUE COMBINATION OF FEATURES MAKES IT AN IDEAL CHOICE FOR APPLICATIONS WHERE ACCURACY & STABILITY ARE PARAMOUNT

# CALICARB PINS<sup>TM</sup>



CALICARB PINS ARE ULTRA-PRECISION PINS, WITH AN ACCURACY OF  $\pm 0.2$  MICRON ON DIAMETER FROM  $\varnothing 1$ mm TO  $\varnothing 20$ mm IN STEPS OF 1mm.

MATERIAL OF CONSTRUCTION OF THESE PINS ARE FROM A REMARKABLY HIGH WEAR RESISTANT TUNGSTEN CARBIDE HAVING AN IMPRESSIVE HARDNESS OF 93HRA. THIS ENSURES VERY HIGH LIFESPAN FOR THESE PINS.

- The Manufacturing Process Ensures Strict Control Over The Out-of-roundness Parameter Within 0.1micron.
- The Surface Roughness Of CALICARB PINS Is Meticulously Controlled, Achieving Smoothness Level Of Just 0.02RA, Further Enhancing Their Performance And Usability.
- A Third Party Calibration Certificate Is Provided Along With Pins.

## Features

# HALLMARK STRENGTH

Over Four Decades of Precision Manufacturing Experience, We Have Gained Indept Understanding of Engineering Intricacies.

Our Expertise Includes Motion Control, Inspection Processes, Automation, Statistical Data Analysis And Control

Leveraging Our Knowledge, We Develop Innovative Solutions That Consistently Exceed Customer Expectations.

Our Team Of Skilled Hardware & Software Engineers Tailor GUI & Hardware For Specific Applications.

We Are Also Developing Cutting-edge Products Such as an Automated PC-based Hardness Testing Machine, CAD-CAM Solutions For Jewellery Manufacturing, & Macro-based CNC / VMC Controllers.

These Upcoming Products Address Specific Needs & Challenges in Their Respective Domains. Our Dedicated Service Team Provides Round The-clock Support to Ensure Uninterrupted Machine Working.

WE OFFER A RANGE OF COMMERCIAL PRODUCTS FOR THE IIOT4 ENVIRONMENT. & ENTHUSIASTICALLY WELCOME NEW PRODUCT DEVELOPMENT.



## CONTACT Us

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