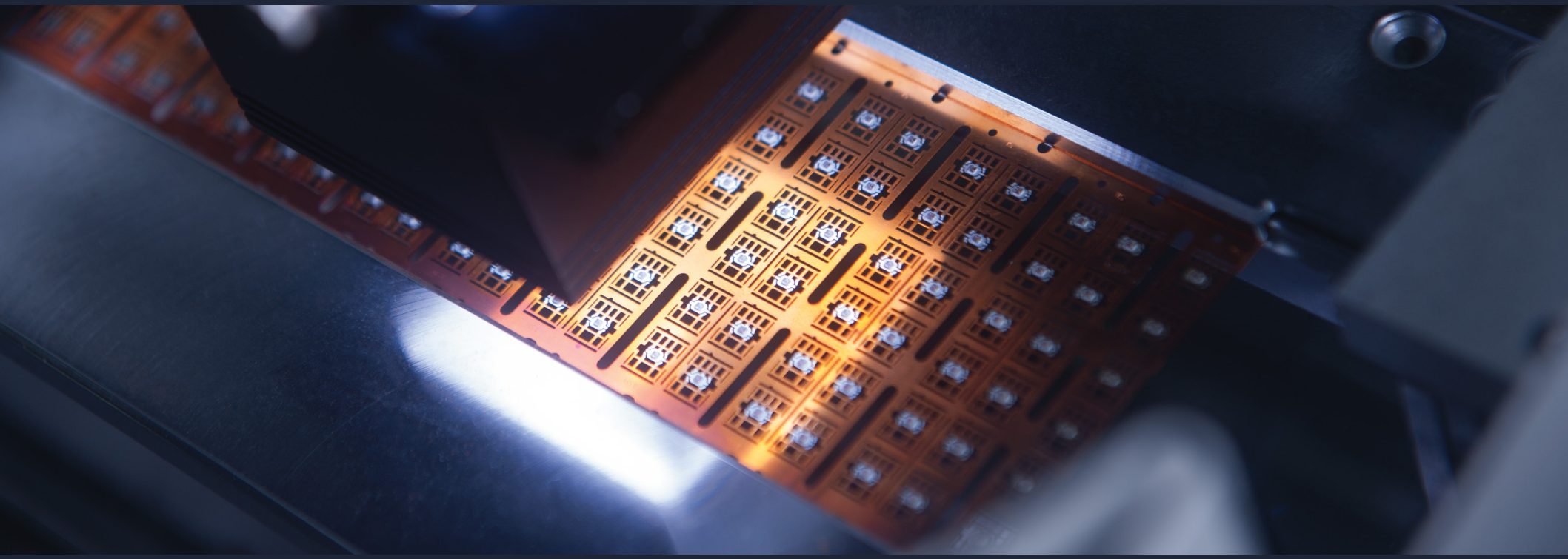
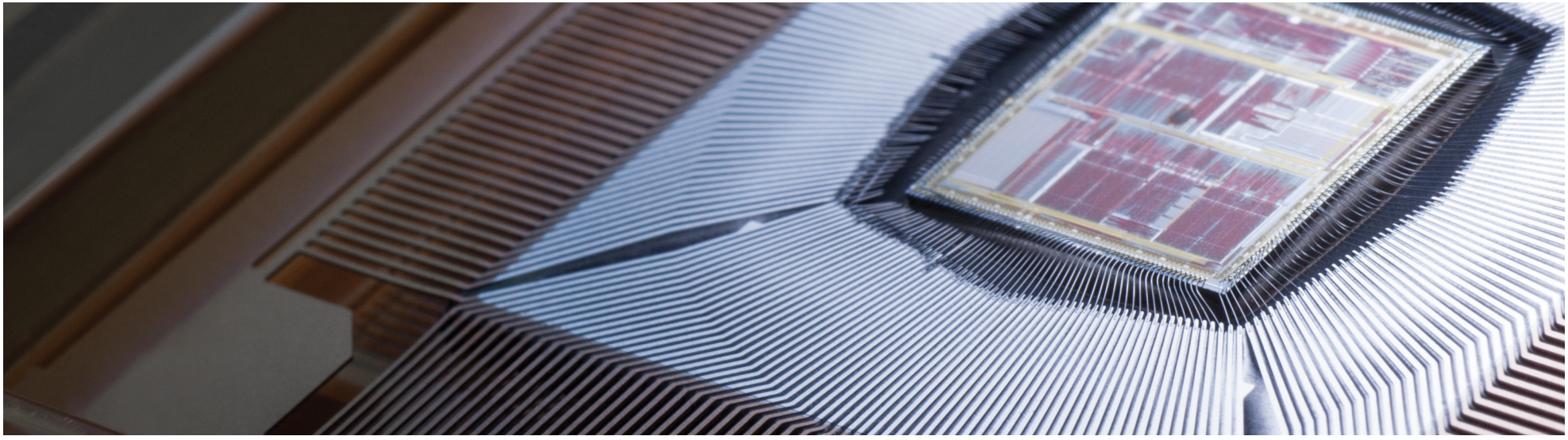


CREDEN

A member of QES Group



COMPANY INFORMATION

Creden Mechatronic Sdn Bhd was founded in June 1999 and started operating in year 2000. Strong R&D and technology partnerships allows us to be a global manufacturer of inspection and handling machines. Creden Mechatronic Sdn Bhd is member of QES Group of Companies.

Head quartered in Hicom-Glenmarie (Malaysia) and ISO BS EN ISO 9001:2008 certified. Staff strength of 40 people providing sales and service support together with our sales channel partners and distributors covering primarily ASEAN and China. We currently have more than 300 machines installed globally.

Ultimate Holding Company
QES (Asia-Pacific) Sdn Bhd

Nature Of Business
Design and development of inspection and handling machines
ODM and OEM contract manufacturing
Precision parts fabrication

Board of Directors
Chew Ne Weng, Managing Director
Liew Soo Keang, Executive Director
Lim Chee Keong, Executive Director

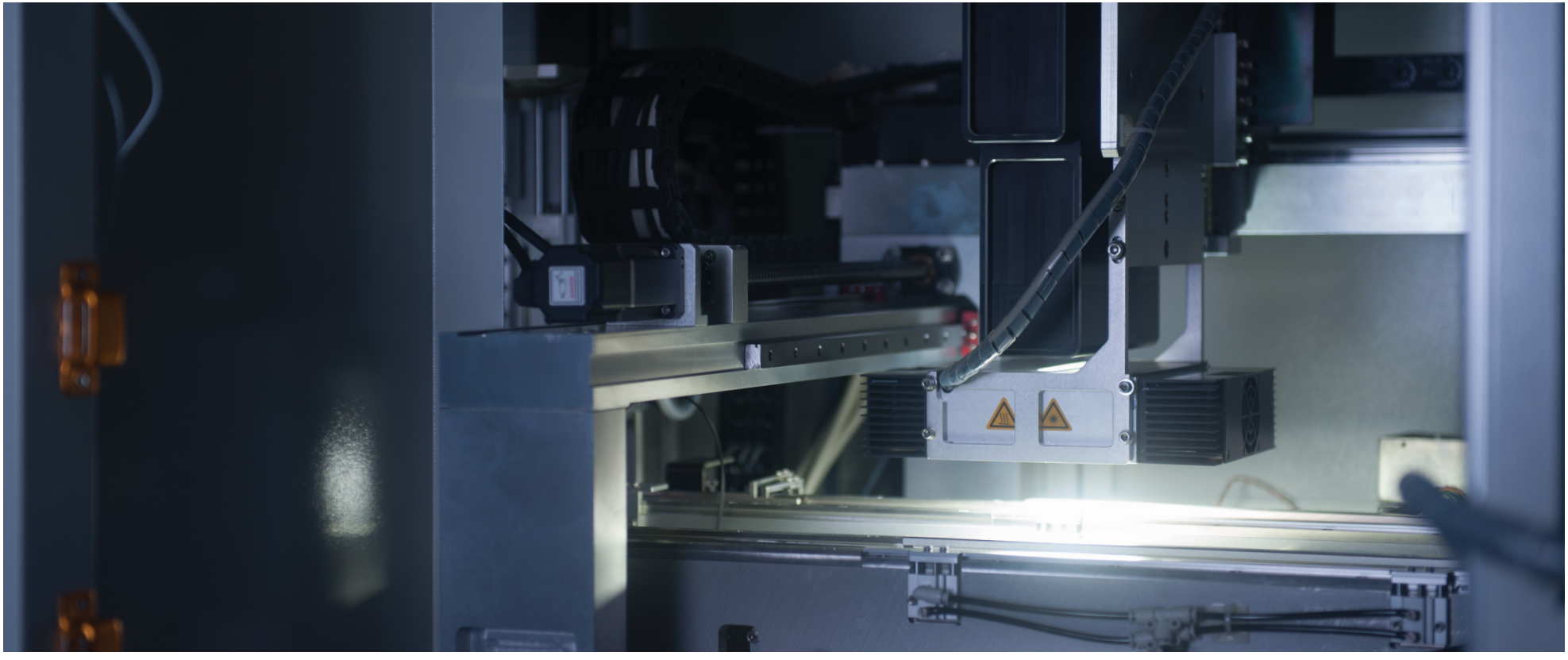
Main Bankers
United Overseas Bank (M) Sdn Bhd
Malayan Banking Bhd

Authorised Capital
RM 5,000,000

Paid Up Capital
RM 4,000,000

Auditors
Moore Stephens Associates PLT
(AF 002096)

Historical Sales Revenue



CORE COMPETENCIES

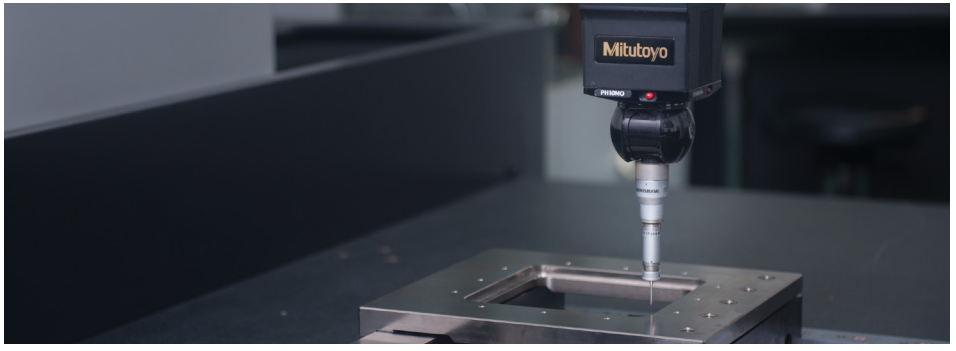
Precision Motion Control

Creden Mechatronic Sdn Bhd has extensive knowledge in the field of precision motion control. We developed and manufacture our own PC based 4 axis motion controller. We have at least 10 years of experience building precision X-Y-Z stages being the OEM manufacturer of a major Japanese measuring microscope brand. Our products are developed base on this core technology of precision motion control.

Sensors

Sensors are part of our core technology. We have the flexibility to attach various types of sensors to our products based on application. Creden Mechatronic has the expertise to configure a system based on optics, camera vision, laser or tilt sensing to provide a total integrated solution in the field of inspection, test and measurement.

MANUFACTURING



Quality

All critical parts fabricated in-house or from outsource partners are subjected to dimensional measurements utilising our own metrology laboratory. This ensures all dimensions comply with specifications.

Design and Development

We have a team of experienced mechanical, electrical and software engineers working closely with our customers and partners.

Precision Machining

Our machining capability and accuracy is up to 5 micron flatness. This is achieved using high end grinding machines in a temperature controlled room.

OEM and ODM

We specialize in both OEM and ODM of equipment having high mix and low volume. We are able to provide cost down projects through effective localization and sourcing.

OUR PRODUCTS

ISP3100

Post Wire Bond Inspection System

ISP3100 is designed to handle lead frames or substrates for visual inspection and yield management after die attach and wire bonding process. It's equipped with strip mapping system and auto-conversion for different types of packages. It's capable to perform physical marking with various types of reject identification module such as puncher, wire breaker, bristle, scriber and inker.

System control	Standard Industrial PC Windows OS CREDEN Hybrid Motion Control Card
Power	230V AC ± 10% @ 13A 50HZ
Max magazine size	305 (L) x 105 (W) x 200 (H) mm
Lead frame / substrate range	110 - 300 (L); 13 - 100 (W)
Foot Print	1280 (L) x 725 (W) x 1365 (H) mm

ISP3100V

Automatic Post Wire Bond Inspection System

ISP3100V is an automatic optical inspection system designed to handle lead frames or substrates for visual inspection and yield management after die attach and wire bonding process. It's equipped with high resolution camera system, strip mapping system and auto-conversion for different types of packages. It's capable to perform physical marking with various types of reject identification module such as puncher, wire breaker, bristle, scriber and inker.

System control	Standard Industrial PC Windows OS CREDEN Hybrid Motion Control Card
Power	230V AC ± 10% @ 13A 50HZ
Max magazine size	305mm
Max lead frame length	300 (L) x 100 (W) mm
Foot Print	1276 (L) x 722 (W) x 1365 (H) mm

ISP3100VT

Automatic Post Wire Bond Inspection System

This system is an automatic optical inspection system attached with additional tri-magazine module for process control purpose. It is designed to handle lead frames or substrates for visual inspection and yield management after die attach and wire bonding process. It's equipped with high resolution camera system, strip mapping system and auto-conversion for different types of packages. It is capable to perform physical marking with various types of reject identification module such as puncher, wire breaker, bristle, scriber and inker.

System control	Standard Industrial PC Windows OS CREDEN Hybrid Motion Control Card
Power	230V AC ± 10% @ 13A 50HZ
Max magazine size	290mm
Max lead frame length	280mm
Foot Print	1276 (L) x 722 (W) x 1365 (H) mm

DIS8000

Post Dicing Inspection System

DIS8000 is designed to handle frame wafers post wafer dicing process. It is able to inspect defects that are observable prior to dicing and also die defects resulted post dicing process. It's equipped with two types of defect identification methods, inking on the defective die and wafer map containing locations of the defective die with classification. The system is capable of performing wafer backside inspection.

Wafer size	200 mm and 300 mm with frame/ring
Driven mechanism	Linear motor/Micro-stepping
XY travel	350 (X) x 200 (Y) mm
Z travel	40 mm
Accuracy	± 10µm
Resolution	± 1µm
Wafer map	CREDEN SEMI G81 Standard
Optical system	High power microscope with illuminator light source Wafer backside inspection (optional)

WIS8000

Post Probing Inspection System

WIS8000 is designed to handle 8” and 12” wafer for visual inspection using high power metallurgical microscope. The system is equipped with 2 FOUP load ports, macro and micro inspection complete with wafer mapping system. WIS8000 comes with a clean room ATM robot which is integrated with single fork-type aluminium end effector to hold wafers at its back surface by vacuum suction.

Wafer Size	8” and 12” (Automatic Conversion)
Wafer carrier type	12” FOSB, 12” FOUP and 8” open cassette (SEMI Standard)
Load ports	2, upgradeable to 3 FOUP or FOSB for 300mm wafer Open cassette for 200mm wafer
Power	220V AC @ 13A 50Hz
Foot Print	1600 (L) x 1650 (W) x 1700 (H) mm

WHS300G

Wafer Batch Transfer System

WHS300G is designed for wafer transferring, splitting, merging or flipping 6” and 8” wafer from the input cassette to the output cassette in batch mode. Input cassette type is SEMI standard open cassette with 26-slot, 25-slot and 13-slot. There are four load ports available with three inputs load ports and one output load port. The system is equipped with high accuracy reflective sensor for wafer protrusion detection.

Wafer Size	150mm & 200mm Silicone Wafer
Input Cassette (Type)	SEMI Standard Open Cassette with 13-Slot, 25-Slot, 26-Slot
Load Ports	4, 3 input and 1 output
System control and UI	Standard Industrial PC LCD Wide Screen Monitor Windows OS CREDEN Hybrid Motion Control and IO Card Hepa Filter System
Power	230V AC ± 10% @ 13A 50Hz
Foot Print	1920 (L) x 900 (W) x 2050 (H) mm

WHS8000

Wafer Sorter System

WHS8000 is designed with 2 load ports and is upgradeable to 3. It is configurable to handle 300mm wafer in FOUP or FOSB, and 200mm wafer in open cassette without conversion. The optional OCR vision system will read the wafer ID and communicate with the host computer for its sorting destination. Alternatively, there are other direct sorting methods which are programmable by the user. This machine uses Rθ robotic arm to ensure fast and precise handling.

Wafer size	8” & 12” (Automatic Conversion)
Input carrier	12” FOUP, 12” FOSB & 8” open cassette (SEMI standard)
Load ports	2, upgradable to 3 (Hirata Load Port)
Power	230V AC ± 10% @ 13A 50Hz
Vacuum	-650mmHg
Foot print	1670 (L) x 1380 (W) x 1800 (H) mm

DHS8000

Automatic Barcode Printing and Labelling System

The main purpose of DHS8000 system design is to replace labour force and reduce human error that may occur during the process of placing the sticker label (wafer ID) on frame wafers. DHS8000 consists of 2 main modules, one functions as an OCR reader and the other a barcode printer. The wafer ID printed on wafers will be read by the OCR. The system will then convert the wafer ID into barcode format and print it on a sticker label, finally placing it on the wafer tape.

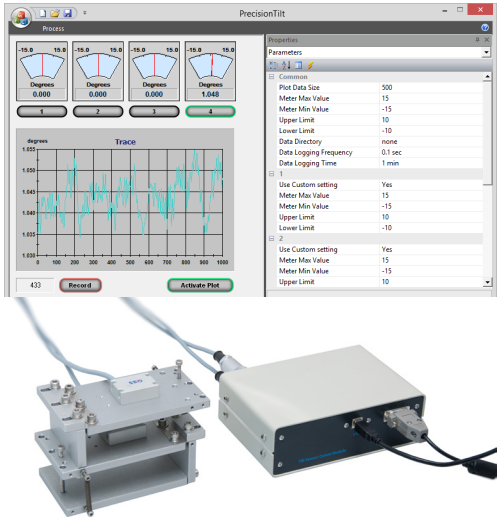
Wafer size	6” & 8” Wafer or 8” & 12” Wafer (Automatic Conversion)
Input cassette (type)	SEMI Standard 6”, 8”, 12” Open Cassette Type
Printing method	Thermal transfer
Print resolution	203dpi (8dpmm)
Print speed	6ips (150mm/s)
Max print width	104mm
Max print length	1249mm
Printer dimensions	271 (L) x 430 (W) x 321 (H) mm
Foot print	1200 (L) x 900 (W) x 1650 (H) mm

NIM1100

Pogo Pin Insertion System

NIM1100 is designed to perform the pogo pins insertion process. It consists of 4 modules, namely singulator, orientation checker, buffer and nozzle. It's equipped with dual camera system for efficient calibration, double purge features to reduce pin missing and false nozzle jam alarm. The system consists of key lock switch to disable the start and reset button function for safety purpose when the user is away from the machine.

Socket Dimension	Max: 100 x 100 mm Min: 30 x 30 mm
Pin Area	Max: 50 x 50 mm Min: 10 x 10 mm
Pin Dimension	Diameter (Max): 2mm Diameter (Min): 0.2mm Length (Max): 1.5 x Min (due to limitations of feeder bowl)
Pitch Between Pins	Minimum: 0.4mm
Power	230V AC ±10% @ 13A 50Hz
Foot Print	672 (L) x 831 (W) x 1700 (H) mm



PTS800

Precision Tilt Sensing System

PTS-800 is a single axis high resolution precision tilt measurement system that measures inclination of any moving platform or stages within a system. Measurements can be made either absolute (one sensor) or relative (paired sensors). PTS-800 comes with a user friendly GUI and the simplicity of a USB plug-and-play connection. It comes with high accuracy and outstanding repeatability, insensitive to vibration and excellent shock durability. It is also suitable for wet process.

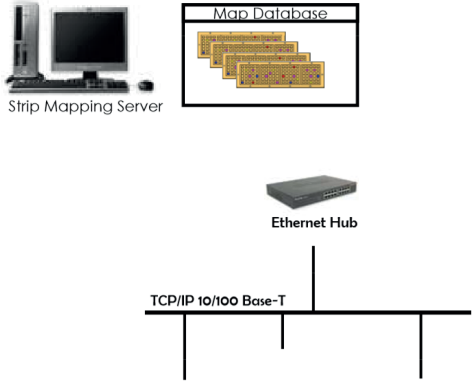
Size	1.5" (L) x 1.1" (W) x 0.35" (H)
Power	115V AC @ 47Hz - 63Hz
Resolution	0.001°
Mechanical shock	18g
Damped frequency response	20,000Hz (-3dB)
Application	HDD, Solar, Semiconductor and others

LSI1000

Strip Laser Marking Handler System

LSI1000 is designed to perform the laser mark on lead frames and substrates. This system can be applied to either 2D Matrix Code marking or package marking on lead frames and substrates. It's also equipped with lead frames and substrates orientation checker, post mark quality check station and post mark cleaning station with air blower.

Input carrier	Bundle
Max lead frame length	300 (L) x 100 (W) mm
2D matrix code size	1.5 x 1.5mm; 0.9~1.0mm height
System control	Standard Industrial PC Windows OS CREDEN Hybrid Motion Control Card
Power	230V AC ± 10% @ 13A 50Hz
Foot print	1920 (L) x 950 (W) x 2050 (H)



SM1000

Data Management System

Creden's SM1000 Strip Mapping Defect Management System is a TCP/IP networked communication of strip mapping between machines in an efficient, prompt and error-free manner. This enables automated recall of reject maps for use in all processes without operator's intervention. It's able to manage and control strip IDs and provide unique ID to "strip-ID laser marker" for 2D matrix code marking. Registration of strip IDs into the map database after verification. It's compliant to SEMI G84 standards.

Software interface	Strip mapping and sorting Standard industrial PC with server Data backup feature Periodic archival of data Remote access
Verification system	Standard industral PC (workstation) Bench-Top 2D Matrix Reader Module Integrated LED lighting 1/3 inch CCD camera Software commands via Ethernet/RS232 with TCP/IP Strip mapping interface module for server linkage

DISTRIBUTION NETWORK

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QES (Asia-Pacific) Sdn Bhd

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