



# DATA TRANSMISSION AND MANAGEMENT



**INSIZE INDIA LLP**

MEASUREMENT SOLUTION PROVIDER

## About us

**INSIZE** - Founded in 1995, is a dedicated supplier of measuring instruments. To enable us to serve the world-wide market, we are setting up an INSIZE distribution network on a global basis. INSIZE headquarter is located in China. We have branch companies in Canada, USA, Mexico, Brazil, India, Turkey, Malaysia, Thailand, Vietnam, UAE, Spain, France, Italy, UK, Poland, Czech Republic, Romania, Slovenia, Australia and distributors in over 120 countries. We ensure that wherever you are, our INSIZE products have service and support that are within hands reach. Our dedication to Quality, Innovation, Service and Value has created a worldwide demand for the INSIZE products.



**←INSIZE→**

is our standard quality, made in China

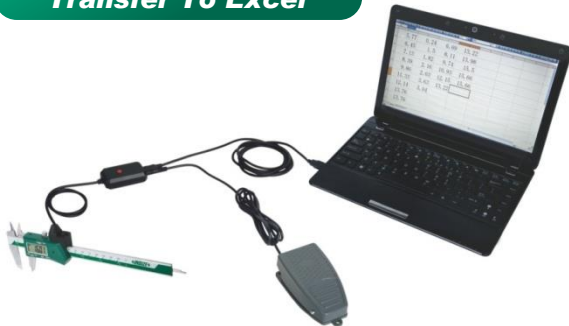
**←INSIZE→ PLUS**

is our premium quality, made in Europe

# Data Transmission And Management — Improve productivity

Supports multiple measurement tools for real-time data collection. One-click transfer of measurement data to Excel, measurement software or mobile APP after measurement. This process is efficient and accurate, and facilitates data management and sharing to improve productivity.

**Transfer To Excel**



**Transfer To Data Management Software**

**Transfer To Phone APP**



# Advantages of Data Transmission (P1)

## Traditional Measurement



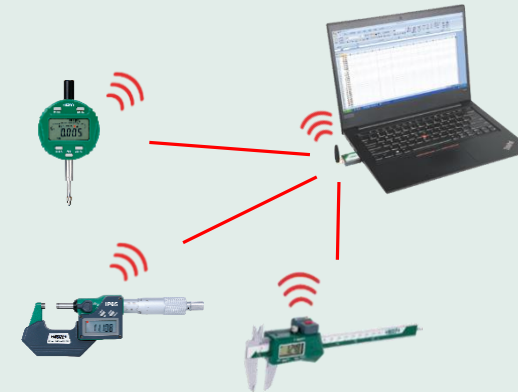
Traditional measurement is manual recording is inefficient, you need to measure and record at the same time; sometimes you need two operators for operation, one to measure and the other to record.

Traditional measurements are made by manually recording data to a paper file or manually entering it into a computer, which inevitably results in recording errors.

Traditional measurements use paper forms, which are difficult to save , circulate and trace at a later stage.

# VS

## Communication Transfer Data



Data can be transmitted directly to a computer /phone through wired or wireless data transmission, improving efficiency.

The direct transmission of measurement data to the computer, eliminating human error and ensuring that the data is true.

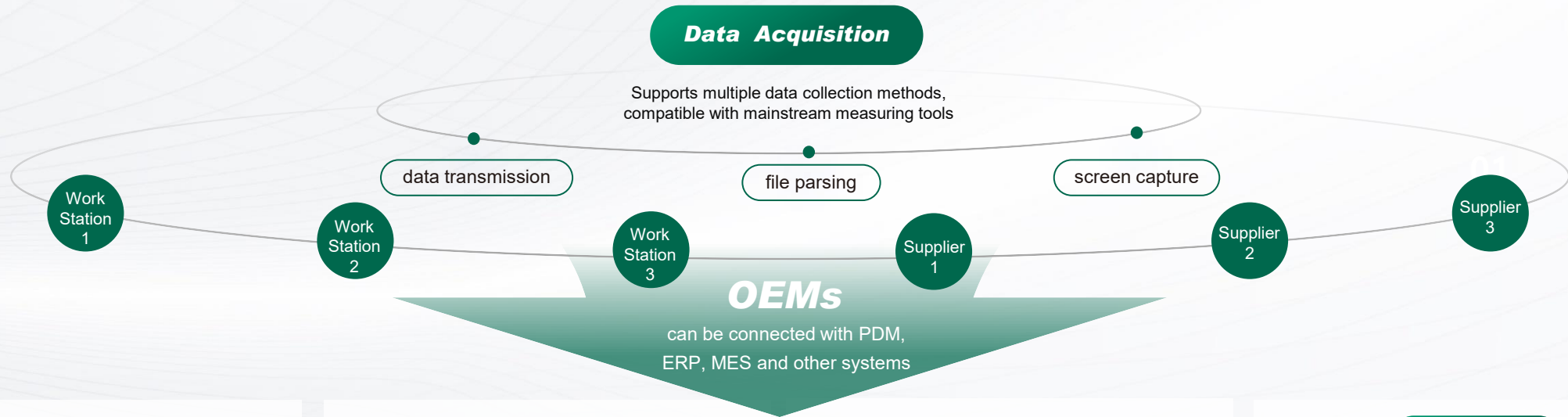
Compared to paper forms, electronic forms of data transmission are more convenient for storage, transferring between each other and later reference.

Timeliness

Validity

Paperless

# Advantages of Data Management (P2)



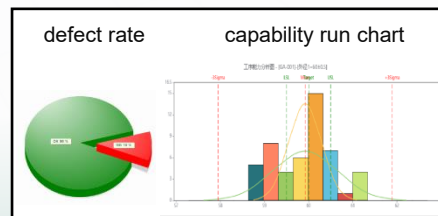
## Data Management

Manages measurement data for easy traceability and review.

Structure Tree	Seq	Manag.	List Item Code	List Item Name	Creation User	Creation Time
INSIZE	1	Sieve	001	Drawing A	Administrator	2022-06-07 09:45:24
ITC	2	Sieve	002	Drawing B	Administrator	2022-06-07 14:50:44
Workplace A	3	Sieve	003	Drawing C	Administrator	2022-06-07 14:50:46
MDCR	4	Sieve	004	Drawing A	Administrator	2022-06-07 14:50:52
Workplace A	5	Sieve	005	Drawing A	Administrator	2022-06-07 14:50:55
Workplace C	6	Sieve	006	Drawing B	Administrator	2022-06-07 14:51:28
ME	7	Sieve	007	Drawing B	Administrator	2022-06-07 14:50:25

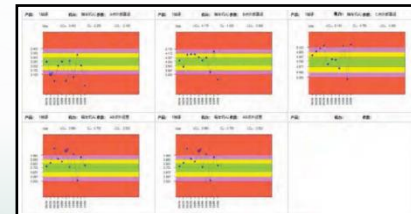
## SPC analysis

Analyzes measurement data to identify production inefficiencies and optimize workflows.



## Panel

Real-time monitoring of process quality to address risks promptly.



## Reports

Provides inspection reports upon production completion, enhancing quality credibility.

OEMs can conduct random inspections to verify if results align with those from suppliers and ensure full production traceability.

## 01

### **Wireless Data Transmission**



## 02

### **Wired Data Transmission**



## 03

### **Measurement Data Management and Analysis Software**



## 04

### **Inspection Table**



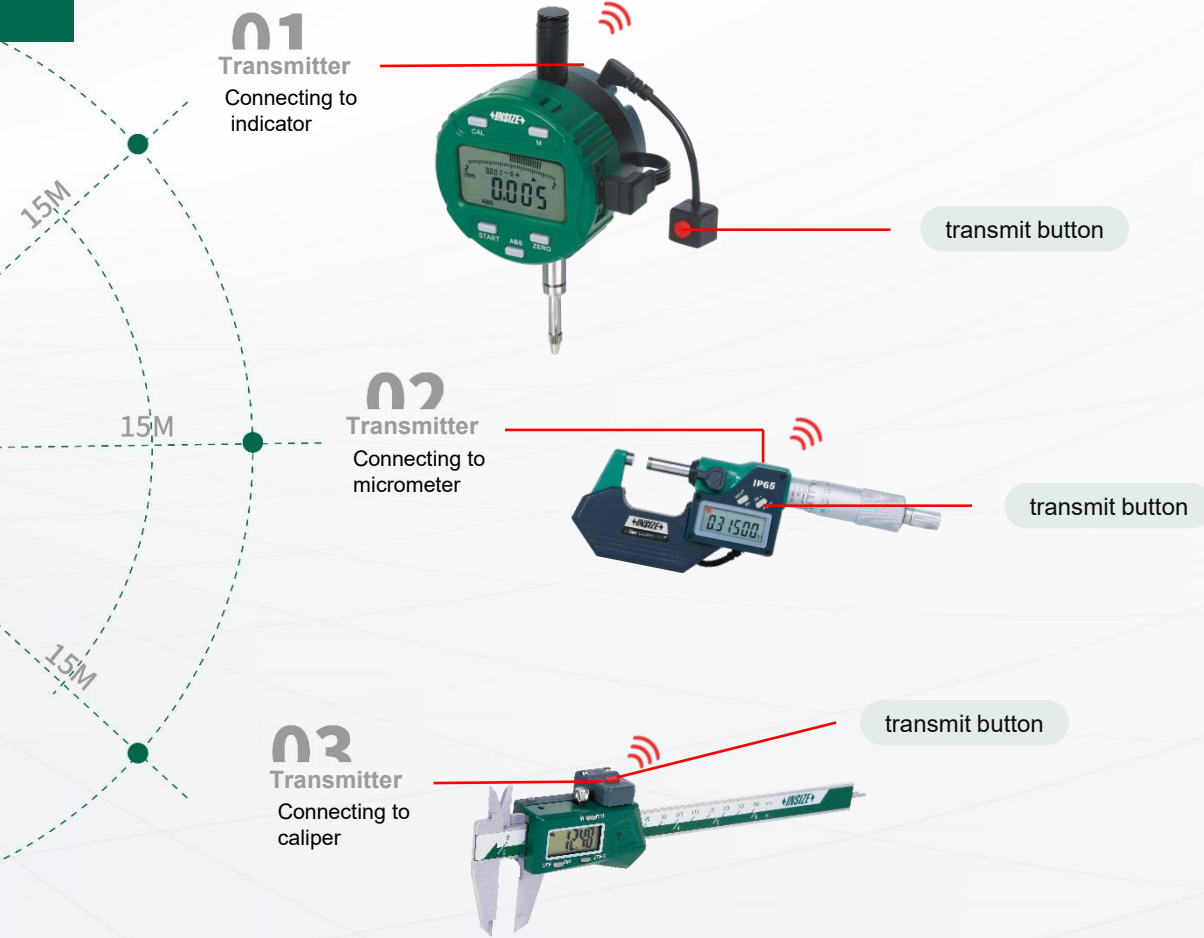
**01**

## ***Wireless Data Transmission***



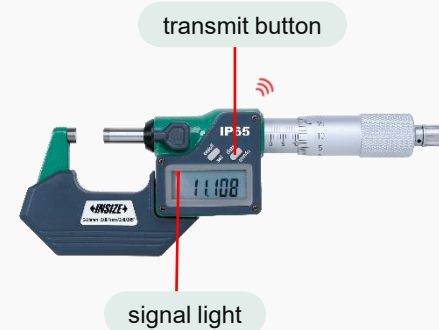
# Wireless Data Transmission System External Transmitter

- Measuring tool connects to a transmitter to send data , and receiver received data
- Trigger the transmit button of transmitter to wirelessly transfer measurement data to a computer /phone
- Transmission distance : 15m (unobstructed, no electromagnetic interference)
- Customizable AES128 data encryption to enhance data security



# Wireless Data Transmission System Built-in Wireless

- The built-in wireless measuring tool sends data, and receiver received data
- Transmission distance 10m(unobstructed, no electromagnetic interference)
- Trigger the transmit button of measuring tool to wirelessly transfer data to the PC/phone



# Receiver

- The receiver connects to the transmitter or built-in wireless measuring tool, receiving data wirelessly.



## Single Channel Receiver (Keyboard Signals)

can be connected to 1 transmitter

- For computers and mobile phone with Windows, Android, and iOS system
- Recognized as HID keyboard device, the transmitted data is recognized by computers or mobile phones as keyboard input data and press enter key, such as 12.34 ✓
- No need to install drivers and softwares.
- Data can be transmitted to excel, word, txt etc.
- For any softwares which can receive keyboard signal.



## Multichannel Receiver (Keyboard Signals)

can be connected to 6 transmitters



## Multichannel Receiver (virtual com port)

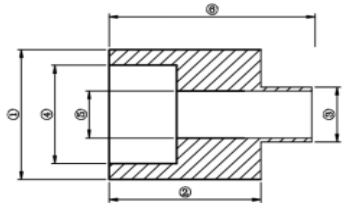
can be connected to 16 transmitters, each has an unique identification code

- For computers with windows system.
- Outputs serial port signals, to be used with software.

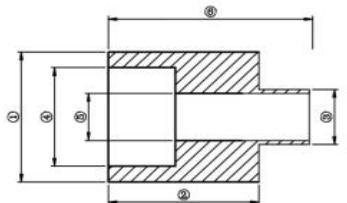
The data entry jump direction can be switched according to needs, either downwards or to the right.  
Custom output formats can also be tailored.

# Excel Directional Input Software (7315-2 Receiver Included)

- The readings of measuring tools can be transmitted to the designated area of excel, which facilitates data management and improves efficiency.



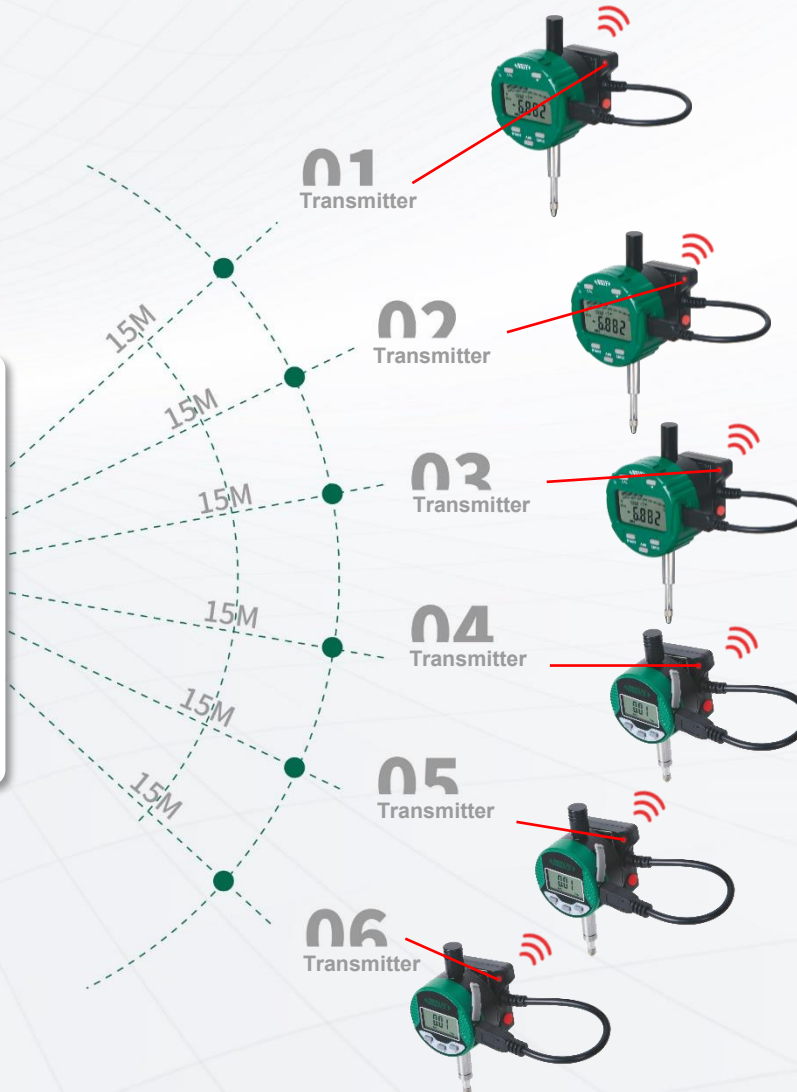
Projects	External diameter1	Height2	External diameter3	Internal diameter4	Internal diameter5
Specifications	60±0.5	45±0.5	21±0.05	30±0.06	15±0.1
Measuring tool	Built-in Wireless Transmission Caliper	Caliper	Micrometer	Bore gauge	Bore Plug Gauge
Transmission Type	Wireless Data Transmission				
1	60.19	45.20	20.967	30.012	14.996
2	60.49	45.24	20.945	30.235	14.996
3	60.13	45.32	20.956	30.145	15
4	60.45	45.22	20.945	30.233	14.996
5	60.45	45.21	20.975	30.141	15
6	60.44	45.08	20.847	30.000	14.993
7	60.44	45.03	20.955	30.056	14.993
8	Channel1 to be written	Channel2 to be written	Channel3 to be written	Channel4 to be written	Channel5 to be written
9					



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Measuring tool	Micrometer	Micrometer	Caliper	Bore Plug Gauge	Bore Plug Gauge
Transmission Type	Wireless Data Transmission				
1	60.19	20.967	45.20	30.012	14.996
2	60.49	20.945	45.24	30.235	14.996
3	60.13	20.956	45.32	30.145	15
4	60.45	20.945	45.22	30.233	14.996
5	60.45	20.975	45.21	30.141	15
6	60.44	20.847	45.08	30.000	14.993
7	60.44	20.955	45.03	30.056	14.993
8	60.34	Channel1 to be written	Channel2 to be written	30.036	Channel3 to be written
9					

# Wireless Data Transmission System of Digital Indicators (Remote control) 7213

- Digital indicator connects to a transmitter to send data, and receiver received data
- Trigger the transmit button of receiver to transfer data from multiple digital indicators to computer/phone



	channel 1	channel 2	channel 3	channel 4	channel 5	channel 6
	A	B	C	D	E	F
1	24.35	0.4045	57.72	1.949	0.4075	0.03568
2	24.45	0.5045	57.82	2.049	0.5075	0.13568
3	26.35	0.4045	57.72	1.949	0.4075	0.00078
4	27.35	0.4045	57.72	1.7575	0.4075	0.0762
5	28.35	0.4045	57.72	1.7575	0.4075	0.0762
6	29.35	0.4045	57.72	1.7575	0.4075	0.07618
7	30.35	0.4045	57.72	1.7575	0.4075	0.55334
8	31.35	0.4045	57.72	1.7575	0.4075	0.61198
9	24.35	0.4045	57.72	1.7575	0.4075	0.6172

The button on receiver is pressed once, the readings of all digital indicators are transmitted

# Wireless Data Transmission 7315 -- Advantages



Transmission distance: 15m (external transmitter), 10m (built-in transmitter).



Stable data transfer within the effective range, no data loss or errors.



Point-to-point transfer between measuring tools and collection terminal, with memory after pairing—no need to reconnect.



Data can be transferred normally after rebooting the computer/phone, no connection required.



When transferring data, data with ID number is for easy identification of the source.

# Wireless Data Transmission VS. Competitor Brands Advantages

## High Compatibility

01

Our receivers feature multiple interfaces (USB, Type C, Micro USB, and Lightning), compatible with various system terminals such as computers, tablets, or phones running Windows, Android, or iOS.

## Diverse Communication Protocols

03

Supports both emulated keyboard signals and serial port signals to accommodate varied industrial scenarios.

## Persistent Binding Mechanism

05

Single-pairing ensures continuous data transmission—no re-pairing required when replacing terminals, instruments, or batteries.

## Data Format

07

Supports multiple data formats: e.g., Value + Enter, Value + TAB, ID number + Value + Enter, etc.

## Deep Customization

09

Provides bespoke data transmission solutions tailored to client specifications.

## Comprehensive Coverage

02

Three product categories: built-in wireless transmitters, external wireless transmitters, and all-in-one transmitters. our wireless data transmission capability comprehensively covers commonly used measuring tools and instruments.

## User-Friendly Operation

04

Simplified device pairing, unpairing, and data transfer processes for effortless setup.

## Ultra-Low Power Consumption

06

Operates for over 400,000 transmissions on a single CR2032 battery.

## Data Security

08

Optional AES128 encryption for critical data protection.

## Advanced Analytics Capabilities

10

Mature supporting software collects, aggregates, and analyzes measurement data, enabling streamlined, intelligent, and visualized data management.

# 02

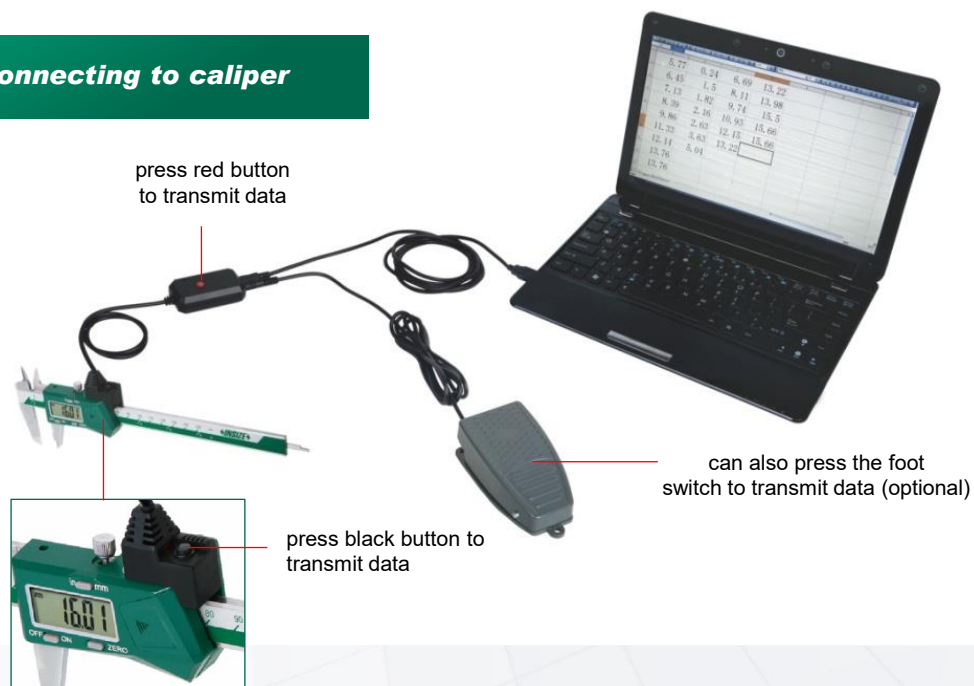
## ***Wired Data Transmission***



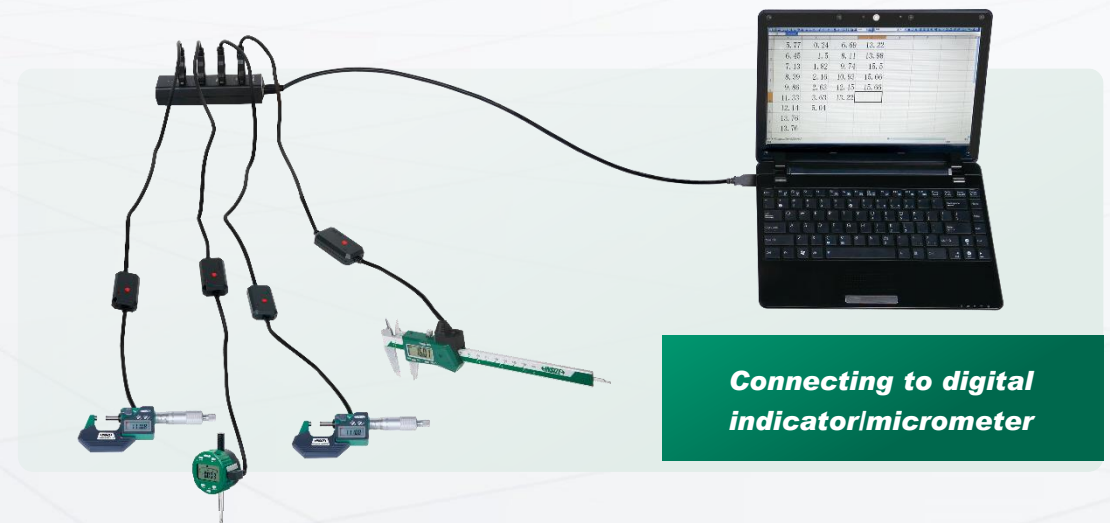
# Wired Data Transmission (keyboard Signals) 7302

- Measuring tool connects to the data output cable, and trigger the transmit button to wired transfer data to a computer/tablet

## Connecting to caliper



- Recognized as HID keyboard device by computer, no need to install drivers and softwares.
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter key, such as 12.34 ↵).
- For any softwares which can receive keyboard signal.
- Cursor movement direction after data input can be switched (down/right).
- Supports output of ID numbers if needed, e.g., 2023032265 12.34.

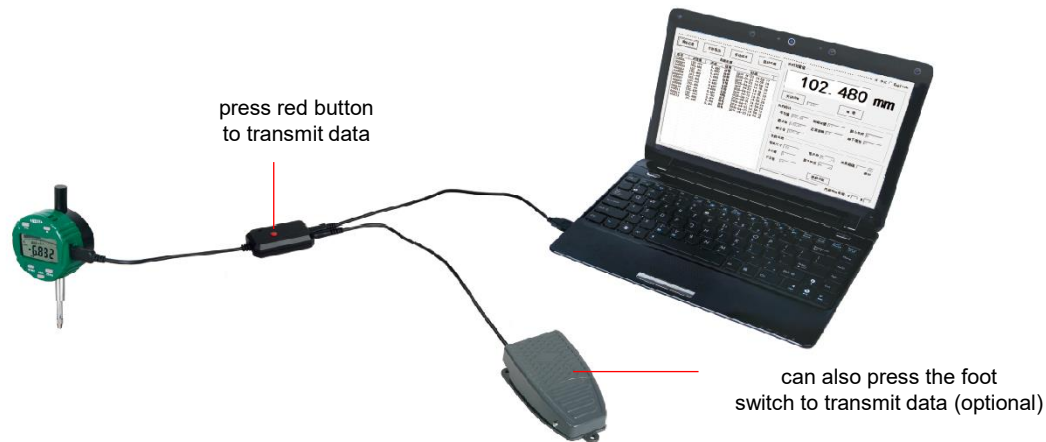


## Connecting to digital indicator/micrometer

# Wired Data Transmission (Text Format, Virtual Com Port) 7305

- Measuring tool connects to the data output cable, and trigger the transmit button to wired transfer data to a computer
- Output serial signals to transfer data to serial communication software.
- Supports output of ID numbers if needed, can designated area to input data from different measuring tool, e.g., 2023032265 12.34.

## Connecting to digital indicator



# 485 Data Output Cables 7215

- Connect the measuring instrument to the data cable, and connect the data cable to the PLC to enable automated control of the measurement data.



Application

Modbus-RTU Protocol

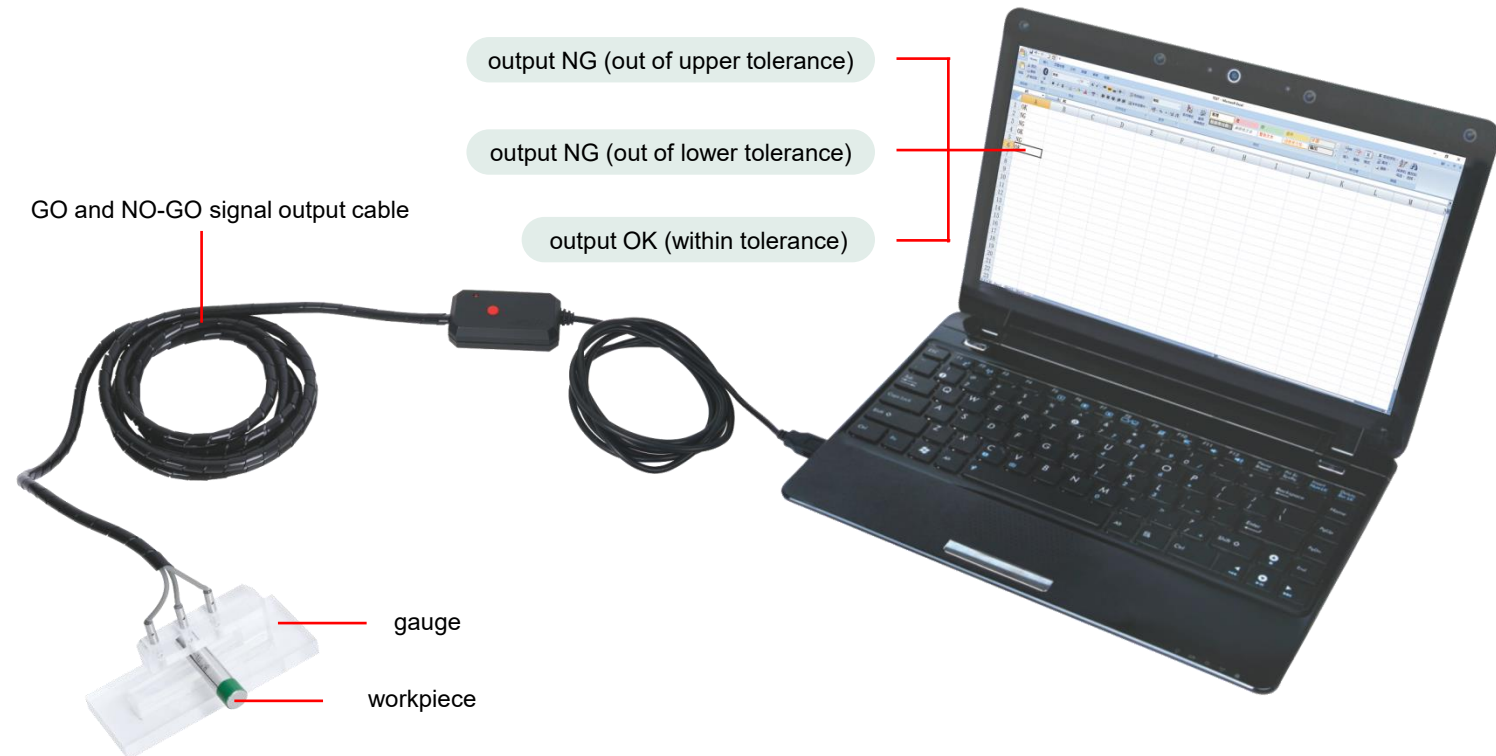
- Configurable baud rates (9600, 19200, 38400)
- Can set communication address

# Wired Data Transmission Comparison

PK	7302 Series (Keyboard Signal)	7305 Series (Serial Signal)	7215 Series (485)
<p><b>Adapted Terminals</b></p>	<p>Computers or tablets with Windows, Android, or iOS systems (USB interface supported)</p>	<p>Computers or tablets with Windows system (USB or RS232 interfaces supported)</p>	<p>PLC (Terminal block)</p>
<p><b>Communication type</b></p>	<p>keyboard format (suitable for any software or APP which can receive keyboard input values)</p>	<p>text format, virtual com port                      (a. connection to software that recognizes different channels and IDs according to serial communication protocols and defines data entry area for different measurement tools;                      b. can also use the included software (included in the 7210-2 interface box) to transfer measurement data from multiple measuring tools to the designated area in Excel for easy data management)</p>	<p>Modbus-RTU protocols (Connecting a PLC for automated data control)</p>
<p><b>Data Collection Methods</b></p>	<p>Single key press transmission</p>	<p>Single key press transmission or command transmission or real-time continuous transmission</p>	<p>Command Transmission</p>
<p><b>Transmission Performance</b></p>	<p>Wired transmission directly transfers data through physical connections, offering strong anti-interference capability, stable signals, high speed, and good security. It supports high-bandwidth data transmission.</p>		

# GO And NO-GO Signal Output Cable 7132 (P1)

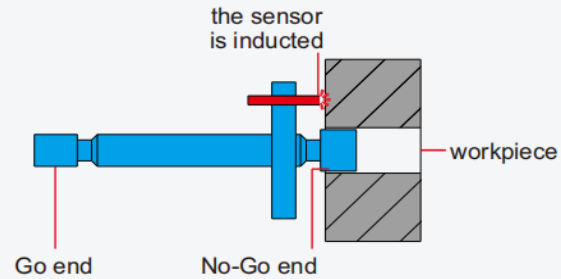
- Connects gauge with signal output cables, automatically judgment and wired transmitting the judgment result OK or NG to the computer.



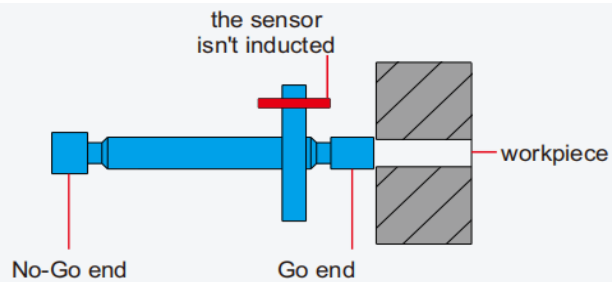
- Suitable for metal workpieces

# GO And NO-GO Signal Output Cable 7132 (P2)

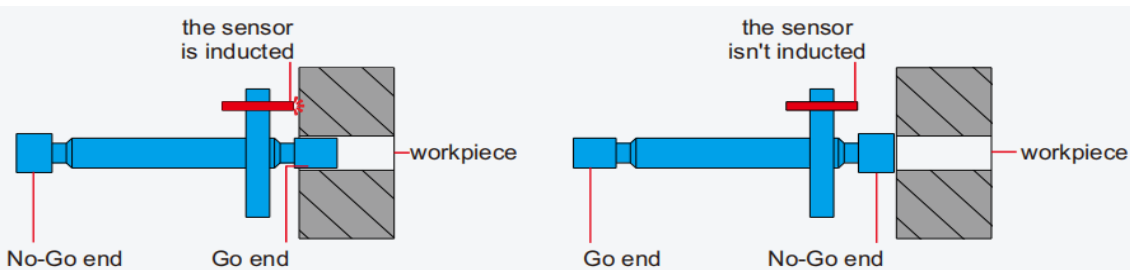
## Output cable with two sensors



If the No-Go end of gage can be inserted into the workpiece, it is out of upper tolerance and output NG



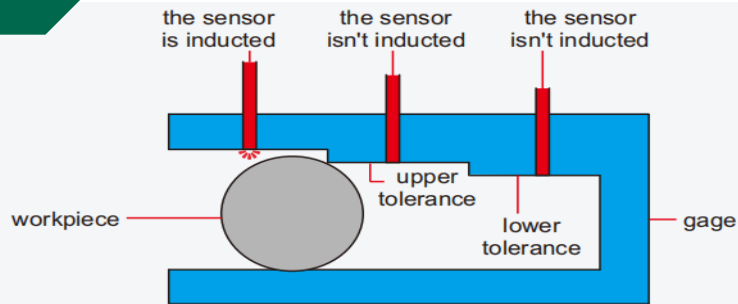
If the Go end of gage cannot be inserted into the workpiece, it is out of lower tolerance and output NG



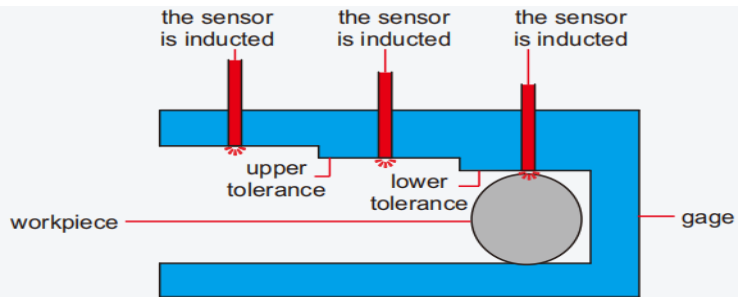
If the Go end of gage can be inserted into the workpiece, but the No-Go end of gage cannot be inserted into the workpiece, it is within tolerance and output OK

# GO And NO-GO Signal Output Cable 7132 (P3)

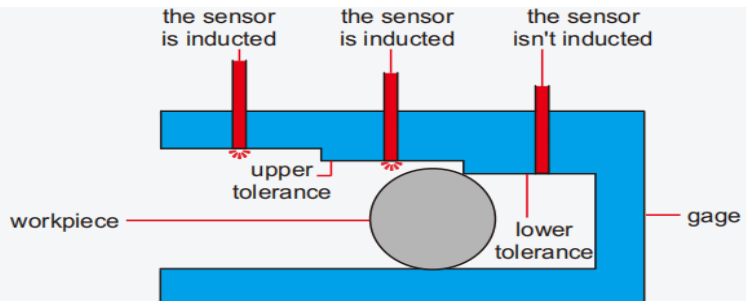
Output cable with three sensors



If the workpiece cannot enter into the upper tolerance section, it is out of upper tolerance and output NG



If the workpiece can enter into the lower tolerance section, it is out of lower tolerance and output NG



If the workpiece can enter into the upper tolerance section, but the workpiece cannot enter into the lower tolerance section, it is within tolerance and output OK

# OKING Input switch 7327

- Transmit the OK/NG results to the computer via a wired switch.



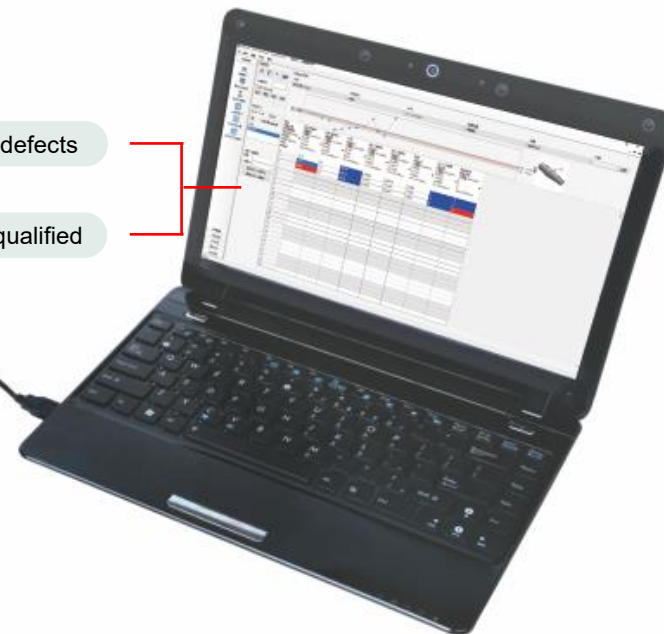
hand switch



foot switch

Output NG for appearance defects

Output OK for appearance qualified



# Wired Data Transmission VS. Competitor Brands Advantages

01

## **Adapted Terminals**

- Adaptable to multiple acquisition terminals
  - a. Computers or tablets with Windows, Android or iOS systems
  - b. PLC

02

## **Communication types**

- Multiple data communication types to meet various production application scenarios:
  - a. (Simulated keyboard signal) Directly transfer data to Excel reports or customer measurement software, MES, or ERP systems
  - b. (Output serial port signal ) Interface with serial communication software, or transfer measurement data from multiple gauges to the designated area of Excel for easier data management
  - c. (485) Can be connected to a PLC to enable automated control of measurement data

03

## **Data Format**

- Supports multiple data formats: e.g., Value + Enter, Value + TAB, ID number + Value + Enter, etc.

04

## **Special Data Types**

- Output the judgment result OK or NG

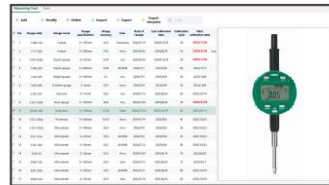
# 03

## *Measurement Data Management and Analysis Software*

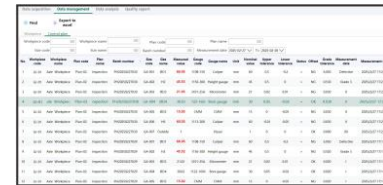


# Measurement Data Management and Analysis Software (Basic Version)-- 7349 (P1)

- Automatically collects measurement data from measuring tools (e.g., digital calipers, micrometers, digital indicator , ...), analyzes and manages the measurement data to improve production quality.
- Software modules: Measuring tools management, inspection plan, data acquisition, data management, SPC analysis and quality reports



Measuring tools Management



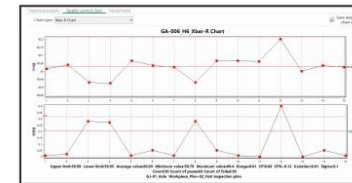
Data management



Make inspection plan



Can be connected with PDM,ERP, MES and other systems



SPC analysis



Data acquisition

Quality report

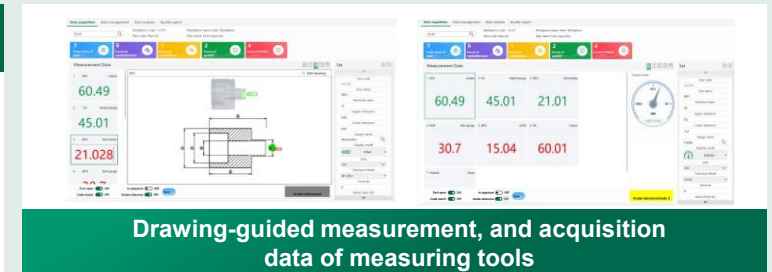
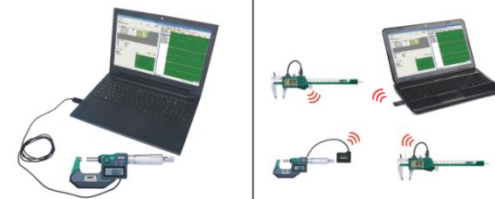
# Measurement Data Management and Analysis Software (Basic Version)-- 7349 (P2)

## Data acquisition

- Support multiple data acquisition methods:
- Manual input: data input with keyboard
  - Data transfer: data collection with data output cable

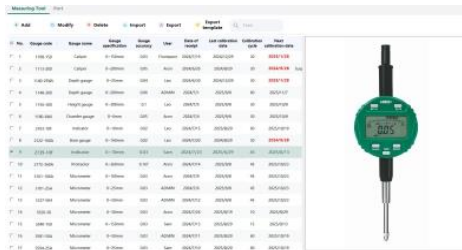


## Data Transmission



## Measuring tool management

Manage basic information and calibration dates of measuring tools.



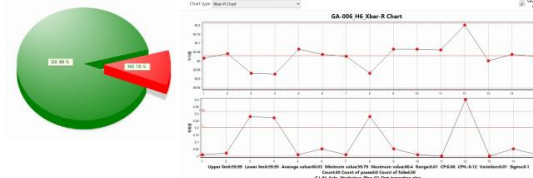
## Data Management

Query measurement data (red display for out-of-tolerance) and result status (OK/NG, Rework, UpMax/LowMin).



## SPC analysis

- SPC Analysis: average, min value, max value, range, Cp, Cpk, variation, sigma, counts of OK/NG.
- Quality Analysis Control Charts: Pie chart, X chart, Xbar-R chart, Xbar-S chart, I-MR chart and Run chart.

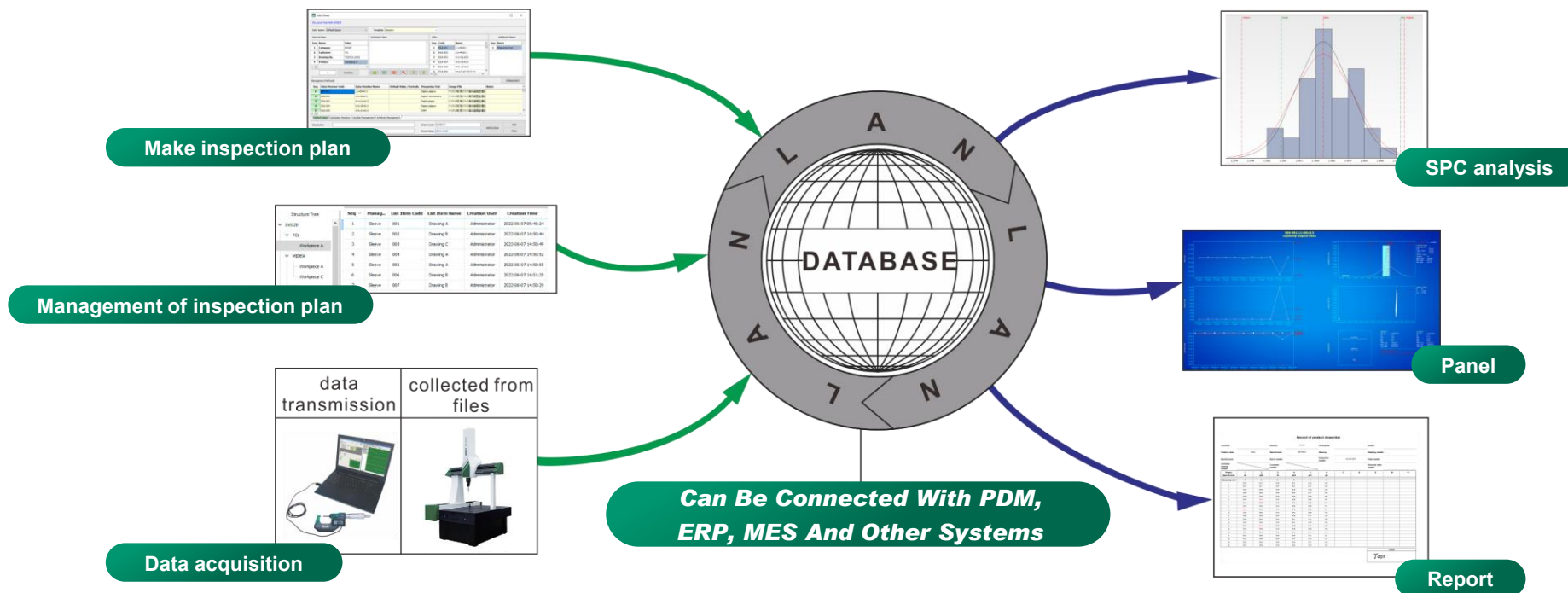


## Quality report

Generate quality reports with control plan information, SPC parameters, and measurement data, can export Excel.

# Measurement Data Management and Analysis Software -- 7317 (P1)

- Automatically collects measurement data from measuring tools (e.g., digital calipers, micrometers, digital indicator, ...)
- Automatically collects measurement data from file of CMM, Vision measuring tools, and other measurement tools.
- Analyze and manage measurement data to improve production quality.
- Software modules: Inspection plan, data acquisition, data management, SPC analysis and panel, quality reports.



# Measurement Data Management and Analysis Software-- 7317 (P2)

## Data acquisition

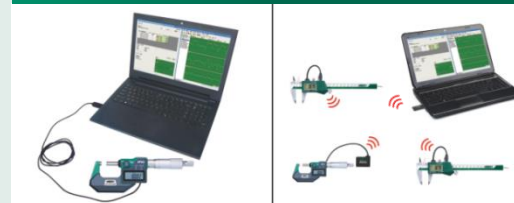
Supports multiple data acquisition methods:

- Manual input
- Data transmission
- File parsing
- Screen capture



Manual input

## Data transmission



File parsing

## Screen capture



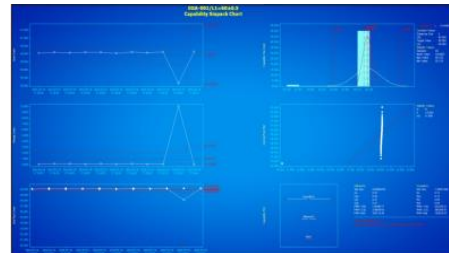
## Guided measurement

Guiding the operator to measure follow the inspection plan to reduce human errors such as missed or incorrect inspections.



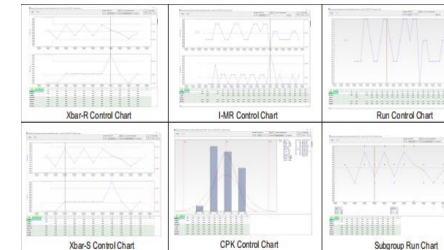
## Real Time Monitoring

Quality control personnel can monitor real-time quality status for each process and address risks promptly.



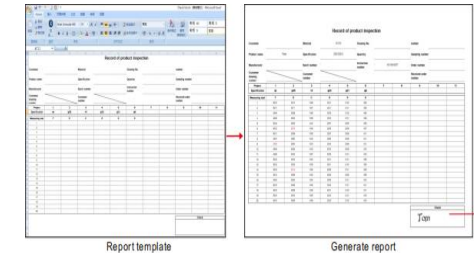
## SPC Analysis

Measurement data analysis helps identify engineering limitations and optimize workflows.



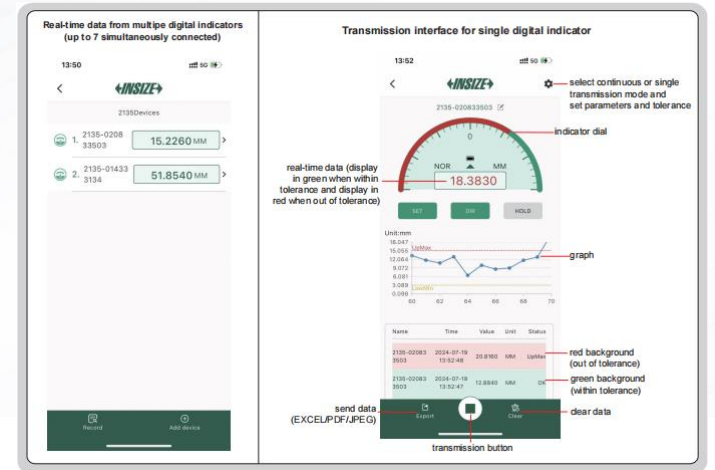
## Reports

Quality reports increase quality credibility, reduce acceptance workload, and ensure traceable quality control.



# Data Management APP

- Measuring tools connects to the mobile APP by Bluetooth for real-time data collection
- Displays synchronized data with automatic judgment (red display for out-of-tolerance)
- Data trend charts help quickly identify abnormal fluctuations
- Export data as PDF, JPEG, or Excel files
- Transmission distance: 10 meters



# 04

## *Inspection Table*



# Digital Measurement Station -- 7906-06

The small and lightweight station is easy to move, and equipped with a 23.6-inch touchscreen computer (i7 CPU&Windows system)

CAN BE CUSTOMILZED

## Application

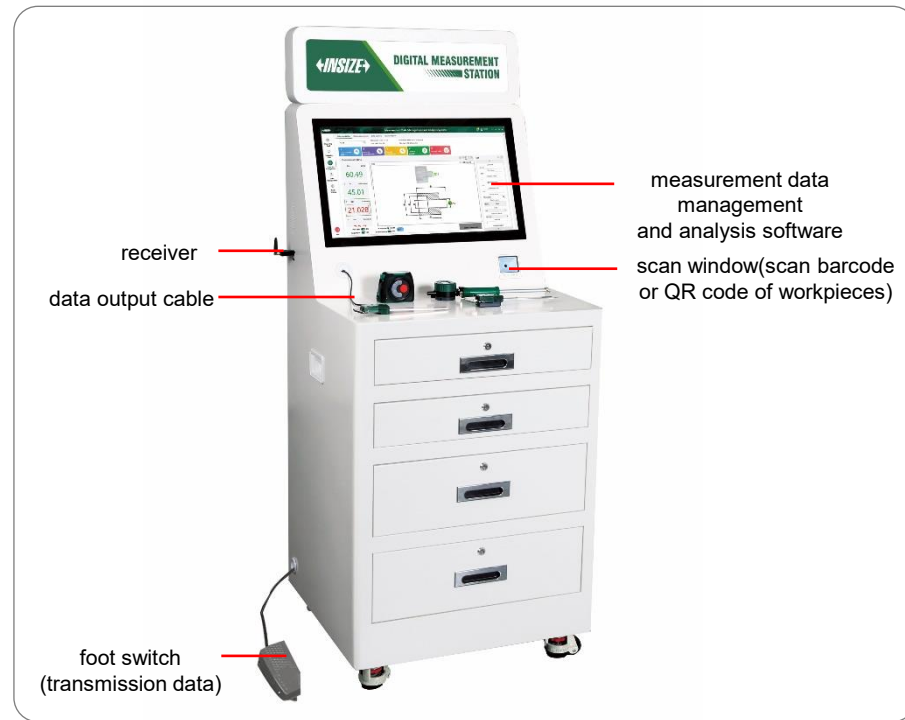


storage drawer  
(customizable cavity)



touchscreen  
computer

• L×W×H : 650x600x1617mm



receiver  
data output cable

measurement data  
management  
and analysis software  
scan window(scan barcode  
or QR code of workpieces)

foot switch  
(transmission data)

# Inspection Table

- Customers can choose the suitable inspection table based on different measurement applications.



7901



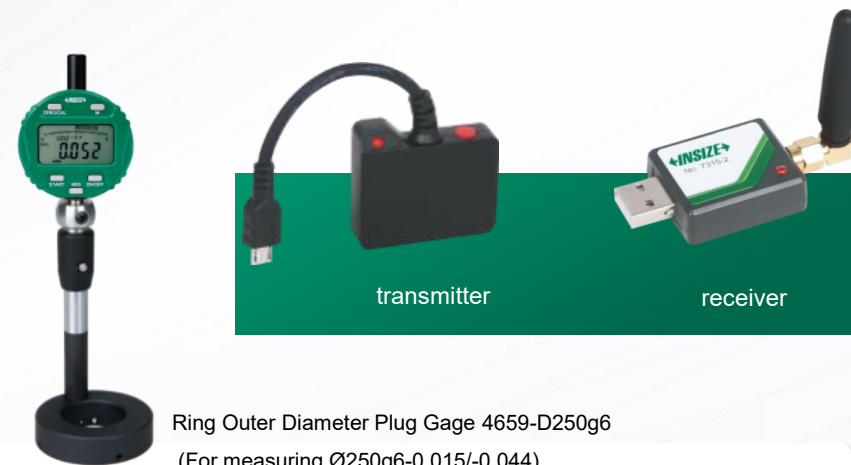
7911



7923

# SPC Inspection Station Case

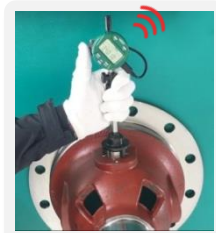
1. Customer needs to quickly measure the inner and outer diameters of automotive differentials.
2. Measuring tools were selected for quick on-site measurements and to minimize human errors: 4653 precision Bore plug gauge, 2186 quick dial snap gauge, and 4659 ring type inner/outer diameter plug gauge.
3. The 7315 wireless data transmission system was selected, and transmit data to the 7317 software.



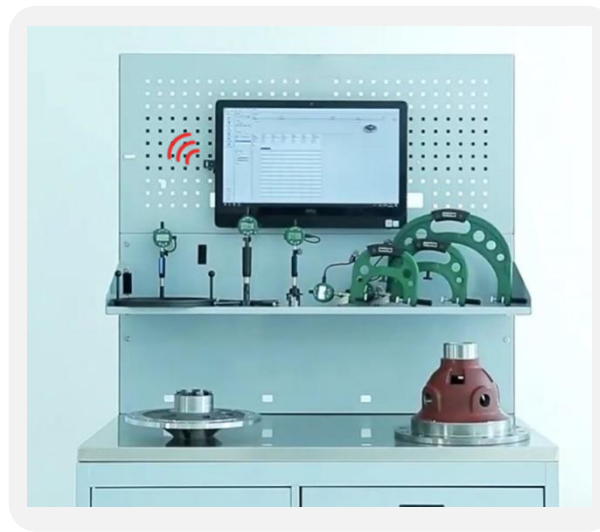
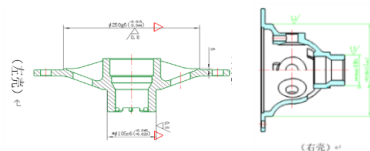
Ring Outer Diameter Plug Gage 4659-D250g6  
(For measuring  $\varnothing 250g6-0.015/-0.044$ )



Dial snap Gage 2186-125/275  
(For measuring  $\varnothing 105n6+0.045/+0.023/ \varnothing 270h7 0/-0.052$ )



Bore Plug Gage 4653-B34J8  
(For measuring  $\varnothing 34J8+0.024/-0.015$ )



Using the 7315 wireless transmission system, measurement data is directly transferred to the 7317 software.

# THANKS!

Quality | Innovation | Service | Value