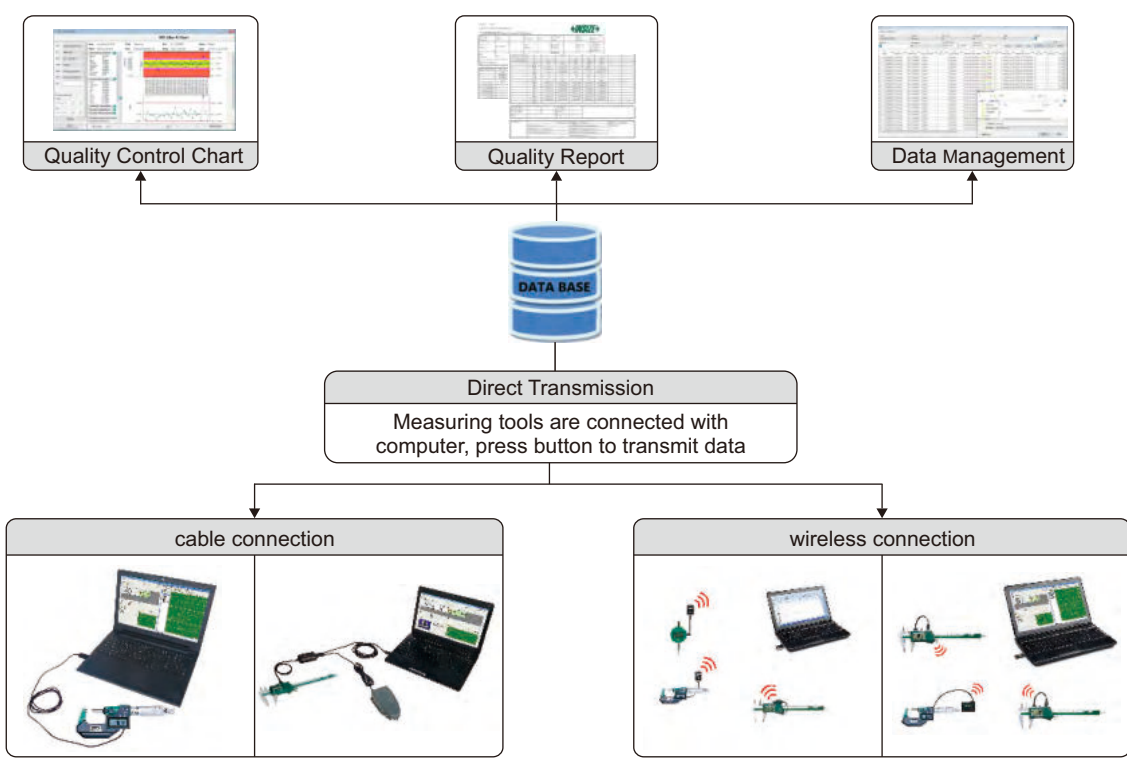


1 MEASURING DATA MANAGEMENT SOFTWARE CODE 7316-10

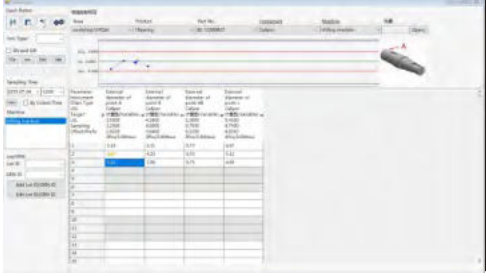


Direct Transmission

- Transmit data through cables or wireless systems

Data Management

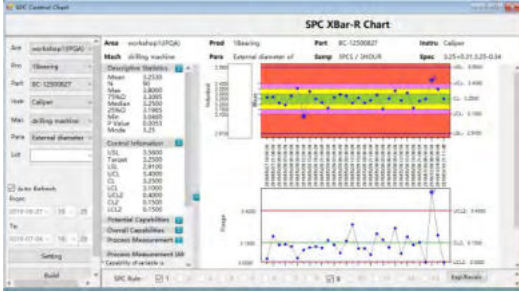
- Measuring data are stored in database



Order No.	Product	Part No.	Instrument	Unit	Lot ID
1	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
2	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
3	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
4	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
5	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
6	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
7	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
8	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
9	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
10	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
11	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
12	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
13	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
14	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
15	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
16	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
17	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
18	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
19	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
20	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
21	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
22	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
23	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
24	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
25	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
26	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000
27	measuring	NC-1200027	Caliper	Engineer	External diameter of pin 1.0000

Quality Control Chart

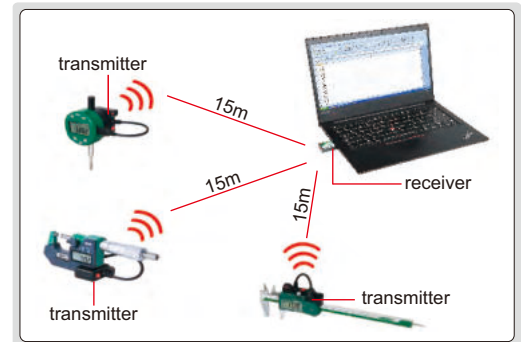
- Analyze the tendency of data, make production adjustment in advance



Quality Report

- Generate different EXCEL report formats according to requirements

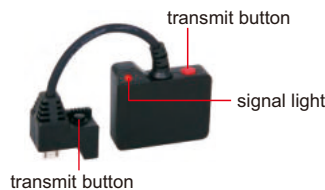
WIRELESS DATA TRANSMISSION SYSTEM



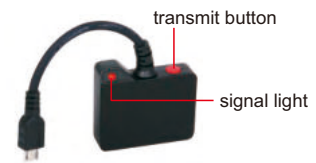
- Through wireless transmission, the measurement data can be transmitted to computers or mobile phones
- For windows and android systems
- Wireless zigbee protocol, conforming to IEEE802, 2.4GHz band
- Transmission distance is 15 meter(Under the condition of no obstruction and no electromagnetic interference. The transmission distance of built-in wireless measuring tools can be found in their respective introduction.)

Transmitter

- Connecting to digital measuring tools such as calipers, micrometers and indicators
- Press the transmit button to send data
- CR2032 battery



7315-21



7315-22





Code	Description	Plug to product	Remark
7315-21	transmitter for digital calipers	transmit button	 digital calipers and digital depth gages signal light, transmit button, transmit button
7315-22	transmitter for large digital calipers		 large digital calipers (range ≤1000mm) and digital height gages signal light, transmit button
7315-30	transmitter for digital micrometers		 digital micrometers transmit button, signal light
7315-50M	transmitter for digital indicators		 digital indicators, digital thickness gages and digital internal/external caliper gages signal light, transmit button
7315-60	transmitter for high precision digital indicators		 2140-6 and 2133 series high precision digital indicators 3350 series high precision digital micrometers/snap gages signal light, transmit button

To be continued

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Receiver (keyboard signal)

- For computers and mobile phones with windows and android systems
- Recognized as HID keyboard device, press transmit button of transmitter, which is recognized by computers or mobile phones as keyboard input data and press enter, such as 12.34€.
- No need to install drivers and softwares
- Data can be transmitted to excel, word, txt etc.
- Suitable for any softwares which can receive keyboard signal

Code	Product	Description	Remark
7315-3	 USB port	single channel receiver	Connected with 1 transmitter only
7315-6	 USB port	multichannel receiver	Connected with 6 transmitter, each channel has a transmitter status indicator
7315-7	 Type-C port		
7315-8	 Micro USB port		

Receiver (text format, virtual com port)

- Suitable for computers with windows system
- Text format virtual com port, converted to keyboard format with supplied software
- Supplied with EXCEL directional input software(please refer to the next page for details)
- Measurement data can be transmitted to excel, word, txt etc. and any software which receives keyboard signal

Code	Product	Description	Remark
7315-2	 antenna USB port	multichannel receiver	Connected with maximum 16 transmitters, each of them has unique identification code

To be continued

EXCEL directional input software

- Included in **7315-2** receiver
- The measurement data of multiple measuring tools can be transmitted to the designated area of excel, which facilitates data management and improves efficiency

Excel directional input software (included in **7315-2**), application example 1

Set the display area of caliper at B4-B9, the readings of caliper are displayed at B4, B5...B9.
 Set the display area of micrometer at C4-C9, the readings of micrometer are displayed at C4, C5... C9.
 Set the display area of height gage at D4-D9, the readings of height gage are displayed at D4, D5... D9.

	A	B	C	D
1	Project	Length	Width	Height
2	Dimension and Tolerance	50±0.05	24±0.01	10+0.05/-0.06
3	Measuring tool	Caliper	Micrometer	Height gage
4	1	50.02	24.004	9.98
5	2	50.01	24.010	10.01
6	3	49.99	23.990	10.02
7	4	50.00	23.996	9.99
8	5	50.04	24.000	10.01
9	6	Channel 1	Channel 2	Channel 3

Serial of workpieces

The next data display area is indicated in green

Excel directional input software (included in **7315-2**), application example 2

Set the display area of micrometer at B4-C9, data input is from the left to the right, the readings of micrometer are displayed at B4, C4, B5, C5... B9, C9.
 Set the display area of caliper at D4-D9, the readings of caliper are displayed at D4, D5... D9.
 Set the display area of depth gage at E4-E9, the readings of depth gage are displayed at E4, E5... E9.

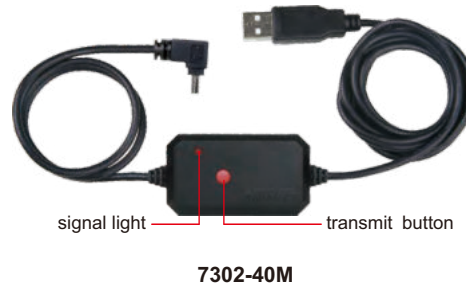
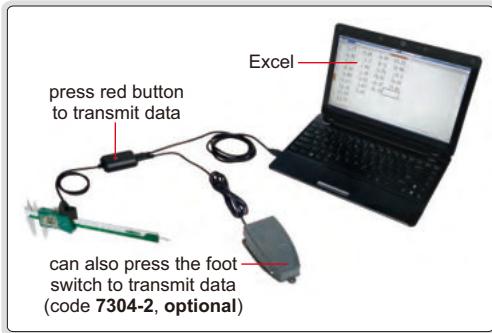
	A	B	C	D	E
1	Project	External diameter1	External diameter2	Length	Depth
2	Dimension and Tolerance	Φ23+0.01/-0.02	Φ21+0.01/-0.02	50±0.04	28±0.05
3	Measuring tool	Micrometer	Micrometer	Caliper	Depth gage
4	1	23.010	21.008	49.98	28.01
5	2	23.010	21.000	49.98	27.98
6	3	22.999	21.000	50	28
7	4	23.007	20.998	50	28
8	5	23.000	20.985	50.01	28.01
9	6	23.008	Channel 1	Channel 2	Channel 3

Serial of workpieces

The next data display area is indicated in green

DATA OUTPUT CABLES (KEYBOARD FORMAT)

application



7302-40M

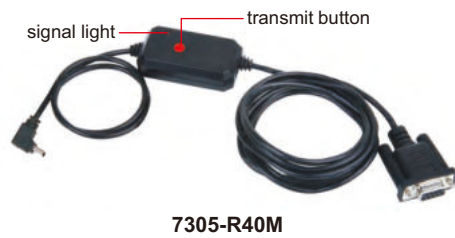
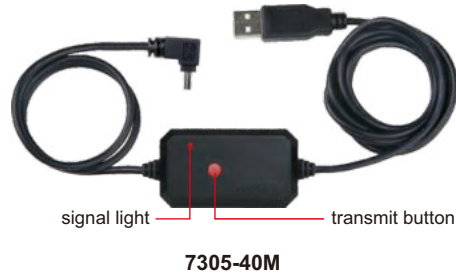
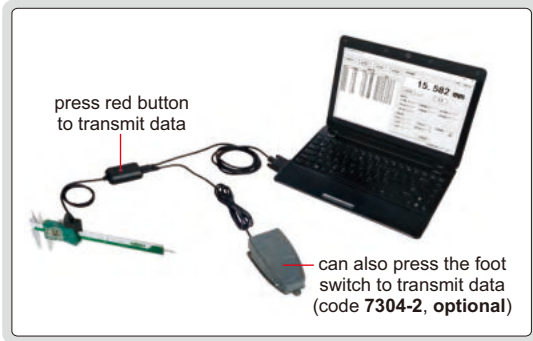
- Recognized as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter, such as 12.34↵)
- Suitable for any softwares which can receive keyboard signal
- Optional accessory: foot switch (code: **7304-2**), hub (code: **7324-HUB4**, **7324-HUB7**) extension cables (code: **7325-ADD5**, **7325-ADD10**)



Code	Description	Plug to product	Plug to computer	Applicable products
7302-21	cable for digital calipers (length 3m)	transmit button		 digital calipers and digital depth gages
7302-22	cable for large digital calipers (length 2.5m)			 large digital calipers (range ≤1000mm) and digital height gages
7302-30	cable for digital micrometers (length 2.5m)			 digital micrometers
7302-40M	cable for digital indicators (length 2.5m)			 digital indicators
7302-50M	cable for digital gages (length 2.5m)			 digital thickness gages and digital internal/external caliper gages
7302-60	cable for high precision digital indicators (length 2.5m)			 2140-6 and 2133 series high precision digital indicators 3350 series high precision digital micrometers/snap gages

DATA OUTPUT CABLES (TEXT FORMAT, VIRTUAL COM PORT)

application



- Optional accessory: foot switch (code: **7304-2**), hub (code: **7324-HUB4**, **7324-HUB7**)

Single transmission (can be switched to continuous transmission)

Code	Description	Plug to product	Plug to computer	Applicable products
7305-21	cable for digital calipers (length 3m)			 digital calipers and digital depth gages
7305-R21				
7305-22	cable for large digital calipers (length 2.5m)			 large digital calipers (range ≤1000mm) and digital height gages
7305-R22				
7305-30	cable for digital micrometers (length 2.5m)			 digital micrometers
7305-R30				
7305-50M	cable for digital gages (length 2.5m)			 digital thickness gages and digital internal/external caliper gages
7305-R50M				

To be continued

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Continuous transmission (can be switched to single transmission)

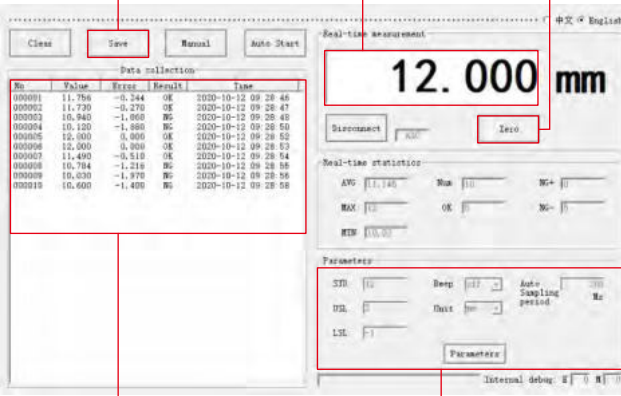
Code	Description	Plug to product	Plug to computer	Applicable products
7305-40M*	cable for digital indicators (length 2.5m)			 <p>digital indicators</p>
7305-R40M*				

* Long press transmission button or foot switch to zero the digital indicators

* Supplied with software

Software (included in 7305-40M and 7305-R40M)

- Real-time display
- Tolerance setting, automatic judgment, out-of-tolerance alarm
- Real time statistics: max, min, average, Go/No-Go number
- Data transmission: single transmission with button on cable/foot switch, single transmission operated on computer, continuous transmission operated on computer
- Can save results as EXCEL



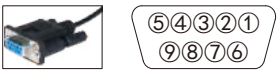
Export Excel Real-time display Setting zero of measuring tools

Measurement results and judgment Setting tolerance and sampling period

Communication protocol

- Baud: 9600bps
- Data bit: 8
- Stop bit 1
- Check bit: None
- No flow control

Pin definition of RS232 plug:



Pin No.	Symbol	Description
2	TXD	Data OUT
3	RXD	Data IN
4	VDD	+5V Power
5	GND	Ground

Data output format

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
----	----	----	----	----	----	----	----	----	-----

+or- Data section (floating point) CR

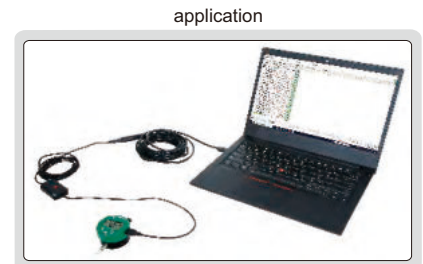
Data format example

Display Output

1.234 ➔ +0001.234 ✓

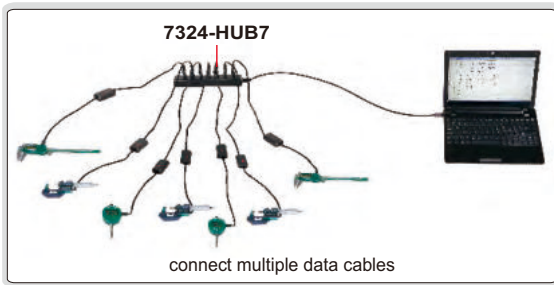
-1.234 ➔ -0001.234 ✓

EXTENSION CABLES



Code	Description	Applicable products
7325-ADD5	Data extension cable (length 5m, USB plug)	7302 series data cables
7325-ADD10	Data extension cable (length 10m, USB plug)	7305 series data cables (USB plug)

application



7324-HUB4



7324-HUB7

- Suitable for USB plug data cable

Code	Description	Applicable products
7324-HUB4	4-channel hub (length 0.2m, USB computer plug)	7302 series data cables
7324-HUB7	7-channel hub (length 1m, USB computer plug)	7305 series data cables (USB plug)

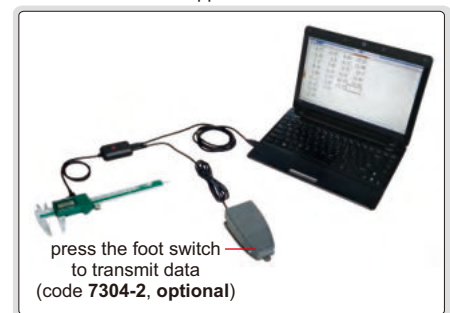
FOOT SWITCH

- For data transmission



7304-2

application



Code	Description	Applicable products
7304-2	data transmission foot switch with cable (length 2m)	7302 series data cables 7305 series data cables

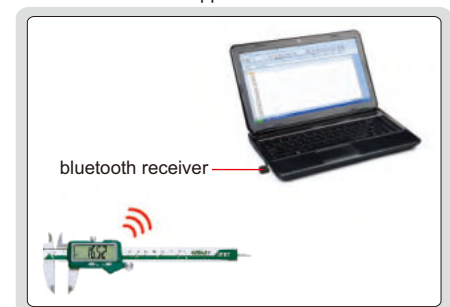
BLUETOOTH RECEIVER

- Connect to computer USB interface
- Transmission distance is 10 meter



7322-01

application



Code	Applicable products	
7322-01	<p>1127 series built-in bluetooth digital calipers</p>	<p>1542 series built-in bluetooth digital depth gages</p>