INSIZE

Data Management Softwares
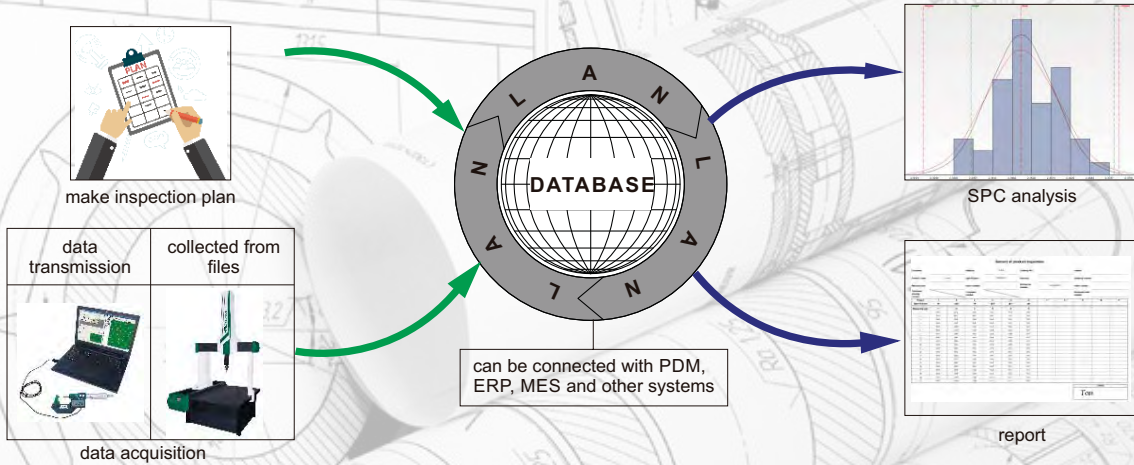**Page 2-3**

Wireless Data Transmission Systems
Page 4-7

Data Output Cables
Page 8-15
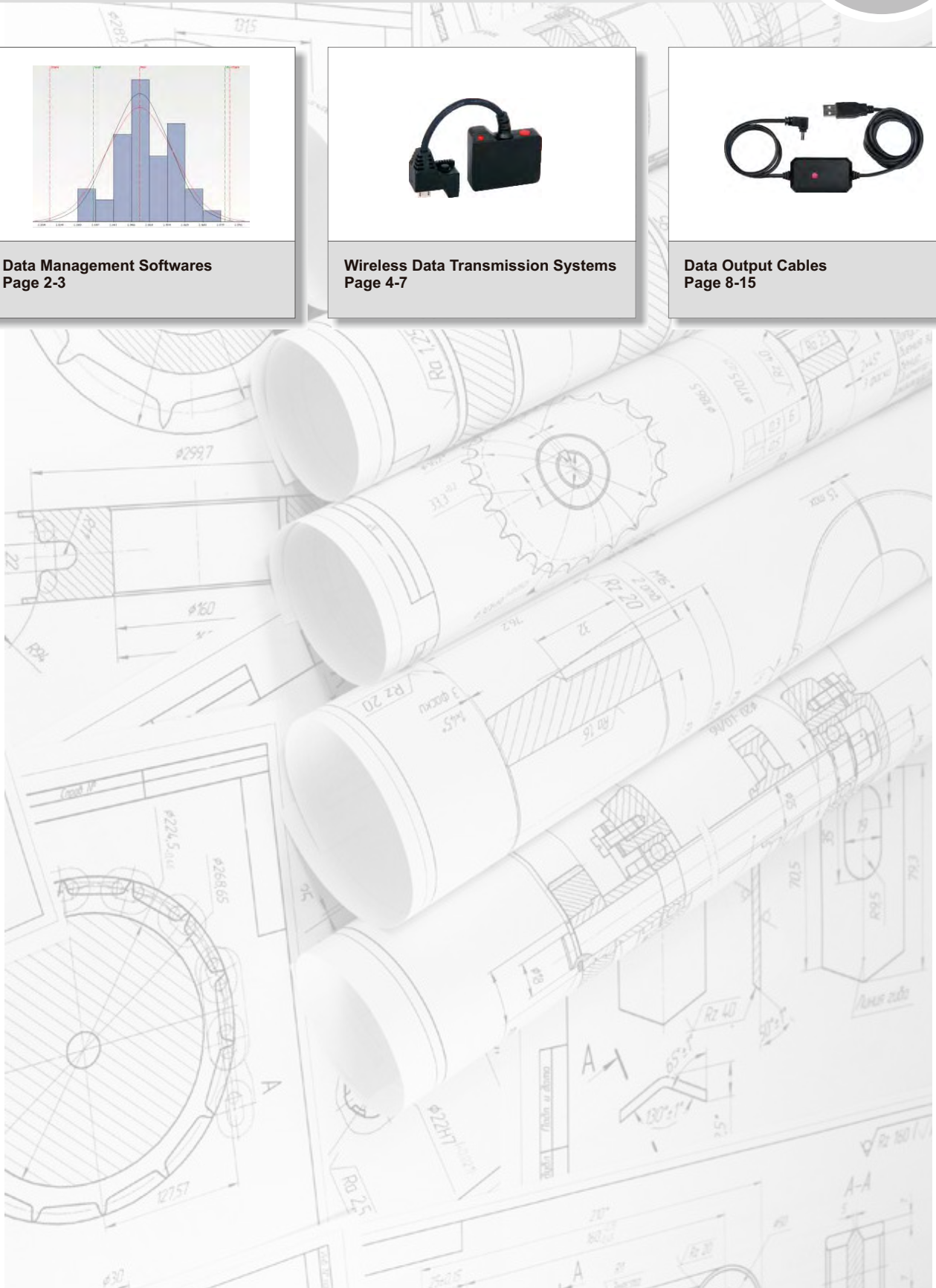
MEASUREMENT DATA MANAGEMENT AND ANALYSIS SOFTWARE
CODE 7317

make inspection plan

data transmission | collected from files

data acquisition

DATABASE

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

SPC analysis

report

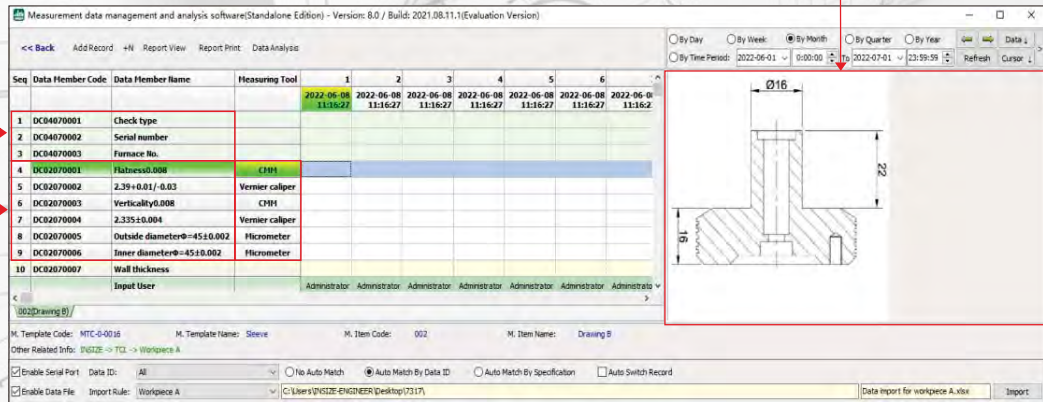## Make inspection plan

■ Define the dimensions, tolerances, control range and other parameters of workpieces

define the drawing of workpieces

define association items of data

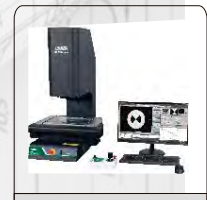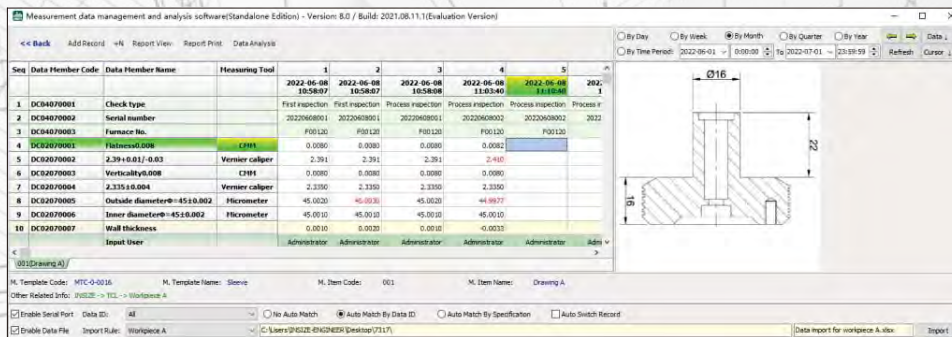define the measured dimension and tolerance

Data acquisition

manual input

data transmission

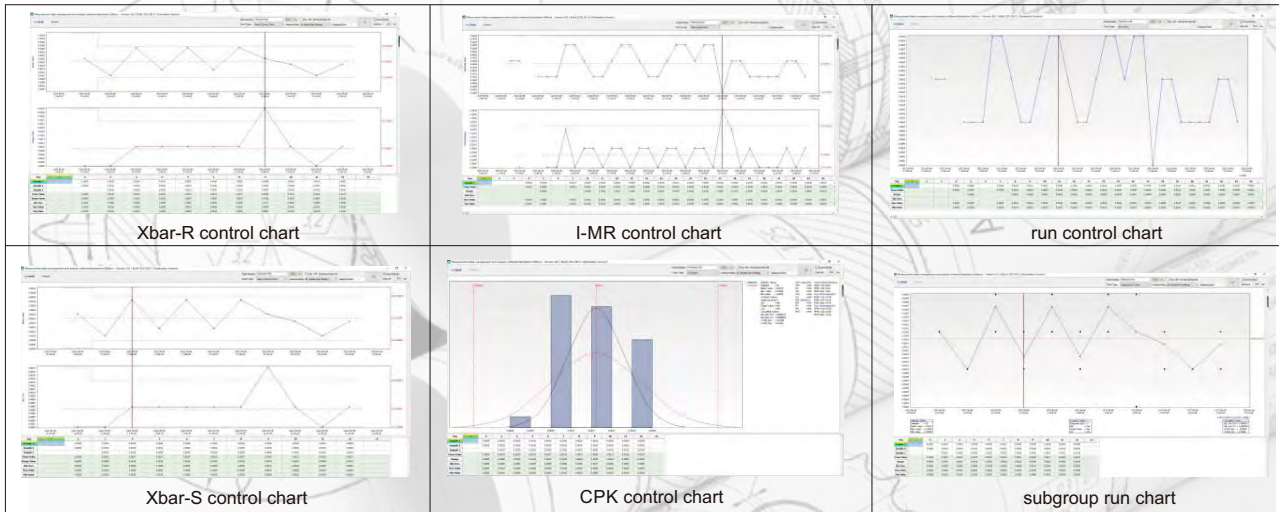collected from files

screen capture

measurement interface

To be continued

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SPC

■ Provide variety of quality analysis control charts

Xbar-R control chart

I-MR control chart

run control chart

Xbar-S control chart

CPK control chart

subgroup run chart

Report

report template

support exporting electronic signature

generate report

Management of inspection plan

management by customers

management by drawings

management by departments

WIRELESS DATA TRANSMISSION SYSTEM

- Through wireless transmission, the measurement data can be transmitted to computers or mobile phones
- Wireless zigbee protocol, conforming to IEEE802, 2.4GHz band
- Transmission distance is 15 meter (under the condition of no obstruction and no electromagnetic interference)

Transmitter

- Connecting to digital measuring tools such as calipers, micrometers and indicators
- CR2032 battery

Code	Description	Transmitter	Connecting with measuring tool	Transmit data
7315-21	transmitter for digital calipers			■ Press the transmit button on the plug of cable, can also press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once
7315-22	transmitter for large digital calipers			■ Press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once
7315-30	transmitter for digital micrometers			■ Press the "data" button of digital micrometer, can also press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once, at the same time, the signal light on the digital micrometer flashes once
7315-31	transmitter for digital micrometers		 back	■ Press the "data" button of digital micrometer ■ Data is transmitted once, the signal light on the digital micrometer flashes once

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Code	Description	Transmitter	Connecting with measuring tool	Transmit data
7315-50M	transmitter for digital indicators	transmit button / signal light	for **2108, 2138, 2139** series digital indicators — signal light, "DATA" button, transmit button, signal light	■ Press the "DATA" button of digital indicator, can also press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once, at the same time, the signal light on digital indicator flashes once
			for other digital indicators — signal light, transmit button	■ Press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once
7315-51	transmitter for digital indicators		for **2108, 2138, 2139** series digital indicators — "DATA" button, signal light foot switch (code **7304-7**, **optional**) — back	■ Press the "DATA" button of digital indicator, can also press the foot switch (code **7304-7**, **optional**) ■ Data is transmitted once, the signal light on digital indicator flashes once
7315-60	transmitter for high precision digital indicators	transmit button / signal light	signal light, transmit button	■ Press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once
7315-80	transmitter for digital calipers/ micrometers	transmit button / signal light	"SET" button, transmit button	■ Press the "SET" button of the calipers/micrometers, can also press the transmit button of the transmitter ■ Data is transmitted once, the signal light of the transmitter flashes once

Continued from previous page

Code	Description	Transmitter	Connecting with measuring tool	Transmit data
7315-3350	transmitter for digital micrometers	transmit button signal light	signal light, transmit button	▪ Press the transmit button of the transmitter ▪ Data is transmitted once, the signal light of the transmitter flashes once
7315-1150	transmitter for digital height gages	transmit button signal light	signal light, transmit button	▪ Press the transmit button of the transmitter ▪ Data is transmitted once, the signal light of the transmitter flashes once
7315-1151	transmitter for digital height gages	transmit button signal light	transmit button, signal light	▪ Press the transmit button of the transmitter ▪ Data is transmitted once, the signal light of the transmitter flashes once
7315-2771	transmitter for digital protractor	transmit button signal light	signal light, transmit button	▪ Press the transmit button of the transmitter ▪ Data is transmitted once, the signal light of the transmitter flashes once
7315-8301	transmitter for electronic balances	transmit button signal light	signal light, transmit button, "⇕" button, back	▪ Press the "⇕" transmit button of the electronic balances, can also press the transmit button of the transmitter ▪ Data is transmitted once, the signal light of the transmitter flashes once

Receiver (keyboard signal)

▪ For computers and mobile phones
▪ Recognized as HID keyboard device, the transmitted data 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.
▪ For any softwares which can receive keyboard signal

Code	Product	Description	Remark
7315-3	USB port	single channel receiver	connected with 1 transmitter only

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Code	Product	Description	Remark
7315-6	USB port	multichannel receiver	connected with 6 transmitters, each channel has status indicator
7315-7	type-C port		
7315-8	micro USB port		
7315-9	lightning port		

Receiver (text format, virtual com port)

- For computers with windows system
- Text format virtual com port, converted to keyboard format with supplied software
- Supplied with Excel directional input software
- Measurement data can be transmitted to excel, word, txt etc. and any software which receives keyboard signal

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

Excel directional input software

- Supplied with **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,
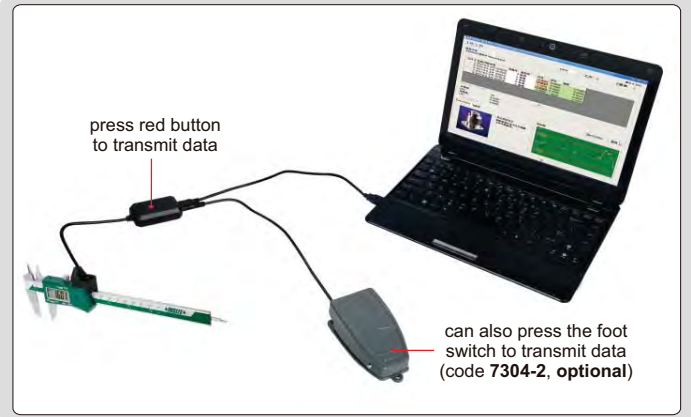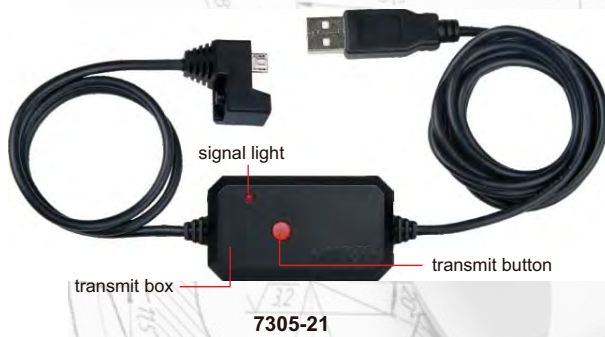the readings of depth gage are displayed at E4, E5... E9.

	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 (TEXT FORMAT, VIRTUAL COM PORT)

1) Data output cables with transmit box

application

signal light

transmit button

transmit box

7305-21

press red button
to transmit data

can also press the foot
switch to transmit data
(code **7304-2**, **optional**)

Single transmit (can be switched to continuous transmit)

Code	Description	Plug to measuring tool	Plug to computer	Connecting with measuring tool	Transmit data
7305-21 **7305-R21**	cable for digital calipers (length 3m)			transmit button	■ Press the transmit button on the plug of cable, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7305-22 **7305-R22**	cable for large digital calipers (length 2.5m)				■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7305-30 **7305-R30**	cable for digital micrometers (length 2.5m)			signal light "data" button back	■ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once
7305-31 **7305-R31**	cable for digital micrometers (length 2.5m)			"data" button signal light IP65 back	■ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once

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Continued from previous page

Code	Description	Plug to measuring tool	Plug to computer	Connecting with measuring tool	Transmit data
7305-50M	cable for digital gages (length 2.5m)				■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7305-R50M					
7305-1150	cable for digital height gages (length 2.5m)				■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7305-R1150					

signal light

transmit box

transmit button

7305-40M

Continuous transmit (can be switched to single transmit)

Code	Description	Plug to measuring tool	Plug to computer	Connecting with measuring tool	Transmit data
7305-40M	cable for digital indicators (length 2.5m)			 "DATA" button signal light for **2108**, **2138**, **2139** series digital indicators	Continuous transmit is controlled in software Single transmit: ■ Press the "DATA" button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once Note: long press transmit button to zero the digital indicators; software of data transmit is included
				 for other digital indicators	Continuous transmit is controlled in software Single transmit: ■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once Note: long press transmit button to zero the digital indicators; software of data transmit is included

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Code	Description	Plug to measuring tool	Plug to computer	Connecting with measuring tool	Transmit data
7305-R40M	cable for digital indicators (length 2.5m)			**"DATA" button** **signal light** for **2108**, **2138**, **2139** series digital indicators	Continuous transmit is controlled in software Single transmit: ■ Press the "DATA" button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once Note: long press transmit button to zero the digital indicators; software of data transmit is included
				for other digital indicators	Continuous transmit is controlled in software Single transmit: ■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once Note: long press transmit button to zero the digital indicators; software of data transmit is included

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
■ Can save results as Excel

export Excel   real-time display   setting zero of digital indicators

measurement results and judgment   setting tolerance and sampling period
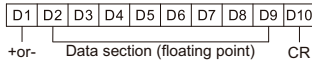
To be continued

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1

communication protocol

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

- 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↙

- Data output format with ID number

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21

ID number   Blank +or-   Data section (floating point)   CR
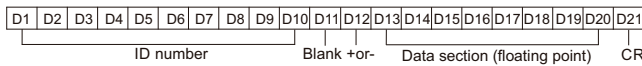
Data format example
Display   Output
1.234 ➡ 4109210605 +0001.234↙
-1.234 ➡ 4109210605 -0001.234↙

- The data transmission mode can be switched:
  single or continuous;
  The data output format can be switched: with
  ID number or without ID number;
  Data of digital indicators can be transmitted
  by instruction;
  The digital indicators can be zeroed by instruction

- Pin definition of RS232 plug:

⑤④③②①
⑨⑧⑦⑥
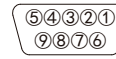
Pin No.	Symbol	Description
2	TXD	Data OUT
3	RXD	Data IN
4	VDD	+5V Power
5	GND	Ground

2) Data output cables without transmit box

application

7305-G3350

Single transmit

Code	Description	Plug to measuring tool	Plug to computer	Connecting with measuring tool	Transmit data
7305-G60	cable for high precision digital indicators (length 3m)			"DATA" button	■ Press the "DATA" button of high precision digital indicator
7305-G3350	cable for digital micrometers (length 3m)			"DATA" button	■ Press the "DATA" button of digital micrometer

communication protocol

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

- Data output format

D1	D2	D3	D4	D5	D6	D7	D8	D9	D10

+or-   Data section (floating point)   CR
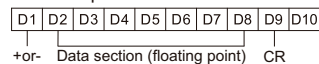
Data format example
Display   Output
1.234 ➡ +0001.234↙
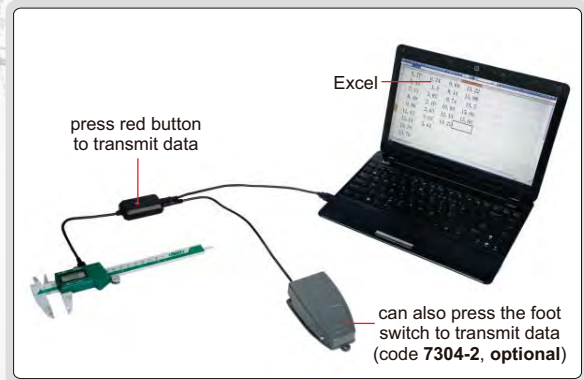-1.234 ➡ -0001.234↙

- Data of high precision digital
  indicators can be transmitted by
  instruction;
  The high precision digital indicators
  can be zeroed by instruction

DATA OUTPUT CABLES (KEYBOARD FORMAT)

application

press red button
to transmit data

Excel

can also press the foot
switch to transmit data
(code **7304-2**, **optional**)

signal light

transmit box

transmit button

7302-21

- 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↙)
- 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**)

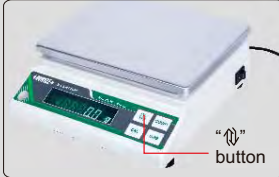| Code	Description	Plug	Connecting with measuring tool	Transmit data
7302-21	cable for digital calipers (length 3m)		transmit button	▪ Press the transmit button on the plug of cable, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once
7302-22	cable for large digital calipers (length 2.5m)			▪ Press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once
7302-30	cable for digital micrometers (length 2.5m)		signal light "data" button back	▪ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once
7302-31	cable for digital micrometers (length 2.5m)		signal light "data" button back	▪ Press the "data" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ▪ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on the digital micrometer flashes once

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1

Code	Description	Plug	Connecting with measuring tool	Transmit data
7302-50M	cable for digital gages (length 2.5m)			■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7302-40M	cable for digital indicators (length 2.5m)		 "DATA" button signal light **for 2108, 2138, 2139 series digital indicators**	■ Press the "DATA" button of digital indicator, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once, at the same time, the signal light on digital indicator flashes once Note: long press transmit button to zero the digital indicators
			 for other digital indicators	■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once Note: long press transmit button to zero the digital indicators
7302-60	cable for high precision digital indicators (length 2.5m)		 "DATA" button	■ Press the "DATA" button of high precision digital indicator, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7302-3350	cable for digital micrometers (length 2.5m)		 "DATA" button	■ Press the "DATA" button of digital micrometer, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7302-1151	cable for digital height gages (length 2.5m)			■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7302-SPC7	cable for digital height gages (length 2.5m)			■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once

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INSIZE

1

Code	Description	Plug	Connecting with measuring tool	Transmit data
7302-8001	cable for weighing scales (length 2.5m)		back for **8301** and **8305** series electronic balances back for **8001-6D**, **8001-15D**, **8001-30D** series weighing scales and **8501** series platform scales	■ Press the "⟨⟨" button of electronic balances, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once ■ Press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once
7302-8304	cable for electronic balances (length 3m)		back	■ Press the "🖶" button of electronic balances, can also press the transmit button of the transmit box, or press the foot switch ■ Data is transmitted once, the signal light of the transmit box flashes once

DISPLAY UNIT
CODE 7106-1A

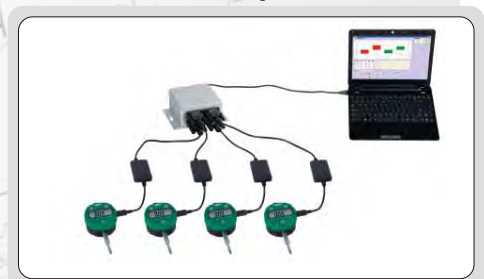**REFER TO PAGE 261 FOR DETAILS**

connected with digital indicator

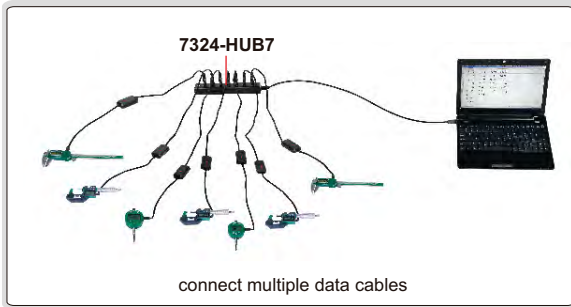## MULTICHANNEL INTERFACE BOXES

REFER TO PAGE 262 FOR DETAILS

connected with digital indicators

7107-1

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HUBS

application

7324-HUB7

connect multiple data cables

7324-HUB4

7324-HUB7

- 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)

EXTENSION CABLES

application

7325-ADD5

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)

FOOT SWITCH

application

- For data transmission

7304-2

press the foot switch
to transmit data
(code **7304-2**, **optional**)
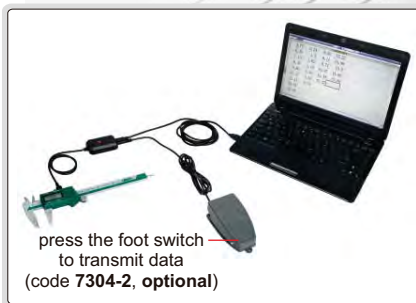
Code	Description	Applicable products
7304-2	data transmission foot switch with cable (length 2m)	**7302** series data cables **7305** series data cables

OK/NG INPUT SWITCHES

application

7327-FS

7327-SW

Code	Description
7327-FS	foot switch for OK/NG input
7327-SW	hand switch for OK/NG input

- Used with **7317** software, output OK or NG
- USB plug, length 1.5m

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