SUITABLE FOR SMALL SURFACES, CONCAVE OR CONVEX SURFACES

FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES

COATING THICKNESS GAGE

INSIZE PLUS
MADE IN EUROPE

main unit
ISO-2000FN

probe (**optional**)

magnetic induction
probe Fe (optional)
ISO-2000FN-FE

eddy current probe
NFe (optional)
ISO-2000FN-NFE

- Suitable for small surfaces, concave or convex surfaces
- Magnetic induction probe (Fe) measures the thickness of non-magnetic coating on magnetic substrate.
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, copper, chrome-tin, plastic powder, paint (not for nickel)
- Eddy current probe (NFe) measures the thickness of non-conductive coating on non-magnetic metal substrate.
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic powder, paint, anodizing

standard foils (included)

MAIN UNIT

Code		ISO-2000FN (without probes)
Measuring range	magnetic induction probe (Fe)	0~2000µm
	eddy current probe (NFe)	0~800µm
Accuracy		±(1.5+2%L)µm L is measuring thickness in µm
Resolution		0.1µm (range<100µm)
		1µm (range 100~1000µm)
		10µm (range≥1000µm)
Repeatability		1µm (range 0~1000µm)
		10µm (range≥1000µm)
Measuring mode		continuous or single
Calibration mode		four points calibration
Minimum substrate thickness		magnetic induction probe (Fe): 0.2mm, eddy current probe (NFe): 0.05mm
Minimum measuring area		5x5mm, calibration should be made on workpieces without coating
Power supply		2×1.5V AA batteries
Dimension of main unit		122×65×22mm
Weight of main unit		150g

STANDARD DELIVERY

Main unit	1 pc
Zero calibration block for Fe probe	1 pc
Zero calibration block for NFe probe	1 pc
Standard foil	7 pcs
Battery (AA)	2 pcs

PROBE (OPTIONAL)

Magnetic induction probe (Fe)	ISO-2000FN-FE
Eddy current probe (NFe)	ISO-2000FN-NFE

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COATING THICKNESS GAGE
CODE 9501-1200

FOR MAGNETIC AND NON-MAGNETIC SUBSTRATES

DATA OUTPUT

eddy current probe NFE (**optional**) with zero calibration block

magnetic induction probe FE90 for bores and grooves (**optional**)

magnetic induction probe FE10 for large range (**optional**)

zero calibration block for FE (included)

calibration foils (included)

data transmission cable (**optional**)

magnetic induction probe FE (included)

software CD (included)

- Magnetic induction probe (FE) measures the thickness of non-magnetic coating on magnetic substrate.
  Substrate: iron, steel, magnetic stainless steel (not for non-magnetic stainless steel)
  Coating: zinc, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Eddy current probe (NFE) measures the thickness of non-conductive coating on non-magnetic substrate.
  Substrate: copper, aluminum, zinc, non-magnetic stainless steel
  Coating: plastic, powder, paint, anodizing
- Tolerance measurement
- Automatic power off

SPECIFICATION

Probe type	FE (included) magnetic induction probe	NFE (optional) eddy current probe	FE90 (optional) magnetic induction probe for bores and grooves	Fe10 (optional) magnetic induction probe for large range
Measuring range	0~1250µm	0~1250µm	0~1250µm	500~10000µm
Accuracy	±(3%L+1)µm (range≤1250µm) ±(3%L+10)µm (range>1250µm)		L is measuring thickness in µm	
Resolution	0.1µm (range<100µm)			
	1µm (range≥100µm)			
Measuring mode	continuous and single			
Minimum substrate thickness	0.5mm	0.3mm	0.5mm	2mm
Minimum measuring area	Ø7mm	Ø5mm	Ø7mm	Ø40mm
Minimum curvature radius of convex workpiece	1.5mm	3mm	—	10mm
Memory	500			
Output	USB			
Power supply	2×1.5V AA batteries			
Dimension	128×68×32mm			
Weight	340g			

STANDARD DELIVERY

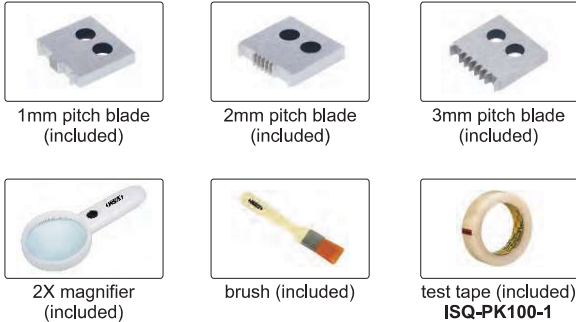|	
Main unit	1 pc
Magnetic induction probe (FE)	1 pc
Zero calibration block for FE probe	1 pc
Calibration foils (50µm, 100µm, 250µm, 500µm, 1000µm)	1 set
1.5V AA battery	2 pcs
Software and USB cable	1 pc

OPTIONAL ACCESSORY

Data transmission cable	9501-1200-SPC
Eddy current probe (NFE) with zero calibration block	9501-1200-NFE
Magnetic induction probe (FE90) for bores and grooves	9501-1200-FE90
Magnetic induction probe (FE10) for large range	9501-1200-FE10

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CROSS CUT ADHESION TESTER
CODE ISQ-PK100

- To test the adhesion of paint coating on metal, wood, plastic, etc.
- According to ISO 2409, ASTM D3359, DIN53151

1mm pitch blade
(included)

2mm pitch blade
(included)

3mm pitch blade
(included)

2X magnifier
(included)

brush (included)

test tape (included)
ISQ-PK100-1

VIDEO

SPECIFICATION

Blade		1mm pitch	2mm pitch	3mm pitch
Applied paint thickness	on hard substrate (like metal)	0~60µm	61~120µm	121~250µm
	on soft substrate (like wood, plaster)	–	0~120µm	121~250µm
Minimum substrate thickness	hard substrate (like metal)	0.25mm	0.25mm	0.25mm
	soft substrate (like wood, plaster)	–	10mm	10mm
Minimum size of test sample		150×100mm	150×100mm	150×100mm
Dimension		170×28×40mm		
Weight		430g		

STANDARD DELIVERY

Handle	1 pc
1mm pitch blade	1 pc
2mm pitch blade	1 pc
3mm pitch blade	1 pc
Test tape (ISQ-PK100-1)	1 pc
2X magnifier	1 pc
Brush	1 pc
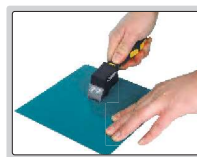
step 1: make grid cutting on surface

step 2: paste and remove the tape
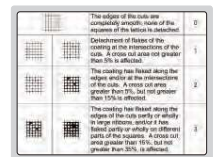
step 3: according to the shedding status, judge the adhesion grade
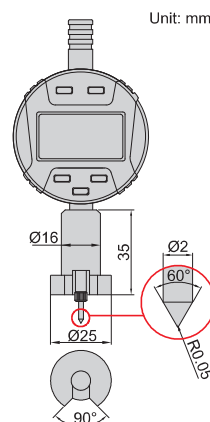

DATA OUTPUT

DISPLAY MAXIMUM, MINIMUM, DIFFERENCE VALUE BETWEEN MAXIMUM AND MINIMUM

DIGITAL SURFACE PROFILE GAGE

- Measure peak-to-valley height of blast cleaned surface. If the profile is too low, the adhesion of the coating to the surface will be reduced. If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data ouput
- Stainless steel base
- Optional accessory: data output cable (code **7315-, 7302-, 7305-**)

VIDEO

Unit: mm

set zero

zero set block
(included)

Ø16

35

Ø2

60°

Ø25

R0.05

90°

2844-10

measure peak-to-valley height of blast cleaned surfaces

Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
2844-10	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm

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DIGITAL SURFACE PROFILE GAGE

DATA OUTPUT

- Measure peak-to-valley height of blast cleaned surface.
  If the profile is too low, the adhesion of the coating to the surface will be reduced.
  If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Button function: on/off, zero, mm/inch, absolute/incremental measurement
- CR2032 battery, automatic power off
- Data ouput
- Stainless steel base
- Optional accessory: data output cable (code **7315-**, **7302-**, **7305-**)
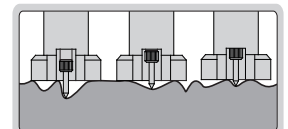
Unit: mm

set zero

zero set block (included)

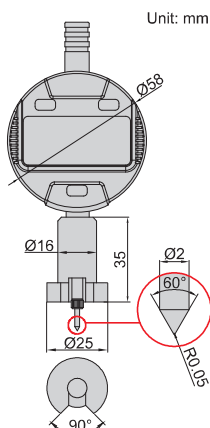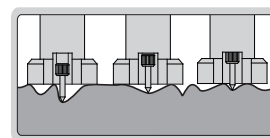measure peak-to-valley height of blast cleaned surfaces

2843-10

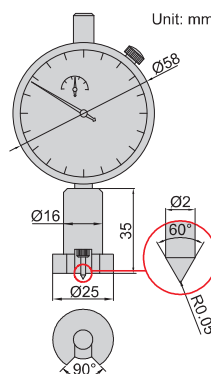| Code	Range	Digital indicator stroke	Digital indicator resolution	Accuracy
2843-10	0-12.7mm/0-0.5"	12.7mm/0.5"	0.001mm/0.00005"	±0.005mm

VIDEO

SURFACE PROFILE GAGE

- Measure peak-to-valley height of blast cleaned surface.
  If the profile is too low, the adhesion of the coating to the surface will be reduced.
  If the profile is too high, there is the danger that the profile peaks will remain uncoated, allowing rust spots to occur.
- Meet ASTM D 4417-B
- Zero set block is included, set zero before measurement
- Stainless steel base

Unit: mm

set zero

zero set block (included)

measure peak-to-valley height of blast cleaned surfaces
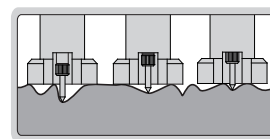
2344-1

Code	Range	Dial indicator stroke	Dial indicator graduation	Accuracy
2344-1	0-1mm	1mm	0.001mm	±0.005mm

VIDEO

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WET FILM GAGES

- Made of stainless steel

Unit: mm
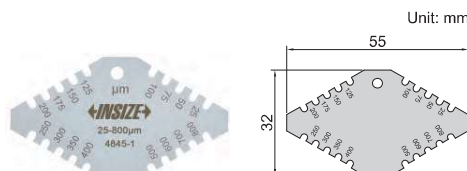
4845-1

4845-1

4845-2

4845-2

Unit: mm
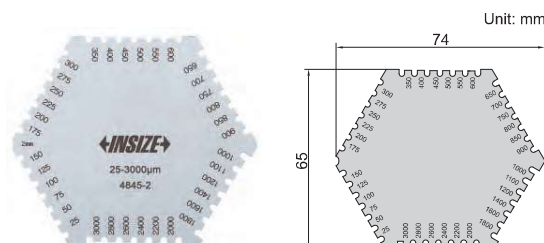
Code	Range	Accuracy	Thickness
4845-1	25-800µm	±5µm	1.8mm
4845-2	25-3000µm	25-100µm: ±5µm 100µm-3000µm: ±5%	1mm

DATA OUTPUT

WITH A AND B SCAN

PENETRATE NON-METALLIC COATING AND MEASURE THE THICKNESS OF METAL SUBSTRATES

- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
  – E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrates, can penetrate coating and measure the thickness of substrates
  – T-E is to measure the thickness of material without coating, such as metal, plastic, glass, nylon, resin, ceramics, ice, etc.
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values and transmitted through USB cable
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
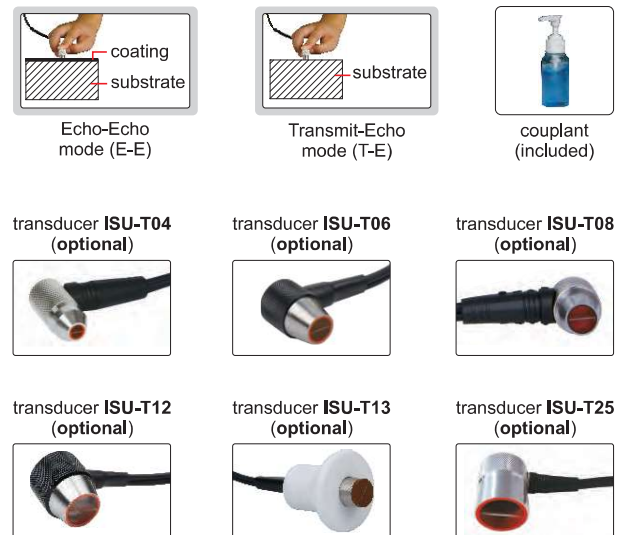- Automatic power off

USB port

LCD with backlight

4.00mm block for calibration

Transducer **ISU-T07** (included)

Ød

A Scan

B Scan

SPECIFICATION

Measuring range	T-E mode: substrate thickness 1.5~200mm
	E-E mode: substrate thickness 3~25mm
Measuring unit	mm/inch
Resolution	0.1/0.01mm
Accuracy	±0.04mm (H<9.9mm) ±(0.04+0.1%H)mm (H: 10~99.9mm) ±(0.3%H)mm (H>100mm) H is the thickness to be measured in mm
Frequency	5.0MHZ
Display	320×240, color screen display
Velocity	1000~9999m/s
Measuring frequency	2 times/second and 10 times/second
Applicable temperature	-20~50°C
Output	USB
Power supply	2×1.5V AA batteries
Dimension	133×75×29mm
Weight	260g (including batteries)

STANDARD DELIVERY

Main unit	1 pc
Bicrystal transducer ISU-T07	1 pc
Battery (AA)	2 pcs
Couplant	1 bottle
USB cable	1 pc

coating
substrate

Echo-Echo mode (E-E)

substrate

Transmit-Echo mode (T-E)

couplant (included)

transducer **ISU-T04** (optional)

transducer **ISU-T06** (optional)

transducer **ISU-T08** (optional)

transducer **ISU-T12** (optional)

transducer **ISU-T13** (optional)

transducer **ISU-T25** (optional)

OPTIONAL ACCESSORY

Transducer	ISU-T04, ISU-T06, ISU-T08, ISU-T12, ISU-T13, ISU-T25
Couplant (for ISU-T13)	ISU-HT5-COUPLANT

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SPECIFICATION OF TRANSDUCERS

Code	Mode	Frenquency	Diameter (Ød)	Measuring range	Minimum size of pipes for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T07 (included)	T-E E-E	5.0MHz	13.2mm	T-E mode: 1.5~200mm E-E mode: 3~25mm	T-E mode: Ø25×3mm	<60°C	general use
ISU-T04 (optional)	T-E	10.0MHz	6mm	0.7~20mm	Ø15×1mm	<60°C	for small tubes
ISU-T06 (optional)	T-E	7.5MHz	9mm	0.7~50mm	Ø15×1.2mm	<60°C	for thin workpieces
ISU-T08 (optional)	T-E	5.0MHz	11mm	0.8~300mm	Ø25×1.2mm	<60°C	general use
ISU-T12 (optional)	T-E	2.0MHz	17mm	2~400mm	Ø40×3mm	<60°C	for casting iron
ISU-T13 (optional)	T-E	5.0MHz	15mm	2~200mm	Ø25×2mm	<350°C	for high temperature
ISU-T25 (optional)	T-E	1.0MHz	26mm	3~200mm	–	<60°C	for fiberglass and organic material

ULTRASONIC THICKNESS GAGE
(FOR THICK WORKPIECES MADE OF ORGANIC MATERIALS)
CODE ISU-710D

DATA OUTPUT **WITH A AND B SCAN**

SPECIFICATION

Measuring range	20~590mm
Measuring unit	mm/inch
Resolution	0.1/0.01mm
Accuracy	±(0.04+0.1%H)mm (H: 10~99.9mm) ±(0.3%H)mm (H>100mm) H is the thickness to be measured in mm
Transducer	Type	Monocrystal probe

Transducer	Type	Monocrystal probe
	Frequency	1.0MHz
	Diameter (Ød)	26mm

Display	320×240, color screen display
Velocity	1000~9999m/s
Measuring frequency	2 times/second and 10 times/second
Applicable temperature	-20~50°C
Output	USB
Power supply	2×1.5V AA batteries
Dimension	133×75×29mm
Weight	260g (including batteries)

STANDARD DELIVERY

Main unit	1 pc
Transducer	1 pc
Battery (AA)	2 pcs
Couplant	1 bottle
USB cable	1 pc

VIDEO

couplant (included)

USB port

LCD with backlight

Ød

A Scan

B Scan

- For thick workpieces made of organic materials
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values and transmitted through USB cable
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
- Automatic power off

ULTRASONIC THICKNESS GAGE (FOR THIN WORKPIECES)
CODE ISU-700D

DATA OUTPUT **WITH A AND B SCAN**

VIDEO

SPECIFICATION

Measuring range	Transmit-echo (T-E) mode: 1.5~20mm
	Echo-echo (E-E) mode: 0.2~10mm
Measuring unit	mm/inch
Resolution	0.1/0.01/0.001mm
Accuracy	±0.04mm (H<9.99mm) ±(0.04+0.1%H)mm (H≥10mm) H is the thickness to be measured in mm

Transducer	Type	Monocrystal probe
	Frequency	15.0MHz
	Diameter (Ød)	7.5mm

Display	320×240, color screen display
Velocity	1000~9999m/s
Measuring frequency	2 times/second and 10 times/second
Applicable temperature	-20~50°C
Output	USB
Power supply	2×1.5V AA batteries
Dimension	133×75×29mm
Weight	260g (including batteries)

STANDARD DELIVERY

Main unit	1 pc
Transducer	1 pc
Transducer protective sleeve	1 pc
Battery (AA)	2 pcs
Couplant	1 bottle
USB cable	1 pc

transducer protection sleeve (included)

couplant (included)

USB port

LCD with backlight

Ød

4.00mm block for calibration

A Scan

B Scan

- For thin workpieces
- A scan, through the waveform, judges whether there are impurities, pores, cracks and so on inside, in order to avoid wrong measurement
- B scan, measures continuously, displays the thickness change on the screen
- Transducers can be automatically identified and zeroed
- Memory 10000 measurement values and transmitted through USB cable
- Automatic or manual measurement
- When transducers are removed from workpieces, the measurement data are held on screen for easy viewing
- Set upper and lower limits for alarm when out-of-tolerance
- Automatic power off

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PENETRATE NON-METALLIC COATING AND
MEASURE THE THICKNESS OF METAL SUBSTRATE

ULTRASONIC THICKNESS GAGE (THROUGH COATING)
CODE ISU-300D

DATA
OUTPUT

INSPECTION
CERTIFICATE

- Two measuring modes, Echo-Echo (E-E) and Transmit-Echo (T-E):
  – E-E is applicable for non-metallic coating (such as paint, plastic resin, etc.) on metal substrates, can penetrate coating and measure the thickness of substrates
  – T-E is to measure the thickness of material without coating, such as metal, plastic, glass, nylon, resin, ceramics, ice, etc.
- Tolerance measurement
- Average calculation of maximum 9 readings
- Data can be input to Excel and Word as keyboard signal

4.00mm block for calibration

LCD with backlight

VIDEO

USB port
transducer **ISU-T07** (included)

Ød

coating
substrate

substrate

Echo-Echo
mode (E-E)

Transmit-Echo
mode (T-E)

couplant (included)

transducer **ISU-T04**
(**optional**)

transducer **ISU-T06**
(**optional**)

transducer **ISU-T12**
(**optional**)

transducer **ISU-T13**
(**optional**)

SPECIFICATION

Measuring range	E-E mode: coating thickness 0~1mm, substrate thickness 4~25mm
	T-E mode: substrate thickness 1.5~200mm
Resolution	0.01mm (range<100mm) / 0.1mm (range≥100mm)
Repeatability	0.03mm (range<100mm) / 0.1mm (range≥100mm)
Accuracy	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) H is the thickness to be measured in mm
Velocity	1000~9999m/s
Power supply	2×1.5V AAA batteries
Dimension	116×64×27mm
Weight	220g
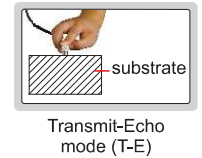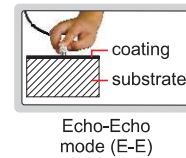
STANDARD DELIVERY

Main unit	1 pc
Transducer ISU-T07	1 pc
Battery (AAA)	2 pcs
Couplant (for ISU-T04, ISU-T06, ISU-T07, ISU-T12)	1 bottle
USB cable	1 pc

OPTIONAL ACCESSORY

Transducer	ISU-T04, ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COUPLANT

SPECIFICATION OF TRANSDUCERS

Code	Mode	Frenquency	Diameter (Ød)	Measuring range	Minimum size of pipes for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T07 (included)	T-E E-E	5.0MHz	13.2mm	T-E mode: 1.5~200mm E-E mode: 3~25mm	T-E mode: 20×1.2mm E-E mode: 20×4mm	<60°C	general use
ISU-T04 (optional)	T-E	10.0MHz	6mm	0.7~20mm	10×1mm	<60°C	for small tubes
ISU-T06 (optional)	T-E	7.5MHz	8.5mm	0.7~50mm	15×1.2mm	<60°C	for thin workpieces
ISU-T12 (optional)	T-E	2.0MHz	16.3mm	2~400mm	30×4mm	<60°C	for casting iron
ISU-T13 (optional)	T-E	5.0MHz	13mm	2~200mm	25×3mm	<350°C	for high temperature

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ULTRASONIC THICKNESS GAGE
CODE ISU-250C

VIDEO

DATA OUTPUT

INSPECTION CERTIFICATE

- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice
- Tolerance measurement
- Average calculation of 9 readings
- Data can be input to Excel and Word as keyboard signal

4.00mm block for calibration

LCD with backlight

USB port

transducer ISU-T08 (included)

Ød

couplant (included)

transducer **ISU-T04** (optional)

transducer **ISU-T06** (optional)

transducer **ISU-T12** (optional)

transducer **ISU-T13** (optional)

SPECIFICATION

Resolution	0.01mm (range<100mm)
	0.1mm (range≥100mm)
Repeatability	0.03mm (range<100mm)
	0.1mm (range≥100mm)
Accuracy	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) H is the thickness to be measured in mm
Velocity	1000-9999m/s
Power supply	2×1.5V AAA batteries
Dimension	64×116×27mm
Weight	220g

STANDARD DELIVERY

Main unit	1 pc
Transducer ISU-T08	1 pc
Battery (AAA)	2 pcs
Couplant (for ISU-T04, ISU-T06, ISU-T08, ISU-T12)	1 bottle
USB cable	1 pc

OPTIONAL ACCESSORY

Transducer	ISU-T04, ISU-T06, ISU-T12, ISU-T13
Couplant (for ISU-T13)	ISU-HT5-COUPLANT

SPECIFICATION OF TRANSDUCERS

Code	Frequency	Diameter (Ød)	Measuring range	Minimum size of pipes for measurement (diameter × wall thickness)	Applicable temperature	Application
ISU-T08 (included)	5.0MHz	10.8mm	0.8~300mm	20×1.2mm	<60°C	general use
ISU-T04 (optional)	10.0MHz	6mm	0.7~20mm	10×1mm	<60°C	for small tubes
ISU-T06 (optional)	7.5MHz	8.5mm	0.7~50mm	15×1.2mm	<60°C	for thin workpieces
ISU-T12 (optional)	2.0MHz	16.3mm	2~400mm	30×4mm	<60°C	for casting iron
ISU-T13 (optional)	5.0MHz	13mm	2~200mm	25×3mm	<350°C	for high temperature

ULTRASONIC THICKNESS GAGE (BASIC TYPE)
CODE ISU-100D

VIDEO

ATTENTION: NOT SUITABLE FOR CASTING WORKPIECES

INSPECTION CERTIFICATE

- Measure the thickness from one side of objects, suitable for pipes, tanks, etc.
- Applicable material: metal, plastic, glass, nylon, resin, ceramic, ice

SPECIFICATION

Measuring range		0.8~300mm
Resolution		0.01mm (range<100mm)
		0.1mm (range≥100mm)
Accuracy		±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm) ±H/333mm (range≥100mm) H is the thickness to be measured in mm
Transducer	frequency	5MHz
	diameter (Ød)	10.8mm
Minimum size of pipes for measurement		20×1.2mm (diameter × wall thickness)
Applicable temperature		<60°C
Velocity		1000-9999m/s
Power supply		2×AAA batteries
Dimension		114×64×28mm
Weight		200g

LCD with backlight

4.00mm block for calibration

Ød

STANDARD DELIVERY

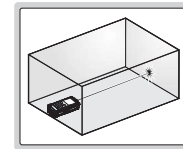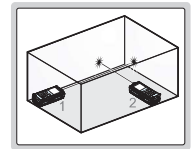| Main unit	1 pc
Transducer	1 pc
Couplant	1 bottle
Battery (AAA)	2 pcs

LASER DISTANCE METERS

level

9561-80

- Large display with backlight
- Unit: m, ft, in
- Distance, area, volume and height measurement
- Continuos measuring mode to track maximum and minimum value
- Memory of 99 measurement values
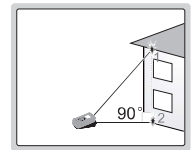- Automatic power off: laser 20s, main unit 150s

distance measurement

area measurement

volume measurement

height measurement

SPECIFICATION

Code	9561-40	9561-80
Measuring range	0.05~40m	0.05~80m
Accuracy	±(5.0+D/20)mm D: measured distance, unit: m	
Resolution	1mm, 10mm, .1", .01ft	
Measuring speed	0.5 second	
Laser type	635nm, class II, <1mW	
Power supply	3×AAA batteries, for 4000 measurements	
Dimension (L×W×H)	120×60×28mm	
Weight	175g	

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

INFRARED THERMOMETER
CODE 9120-550

- With maximum reading
- Tolerance measurement
- Automatic power off

SPECIFICATION

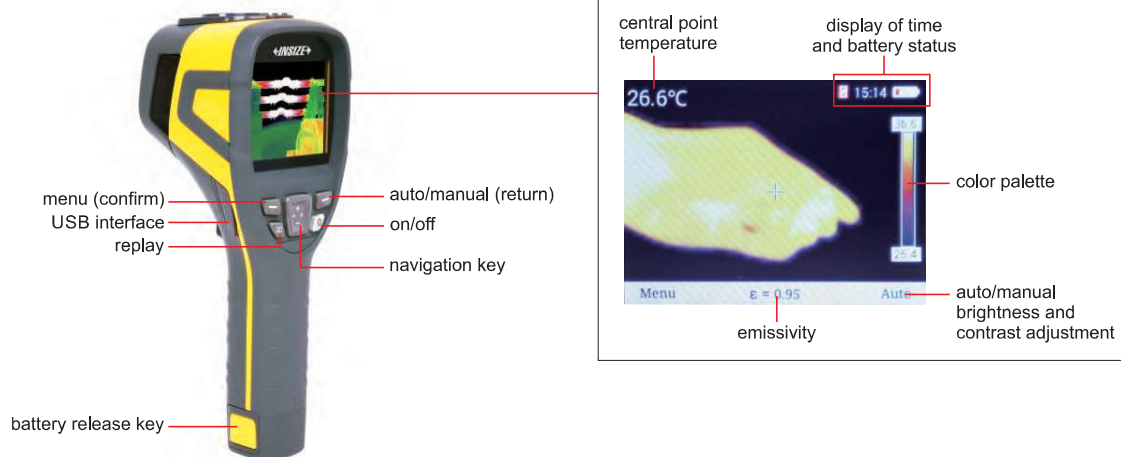| Measuring range	-30~550°C/-22~1022°F
Accuracy	-30~0°C (-22~32°F): ±3°C 0~550°C (32~1022°F): ±(1.5%+2°C)
Resolution	0.1°C/0.1°F
Distance to spot ratio (D:S)	12:1
Emissivity	0.1~1 (adjustable)
Laser type	630~670nm, class II, <1mW
Response time	<0.5s
Power supply	2×1.5V AAA batteries
Dimension	155×110×45mm
Weight	126g (without batteries)

STANDARD DELIVERY

Main unit	1 pc
1.5V AAA battery	2 pcs

front view

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INFRARED THERMAL IMAGING CAMERA (BASIC TYPE)
CODE 9131-B350

IP43 WATERPROOF   DATA OUTPUT

central point temperature

display of time and battery status

26.6°C   15:14

color palette

menu (confirm)
USB interface
replay

auto/manual (return)
on/off
navigation key

Menu   ε = 0.95   Auto

emissivity

auto/manual brightness and contrast adjustment

battery release key

- Easy to use
- Four image presentations: IR, visible, PIP and MIF
- WIFI real-time sharing, one-click connection to mobile devices
- USB interface for data transmission and charging

SPECIFICATION

IR resolution	160×120
NETD	≤50mk
Focus length	5mm/F1.2
Angle of view	30°×23°
Spatial resolution	3.30mrad
Focus adjustment	fixed
Detector type	unrefrigerated vanadium oxide/8~14µm
Pixel size	17µm
Visible camera	resolution 640×480, automatic focus
Display	3.5" highlight LCD screen, 320×240
Image mode	IR image, visible image, MIF, PIP
Digital zoom	x2, x4
Color palette	6 modes
Temperature range	-20°C~350°C
Accuracy	±2°C or ±2% (of maximize range)
Emissivity	0.01-1.00 (adjustable)
Storage	SD card (16G)
Image format	JPG with temp info
Output	USB
Power	rechargeable Li-ion battery, working time≥4h
Operating temperature	-10°C~50°C
Operating humidity	10%~95%RH
Vibration	10HZ~150HZ~10HZ 0.15mm (IEC 60068-2-6)
Impact	30g (IEC 60068-2-27)
Weight	740g
Dimension	258x98x90mm

turnover lens cap

visible light lens
IR lens

shooting key

STANDARD DELIVERY

Main unit	1 pc
Power supply adapter	1 pc
USB cable	1 pc
16G SD card	1 pc

IP54 WATERPROOF

DATA OUTPUT

on/off
loudspeaker
wrist belt buckle
lens cap
shooting key
five-way navigation button
battery

status area
lowest temperature point
color palette
highest temperature point
central point temperature
gallery
system setting
enter real-time editing
menu button
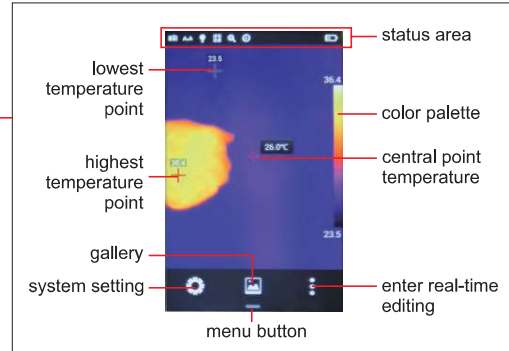
- 4 inch high-brightness touchscreen
- Four image presentations: IR, visible, PIP and MIF
- WIFI real-time sharing, one-click connection to mobile devices
- USB interface for data transmission and charging
- Built-in illumination
- Video can be recorded and stored

SPECIFICATION

IR resolution	192×144
NETD	≤50mk
Focus length	7mm/F1.1
Angle of view	37.8°×28.8°
Spatial resolution	3.45mrad
Focus adjustment	focus-free
Detector type	unrefrigerated vanadium oxide/8~14µm
Pixel size	25µm
Visible camera	resolution 500W, focus-free
Display	4" highlight LCD touch screen, 480×800
Image mode	IR image, visible image, MIF, PIP
Digital zoom	1.1~4
Color palette	8 modes
Temperature range	-20°C~350°C
Accuracy	±2°C or ±2% (of maximize range)
Emissivity	0.01-1.00 (adjustable)
Storage	in camera and TF card (up to 32GB)
Image format	JPG with temp info
Output	USB, HDMI
Power	rechargeable Li-ion battery (7.4V), working time≥4h
Operating temperature	-10°C~50°C
Vibration	10HZ~150HZ~10HZ 0.15mm (IEC 60068-2-6)
Impact	30g 11ms (IEC 60068-2-27)
Weight	735g
Dimension	274x97x78mm

laser (indicate position)
visible light lens
illumination
IR lens
power\USB\HDMI and TF card slot
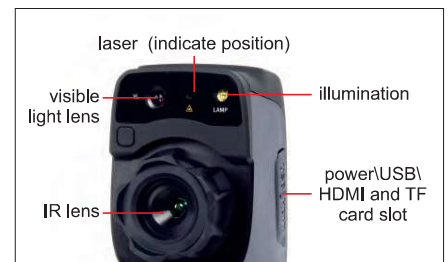
STANDARD DELIVERY

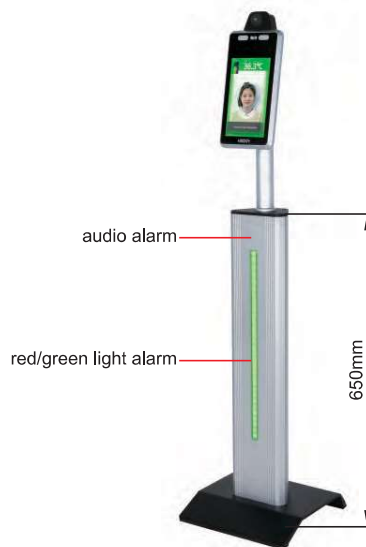|	
Main unit	1 pc
Power supply adapter	1 pc
USB cable	1 pc
HDMI cable	1 pc
Capacitive screen gloves	1 pc
TF card (16GB)	1 pc

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FACE RECOGNITION THERMAL SCANNER 4 IN 1

- TEMPERATURE DETECTION
- MASK DETECTION
- TIME ATTENDANCE
- ACCESS CONTROL

VIDEO

audio alarm
red/green light alarm

ATF-1612

Code	Description
ATF-1612	With desk stand

audio alarm

red/green light alarm

650mm

ATF-1612L

Code	Description
ATF-1612L	With floor stand for children

ATF-1612N

Code	Description
ATF-1612N	With mount for door control

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ATF-1612W

Code	Description
ATF-1612W	With wall-mount

audio alarm

red/green light alarm

1100mm
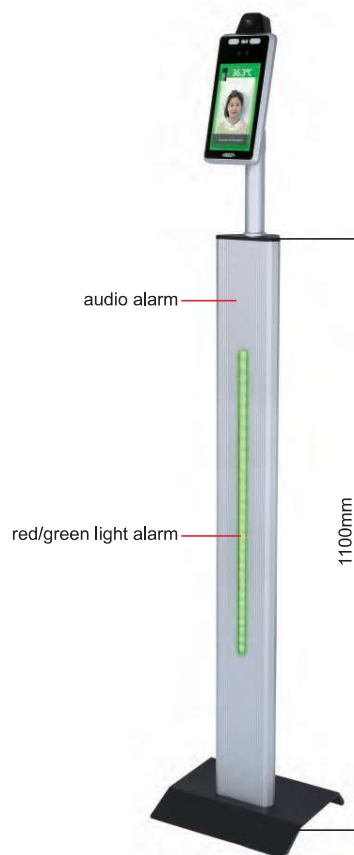
Code	Description
ATF-1612H	With floor stand

ATF-1612H

To be continued

■ This device introduces a highly advanced built-in facial recognition algorithm and high resolution infrared thermal imaging camera. This brand new technology will identify someone by face, even while wearing a face mask. It locates the forehead and measures forehead temperature without touch. This device is the ideal solution for fully automatic contactless access control, time attendance, and temperature measurement.
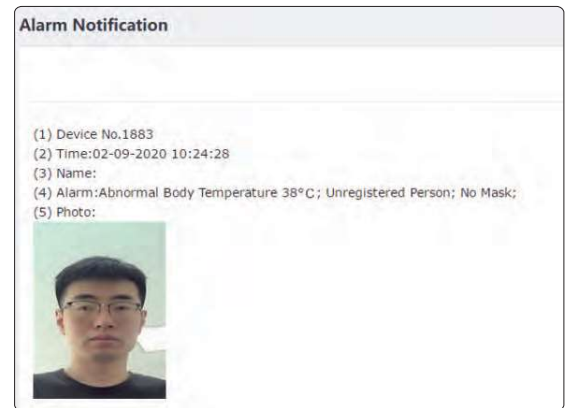

thermal imaging illumination
camera illumination
thermal image
temperature
message prompt
voice prompt

Infrared Thermal Imaging Camera
■ Optimized for human body temperature measurement (±0.5°C)
■ Distance range: 0.5~1.2m
■ Real-time measurement (< 0.1 second)

Dual Camera with Advanced Algorithm
■ High Face ID accuracy at 99.9%
■ Support Face ID identification with face mask (accuracy 90%)
■ High performance face anti-spoofing technology protects system from attack
■ Real-time face recognition (< 0.2 second)

can be connected with computer through WiFi

Alarm Notification

(1) Device No.1883
(2) Time:02-09-2020 10:24:28
(3) Name:
(4) Alarm:Abnormal Body Temperature 38°C ; Unregistered Person; No Mask;
(5) Photo:

automatic email notification
(abnormal body temperature, no mask, unregistered person)

Features:
■ **Access at a glance**
  Walk through identification & authorization, no slowing down or stopping needed.
■ **Contactless forehead temperature measurement**
  High resolution infrared thermal imaging camera enhanced by an algorithm provides instant and high accuracy forehead temperature measurement with zero human involvement in less than 0.1 second.
  The new technology comes pre-calibrated and has automatic temperature calibration through software and algorithm when the camera is turned on every time. This eliminates the need for a calibration system generally referred to as a black body. This eliminates not just added cost but human error when attempting to calibrate.
  (1) To be used for initial temperature assessment for triage use in high throughput areas (e.g., airports, businesses, warehouses, factories) due to the high detection speed.
  (2) Working distance is 0.5-1.2m and no operation needed, which can avoid inter infection.
  (3) Captures photo of people when abnormal body temperature is detected, which can be used for tracing.
■ **High accurate & reliable face ID**
  Built-in world class facial recognition algorithm with dual cameras detects the identification in less than 0.2 seconds with the accuracy rate more than 99.9%. High performance face anti-spoofing technology can resist many kinds of presentation attack, such as, printed photo, the electronic display of a facial photo, replaying video using an electronic display and 3D face masks. Enhanced facial recognition algorithm can identify people even if they are wearing masks with the accuracy rate more than 90%.
■ **Detect someone wearing or not wearing a mask**
■ **Snapshot function can be disabled to protect privacy**

Use:
■ This device is for indoor use only. It detects one person at a time.
■ The device is used for initial temperature assessment. The final temperature should be confirmed with secondary evaluation methods (e.g., clinical grade contact thermometer).
■ Select "Temperature", "Mask" and "Face recognition" as conditions to trigger alarm or to control door opening.
■ For hospital / restaurant / hotel / retail store, etc., it can be used as thermal detector and/or mask detector. No need to input facial pictures in advance. It will alert you when the forehead temperature is above the preset target (for example, 37.3°C), for people with or without marks. It can also detect if people wear or not wear masks.
■ A plant or school can have this set up at entrance for access control and time attendance, as well as temperature and mask detection. Input face pictures taken with a cell phone in advance for facial recognition. The readings can be monitored in an office.

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time attendance record including staffs and visitors
(temperature documentation)

	ID	Name	Gender	Age	Phone	Time	Temperature	Mask
1	001501	Anderson	0	29	-	2020/07/16-09:06:38	35.8°C	1
2	001502	polo	0	30	-	2020/07/16-09:06:41	35.8°C	1
3					-	2020/07/16-09:06:43	35.9°C	1
4	001504	nich	1	30	-	2020/07/16-09:06:59	35.9°C	1
5	001505	aimly	0	30	-	2020/07/16-09:07:11	35.8°C	1
6	001506	hamer	1	28	-	2020/07/16-09:08:30	36.0°C	1
7	001507	Aaron	0	32	-	2020/07/17-10:19:56	36.3°C	0
8	001508	Barbara	0	30	-	2020/07/17-10:20:07	36.3°C	1
9	001509	Robert	1	25	-	2020/07/17-10:20:19	36.3°C	1
10	001510	Henry	1	30	-	2020/07/17-10:20:21	36.3°C	1
11	001511	Nacy	0	27	-	2020/07/17-10:20:34	36.4°C	1
12	001512	Mike	1	30	-	2020/07/17-10:20:37	35.5°C	1
13	001513	Daisy	1	31	-	2020/07/17-10:20:39	36.3°C	1
14	001514	Emma	0	31	-	2020/07/17-10:21:10	36.6°C	0
15	001515	Jack	0	30	-	2020/07/17-10:21:13	36.3°C	1

Visitor —— (row 3)

SPECIFICATION

Operation system	Linux
Display	7 inch screen TFT
Speaker	voice prompt
Language	English, Spanish, etc.
Face database capacity	50K
Verification & identification speed	less than 0.1 second for thermal and less than 0.2 second for facial
Face anti spoofing	printed photo, electronic display of a facial photo, replaying video, 3D face masks, etc.
Facial recognition accuracy rate	>99.9%
Forehead thermometer range & accuracy	32°C~42°C, ±0.5°C
Work range	0.5~1.2m
Infrared thermal imaging camera	Uncooled infrared focal plane junction detectors array sensor Resolution: 160x120
Facial recognition camera	dual 1080p starlight CMOS sensors for visible light and near infrared light
Communication	RS232/485, TCP/IP, USB-Host, USB-Client, RJ45
Power supply	12V DC 2A
Ambient temperature	18°C~32°C

Application

school/campus

public transportation

airport

office

shopping mall

hospital

THERMOHYGROMETER
CODE 9361-T65

- Measure humidity, ambient temperature, dew-point temperature and wet bulb temperature
- Min/Max/Average, data hold function
- Display backlight
- Auto power off

SPECIFICATION

Function	Measuring range	Resolution	Accuracy
Ambient temperature	-20°C~60°C/-4°F~140°F	0.1°C/0.1°F	±1°C/2°F
Wet bulb temperature	-20°C~60°C/-4°F~140°F		
Dew-point temperature	-10°C~50°C/14°F~122°F		
Humidity	0~99.9%RH	0.1%RH	±5%RH
Date storage	99 groups		
Auto power off	30 minutes		
Weight	190g		
Dimension	180×60×33mm		
Power supply	3×AAA battery		

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

LUX METER
CODE 9371-L110

- Measure visible light emitted by fluorescent lamps, metal halide lamps, high voltage sodium lamps or incandescent lamps
- Min/Max, data hold
- Two units: LUX and FC
- Reading in digital and analog
- Display backlight
- Auto power off

sensor can rotate 180°

SPECIFICATION

Measuring range	0~200000LUX (0~20000FC)
Resolution	0.1LUX (range<1000LUX), 1LUX (range≥1000LUX)
	0.01FC (range<100FC), 0.1FC (range<1000FC), 1FC (range≥1000FC)
Accuracy	±4%
LED type	standard light source, white LED, red LED, yellow LED, green LED, blue LED, purple LED
Sensor	silicon photo-diode and spectral response filter
Operating temperature	0°C~40°C
Operating humidity	<80%RH
Operating altitude	<2000m
Sampling rate	about 0.5 seconds
Spectral range	320~730nm
Auto power off	10 minutes
Dimension	190×60×33mm
Weight	180g
Power supply	3×AAA battery

STANDARD DELIVERY

Main unit	1 pc
Battery (AAA)	3 pcs

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DIGITAL ANEMOMETER
CODE 9331-40

DATA OUTPUT

- Measure velocity, flow, temperature and relative humidity
- Velocity unit: m/s, km/h,mil/h, ft/m, ft/s, knots
- Flow unit: CMS (cubic meter per second), CMM (cubic meter per minute), CFM (cubic feet per minute)
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

VIDEO

software CD (included)

SPECIFICATION

Measuring range	velocity	0.8~30m/s, 1.4~108km/h, 0.9~67.2mil/h, 1.3~98.5ft/s, 78~5900ft/m, 0.8~58.3knots
	flow	0~9999CMS, 0~99990CMM, 0~99990CFM
	temperature	-20~60°C/-4~140°F
	relative humidity	0~100%RH
Accuracy	velocity	±(2%+0.5) for m/s, km/h,mil/h, ft/s, knots ±(2%+50) for ft/m
	temperature	±1.5°C/±2.7°F
	relative humidity	±3% (20~80%RH), ±5% (<20%RH or >80%RH)
Resolution	velocity	0.01m/s, 0.01km/h, 0.01mil/h, 0.01ft/s, 1ft/m, 0.01knots
	flow	0.01CMS, 0.1CMM, 0.1CFM
	temperature	0.1°C/0.1°F
	relative humidity	0.1%RH
Flowing area range		0~9.999m²/0~9.999ft²
Sampling time		0.4s
Maximum working altitude		2000m
Output		USB
Power supply		9V battery
Dimension		165×85×38mm
Weight		200g

software (included), display measurement values and graph, save and output data

STANDARD DELIVERY

Main unit	1 pc
Software and USB cable	1 pc
9V battery	1 pc

DIGITAL MOISTURE METER
CODE 9341-50

- Suitable for wood, smooth cement, hard gypsum, mixed mortar, brick, etc.
- Measure moisture, temperature and relative humidity
- Temperature type: ambient, dew point, wet bulb
- Maximum and minimum modes
- Automatic power off

VIDEO

cover (included)

SPECIFICATION

Measuring depth		0~50mm
Measuring range	moisture	0~60%
	temperature	-10~50°C/14~122°F
	relative humidity	0~100%RH
Accuracy	moisture	±2%
	temperature	±2%
	relative humidity	±5%RH
Resolution	moisture	0.1%
	temperature	0.1°C/0.1°F
	relative humidity	0.1%RH
Sampling time		0.5s for moisture
		1s for temperature and relative humidity
Power supply		2×AAA batteries
Dimension		130×56×29mm
Weight		206g

STANDARD DELIVERY

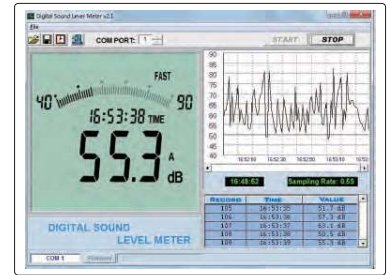| Main unit	1 pc
Battery (AAA)	2 pcs

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DATA OUTPUT

DIGITAL SOUND LEVEL METER
CODE 9351-130

VIDEO

- Automatically select best range: 30~80dB, 40~90dB, 50~100dB, 60~110dB, 70~120dB, 80~130dB
- Over range indicator
- Real time, average, maximum modes
- Memory 16000 measurement values
- AC signal output: 0.707 Vrms at FS, impedance approx. 600Ω
  DC signal output: 10mV/dB, impedance approx.100Ω
- Automatic power off

software (included), display measurement values and graph, save and output data

SPECIFICATION

Measuring range	30~130dB
Accuracy	±2dB
Resolution	0.1dB
Sampling time	0.5s for digital, 0.05s for analogue
Response time	fast: 125ms, slow: 1s
Frequency	30Hz~8KHz
Frequency weighting	A/C
Microphone	electret condenser type
Output	RS232, AC/DC
Power supply	6×AAA batteries
Dimension	265×80×69mm
Weight	317g

STANDARD DELIVERY

Main unit	1 pc
RS232 cable and software	1 pc
Output connector	1 pc
Battery (AAA)	6 pcs

software CD (included)

VIDEO

NON-CONTACT DIGITAL TACHOMETER
CODE 9221-999

- Maximum and minimum modes
- Memory 100 measurement values
- Automatic power off

reflection sticker (included)

reflection sticker

SPECIFICATION

Measuring range	50~99999RPM
Accuracy	±(0.03%+2) RPM
Resolution	0.01RPM (range 50~99.99RPM)
	0.1RPM (range 100~9999.9RPM)
	1RPM (range 10000~99999RPM)
Measuring distance	50~250mm
Power supply	4×AAA batteries
Dimension	155×60×27mm
Weight	118g

STANDARD DELIVERY

Main unit	1 pc
Reflection sticker	1 roll
Battery (AAA)	4 pcs

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INSIZE

CONTACT DIGITAL TACHOMETER
CODE 9222-199

VIDEO

- Unit: RPM, m/min, m/sec, ft/min, ft/sec, in/min
- Maximum and minimum modes
- Memory 100 measurement values
- Automatic power off

wheel with 0.1m perimeter (included)

wheel with 6" perimeter (included)

cone cavity head (included)

cone head (included)

extension rod (included)

SPECIFICATION

Measuring range	50~19999RPM
Accuracy	±(0.03%+2) RPM
Resolution	0.01RPM (range 50~99.99RPM)
	0.1RPM (range 100~9999.9RPM)
	1RPM (range 10000~19999RPM)
Power supply	4×AAA batteries
Dimension	183×60×27mm
Weight	122g

STANDARD DELIVERY

Main unit	1 pc
Wheel with 0.1m perimeter	1 pc
Wheel with 6" perimeter	1 pc
Cone cavity head	1 pc
Cone head	1 pc
Extension rod	1 pc
Battery (AAA)	4 pcs

VIBRATION PEN
CODE 9720-199

VIDEO

- Measure vibration of motors, fans, pumps, compressors and machine tools to prevent mechanical failure
- Small size, light weight, low energy consumption, easy operation, easy to carry
- One key control
- Automatic power off

SPECIFICATION

Code	9720-199
Measured parameter	speed
Measuring range	0.1~199.9mm/s
Frequency	10Hz~1KHz
Accuracy	±(5%±2)mm/s
Operating temperature	0°C~40°C
Operating humidity	<85%
Power supply	2×LR44 batteries (for 10 hours wroking)
Dimension	150x22x18mm
Weight	55g

STANDARD DELIVERY

Main unit	1 pc
LR44 battery	2 pcs

PEN-TYPE DIGITAL MULTIMETER
CODE 9241-ML200

VIDEO

- Automatic ranging
- Maximum mode
- Data hold
- Low battery display
- Auto power off
- Safety rating: CAT III 600V

probe (included)

clips (included)

SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V/600V	0.1mV/1mV/10mV/0.1V/1V	±(0.7%+2)
AC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.8%+3)
	600V	1V	±(1.0%+3)
DC Current	20mA/200mA	10µA/0.1mA	±(1.5%+3)
AC Current	20mA/200mA	10µA/0.1mA	±(2.0%+3)
Resistance	200Ω	0.1Ω	±(1.0%+3)
	2kΩ/20kΩ/200kΩ/2MΩ	1Ω/10Ω/0.1kΩ/1kΩ	±(1.0%+1)
	20MΩ	10kΩ	±(1.0%+5)
Logic level test	<1.5V (green LED on) 1.5~3.5V (green & red LED off) >3.5V (red LED on)		
Diode	open circuit voltage 1.5V		
Continuity buzzer	<50Ω		
Power supply	2×1.5V AAA batteries		

STANDARD DELIVERY

Main unit	1 pc
Probe	1 pc
Clip	2 pcs
1.5V battery	2 pcs

DIGITAL MULTIMETER
CODE 9242-ML100

- Data hold
- Display backlight
- Low battery display
- Safety rating: CAT II 600V

VIDEO

probes (included)

SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.5%+3)
	600V	1V	±(0.8%+5)
AC Voltage	200V/600V	0.1V/1V	±(1.2%+10)
DC Current	200µA/2mA	0.1µA/1µA	±(1.0%+3)
	20mA	10µA	±(1.0%+5)
	200mA	0.1mA	±(1.5%+5)
	10A	10mA	±(3.0%+10)
Resistance	200Ω	0.1Ω	±(0.8%+5)
	2kΩ/20kΩ/200kΩ	1Ω/10Ω/0.1kΩ	±(0.8%+2)
	2MΩ	1kΩ	±(1.0%+5)
Diode	open circuit voltage 3.0V		
Continuity buzzer	<70±30Ω		
Transistor hFE	measuring range 0~1000		
Power supply	1×9V 6F22/NEDA 1604 battery		

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STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
9V battery	1 pc

AC DIGITAL CLAMP METER
CODE 9243-CA600

- Auto/manual ranging
- Maximum mode
- Data hold
- Display backlight
- Work light
- Low battery display
- Auto power off
- Safety rating: CAT III 600V

probes (included)

SPECIFICATION

Function	Range	Resolution	Accuracy
DC Voltage	200mV/2V/20V/200V	0.1mV/1mV/10mV/0.1V	±(0.8%+2)
	600V	1V	±(1.0%+2)
AC Voltage	2V/20V/200V	1mV/10mV/0.1V	±(1.0%+5)
	600V	1V	±(1.2%+5)
AC Current	2A(≤0.5A)	1mA	±(3.5%+20)
	2A	1mA	±(3.0%+10)
	20A	10mA	±(3.0%+10)
	200A	0.1A	±(2.5%+10)
	600A	1A	±(1.5%+5)
Resistance	200Ω/2kΩ/20kΩ/200kΩ/2MΩ	0.1Ω/1Ω/10Ω/0.1kΩ/1kΩ	±(1.2%+2)
	20MΩ	10kΩ	±(2.0%+5)
Diode	open circuit voltage 1.5V		
Continuity buzzer	<50Ω		
Power supply	3×1.5V AAA batteries		
Dimension	208×78×35mm		
Weight	245g		

STANDARD DELIVERY

Main unit	1 pc
Probe	2 pcs
1.5V battery	3 pcs

60° GLOSS METER
CODE ISQ-DG6

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Automatic power off

base with calibration block (included)

SPECIFICATION

Incidence angle	60°
Measuring range	0~150GU
Resolution	0.1GU
Accuracy	±1.2GU
Repeatability	0.4GU
Zero set error	0.2GU
Measuring area	20×10mm
Power supply	1×1.5V AA battery
Dimension	123×38×65mm
Weight	300g

STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Spare calibration block	1 pc

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20°/60°/85° GLOSS METER CODE ISQ-DG8

base with calibration block (included)

- To test the gloss of coating, such as painting, varnish, printing ink, etc.
- To test the material surfaces, such as metal, granite, ceramic, plastic, paper, etc.
- According to ISO 2813, ASTM D2457, ASTM D523
- Memory of 10000 measurement results for browsing and output
- Automatic power off

software CD (included)

connect mobile phone via bluetooth (only Android system)

operate and output data by mobile phone

connect computer via bluetooth or USB cable

Bluetooth receiver (included)

software (included), test can be controlled from the software, display test data, output to Excel

SPECIFICATION

Incidence angle	20°	60°	85°
Measuring range	0~2000GU	0~1000GU	0~160GU
Resolution	0.1GU (range≤119.9GU)		
	1GU (range>119.9GU)		
Accuracy	±1.5GU (range≤119.9GU)		
	±1.5% (range>119.9GU)		
Repeatability	0.2GU (range≤119.9GU)		
	0.2% (range>119.9GU)		
Zero set error	0.2GU		
Measuring area	10×9mm	16×9mm	39×5mm
Output	USB and bluetooth		
Power supply	1×1.5V AA battery		
Dimension	155×48×75mm		
Weight	400g		

STANDARD DELIVERY

Main unit	1 pc
Base with calibration block	1 pc
Software and USB cable	1 pc
Bluetooth receiver	1 pc

SPECTROPHOTOMETER
CODE 9710-30

VIDEO

- Concave grating spectrophotometric
- 3.5 inch TFT color LCD, capacitive touch screen, 256 image element double arrays CMOS image sensor
- D/8 geometrical optics, conforms with CIE No.15, GB/T 3978, GB2893, GB/T 18833, ISO7724/1, ASTM E1164, DIN5033 Teil
- Use long life and low power consumption combined LED light source
- Camera locating function, switchable 8mm/4mm aperture, support both SCI and SCE at the same time
- Large capacity storage space, over 20,000 measurement data
- USB port and Bluetooth 4.0
- Two standard observer angles, a variety of illuminant, a variety of color indexes, conforms with a variety of standard colorimetric data,
- Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission

DATA OUTPUT

CONCAVE GRATING SPECTROPHOTOMETRIC

Ø8/4mm DUAL APERTURE

BLUETOOTH

software CD (included)

white and black calibration cavity (included)

printer (**optional**)

SPECIFICATION

Optical geometry		reflect: di: 8°, de: 8° (diffused illumination, 8-degree viewing angle)
Integrating sphere size		Ø48mm
Light source		combined LED light, UV light
Spectrophotometric mode		concave grating
Sensor		256 image element double array CMOS image sensor
Wavelength range		400~700nm
Wavelength interval		10nm
Semiband width		10nm
Measured reflectance range		0~200%
Measuring aperture		dual aperture: MAV: Ø8mm; SAV: Ø4mm
Specular component		SCI&SCE
Color space		CIE LAB, XYZ, Yxy, LCh, CIE LUV, Hunter LAB
Color difference formula		ΔE^*ab, ΔE^*uv, ΔE^*94, ΔE^*cmc (2:1), ΔE^*cmc (1:1), ΔE^*00v, ΔE (Hunter)
Other colorimetric index		WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), Metamerism index MI, Staining fastness, Color fastness, Colorstrength, Opacity
Observer angle		2°/10°
Illuminant		A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, TI83, TI84, U35
Displayed data		spectrogram/values, samples chromaticity values, color difference values/graph, PASS/FAIL result, color offset
Measuring time		2.6s
Repeatability	spectral reflectance	MAV/SCI, within 0.08% of standard deviation (400~700nm: 0.18%)
	colorimetric values	MAV/SCI: $\Delta E^* \leq 0.03$
Inter-instrument error		MAV/SCI: $\Delta E^* \leq 0.15$
Measurement mode		single measurement, average measurement
Data port		USB, Bluetooth 4.0
Data storage		standard 1000 pcs, sample 28000 pcs
Illuminant life span		5 years, more than 3 million times measurements
Battery		Li-ion battery, 5000 measurements within 8 hours
Dimension		184×77×105mm
Weight		600g
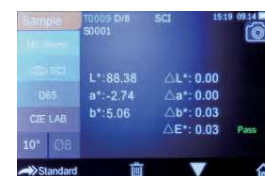
measurement

reflectivity

software

measurement data is exported to EXCEL

report

software (included), test can be controlled from the software, display test data, report

STANDARD DELIVERY

Main unit	1 pc
White and black calibration cavity	1 pc
Software and USB cable	1 pc
AC/DC adapter	1 pc

OPTIONAL ACCESSORY

Printer	9710-PRINTER
Powder test box	9710-POWDERBOX
Universal test kit	9710-TESTKIT

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DIGITAL LED TACHOMETER/STROBOSCOPE
CODE ISQ-TS120K

- Make cyclical motion (rotation, vibration, etc.) objects to appear slow-moving or stationary
- On-line inspection or observation for moving objects
- Measure the rotation or vibration speed and frequency
- Can be triggered from outside by moving objects, make LED flash frequency same as the rotation or vibration

proximity trigger (included)

make LED flash frequency same as the rotation or vibration (power supply from AC/DC adapter when external trigger is used)

SPECIFICATION

Flash frequency range		60~120000FPM (Flash Per Minute), 1~2000Hz
Resolution	FPM	0.1FPM (<100000FPM), 1FPM (≥100000FPM)
	HZ	0.01Hz (<200Hz), 0.1Hz (≥200Hz)
Setting accuracy		±0.01%
Phase shift increment		3°
Flash pulse duration time		0.1~2.5°
LED light		3 pcs CREE 10W lamp
LED life		3~5 years
Trigger mode		internal and external
Power supply		built-in rechargeable battery or AC/DC adapter
Dimension		208×70×60mm
Weight		380g

STANDARD DELIVERY

Main unit	1 pc
AC/DC adapter	1 pc
Proximity trigger	1 pc

DIGITAL REFRACTOMETER
CODE ISQ-DRM31

- Quickly measure the concentration of coolant
- Two measurement modes: single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is (2.1×6%)=12.6%
- Automatic power off

SUITABLE FOR WATER BASED COOLANT

dropper (included)

SPECIFICATION

Measuring range	0~50% (1.3330~1.4200RI)
Accuracy	±0.2% (±0.0003RI)
Resolution	0.1% (0.0001RI)
Power supply	1×AAA battery
Dimension	121×58×25mm
Weight	90g
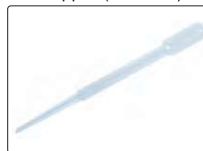
STANDARD DELIVERY

Main unit	1 pc
Dropper	1 pc
Battery (AAA)	1 pc

PORTABLE REFRACTOMETER
CODE ISQ-RM30

SUITABLE FOR WATER BASED COOLANT

- Quickly measure the concentration of coolant
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion is 2.1, the reading value is 6%, so the actual concentration is (2.1×6%)=12.6%

calibration screw

eyepiece

lens and cover plate

SPECIFICATION

Measuring range	0~32%
Graduation	0.2%
Dimension	27×40×160mm
Weight	175g