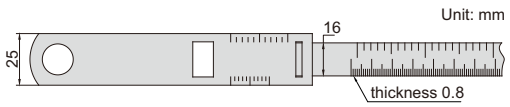
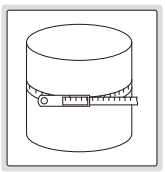
CIRCUMFERENCE TAPES

7114-950

- Measure diameter and circumference of soft materials like pipes, trees, tires, etc.
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



Code	Circumference range	Diameter range	Accuracy	
			Circumference	Diameter
7114-950	150-950mm	Ø50-300mm	±3mm	±1mm
7114-2200	940-2200mm	Ø300-700mm	±3mm	±1mm
7114-3460	2190-3460mm	Ø700-1100mm	±3mm	±1mm

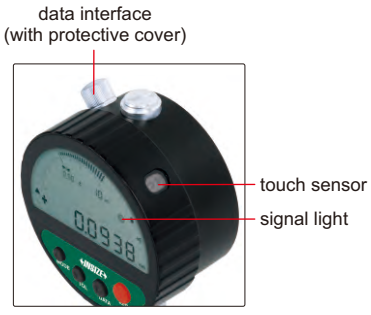


INDUCTIVE DIGITAL COMPARATOR

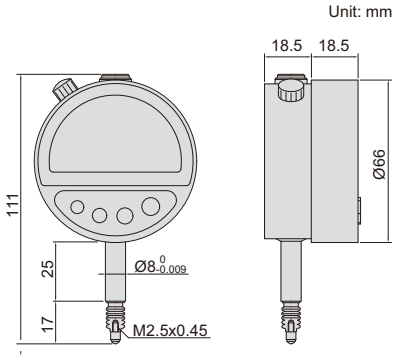
ATTENTION: RECHARGEABLE BATTERY, FOR 12 HOURS CONTINUOUS WORKING

IP54 WATERPROOF

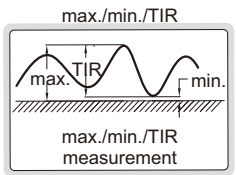
DATA OUTPUT



2149-2



- Built-in wireless transmission
- IP54 dust/waterproof
- Reading in digital and analog
- Display can be rotated by 320º
- Can store 10 set parameters, and the parameter can be searched and recalled
- 999 groups value can be stored
- Touch sensor: use the sensor to set zero, avoiding press the button to cause deformation of the dial indicator stand and affect the zero position
- Button function: on/off, zero, data hold, measuring direction change, inch/metric conversion, data preset, absolute/incremental measurement, max./min./TIR measurement, tolerance Go and No-Go display, data output, analog pointer resolution and range change, print data
- Power: rechargeable battery, for 12 hours continuous working
- Ruby probe
- Data output
- Optional accessory: wireless receiver (code **2149-RE**), printer (code **ISF-DF-PRINTER**)



printer (**optional**)

Code	Range	Resolution	Accuracy	Hysteresis	Repeatability	Measuring force
2149-2	2mm/0.08"	0.1μm/0.000005"	0.5μm	0.2μm	0.3μm	0.8-1N

HIGH PRECISION DIGITAL INDICATORS

DATA OUTPUT

Ø28MM STEM SUITABLE FOR REINFORCED CLAMPING

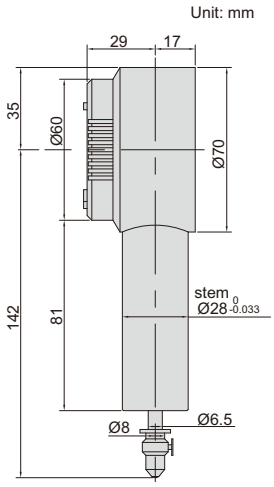
ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

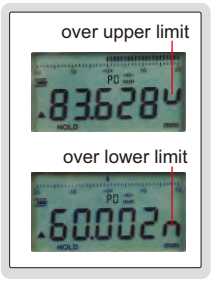
ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

2140-6

Unit: mm

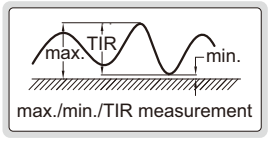


warning when over tolerance



analog pointer

max./min./TIR



- Linear ball bearings for ten million times use
- Ø28mm stem suitable for reinforced clamping
- Absolute encoder, the original data remains after power off
- Adjustable resolution: 0.0002mm/0.00001"
  0.001mm/0.00005"
  0.01mm/0.0005"
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Ruby probe

wireless receiver
2134-R1, 2134-R2 (optional)

With data interface
Optional accessory:
wireless transmitter, code **7315-3350**, wireless receiver, code **7315-2**, **7315-3**
data output cable (keyboard format), code **7302-3350**
data output cable (serial port format), code **7305-G60**
(cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

Code	Range	Accuracy	Hysteresis	Remark
2140-6	0-6mm/0-0.24"	1.6μm	0.8μm	flat back

Built-in wireless
Optional accessory:
wireless receiver (keyboard format, connect up to 15 digital indicators), code **2134-R1**
wireless receiver (serial port format, connect up to 15 digital indicators), code **2134-R2**

Code	Range	Accuracy	Hysteresis	Remark
2140-6WL	0-6mm/0-0.24"	1.6μm	0.8μm	flat back

HIGH PRECISION DIGITAL INDICATORS

LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

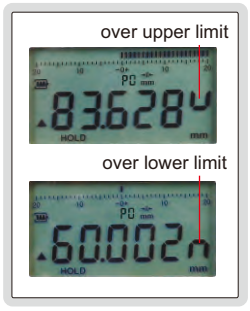
ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

DATA OUTPUT

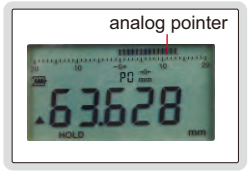
ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

warning when over tolerance



analog pointer



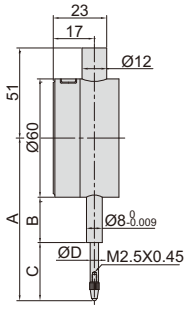
2133-10

2133-25

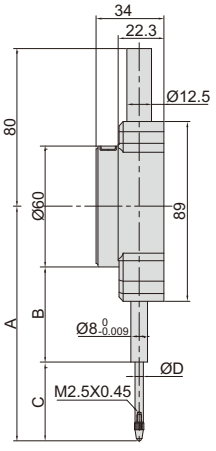
2133-50

- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Data output
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessory: contact points (page 164~166) wireless transmitter, code **7315-60** data output cable (keyboard format), code **7302-60** data output cable (serial port format), code **7305-G60** (cable length 3m, optional cable length maximum 15m; RS232 protocol, optional RS485 protocol)

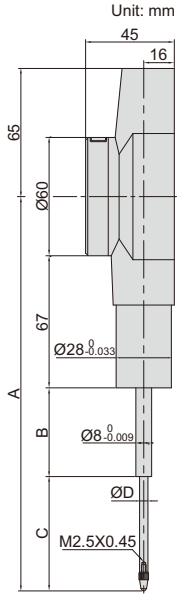
Unit: mm



2133-10
2133-101



2133-25
2133-251



2133-50

Low precision
Carbide probe
Adjustable resolution: 0.0005mm/0.00002"
0.001mm/0.00005"
0.01mm/0.0005"

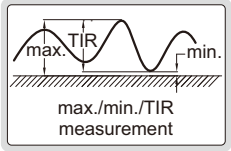
Code	Range	Accuracy	Hysteresis	A	B	C	ØD	Remark
2133-10*	12.7mm/0.5"	3μm	1.5μm	75.4mm	20.6mm	24.8mm	5mm	flat back
2133-25*	25.4mm/1"	3μm	1.5μm	109.5mm	38.5mm	41mm	5mm	flat back
2133-50*	50.8mm/2"	3μm	1.5μm	201mm	32mm	72mm	4.5mm	flat back

spindle lift knob is included

High precision
Ruby probe
Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	A	B	C	ØD	Remark
2133-101*	12.7mm/0.5"	1.5μm	1μm	77.4mm	26mm	21.4mm	4mm	flat back
2133-251*	25.4mm/1"	1.8μm	1μm	116.1mm	42.5mm	44mm	4mm	flat back

max./min./TIR



*Supplied with manufacturer inspection certificate traceable to NIST USA

WIRELESS HIGH PRECISION DIGITAL INDICATORS

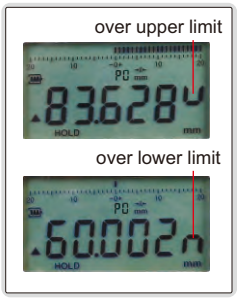
LINEAR BALL BEARINGS FOR TEN MILLION TIMES USE

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

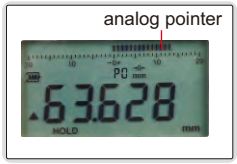
INSPECTION CERTIFICATE
TRACEABLE TO NIST

ATTENTION: RECHARGEABLE BATTERY, FOR 24 HOURS CONTINUOUS WORKING

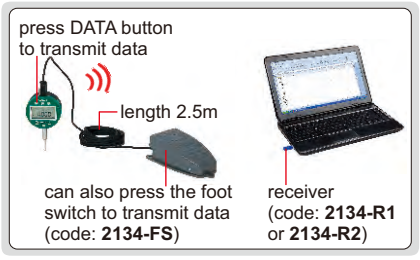
warning when over tolerance



analog pointer



transmit data



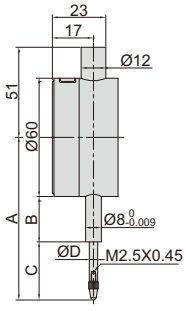
2134-10

2134-25

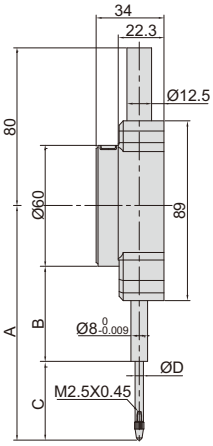
2134-50

- Built-in wireless transmission, ZigBee singal
- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Reading in digital and analog
- Button function: data output, tolerance, data preset, data hold, measuring direction change, max./min./TIR, power off time, on/off, mm/inch, adjust resolution
- Power: rechargeable battery, for 24 hours continuous working
- Optional accessary: contact points (page 164~166)
  foot switch, code: **2134-FS**
  wireless receiver, code:
  2134-R1 (keyboard format, connect up to 15 digital indicators)
  2134-R2 (serial port format, connect up to 15 digital indicators)

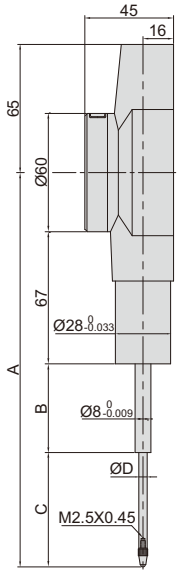
Unit: mm



2134-10
2134-101



2134-25
2134-251



2133-50

Low precision
Carbide probe
Adjustable resolution: 0.0005mm/0.00002"
0.001mm/0.00005"
0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	A	B	C	ØD	Remark
2134-10*	12.7mm/0.5"	3μm	1.5μm	75.4mm	20.6mm	24.8mm	5mm	flat back
2134-25*	25.4mm/1"	3μm	1.5μm	109.5mm	38.5mm	41mm	5mm	flat back
2134-50*	50.8mm/2"	3μm	1.5μm	201mm	32mm	72mm	4.5mm	flat back

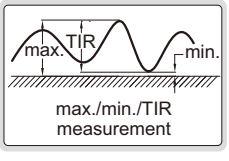
spindle lift knob is included

High precision
Ruby probe
Adjustable resolution: 0.0002mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"

(mm)

Code	Range	Accuracy	Hysteresis	A	B	C	ØD	Remark
2134-101*	12.7mm/0.5"	1.5μm	1μm	77.4	26	21.4	4	flat back
2134-251*	25.4mm/1"	1.8μm	1μm	116.1	42.5	44	4	flat back

max./min./TIR



*Supplied with manufacturer inspection certificate traceable to NIST USA

INSPECTION CERTIFICATE
TRACEABLE TO NIST

DATA OUTPUT

DIGITAL INDICATORS (STANDARD TYPE)

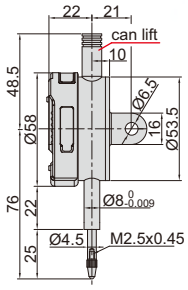
2112-10

2112-251

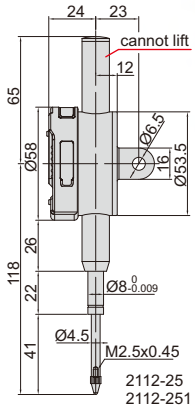
2112-25P

2112-501

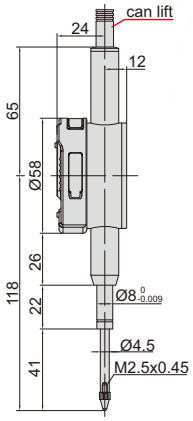
Unit: mm



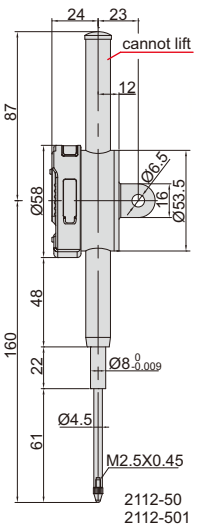
2112-10
2112-101



2112-25
2112-251



2112-25P
2112-251P



2112-50
2112-501

- Button function: on/off, inch/mm, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2112-101F*	12.7mm/0.5"	5μm	2μm	1.5N	flat back
2112-251F*	25.4mm/1"	5μm	3μm	2.2N	flat back
2112-501F*	50.8mm/2"	6μm	3μm	2.5N	flat back
2112-101*	12.7mm/0.5"	5μm	2μm	1.5N	lug back
2112-251*	25.4mm/1"	5μm	3μm	2.2N	lug back
2112-501*	50.8mm/2"	6μm	3μm	2.5N	lug back
2112-251P*	25.4mm/1"	5μm	3μm	2.2N	flat back, with lift cap
2112-501P*	50.8mm/2"	6μm	3μm	2.5N	flat back, with lift cap

Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2112-10F*	12.7mm/0.5"	20μm	10μm	1.5N	flat back
2112-25F*	25.4mm/1"	20μm	10μm	2.2N	flat back
2112-50F*	50.8mm/2"	30μm	10μm	2.5N	flat back
2112-10*	12.7mm/0.5"	20μm	10μm	1.5N	lug back
2112-25*	25.4mm/1"	20μm	10μm	2.2N	lug back
2112-50*	50.8mm/2"	30μm	10μm	2.5N	lug back
2112-25P*	25.4mm/1"	20μm	10μm	2.2N	flat back, with lift cap
2112-50P*	50.8mm/2"	30μm	10μm	2.5N	flat back, with lift cap

2112-251P/501P/25P/50P

spindle lift knob is included

*Supplied with manufacturer inspection certificate traceable to NIST USA

METRIC DIGITAL INDICATORS

DATA OUTPUT

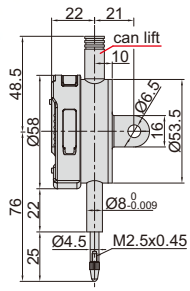
INSPECTION CERTIFICATE
TRACEABLE TO NIST

2116-10

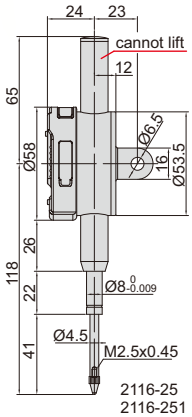
2116-251

2116-25P

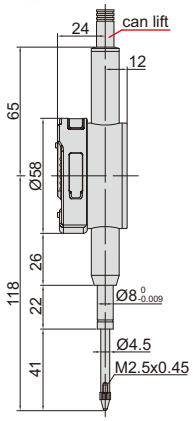
2116-501



2116-10
2116-101

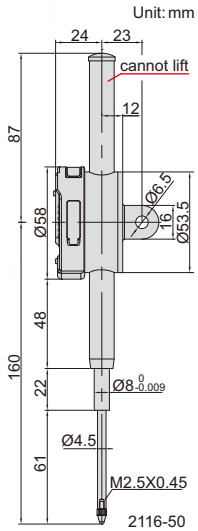


2116-25
2116-251



2116-25P
2116-251P

Unit: mm



2116-50
2116-501

- Button function: on/off, zero, data preset, change measuring direction, absolute/incremental measurement
- Switchable high/low frequency measurement mode, high frequency mode is suitable for high speed moving of spindle and has large power consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

Resolution 0.001mm

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2116-101F*	12.7mm	5μm	2μm	1.5N	flat back
2116-251F*	25.4mm	5μm	3μm	2.2N	flat back
2116-501F*	50.8mm	6μm	3μm	2.5N	flat back
2116-101*	12.7mm	5μm	2μm	1.5N	lug back
2116-251*	25.4mm	5μm	3μm	2.2N	lug back
2116-501*	50.8mm	6μm	3μm	2.5N	lug back
2116-251P*	25.4mm	5μm	3μm	2.2N	flat back, with lift cap
2116-501P*	50.8mm	6μm	3μm	2.5N	flat back, with lift cap

Resolution 0.01mm

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2116-10F*	12.7mm	20μm	10μm	1.5N	flat back
2116-25F*	25.4mm	20μm	10μm	2.2N	flat back
2116-50F*	50.8mm	30μm	10μm	2.5N	flat back
2116-10*	12.7mm	20μm	10μm	1.5N	lug back
2116-25*	25.4mm	20μm	10μm	2.2N	lug back
2116-50*	50.8mm	30μm	10μm	2.5N	lug back
2116-25P*	25.4mm	20μm	10μm	2.2N	flat back, with lift cap
2116-50P*	50.8mm	30μm	10μm	2.5N	flat back, with lift cap

*Supplied with manufacturer inspection certificate traceable to NIST USA

2116-251P/501P/25P/50P

spindle lift knob is included

DATA OUTPUT

INSPECTION CERTIFICATE
TRACEABLE TO NIST

DIGITAL INDICATORS (ADVANCED TYPE)


2103-10

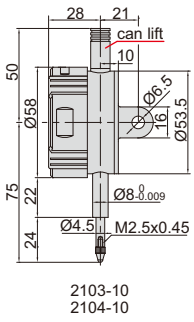

2104-25


2104-25P

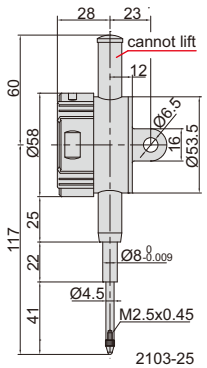

2103-50

analog pointer

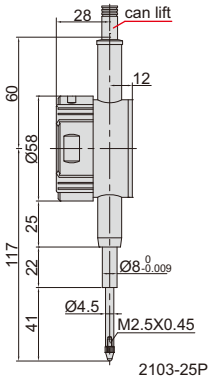
spindle lift knob is included



2103-10
2104-10

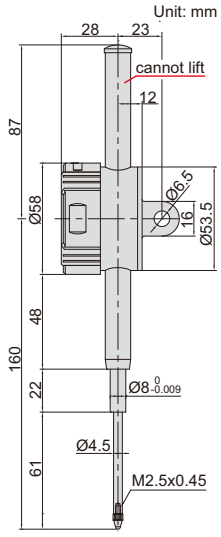


2103-25
2104-25



2103-25P
2104-25P

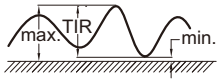
Unit: mm



2103-50
2104-50

- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable), data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

max./min./TIR

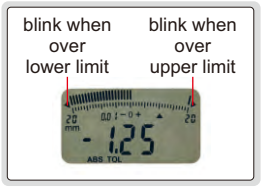


max./min./TIR measurement

Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2103-10F*	12.7mm/0.5"	5μm	2μm	1.5N	flat back
2103-25F*	25.4mm/1"	5μm	3μm	2.2N	flat back
2103-50F*	50.8mm/2"	6μm	3μm	2.5N	flat back
2103-10 *	12.7mm/0.5"	5μm	2μm	1.5N	lug back
2103-25 *	25.4mm/1"	5μm	3μm	2.2N	lug back
2103-50 *	50.8mm/2"	6μm	3μm	2.5N	lug back
2103-25P*	25.4mm/1"	5μm	3μm	2.2N	flat back, with lift cap
2103-50P*	50.8mm/2"	6μm	3μm	2.5N	flat back, with lift cap

warning when over tolerance



Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2104-10F*	12.7mm/0.5"	20μm	10μm	1.5N	flat back
2104-25F*	25.4mm/1"	20μm	10μm	2.2N	flat back
2104-50F*	50.8mm/2"	30μm	10μm	2.5N	flat back
2104-10 *	12.7mm/0.5"	20μm	10μm	1.5N	lug back
2104-25 *	25.4mm/1"	20μm	10μm	2.2N	lug back
2104-50 *	50.8mm/2"	30μm	10μm	2.5N	lug back
2104-25P*	25.4mm/1"	20μm	10μm	2.2N	flat back, with lift cap
2104-50P*	50.8mm/2"	30μm	10μm	2.5N	flat back, with lift cap

*Supplied with manufacturer inspection certificate traceable to NIST USA

2103-25P/50P
2104-25P/50P

DIGITAL INDICATORS (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)

DATA OUTPUT

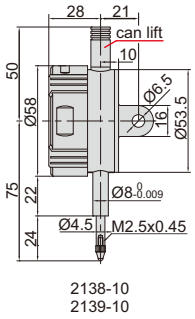
INSPECTION CERTIFICATE
TRACEABLE TO NIST

2138-10

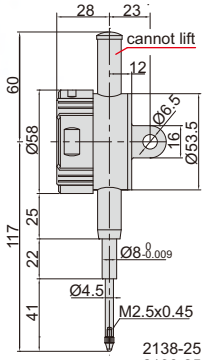
2139-25

2139-25P

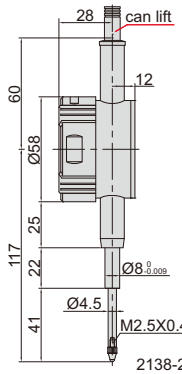
2138-50



2138-10
2139-10

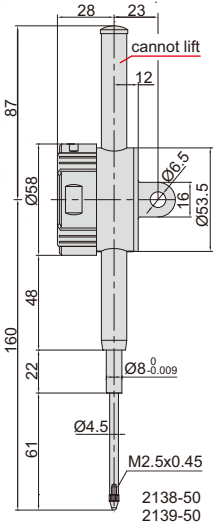


2138-25
2139-25



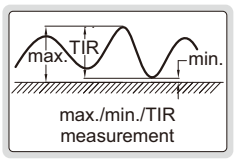
2138-25P
2139-25P

Unit: mm



2138-50
2139-50

- Reading in digital and analog
- Display can be rotated by 320º
- Button function: on/off, zero, tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement, data output
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

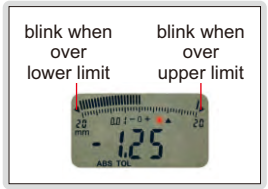


VIDEO

Resolution 0.001mm/0.00005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2138-10F*	12.7mm/0.5"	5μm	2μm	1.5N	flat back
2138-25F*	25.4mm/1"	5μm	3μm	2.2N	flat back
2138-50F*	50.8mm/2"	6μm	3μm	2.5N	flat back
2138-10*	12.7mm/0.5"	5μm	2μm	1.5N	lug back
2138-25*	25.4mm/1"	5μm	3μm	2.2N	lug back
2138-50*	50.8mm/2"	6μm	3μm	2.5N	lug back
2138-25P*	25.4mm/1"	5μm	3μm	2.2N	flat back, with lift cap
2138-50P*	50.8mm/2"	6μm	3μm	2.5N	flat back, with lift cap

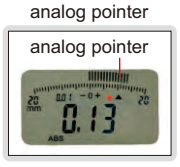
warning when over tolerance



Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Maximum measuring force	Remark
2139-10F*	12.7mm/0.5"	20μm	10μm	1.5N	flat back
2139-25F*	25.4mm/1"	20μm	10μm	2.2N	flat back
2139-50F*	50.8mm/2"	30μm	10μm	2.5N	flat back
2139-10*	12.7mm/0.5"	20μm	10μm	1.5N	lug back
2139-25*	25.4mm/1"	20μm	10μm	2.2N	lug back
2139-50*	50.8mm/2"	30μm	10μm	2.5N	lug back
2139-25P*	25.4mm/1"	20μm	10μm	2.2N	flat back, with lift cap
2139-50P*	50.8mm/2"	30μm	10μm	2.5N	flat back, with lift cap

analog pointer



spindle lift knob is included

2138-25P/50P
2129-25P/50P

*Supplied with manufacturer inspection certificate traceable to NIST USA

INSPECTION CERTIFICATE
TRACEABLE TO NIST

WATERPROOF

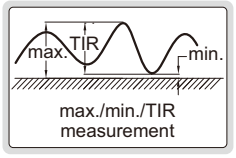
DATA OUTPUT

WATERPROOF DIGITAL INDICATORS

warning when over tolerance

spindle lift knob is included (except **2115-101/101F, 2115-10/10F**)

max./min./TIR

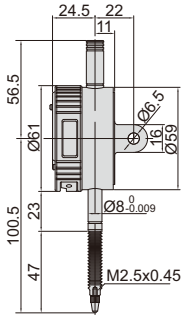


2115-10

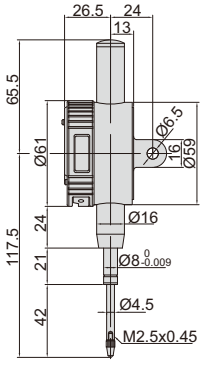
2115-25

2115-50

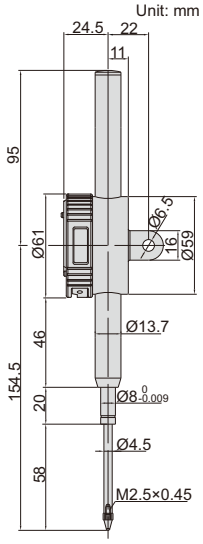
- Dust/waterproof
- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)



2115-10
2115-101



2115-25
2115-251



2115-50
2115-501

Resolution 0.001mm/0.00005"

Code	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-101*	12.7mm/0.5"	IP65	5μm	2μm	lug back
2115-251*	25.4mm/1"	IP54	5μm	3μm	lug back
2115-501*	50.8mm/2"	IP54	6μm	3μm	lug back
2115-101F*	12.7mm/0.5"	IP65	5μm	2μm	flat back
2115-251F*	25.4mm/1"	IP54	5μm	3μm	flat back
2115-501F*	50.8mm/2"	IP54	6μm	3μm	flat back

Resolution 0.01mm/0.0005"

Code	Range	Dust/waterproof	Accuracy	Hysteresis	Remark
2115-10*	12.7mm/0.5"	IP65	20μm	10μm	lug back
2115-25*	25.4mm/1"	IP54	20μm	10μm	lug back
2115-50*	50.8mm/2"	IP54	30μm	10μm	lug back
2115-10F*	12.7mm/0.5"	IP65	20μm	10μm	flat back
2115-25F*	25.4mm/1"	IP54	20μm	10μm	flat back
2115-50F*	50.8mm/2"	IP54	30μm	10μm	flat back

*Supplied with manufacturer inspection certificate traceable to NIST USA

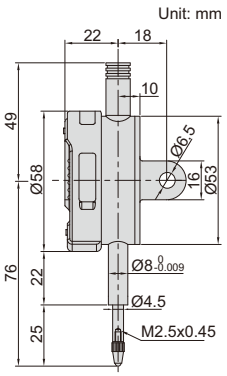
ADJUSTABLE COEFFICIENT DIGITAL INDICATORS

INSPECTION CERTIFICATE
TRACEABLE TO NIST

DATA OUTPUT

- DISPLAY READING = COEFFICIENT X SPINDLE MOVEMENT.
  The coefficient can be adjusted from 0 to 9.9999.
  For example, coefficient is 4.5562, spindle moves 3.60mm,
  display reading is 4.5562 x 3.60=16.40mm
- Button function: on/off, zero, data preset, inch/mm,
  coefficient set, measuring direction change
- Switchable high/low frequency measurement mode, high frequency
  mode is suitable for high speed moving of spindle and has large power
  consumption, low power consumption in low frequency mode
- Keep preset data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable
  (code **7315-50M, 7302-40M, 7305-40M**),
  backs (page 167~168), contact points (page 164~166)

2501-10



spindle lift knob is included

Code	Range	Resolution	Accuracy	Hysteresis	Remark
2501-10*	12.7mm/0.5"	0.01mm/0.0005"	20μm	10μm	lug back
2501-10F*	12.7mm/0.5"	0.01mm/0.0005"	20μm	10μm	flat back

*Supplied with manufacturer inspection certificate traceable to NIST USA

DIGITAL INDICATORS FOR BORE GAGES (WITH TRANSMISSION BUTTON AND SIGNAL LIGHT)

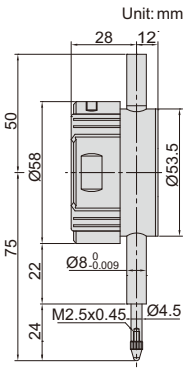
VIDEO

DATA OUTPUT

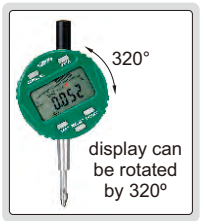
THE ORIGINAL DATA REMAINS AFTER POWER OFF

INSPECTION CERTIFICATE
TRACEABLE TO NIST

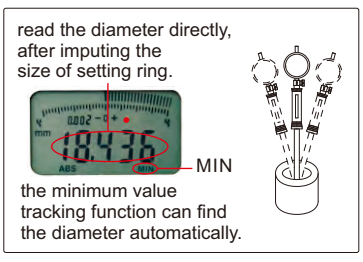
2108-10F



- Specially designed for bore gages
- The minimum value tracking function can find
  the diameter automatically
- Read the diameter directly, after imputing the
  size of setting ring
- Reading in digital and analog
- Display can be rotated by 320°
- Button function: on/off, minimum value tracking,
  calibration, data preset, inch/metric conversion
- Data remains after power off,
  no need to recalibrate after power on
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable
  (code **7315-50M, 7302-40M, 7305-40M**),
  backs (page 167~168), contact points (page 164~166),
  spindle lift knob (code **7332**)



analog pointer



Code	Range	Resolution	Accuracy	Hysteresis	Remark
2108-10F*	12.7mm/0.5"	0.002mm/0.0001" (can switch to: 0.01mm/0.0005")	20μm	10μm	flat back
2108-101F*	12.7mm/0.5"	0.001mm/0.00005"	5μm	2μm	flat back

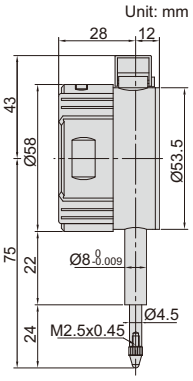
*Supplied with manufacturer inspection certificate traceable to NIST USA

INSPECTION CERTIFICATE
TRACEABLE TO NIST

DATA OUTPUT

DIGITAL INDICATORS WITH LIFTING LEVER

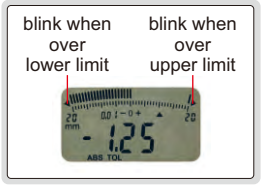
2109-10



- Reading in digital and analog
- Display can be rotated by 320°
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

analog pointer

warning when over tolerance



Code	Range	Resolution	Accuracy	Hysteresis	Remark
2109-10*	10mm/0.4"	0.01mm/0.0005"	20μm	10μm	flat back
2109-101*	10mm/0.4"	0.001mm/0.00005"	5μm	2μm	flat back

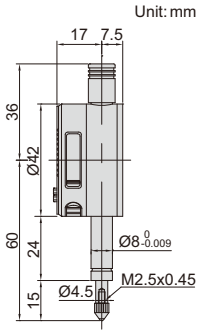
*Supplied with manufacturer inspection certificate traceable to NIST USA

INSPECTION CERTIFICATE
TRACEABLE TO NIST

DATA OUTPUT

COMPACT DIGITAL INDICATORS

2114-51F



- Button function:
  in/mm: short press for inch/metric conversion
  long press to change measuring direction
  ABS: short press for absolute/incremental measurement
  long press to preset data
  0/ON: short press to turn on when power is off
  short press to set zero when power is on
  long press to turn off
- Keep preset data in memory after restart
- CR1632 battery, automatic power off
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), contact points (page 164~166)

Code	Range	Resolution	Accuracy	Hysteresis	Remark
2114-5F *	5mm/0.2"	0.01mm/0.0005"	20μm	10μm	flat back
2114-51F*	5mm/0.2"	0.001mm/0.00005"	5μm	2μm	flat back

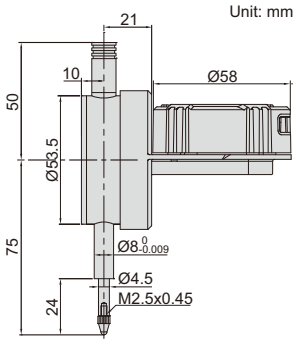
*Supplied with manufacturer inspection certificate traceable to NIST USA

BACK PLUNGER TYPE DIGITAL INDICATORS

DATA OUTPUT

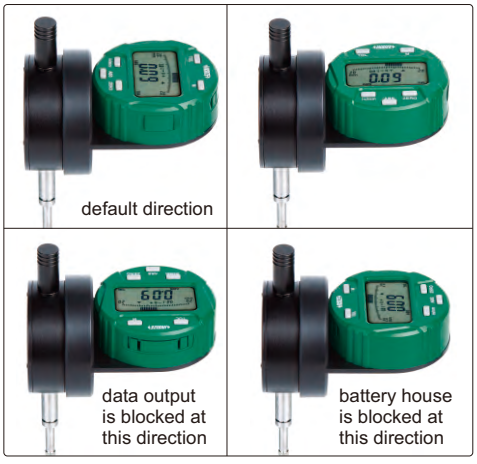
INSPECTION CERTIFICATE
TRACEABLE TO NIST

Unit: mm



2118-10

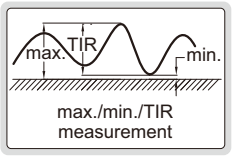
display direction is changeable



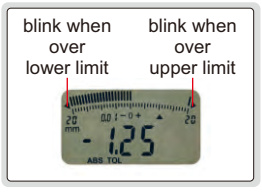
remark: to change above direction, 4 fixing screws on the back of display need to be removed first.

spindle lift knob is included

max./min./TIR



warning when over tolerance



analog pointer

display can rotate 320°

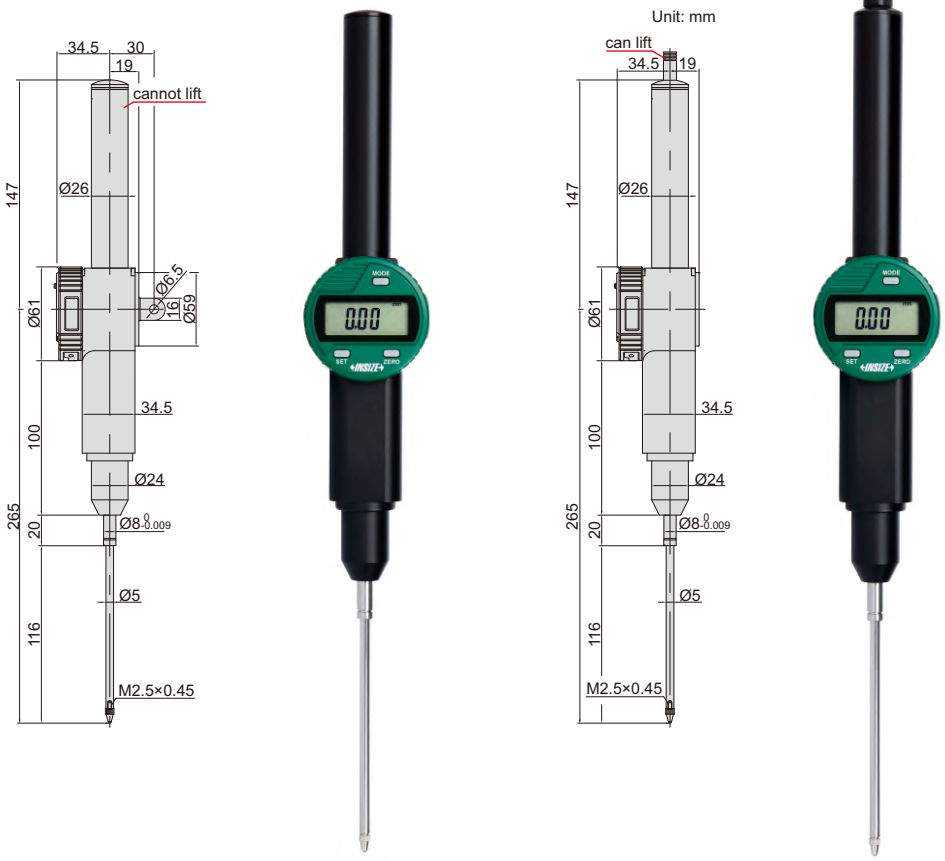
- Display can rotate 320°, and display direction is changeable
- Reading in digital and analog
- Button function: tolerance Go and No-Go display, data preset, measuring direction change, max./min./TIR measurement, inch/metric conversion, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off (time is adjustable)
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

Code	Range	Resolution	Accuracy	Hysteresis	Remark
2118-10 *	12.7mm/0.5"	0.01mm/0.0005"	20μm	10μm	flat back
2118-101 *	12.7mm/0.5"	0.001mm/0.00005"	5μm	2μm	flat back

*Supplied with manufacturer inspection certificate traceable to NIST USA

DATA OUTPUT

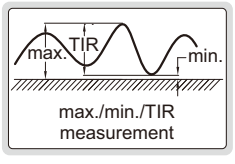
LARGE STROKE DIGITAL INDICATORS



2117-100 2117-100P

- Button function: on/off, zero, mm/inch, data preset, tolerance, change measuring direction, max./min./TIR measurement, absolute/incremental measurement
- Keep preset data and tolerance data in memory after restart
- CR2032 battery, automatic power off
- Maximum measuring force: 3.2N
- Data output
- Optional accessory: data output cable (code **7315-50M, 7302-40M, 7305-40M**), backs (page 167~168), contact points (page 164~166)

max./min./TIR



max./min./TIR measurement

spindle lift knob is included

warning when over tolerance

2117-100P/1001P

Resolution 0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Remark
2117-100	100mm/4"	30μm	10μm	lug back
2117-100P	100mm/4"	30μm	10μm	flat back, with lift cap

Resolution 0.001mm/0.00005"

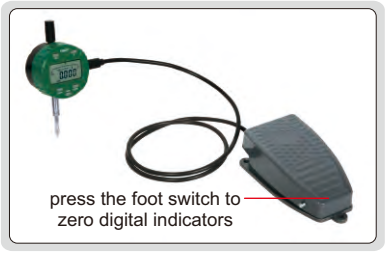
Code	Range	Accuracy	Hysteresis	Remark
2117-1001	100mm/4"	9μm	3μm	lug back
2117-1001P	100mm/4"	9μm	3μm	flat back, with lift cap

ZEROING FOOT SWITCH

- For zeroing of digital indicators

7360-1M

application



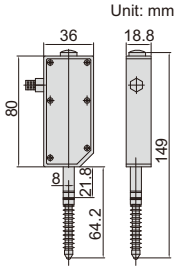
7

Code	Description	Interface of digital indicators	Applicable products
7360-1M	zeroing foot switch with cable (length 2.5m)		 for digital indicators

LINEAR GAGES

LINEAR GAGE IP65 WATERPROOF

7107-11

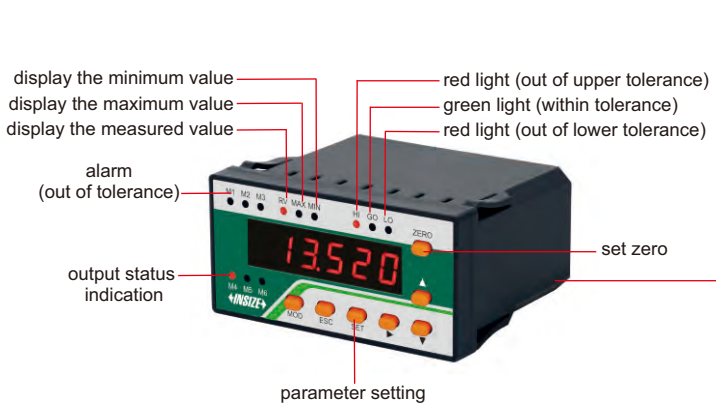


- Capacitance type linear encoder
- Shock-proof, water proof, dust proof, suitable for high speed movement, long working life
- Optional: display unit **7106-1A**, multichannel interface box **7107-1** or **7107-2**

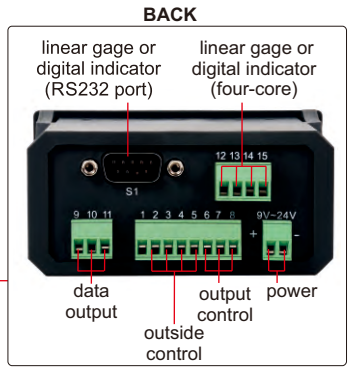
SPECIFICATION

Code	7107-11	7107-12
Measuring range	12mm/0.47"	12mm/0.47"
Resolution	0.01mm/0.0004"	0.001mm/0.00004"
Accuracy	20μm	5μm
Hysteresis	10μm	2μm
Measuring principle	capacitance type linear encoder	
Voltage	5V	
Sampling frequency	100 times/sec.	
Working life	ten million times	
Dust/waterproof	IP65	
Measuring force	1.5N	
Cable length	2m	
Data output	RS232	

DISPLAY UNIT
CODE 7106-1A

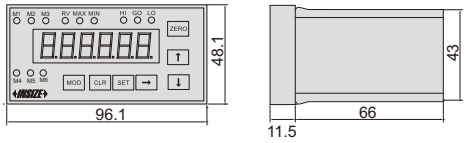


7106-1A



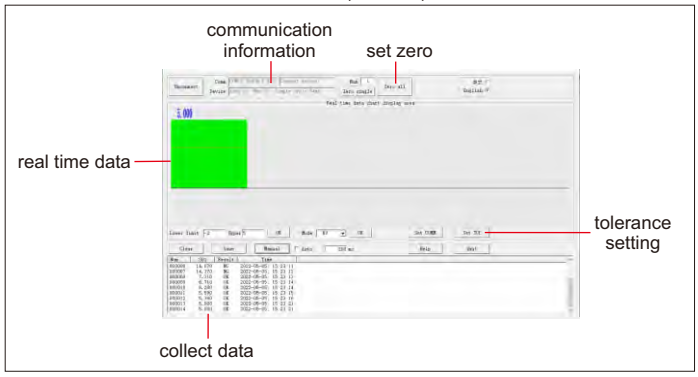
- Can be connected with **7107-11** or **7107-12** linear gage, can also be connected with digital indicator (data cable **7309-C01M** is needed)
- Set tolerance and make judgment (out of upper tolerance, within tolerance, out of lower tolerance), output the judgment to control outside devices, control from outside (set zero, hold reading and collect data)
- Software of display unit (included): in the software, it is possible to set tolerance and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report

Unit: mm



connected with
7107-11 or **7107-12** linear gage

software (included)



VIDEO

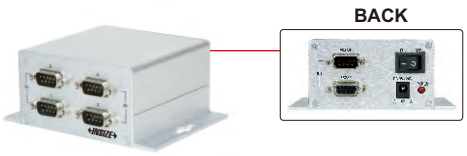
connected with digital indicator
(data cable **7309-C01M** is needed)

suitable for **2112, 2114, 2115, 2116, 2501, 2103 and 2104** series digital indicators

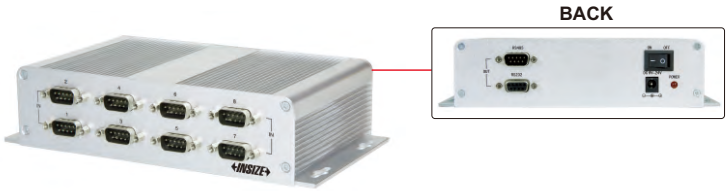
SPECIFICATION

Code	**7106-1A**
Display	6 digits
Quantity of linear gage or digital indicator to be connected	1 pc
Tolerance	set tolerance and make judgment with alarm and lights (out of upper tolerance, within tolerance, out of lower tolerance)
Output control	output the tolerance judgment (out of upper tolerance, within tolerance, out of lower tolerance) to control outside devices
Outside control	control the display units from outside (set zero, hold reading and collect data)
Data output	connect to computer software and serial communication
Power supply	DC 9~24V

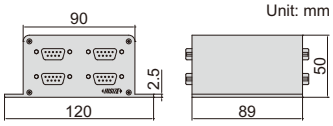
MULTICHANNEL INTERFACE BOXES



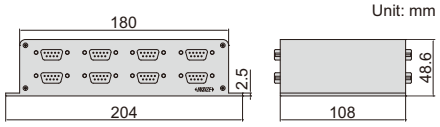
7107-1



7107-2

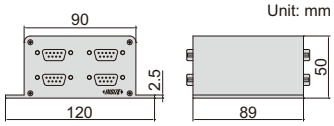


7107-1



7107-2

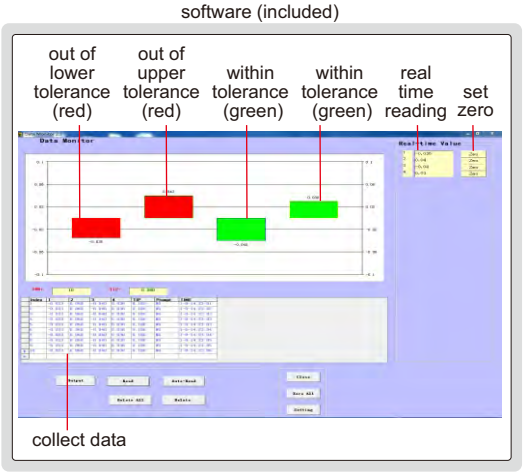
7107-3



7107-3

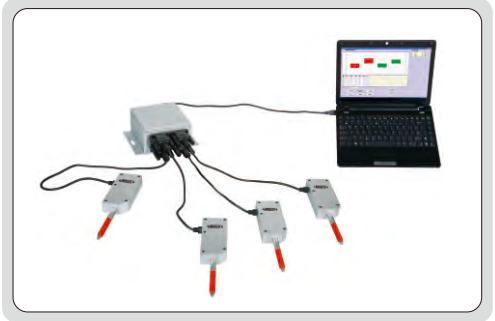
- Can be connected with **7107-11** or **7107-12** linear gages, can also be connected with digital indicators (data cable **7309-C01M** is needed)
- Connection box (code: **7107-3**) is needed to connect interface boxes, when two or more interface boxes are used. Maximum 4 interface boxes can be connected.
- Software of interface boxes (included): in the software, it is possible to set tolerance of each channel and show judgment (red when out of tolerance, green when within tolerance), set zero, collect data manually or automatically (time is adjustable), output data to Excel, print report.

software (included)



VIDEO

connected with **7107-11** or **7107-12** linear gages



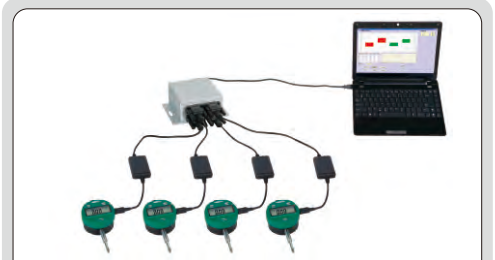
INTERFACE BOX SPECIFICATION

Code	7107-1	7107-2
Quantity of linear gages or digital indicators to be connected	4 pcs	8 pcs
Data output	RS232 and RS485	
Power supply	DC 9~24V	

CONNECTION BOX (OPTIONAL) SPECIFICATION

Code	7107-3
Quantity of interface boxes to be connected	4 pcs (maximum 4 interface boxes can be connected)
Data output	RS232 and RS485
Power supply	DC 9~24V

connected with digital indicators
(data cable **7309-C01M** is needed)



suitable for **2112, 2114, 2115, 2116, 2501, 2103 and 2104** series digital indicators

IP43 WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

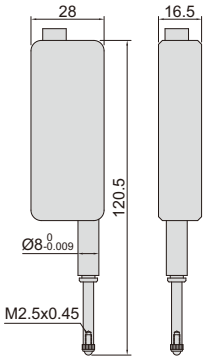
HIGH PRECISION DIGITAL LINEAR GAGES

INSPECTION CERTIFICATE

7130-10

7130-10L

Unit: mm



- Scale type: optical grating
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Repeatability: 0.5μm
- Measuring force: 1.5N
- Dust/waterproof: IP43
- Baud rate: 9600 (can be customized)
- Cable length: 3m (can be customized)

Code	Range	Resolution	Accuracy	Outgoing cable direction	Output signal	Output interface
7130-10	0-12.7mm	0.1μm	1.6μm	horizontal	RS232, TTL level	
7130-10L	0-12.7mm	0.1μm	1.6μm	vertical	RS232, TTL level	
7130-11	0-12.7mm	0.1μm	1.6μm	horizontal	RS232, 232 level	
7130-11L	0-12.7mm	0.1μm	1.6μm	vertical	RS232, 232 level	
7130-12	0-12.7mm	0.1μm	1.6μm	horizontal	RS485	
7130-12L	0-12.7mm	0.1μm	1.6μm	vertical	RS485	
7130-13	0-12.7mm	0.1μm	1.6μm	horizontal	RS232, TTL level	
7130-13L	0-12.7mm	0.1μm	1.6μm	vertical	RS232, TTL level	
7130-14	0-12.7mm	0.1μm	1.6μm	horizontal	RS232, 232 level	
7130-14L	0-12.7mm	0.1μm	1.6μm	vertical	RS232, 232 level	

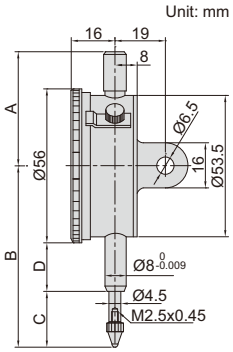
JEWELED BEARING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

PRECISION DIAL INDICATORS

2313-1A

Unit: mm



- Graduation: 0.001mm
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

(mm)

Code	Range	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	A	B	C	D
2313-1FA*	1mm	5μm	2μm	0.2mm	0-100-0	flat back	45	62.5	19.5	15
2313-2FA*	2mm	6μm	2.5μm	0.2mm	0-100-0	flat back	45	62.5	19.5	15
2313-1A*	1mm	5μm	2μm	0.2mm	0-100-0	lug back	45	62.5	19.5	15
2313-2A*	2mm	6μm	2.5μm	0.2mm	0-100-0	lug back	45	62.5	19.5	15

*Supplied with manufacturer inspection certificate traceable to NIST USA

COMPACT DIAL INDICATORS

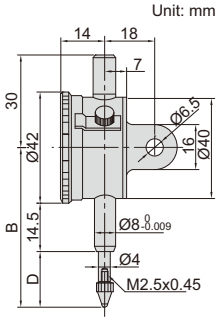
JEWELED BEARING

INSPECTION CERTIFICATE TRACEABLE TO NIST

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2311-5

Unit: mm



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2311-3F *	3mm	0.01mm	12μm	3μm	0.5mm	0-50	flat back	46	10.5
2311-5F *	5mm	0.01mm	14μm	3μm	0.5mm	0-50	flat back	48	12.5
2311-3 *	3mm	0.01mm	12μm	3μm	0.5mm	0-50	lug back	46	10.5
2311-5 *	5mm	0.01mm	14μm	3μm	0.5mm	0-50	lug back	48	12.5

*Supplied with manufacturer inspection certificate traceable to NIST USA

DIAL INDICATORS (BASIC TYPE)

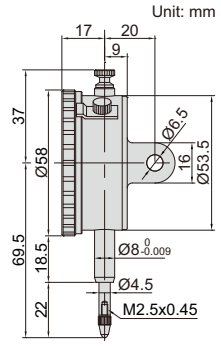
INSPECTION CERTIFICATE TRACEABLE TO NIST

- Meet DIN878
- Jeweled bearing
- Supplied with limit hands and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 167~168), contact points (page 164~166)

carton box

2301-10

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2301-10F *	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2301-10 *	10mm	0.01mm	17μm	3μm	1mm	0-100	lug back with spare flat back

*Supplied with manufacturer inspection certificate traceable to NIST USA

DIAL INDICATORS (STANDARD TYPE)

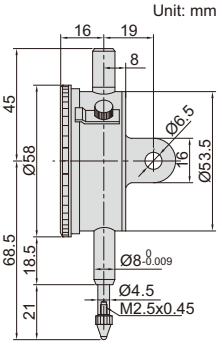
JEWELED BEARING

INSPECTION CERTIFICATE TRACEABLE TO NIST

- Meet DIN878
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2308-10A

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2308-3FA *	3mm	0.01mm	12μm	3μm	1mm	0-100	flat back
2308-5FA *	5mm	0.01mm	14μm	3μm	1mm	0-100	flat back
2308-10FA *	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2308-3A *	3mm	0.01mm	12μm	3μm	1mm	0-100	lug back
2308-5A *	5mm	0.01mm	14μm	3μm	1mm	0-100	lug back
2308-10A *	10mm	0.01mm	17μm	3μm	1mm	0-100	lug back

*Supplied with manufacturer inspection certificate traceable to NIST USA

REVERSE READING DIAL INDICATORS

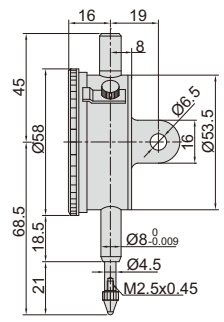
JEWELED BEARING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet DIN878
- Suitable for depth and step measurements
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2801-10

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2801-10F *	10mm	0.01mm	17μm	3μm	1mm	100-0	flat back
2801-10 *	10mm	0.01mm	17μm	3μm	1mm	100-0	lug back

*Supplied with manufacturer inspection certificate traceable to NIST USA

SHOCKPROOF DIAL INDICATORS

SHOCK PROOF

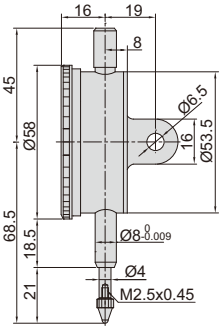
JEWELED BEARING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet DIN878
- Shockproof
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2314-10A

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2314-3FA *	3mm	0.01mm	12μm	3μm	1mm	0-100	flat back
2314-5FA *	5mm	0.01mm	14μm	3μm	1mm	0-100	flat back
2314-10FA *	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2314-3A *	3mm	0.01mm	12μm	3μm	1mm	0-100	lug back
2314-5A *	5mm	0.01mm	14μm	3μm	1mm	0-100	lug back
2314-10A *	10mm	0.01mm	17μm	3μm	1mm	0-100	lug back

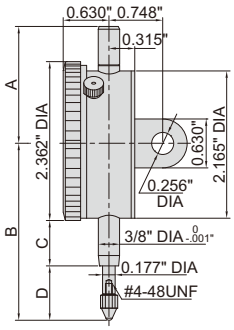
*Supplied with manufacturer inspection certificate traceable to NIST USA

INCH DIAL INDICATORS

INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet ASME B89.1.10M-2001
- With lug back
- Supplied with limit pointers and bezel clamp

2307-1



Code	Range	Graduation	Accuracy		Range/rev	Dial reading
			First 2.5 rev	Overall		
2307-025 *	0.25"	0.001"	±0.001"	±0.001"	0.1"	0-100
2307-05 *	0.5"	0.001"	±0.001"	±0.002"	0.1"	0-100
2307-1 *	1"	0.001"	±0.001"	±0.002"	0.1"	0-100
2307-2 *	2"	0.001"	±0.001"	±0.004"	0.1"	0-100
2307-0255 *	0.25"	0.0005"	±0.0005"	±0.0015"	0.05"	0-50
2307-055 *	0.5"	0.0005"	±0.0005"	±0.0015"	0.05"	0-50
2307-105 *	1"	0.0005"	±0.0005"	±0.002"	0.05"	0-50
2307-205 *	2"	0.0005"	±0.0005"	±0.002"	0.05"	0-50

Range	A	B	C	D
0.25"	1.811"	2.953"	0.787"	0.984"
0.5"	1.811"	2.953"	0.787"	0.984"
1"	1.811"	3.346"	0.787"	1.378"
2"	4.370"	5.472"	1.969"	2.323"

*Supplied with manufacturer inspection certificate traceable to NIST

WATERPROOF DIAL INDICATORS

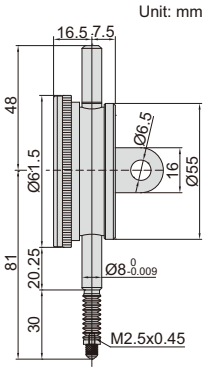
INSPECTION CERTIFICATE
TRACEABLE TO NIST

IP54
WATERPROOF

- Meet DIN878
- IP54 dust/waterproof
- With limit pointers
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2324-10A

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2324-10FA*	10mm	0.01mm	17μm	3μm	1mm	0-100	flat back
2324-10A*	10mm	0.01mm	17μm	3μm	1mm	0-100	lug back

*Supplied with manufacturer inspection certificate traceable to NIST USA

7

DOUBLE FACE DIAL INDICATOR

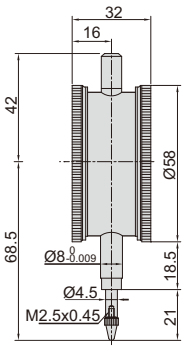
INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet DIN878
- Read from both sides
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: contact points (page 164~166)

front back

2328-10

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading
2328-10*	10mm	0.01mm	17μm	3μm	1mm	0-100

*Supplied with manufacturer inspection certificate traceable to NIST USA

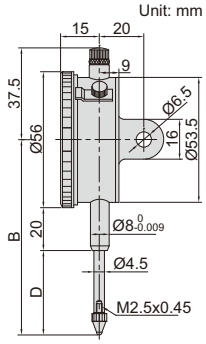
DIAL INDICATORS (LONG STROKE)

INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2310-30A

Unit: mm



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2310-20FA*	20mm	0.01mm	25μm	5μm	1mm	0-100	flat back	83	35
2310-30FA*	30mm	0.01mm	35μm	7μm	1mm	0-100	flat back	88	40
2310-20A*	20mm	0.01mm	25μm	5μm	1mm	0-100	lug back	83	35
2310-30A*	30mm	0.01mm	35μm	7μm	1mm	0-100	lug back	88	40

*Supplied with manufacturer inspection certificate traceable to NIST USA

DIAL INDICATORS (LONG STROKE, BASIC TYPE)

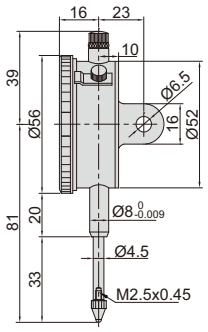
INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Supplied with limit pointers and bezel clamp
- Packed in carton box
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2302-25

carton box

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2302-25F *	25mm	0.01mm	35μm	7μm	1mm	0-100	flat back
2302-25 *	25mm	0.01mm	35μm	7μm	1mm	0-100	lug back with spare flat back

*Supplied with manufacturer inspection certificate traceable to NIST USA

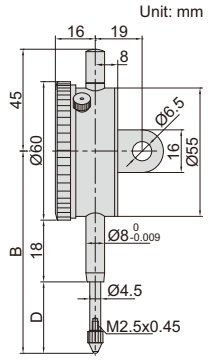
7

DIAL INDICATORS (GRADUATION 0.1mm)

- Supplied with limit pointers and bezel clamp
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2318-30

Unit: mm



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Range/rev	Dial reading	Remark	B	D
2318-10F	10mm	0.1mm	40μm	20μm	10mm	0-10	flat back	70	20
2318-20F	20mm	0.1mm	50μm	20μm	10mm	0-10	flat back	85	35
2318-25F	25mm	0.1mm	60μm	20μm	10mm	0-10	flat back	85	35
2318-30F	30mm	0.1mm	60μm	20μm	10mm	0-10	flat back	90	40
2318-10	10mm	0.1mm	40μm	20μm	10mm	0-10	lug back	70	20
2318-20	20mm	0.1mm	50μm	20μm	10mm	0-10	lug back	85	35
2318-25	25mm	0.1mm	60μm	20μm	10mm	0-10	lug back	85	35
2318-30	30mm	0.1mm	60μm	20μm	10mm	0-10	lug back	90	40

ONE REVOLUTION DIAL INDICATORS

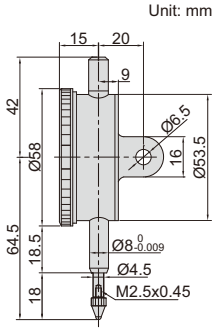
SHOCK PROOF

INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet DIN878
- Eliminate the possibility of reading errors due to miscounting
- Shockproof
- Supplied with limit pointers
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2316-05

Unit: mm



Code	Range	Dial indicator stroke	Graduation	Accuracy	Hysteresis	Dial reading	Remark
2316-05F *	0.5mm	5mm	0.01mm	9μm	3μm	25-0-25	flat back
2316-1F *	1mm	5mm	0.01mm	9μm	3μm	50-0-50	flat back
2316-05 *	0.5mm	5mm	0.01mm	9μm	3μm	25-0-25	lug back
2316-1 *	1mm	5mm	0.01mm	9μm	3μm	50-0-50	lug back

*Supplied with manufacturer inspection certificate traceable to NIST USA

DIAL INDICATORS (LONG STROKE)

INSPECTION CERTIFICATE TRACEABLE TO NIST

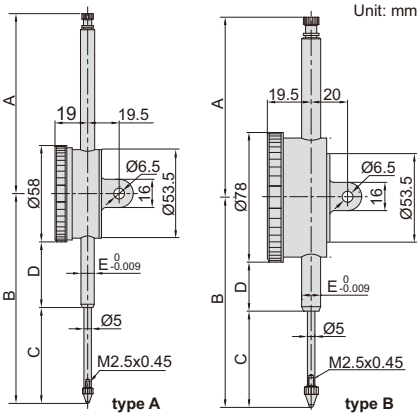
JEWELED BEARING

SHOCK PROOF

- Shockproof
- Jeweled bearing
- Supplied with limit pointers
- Optional accessory: backs (page 167~168), contact points (page 164~166)

2309-50

Unit: mm



stem clamp Ø10mm for **2309-100D**

back of type B

(mm)

Code	Type	A	B	C	D	E
2309-30F	A	37.5	89.5	40.9	19.5	Ø8
2309-30	A	37.5	89.5	40.9	19.5	Ø8
2309-50	A	108.3	126.2	57.7	39.5	Ø8
2309-50D	B	108.3	126.2	57.7	29.5	Ø8
2309-80	A	138.4	168.4	88	51.3	Ø8
2309-80D	B	138.4	168.4	88	41.3	Ø8
2309-100D	B	167.6	207.8	108	60.8	Ø10

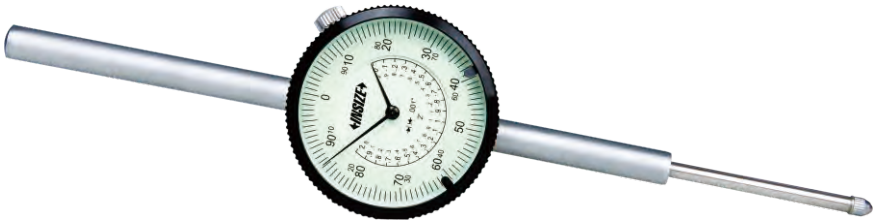
Code	Range	Graduation	Type	Accuracy	Hysteresis	Range/rev	Dial reading	Remark
2309-30F *	30mm	0.01mm	A	35μm	7μm	1mm	0-100	flat back
2309-30 *	30mm	0.01mm	A	35μm	7μm	1mm	0-100	lug back
2309-50 *	50mm	0.01mm	A	40μm	8μm	1mm	0-100	flat back with spare lug back
2309-50D *	50mm	0.01mm	B	40μm	8μm	1mm	0-100	flat back with spare lug back
2309-80	80mm	0.01mm	A	50μm	9μm	1mm	0-100	flat back with spare lug back
2309-80D	80mm	0.01mm	B	50μm	9μm	1mm	0-100	flat back with spare lug back
2309-100D	100mm	0.01mm	B	50μm	9μm	1mm	0-100	flat back with spare lug back

Note: 1) **2309-80, 2309-80D** and **2309-100D** can only be used vertically
2) **2309-100D** is supplied with stem clamp Ø10mm for magnetic stands (code **6200-60**, **6201-60**, **6202-80**, **6202-100**)
3) **2309-30** and **2309-30F** can not accept optional backs (page 167~168)

*Supplied with manufacturer inspection certificate traceable to NIST USA

INCH LONG STROKE DIAL INDICATORS

INSPECTION CERTIFICATE TRACEABLE TO NIST



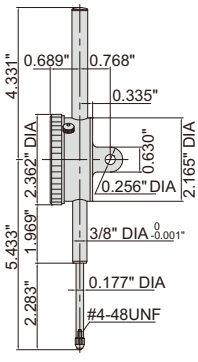
2326-2

- Graduation 0.001"
- With lug back
- Supplied with limit pointers and bezel clamp

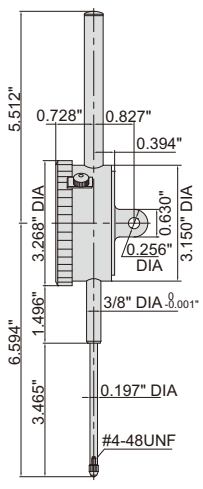
Code	Range	Accuracy		Range/rev	Dial reading
		First 2.5 rev	Overall		
2326-2 *	2"	±0.001"	±0.004"	0.1"	0-100
2326-3 **	3"	±0.001"	±0.005"	0.1"	0-100
2326-4 **	4"	±0.001"	±0.005"	0.1"	0-100

*Supplied with manufacturer inspection certificate traceable to NIST

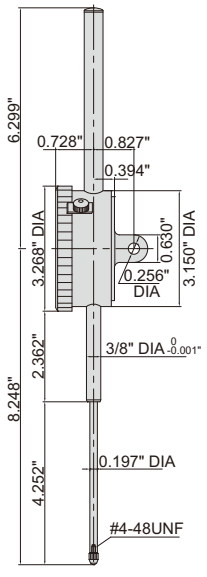
****2326-3** and **2326-4** can only be used vertically



2326-2



2326-3



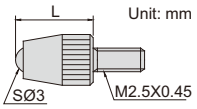
2326-4

BALL POINTS

Code	Material of measuring face	L (mm)
6282-0101	carbide	7.3
6282-0103	ceramic	7.3
6282-0104	carbide	8.3
6282-0106	carbide	12.1
6282-0107	carbide	14
6282-0108	carbide	15
6282-0109	ceramic	15
6282-0110	carbide	17

Code	Material of measuring face	L (mm)
6282-0111	carbide	19.3
6282-0112	carbide	20
6282-0113	ceramic	20
6282-0114	carbide	22
6282-0115	carbide	25
6282-0116	ceramic	25
6282-0117	carbide	30
6282-0118	ceramic	30

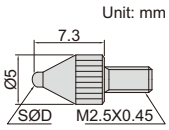
6282-0101



Code	Material of measuring face	SØD (mm)
6282-0301	steel	1
6282-0302	carbide	1.5
6282-0303	carbide	1.8

Code	Material of measuring face	SØD (mm)
6282-0304	carbide	2.5
6282-0305	carbide	4

6282-0301

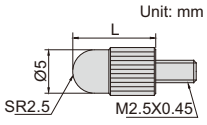


SHELL TYPE POINTS

Code	Material of measuring face	L (mm)
6282-0202	steel	5
6282-0203	steel	10
6282-0205	steel	15

Code	Material of measuring face	L (mm)
6282-0207	steel	20
6282-0208	steel	25
6282-0210	steel	30

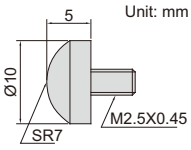
6282-0202



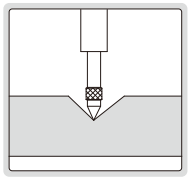
SPHERICAL POINT

Code	Material of measuring face
6282-0401	steel

6282-0401



CONICAL POINTS



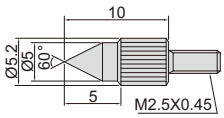
6282-0601

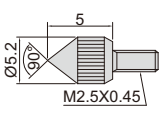
6282-0701

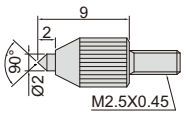
6282-0801

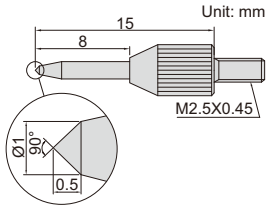
6282-0901

Code	Material of measuring face
6282-0601	steel
6282-0701	steel
6282-0801	steel
6282-0901	steel

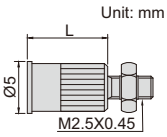








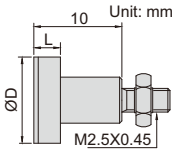
FLAT POINTS

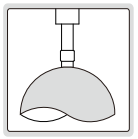


6282-1101

Code	Material of measuring face	L (mm)
6282-1101	steel	8
6282-1102	steel	10

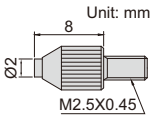
6282-1201





Code	Material of measuring face	ØD	L
6282-1201	steel	10mm	3mm
6282-1202	steel	15mm	4mm
6282-1203	steel	20mm	3mm
6282-1204	steel	25mm	4mm
6282-1205	steel	30mm	4mm

6282-1301



Code	Material of measuring face
6282-1301	carbide

NEEDLE POINTS

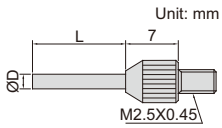
(mm)

Code	Material of measuring face	ØD	L
6282-1701	steel	0.45	3
6282-1702	steel	0.45	5
6282-1703	carbide	1	3
6282-1704	carbide	1	5
6282-1705	carbide	1	8
6282-1706	carbide	1	10
6282-1707	carbide	1	20
6282-1708	carbide	1	40
6282-1709	carbide	1.5	5

(mm)

Code	Material of measuring face	ØD	L
6282-1710	carbide	1.5	10
6282-1711	carbide	1.5	13
6282-1712	carbide	1.5	20
6282-1713	carbide	1.5	40
6282-1714	carbide	2	8
6282-1715	carbide	2	18
6282-1716	carbide	2	28
6282-1717	carbide	2	40

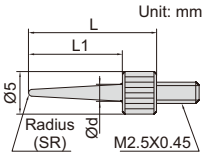
6282-1711

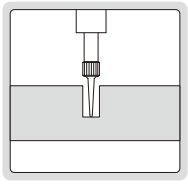


(mm)

Code	Material of measuring face	L1	L	SR	Ød
6282-1601	steel	11	15	0.4	2
6282-1602	steel	13	17	0.2	2
6282-1603	steel	21	25	0.4	3
6282-1604	steel	31	35	0.4	3

6282-1601

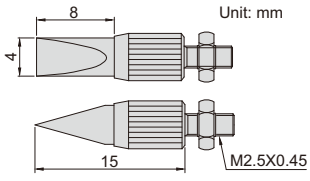


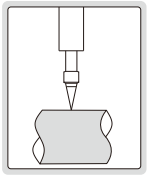


KNIFE EDGE POINT

Code	Material of measuring face
6282-1001	steel

6282-1001

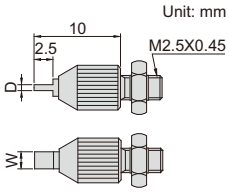


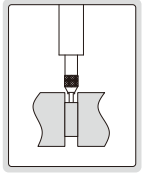


BLADE POINTS

Code	Material of measuring face	D	W
6282-1801	steel	0.4mm	2mm
6282-1802	steel	0.6mm	2mm
6282-1803	steel	1mm	4mm

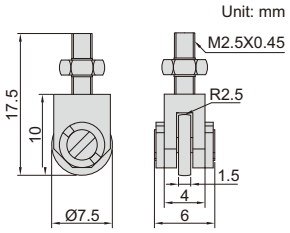
6282-1801





ROLLER POINT

6282-1901



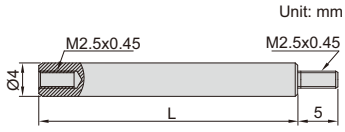
Code	Material of measuring face
6282-1901	steel

EXTENSION RODS

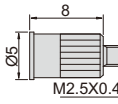
Code	Material	L (mm)
6282-2001	steel	10
6282-2002	steel	15
6282-2003	steel	20
6282-2004	steel	25
6282-2005	steel	30
6282-2006	steel	35
6282-2007	steel	40
6282-2008	steel	45
6282-2009	steel	50

Code	Material	L (mm)
6282-2010	steel	55
6282-2011	steel	60
6282-2012	steel	65
6282-2013	steel	70
6282-2014	steel	75
6282-2015	steel	80
6282-2016	steel	90
6282-2017	steel	100

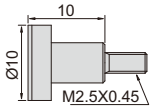
6282-2010



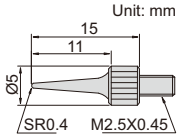
POINT SET



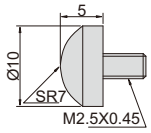
Flat Point



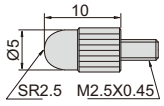
Flat Point



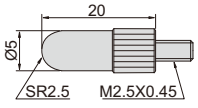
Needle Point



Spherical Point



Shell Type Point



Shell Type Point

6282-S6

Code	Material of measuring face
6282-S6	steel

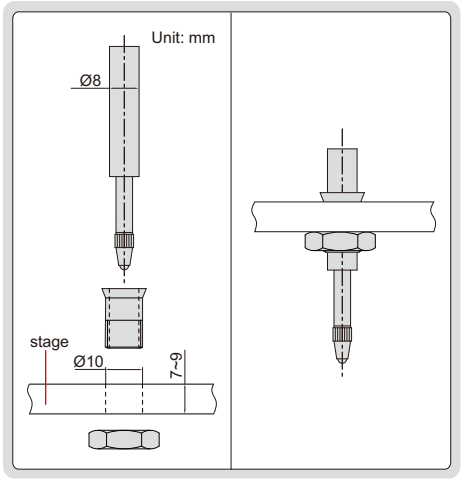
SPINDLE LIFT KNOB

- For dial/digital indicators with spindle diameter Ø4.5mm or Ø5mm

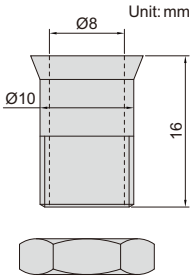
7332

Code
7332

SHAFT SLEEVE



7333



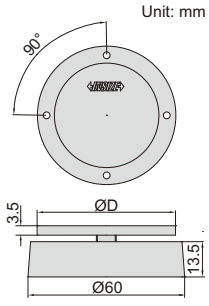
- For dial indicators and probes with shaft diameter Ø8mm

Code
7333

MAGNETIC BACKS

Code	ØD	For digital/dial indicators
7331-M1	51.5mm	2103
		2104
		2108
		2109
		2112
		2115
		2116
		2117
		2118
		2138
		2139
		2501
		2301
		2302
		2308
		2309 (except 2309-30, 2309-30F)
		2313
		2314
		2316
		2324
		2801
7331-M2	54mm	2318

7331-M2



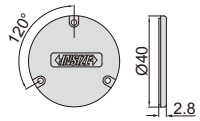
FLAT BACKS

7330-F2

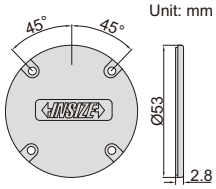
Code	For digital/dial indicators
7330-F1	2311
7330-F2	2301 2302 2308 2309 (except 2309-30, 2309-30F) 2313 2314 2316 2324 2801

Code	For digital/dial indicators
7330-F5	2103 2104 2108 2109 2112 2115 2116 2117 2118 2138 2139 2501
7330-F6	2318
7330-F10	2310

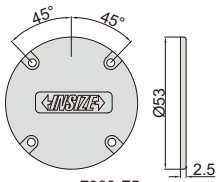
Unit: mm



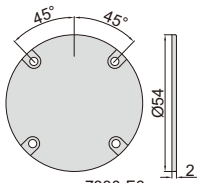
7330-F1



7330-F2 and 7330-F10



7330-F5



7330-F6

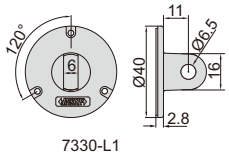
LUG BACKS

7330-L2

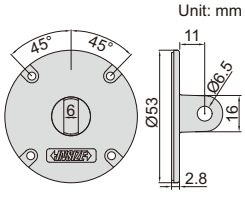
Code	For digital/dial indicators
7330-L1	2311
7330-L2	2301 2302 2308 2309 (except 2309-30, 2309-30F) 2313 2314 2316 2324 2801

Code	For digital/dial indicators
7330-L5	2103 2104 2108 2109 2112 2115 2116 2117 2118 2138 2139 2501
7330-L6	2318
7330-L10	2310

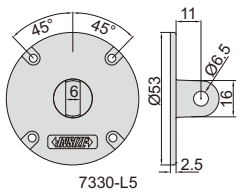
Unit: mm



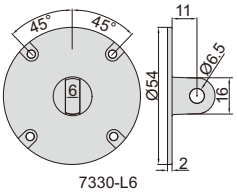
7330-L1



7330-L2 and 7330-L10



7330-L5



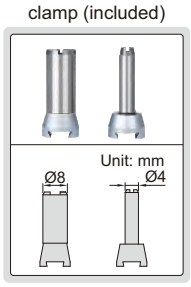
7330-L6

DIAL TEST INDICATORS

JEWELED BEARING

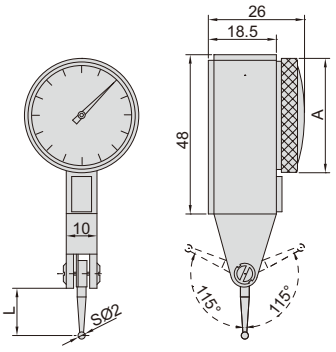
INSPECTION CERTIFICATE TRACEABLE TO NIST

- Meet DIN2270 (except **2380-02**, **2381-02**, **2381-021**)
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)



2380-08

Unit: mm



(mm)

Code	Range	Graduation	Accuracy	Hysteresis	Dial reading	A	L
2380-08*	0.8mm	0.01mm	13μm	3μm	0-40-0	Ø30	13.5
2381-08*	0.8mm	0.01mm	13μm	3μm	0-40-0	Ø37	13.5
2380-02*	0.2mm	0.002mm	6μm	2μm	0-100-0	Ø30	12.5
2381-02*	0.2mm	0.002mm	6μm	2μm	0-100-0	Ø37	12.5
2381-021*	0.2mm	0.001mm	6μm	2μm	0-100-0	Ø37	12.5

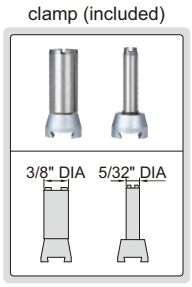
*Supplied with manufacturer inspection certificate traceable to NIST USA

INCH DIAL TEST INDICATORS

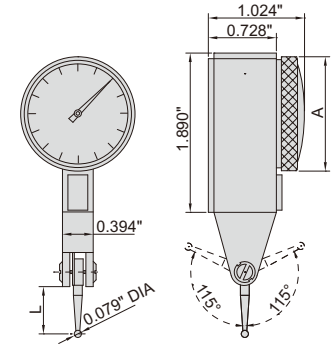
JEWELED BEARING

INSPECTION CERTIFICATE TRACEABLE TO NIST

- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: 5/32" DIA and 3/8" DIA



2380-31



Code	Range	Graduation	Accuracy	Dial reading	A	L
2380-31*	0.03"	0.001"	±0.001"	0-15-0	1.181" DIA	0.50"
2380-35*	0.03"	0.0005"	±0.0005"	0-15-0	1.181" DIA	0.50"
2380-301*	0.008"	0.0001"	±0.0001"	0-40-0	1.181" DIA	0.563"
2381-31*	0.03"	0.001"	±0.001"	0-15-0	1.457" DIA	0.50"
2381-35*	0.03"	0.0005"	±0.0005"	0-15-0	1.457" DIA	0.50"
2381-301*	0.008"	0.0001"	±0.0001"	0-40-0	1.457" DIA	0.563"

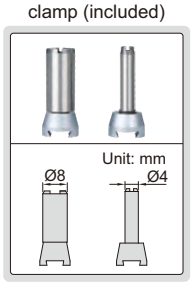
*Supplied with manufacturer inspection certificate traceable to NIST

VERTICAL TYPE DIAL TEST INDICATOR

JEWELED BEARING

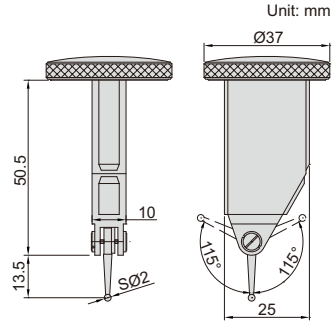
INSPECTION CERTIFICATE TRACEABLE TO NIST

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)



2398-08

Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2398-08*	0.8mm	0.01mm	13μm	3μm	0-40-0

*Supplied with manufacturer inspection certificate traceable to NIST USA

TILTED FACE TYPE DIAL TEST INDICATOR

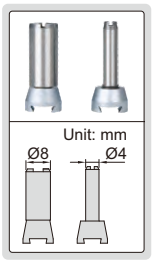
JEWELED BEARING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

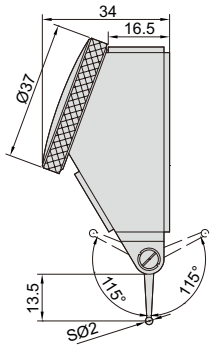
- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)

2399-08

clamp (included)



Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2399-08*	0.8mm	0.01mm	13μm	3μm	0-40-0

*Supplied with manufacturer inspection certificate traceable to NIST USA

LONG STYLUS DIAL TEST INDICATOR

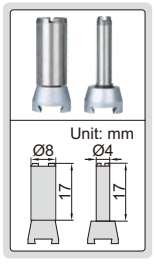
JEWELED BEARING

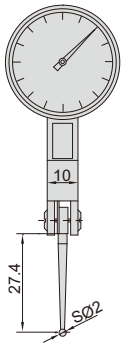
INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Meet DIN2270
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)

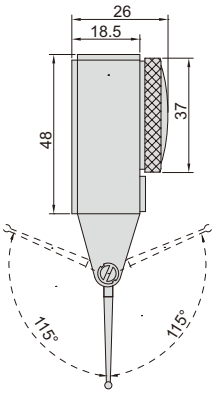
2383-08A

clamp (included)





Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis	Dial reading
2383-08A*	0.8mm	0.01mm	13μm	3μm	0-40-0

*Supplied with manufacturer inspection certificate traceable to NIST USA

LARGE RANGE DIAL TEST INDICATOR

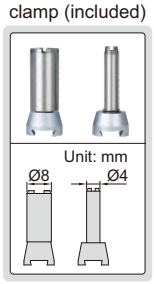
JEWELED BEARING

INSPECTION CERTIFICATE
TRACEABLE TO NIST

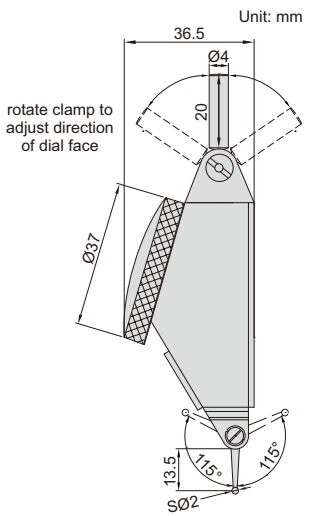
- Dial reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)

2386-16A

clamp (included)



Unit: mm



Code	Range	Graduation	Accuracy	Hysteresis
2386-16A*	1.6mm	0.01mm	25μm	8μm

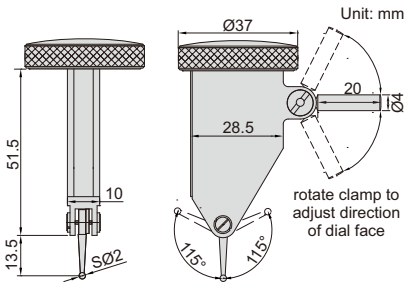
*Supplied with manufacturer inspection certificate traceable to NIST USA

LARGE RANGE VERTICAL TYPE DIAL TEST INDICATOR

JEWELED BEARING

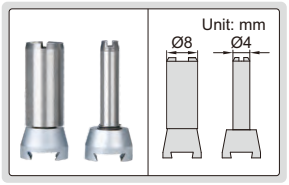
INSPECTION CERTIFICATE
TRACEABLE TO NIST

- Dial Reading: 0-40-0
- Jeweled bearing
- Carbide contact point
- Two measuring directions
- Anti magnetic body
- Supplied with two clamps: diameter Ø4mm and Ø8mm
- Optional accessory: styli (page 171)



2480-16

clamp (included)



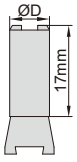
Code	Range	Graduation	Accuracy	Hysteresis
2480-16*	1.6mm	0.01mm	18μm	3μm

*Supplied with manufacturer inspection certificate traceable to NIST USA

CLAMPS FOR DIAL TEST INDICATORS

Code	ØD
6298-1	Ø4mm
6298-2	Ø8mm

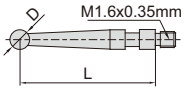
6298-1 6298-2



STYLI FOR DIAL TEST INDICATORS

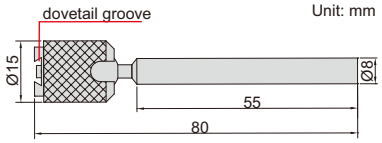
Code	For dial test indicator	Material of contact point	L	D
6284-1	2380-08 2398-08 2381-08 2399-08	steel	13.5mm	SØ1mm
6284-31		ruby	13.5mm	SØ1mm
6284-3		carbide	13.5mm	SØ2mm
6284-4		ruby	13.5mm	SØ2mm
6284-8		carbide	13.5mm	SØ3mm
6284-21	2380-02 2381-02 2381-021	steel	12.5mm	SØ1mm
6284-22		carbide	12.5mm	SØ2mm
6284-24		ruby	12.5mm	SØ2mm
6284-23		carbide	12.5mm	SØ3mm
6284-61	2386-16A 2480-16	steel	13.5mm	SØ1mm
6284-62		carbide	13.5mm	SØ2mm
6284-63		ruby	13.5mm	SØ2mm
6284-64		carbide	13.5mm	SØ3mm
6284-81	2383-08A	steel	27.4mm	SØ1mm
6284-82		carbide	27.4mm	SØ2mm
6284-83		ruby	27.4mm	SØ2mm
6284-84		carbide	27.4mm	SØ3mm

6284-3



DIAL TEST INDICATOR UNIVERSAL HOLDER

6297-1

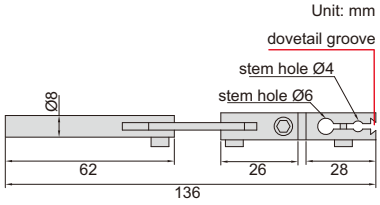


- Set the indicators at the desired attitude to the workpiece

Code
6297-1

DIAL TEST INDICATOR HOLDER

6296-1



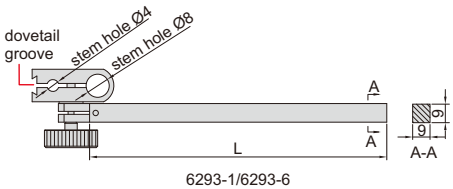
- Supplied with hex key

Code
6296-1

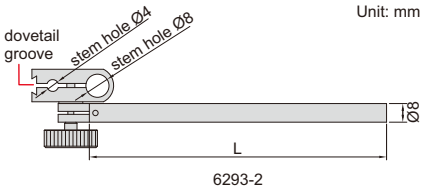
DIAL TEST INDICATOR HOLDERS

6293-1

6293-2



6293-1/6293-6



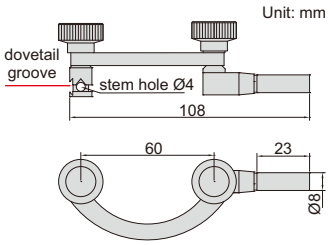
6293-2

Code	Stem section	Stem length (L)
6293-1	9x9mm	100mm
6293-6	9x9mm	50mm
6293-2	Ø8mm	115mm

DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators

6291-1



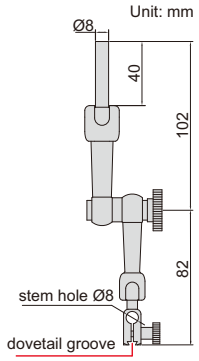
Code
6291-1

7

DIAL TEST INDICATOR HOLDER

- Can be used with dial test indicators

6295-1A

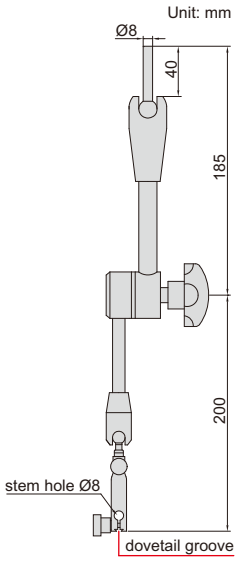


Code
6295-1A

DIAL INDICATOR HOLDER

- Can be used with dial test indicators or dial indicators

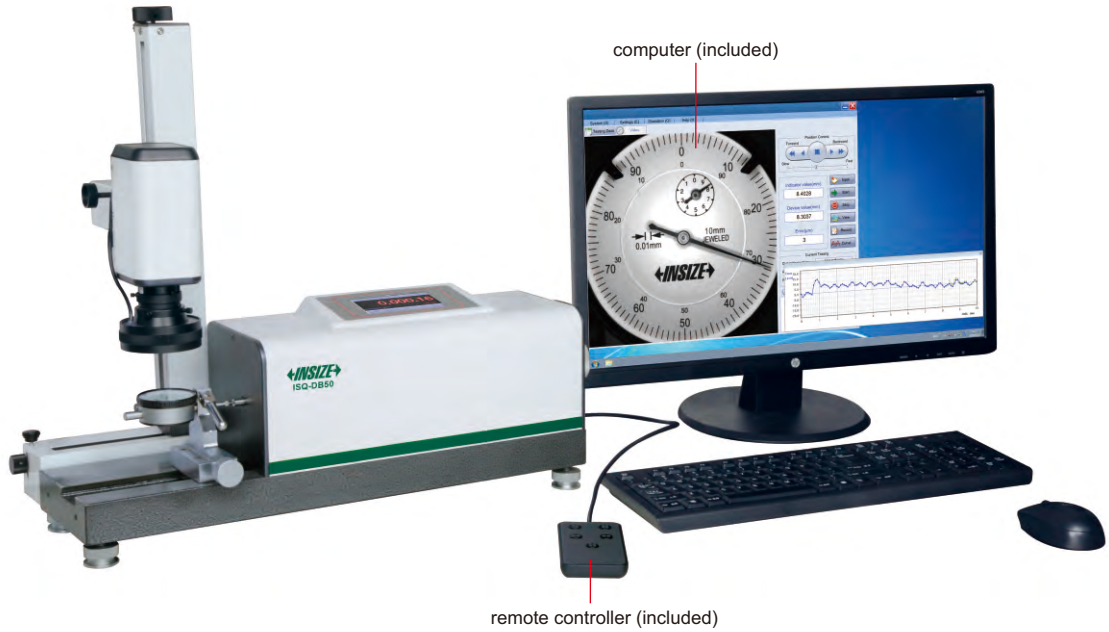
6294-1A



Code
6294-1A

AUTOMATIC DIAL INDICATOR TESTER
CODE ISQ-DB50

VIDEO



- Automatic measurement
- Semi-automatic measurement is possible, operate by hand and find graduation lines by eyes, for indicators with stains on dial faces
- Automatic zero setting
- Detection accuracy of graduation lines:
  1/15 graduation for 0.001mm dial indicators or dial test indicators,
  1/30 graduation for 0.01mm dial indicators or dial test indicators
- Suitable for dial indicators or dial test indicators with plain and convex crystals

SPECIFICATION

Applicable products	dial indicators, digital indicators, dial test indicators and bore gages
Standard	DIN878, DIN2270, ASME B89.1.10M, BS907, BS2795, JIS B7503, JIS B7533 and so on. customized standard: customers can set the range, interval, accuracy and hysteresis
Measuring range	0-50mm
Resolution	0.1μm
Repeatability	0.1μm
Speed	average 0.6s/point (adjustable) It takes 3 minutes to calibrate a 10mm dial indicator (100 points forward and 100 points backward)
Accuracy	any 1mm: 0.8μm
	any 2mm: 1.0μm
	any 10mm: 1.3μm
	any 30mm: 1.5μm
	50mm: 2.0μm
Hysteresis	0.5μm
Output	RS232
Power supply	220V, 50Hz
Operation temperature	20±5°C
Operation humidity	(50~70)%RH
Dimension (L×W×H)	640×240×530mm
Weight	35kg

STANDARD DELIVERY

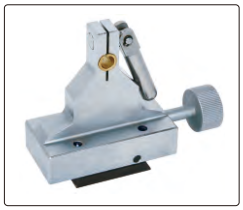
Main unit	1 pc
Holder for dial indicators and digital indicators (Ø8mm, 3/8")	1 pc
Holder for dial test indicators (Ø4mm, Ø6mm, Ø8mm)	3 pcs
Holder for bore gages (Ø4-28mm)	1 pc
Computer	1 pc
Remote controller	1 pc
Software	1 pc

OPTIONAL ACCESSORY

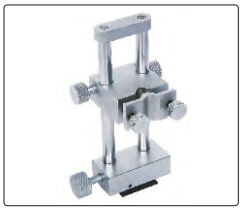
Holder for split type bore gages	**ISQ-DB501**
Cable for INSIZE digital indicators	**ISQ-DB502**

To be continued

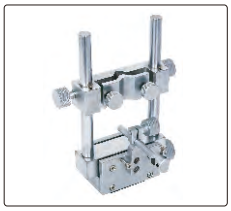
Continued from previous page



Ø8mm and 3/8" holder for dial indicators or digital indicators (included)



Ø4-28mm holder for bore gages (included)



holder for split type bore gages (**optional**)

Ø4mm, Ø6mm and Ø8mm holder for dial test indicators (included)

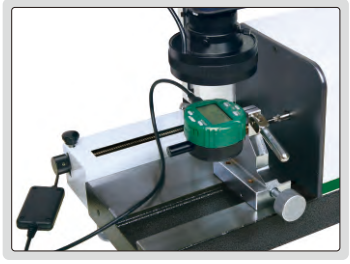
cable for INSIZE digital indicators (**optional**)

check dial indicators

check dial test indicators

check bore gages

check digital indicators (detect digits on screen)



check INSIZE digital indicators (connection with cable)

report

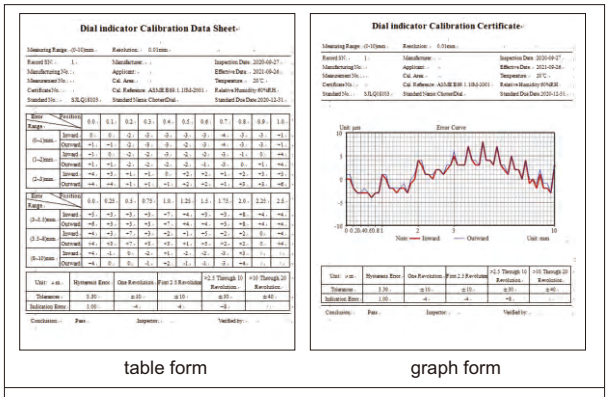
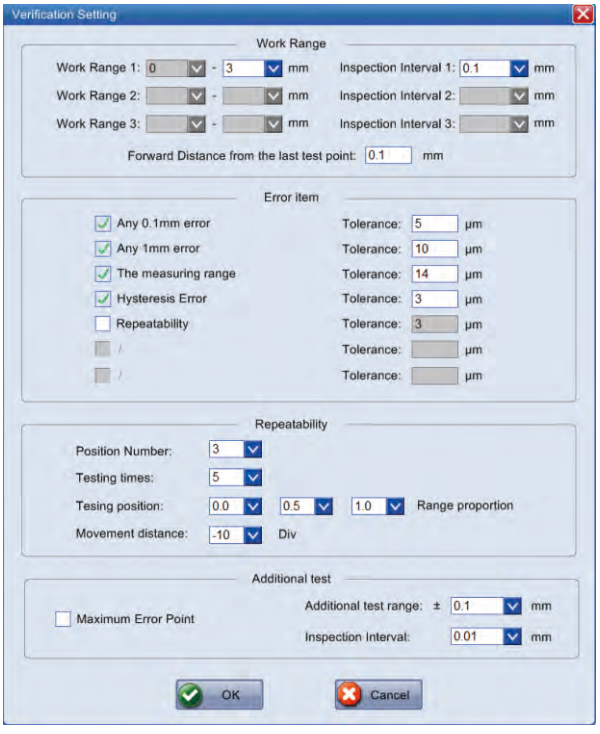


table form

graph form

certificate form

customized standard



ATTENTION: NOT SUITABLE FOR DIAL INDICATORS WITH GRADUATION 0.001MM

VIDEO

DIAL INDICATOR TESTER
CODE 2396-25A

- To calibrate dial indicators, test indicators and dial bore gages
- Dimension: 270x210x205mm
- Weight: 11kg

Micrometer head

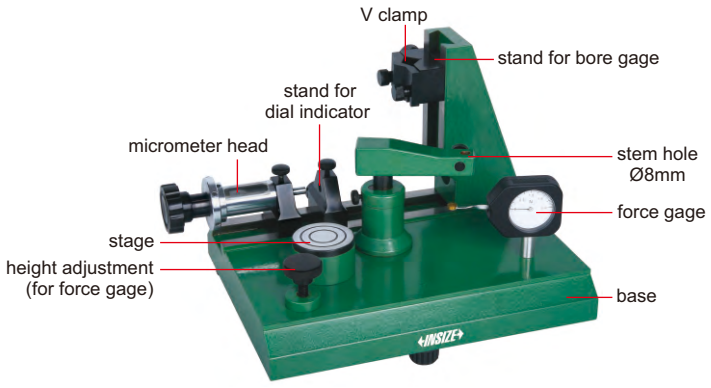
Range	Sampling interval	Accuracy	Hysteresis
0-25mm	0.1mm	4μm (0-25mm), 3μm (0-10mm), 2μm (0-1mm)	1μm

Force gage

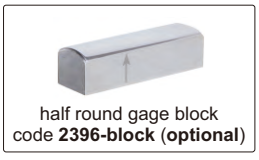
Range	Graduation	Accuracy
0-1.6N	0.05N	±5% (of load capacity)

Stage

Diameter	Flatness	Roughness
50mm	1μm	0.05μm



2396-25A



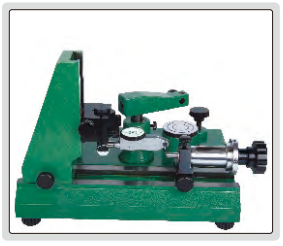
half round gage block
code **2396-block** (**optional**)

Half round gage block (optional)

Code	Parallelism
2396-block	1μm

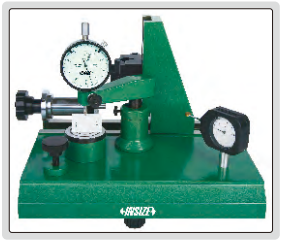
inspect accuracy of dial indicators (range 0-25mm)

inspect accuracy of dial bore gages (range 6-450mm)

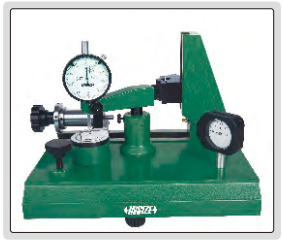


inspect accuracy of test indicators

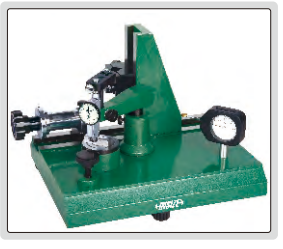
check force of dial indicators



check repeatability of dial indicators



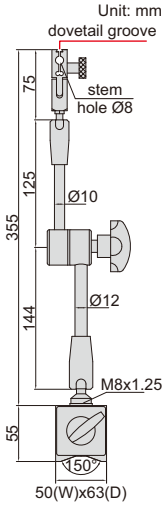
check the effect of lateral force on accuracy of dial indicators (half round gage block is required)



check the effect of lateral force on accuracy of test indicators (half round gage block is required)

UNIVERSAL MAGNETIC STAND (ECONOMIC TYPE)

ATTENTION: LOW LOCKING FORCE



6208-80A

- For digital/dial indicators and dial test indicators

Code	Magnetic force	Applicable holding stem	Remark
6208-80A	80kgf	Ø8mm	with fine adjustment and dovetail groove