TROUBLESHOOTING

Error Message	Corrective Action
「Error」	Tolerance Lower Limit > Tolerance Upper Limit, or Tolerance Range > 1.6mm. Please set correct tolerance values.
「Loc」	Key Lock is enabled. To cancel Key Lock, please refer to Function Setting section.
「d Loc」	Specific feature is locked via the PC Data Interface. Please refer to the Niigata Seiki SK-LOG Manual for details.
「Low Bat」	Battery needs to be replaced.

AFTER USE CARE・STORAGE

● **Clean exterior and measurement surfaces using a dry cloth and apply corrosion protection.**
For rust prevention, lightly apply anti-rust oil, or place in rust preventive bag.
● **Store with Spindle open at least 1~2 mm.**
● **Store in a cool, dry, and dark location in the provided case.**
Keep out of direct sunlight and moisture, and please keep secure from unauthorized personnel.
● **Remove battery if gauge will not be used for a long period of time.**

SPECIFICATIONS

Model No.	MCD-25IP65MW	MCD-50IP65MW	MCD-75IP65MW	MCD-100IP65MW
Meas. Range	0-25mm	25-50mm	50-75mm	75-100mm
Resolution	0.001mm			
Maximum permissible error ※Not including quantization error (±1 count)	$\pm2\mu m$		$\pm3\mu m$	
Mass	320g	420g	600g	760g
Meas. Force	5～10N			
Waterprf Rating	IP65			
Op. Temp. Range	10～40℃			
Power	CR2032 （Lithium Battery）			
Accessories	・Battery Cover Wrench ・Setting Rod (Micrometer Standard) ※Not included with MCD-25IP65MW	・CR2032 (Lithium Battery) ※For test ・Instruction Manual ・Case		

To maintain instrument accuracy, periodic calibration is recommended.
Calibration interval necessary to maintain accuracy will vary depending on frequency and conditions of use. Please follow your companies guidelines and calibrate regularly.
Outside Japan,
Please contact distributor or place of purchase to inquire about calibration services.

CALIBRATION

Instrument must be calibrated periodically to ensure accuracy specification.
Repeated use will wear the measuring surfaces and affect accuracy. We recommend periodic calibration in order to ensure the accuracy.

SERVICE

● If Instrument is not working properly, or if you have any questions, please contact distributor or place of purchase.
● Please note, manufacturer is unable to respond to inquires or provide service directly. Please contact distributor or place of purchase.

IP CODE SUMMARY

IP rating for electrical equipment defined by IEC standard for water and solid body protection.

I P 6 5
2nd Digit：Water proof rating
1st Digit：Direct contact - protection rating for ingress of solid foreign object.

1st Digit	Description	Degree of Protection	Test Method
6	Solid Ingress Protection	No ingress of dust allowed. Dust tight	Complete protection from dust intrusion

2nd Digit	Description	Degree of Protection	Test Method
5	Sprayed Water Protection	Not harmed by a direct jet of water from any direction	Spray water at rotating instrument at rate of 12.5 L / min for 3 minutes from a distance of 2.5 to 3 m

Niigata Seiki Mahr PROFESSIONAL

Instruction Manual

Model No. MCD **IP65MW

Precision Measuring Tools
DIGITAL SLINE MICROMETER

Thank you for purchasing the DIGITAL S-LINE MICROMETER.
This is a precision tool for measuring dimensions.

● For safe and proper use, please read this instruction manual before use and follow the procedures described.
Please keep manual where it is accessible to user for future reference.
● Keep this manual with the instrument if transferred or leased to a third party.
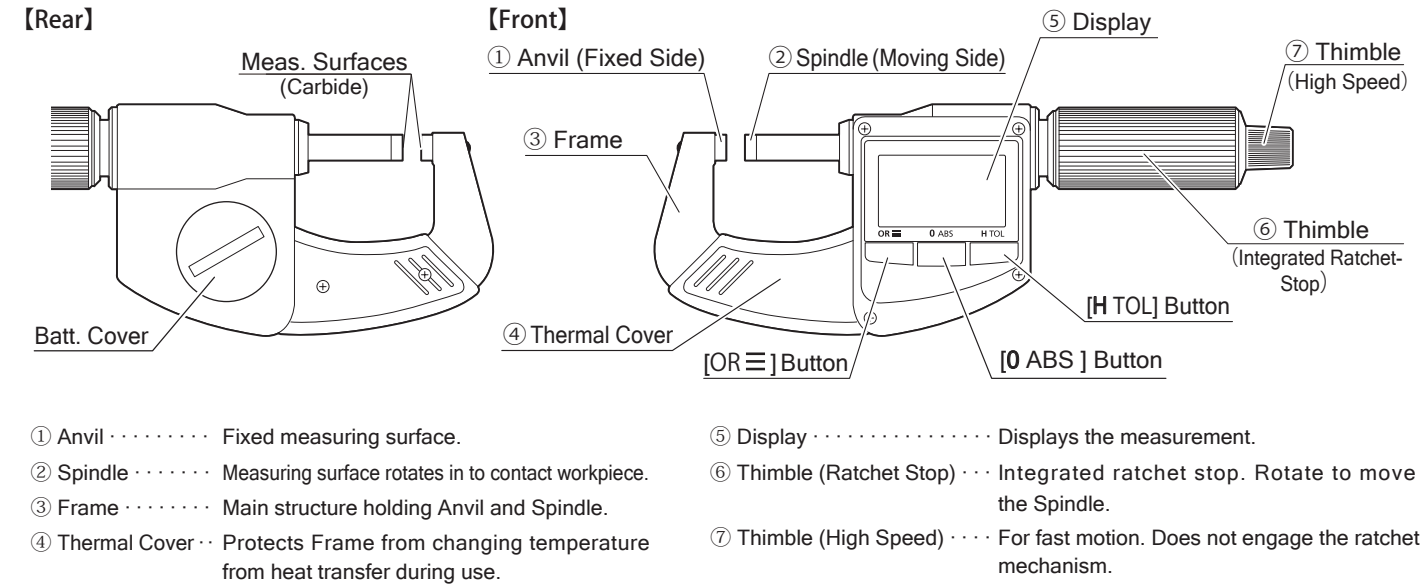● For inquiries about this product, please contact the dealer where purchased, or Niigata Seiki.

SAFETY NOTICES
In this manual, ⚠ indicates **RISK OF PERSONAL INJURY OR PROPERTY DAMAGE** if not followed; ⊘ indicates **PROHIBITED** action; and ◎ indicates **REQUIRED** step or necessary condition.

■PARTS IDENTIFICATION   ※Model MCD-25IP65MW shown.

【Rear】
Meas. Surfaces (Carbide)
Batt. Cover

【Front】
① Anvil (Fixed Side)
② Spindle (Moving Side)
③ Frame
④ Thermal Cover
⑤ Display
⑥ Thimble (Integrated Ratchet-Stop)
⑦ Thimble (High Speed)
[H TOL] Button
[OR ☰] Button
[0 ABS] Button

① Anvil ········· Fixed measuring surface.
② Spindle ······· Measuring surface rotates in to contact workpiece.
③ Frame ········ Main structure holding Anvil and Spindle.
④ Thermal Cover ·· Protects Frame from changing temperature from heat transfer during use.
⑤ Display ·············· Displays the measurement.
⑥ Thimble (Ratchet Stop) ··· Integrated ratchet stop. Rotate to move the Spindle.
⑦ Thimble (High Speed) ···· For fast motion. Does not engage the ratchet mechanism.

SAFETY NOTICES   （Please Observe）

To prevent harm to yourself or others, and to prevent damage to property, always follow the procedures marked by the following symbols.

⊘ Denotes a prohibition - You **MUST NOT** do.   ◎ Denotes a requirement - You **MUST** do.

⚠ **WARNING:** Indicates risk of **personal injury** or p**roperty damage** if not followed.

◎ **Read the manual and follow the directions.**
・Use of product other than as described in this manual may cause accident.

◎ **Use only for measuring.**
・Use for any purpose other than measuring may damage or wear the instrument. Improper use may also cause accident.

◎ **Handle with Care.**
・Do not drop or subject instrument to excessive shock. Do not place under heavy objects. Improper handling may cause damage or poor accuracy.
・Do not scratch instrument surfaces.
・Clean any residue off measurement surfaces with a soft cloth before use.

◎ **Use and store only in environment meeting the following conditions:**
● Dry and protected from rain, water, and oils.
● Protected from direct sunlight.
● Location that is not excessively hot.
● Not subject strong electric or magnetic fields.
● Protected from children and unauthorized users.
・Use in places contrary to the above may cause damage to the product or affect accuracy resulting in accident or injury.

◎ **After use, apply corrosion inhibitor and store in location protected from direct sunlight.**
・Spindle and Anvil surfaces will corrode without protection.
・Always apply rust protection after use.

◎ **Store with Spindle open at least 1~2 mm.**

⊘ **Do not disassemble or modify.**
・Disassembly may damage product or cause accident. For repair, please contact distributor or place of purchase.

⊘ **Do not turn spindle more than 3mm above upper measurement range.**
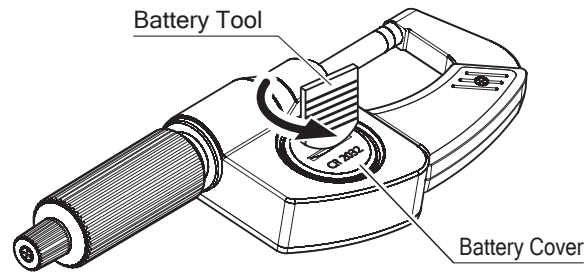・It may damage product and affect accuracy.

⊘ **Do not clean main body with organic solvents.**
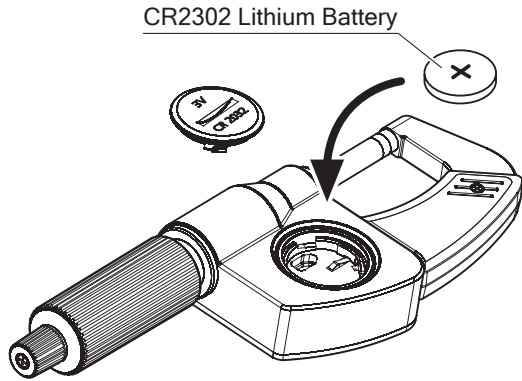・It may damage product and affect accuracy.

BATTERY

① **Unscrew the Battery Cover using the supplied tool.**

Battery Tool

Battery Cover

② **Insert the CR2032 lithium battery.**
Insert the Battery with the（＋）side facing out.

CR2302 Lithium Battery

・Use only CR2032 type battery
・Remove the plastic insulating sheet when using for the first time.

③ **Replace the Cover and use the Tool screw into place.**

HOW TO USE

Press ··· Press and release (< 1 sec.)
Long Press ··· Press and hold (> 1 sec.)

■Power ON/OFF

Press any button［OR≡］・［0 ABS］・［H TOL］or turn the Thimble to turn power ON. Press and Hold the［OR≡］and［H TOL］Buttons at same time to turn power OFF.

※When OFF, the display power is off, but the previous state will be saved. When turned ON again, the instrument will return to previous condition.

L. Press, both：OFF
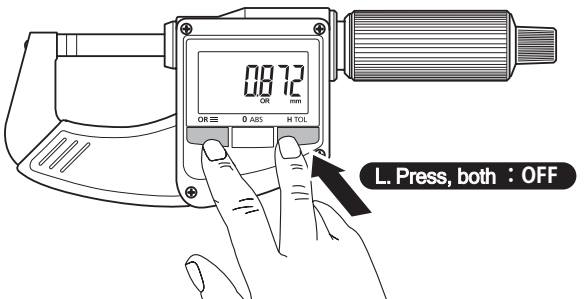
Power will automatically turn OFF after about 8 minutes with no activity. Press any button or move the Thimble to turn ON.
The 『 ⊏⊐ 』 icon will display when the battery level is low.
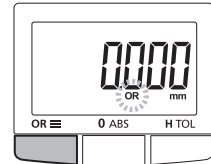Please replace the battery.

■Absolute Measurement Mode（OR）

① **Turn Thimble until the meas. surfaces are in contact.**
Please make sure surfaces are clean of any foreign matter.

① Anvil   ② Spindle
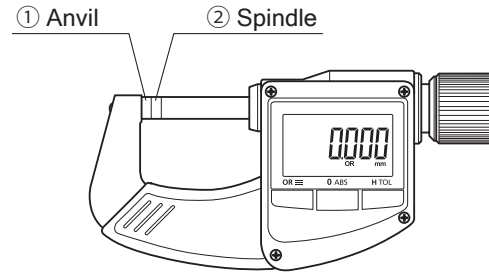
② **Press the［OR≡］Button**
The displayed value is set to 0.000, and「OR」icon will appear.

※ For gauges of range 25-50mm or larger, the origin reading will be based on the length of the Setting Rod.
※ If an Absolute Reference value has been set, that value will be displayed. To reset to 0.000, reset the Absolute Reference value to 0, or restore factory default settings.
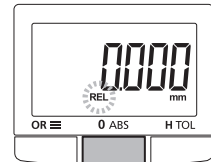
■Relative Measurement Mode（REL）
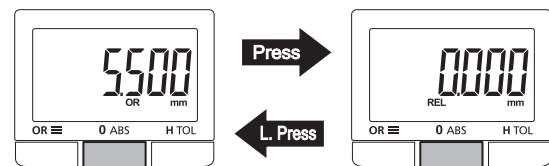
① **Position the Spindle on the reference part.**

② Spindle
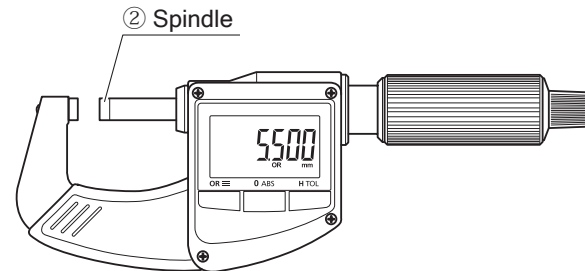
② **Press the［0 ABS］Button.**
The displayed value is set to 0.000, and「REL」icon will appear.

■Switching between Absolute（OR）and Relative（REL）Modes.

A short or long press of the［0 ABS］Button will switch modes.
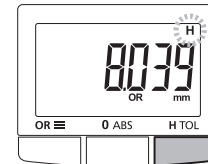OR Mode can also be selected by pressing the［OR≡］Button.

Press

L. Press

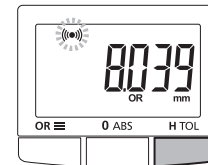**Absolute Mode（OR）**   **Relative Mode（REL）**

■Hold Function

After taking measurement, press the［H TOL］Button.

［H］icon will appear and the displayed value will be held.
Press the［H TOL］Button again to release.
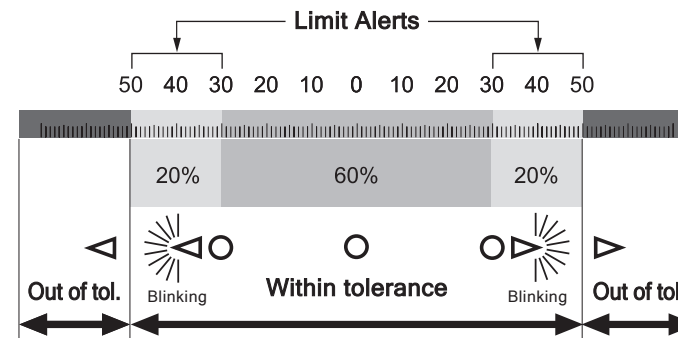Hold function is disabled if there is a wireless connection.

■Send Data

When a wireless connection is established, press the［H TOL］Button.

・Wireless Receiver WI-1M (sold separately) is required to make a wireless connection.

■TOL Mode (Setting Tolerance Levels)

Instantly show if a measurement is within tolerance.
(Maximum tolerance range is 1.6mm)
You can also set alerts for the tolerance range.
[Example shown for 20% limit alert setting]

Limit Alerts

50 40 30 20 10 0 10 20 30 40 50

20%   60%   20%

◁   ◁O   O   O▷   ▷
Out of tol. Blinking **Within tolerance** Blinking **Out of tol.**

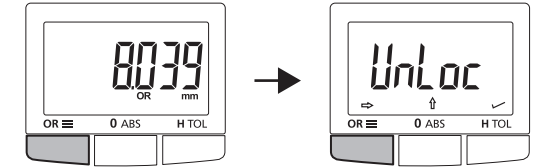※Limit Alert shows when measurement is approaching out of tolerance.

Long press on［H TOL］Button.

Long Press on［H TOL］Button enables / disables TOL Mode.
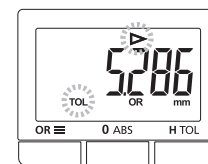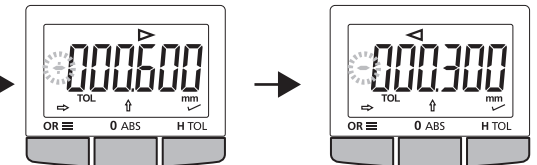

O Within tolerance

O▷ Upper Limit Alert (Arrow blinks)

◁O Lower Limit Alert (Arrow blinks)
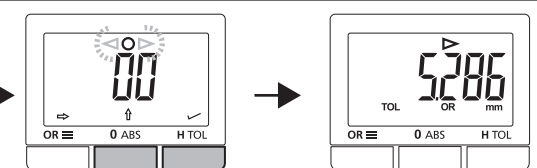
◁ ▷ Out of tolerance

Tolerance Setting

Long press on［OR≡］Button   Press［OR≡］Button (once)

Press the［0 ABS］Button
→Blinking starts
Enter the upper tol. limit
［OR≡］：change num.
［0 ABS］：change char.
［H TOL］：next screen

Enter the lower tol. limit
［OR≡］：change num.
［0 ABS］：change char.
［H TOL］：next screen

Set the Alert Limit
（0%, 10%, 20%, 30%）
［0 ABS］：change setting
［H TOL］：next screen

Switch to TOL Mode

FUNCTION SETTINGS

Press and hold the［OR≡］Button to access menus and change settings.

⇨ ［OR≡］	「Press」：next screen・increment 「L. Press」：next screen・decrement
⇧ ［0 ABS］	「Press」：change setting increment number 「L. Press」：decrement number
✓ ［H TOL］	「Press」：OK return to Meas. Mode

Key Lock
［UnLoc・Loc］
Disables button operation.

Set Tolerance and Alert limits.

Set the value of the Absolute Reference.

Data Send
［ON・OFF］,
Output to device
［ANT Dev No］

Data comm. channel
［01・02・03］

Eco Mode
［0:OFF・1:ON］

Auto OFF time setting［8 min・120 min.・disabled］

Reset to factory default settings.

To beginning