| SERVICE INSTRUCTION |

MOWIDEC-TT™ – V3

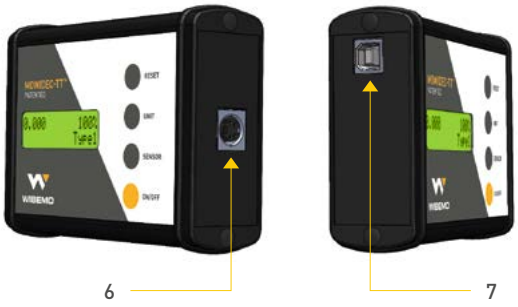
PATENTED CENTERING SYSTEM

WIBEMO

SWISS MADE

DESCRIPTION OF THE MOWIDEC-TT

A. THE MOWIDEC-TT DEVICE



1 | PLAYBACK SCREEN

2 | **RESET** — RESET BUTTON
The **RESET** button allows change from the value displayed to starting point value (0).

3 | **UNIT** — MEASUREMENT UNIT (INCH/MIL/MM/µM)
The **UNIT** button allows conversion of the value but only when there is a value displayed, not when the OUT is displayed.

4 | **SENSOR** — DETECTOR TYPE 1 OR 2
The **SENSOR** button allows to commute between both types of detector anytime when the detector is plugged.

5 | ON/OFF

6 | DETECTOR CONNECTION PLUG

7 | SUPPLY PLUG

8 | POWER CABLE (8a AND 8b)

| POWER AND RECHARGE

- The Mowidec-TT device can be recharged from power source or USB plug of the machine.
- It can be used at least 5 hours.
- It is possible to use the device even when connected to a power source.
- The level of charge is indicated on the display screen in % (100%, 90%, 80%, ...).
- When the level of charge indicates 0%, the recharge is necessary.
- After 1 minute of inactivity, the screen light goes down and turns off.
- Thanks to its magnetic base box, the device can be put in a visible place on the machine or any metal sheet surface.
- The display shows the detected distance, or OUT if no ferrous material is close enough.

B. THE DETECTOR HOLDERS
– INCLUDING THOSE WITH INCLUDED DETECTOR

9a | MACHINE ADAPTER RING

9b | BAR ADAPTER RING

9c | MOWI-INSIDE

9d | MOWI-TS

9e | MOWI-BAR

C. THE DETECTORS

- The detectors are designed either **Type 1** for 1 mm or **Type 2** for 2 mm.
  Type 1 = **MOWI-DET-400, MOWI-DET-H**
  Type 2 = **MOWI-DET-650, MOWI-DET-S**
  The device identifies the type of detectors and displays **Type 1** or **Type 2**.
- The measurement is possible only if the detector is on the field of detection of ferrous material and cylindrical. (Steel, carbide, etc...).
- The detectors do not work with materials like aluminium, brass, synthetic, etc.
- In case of doubts, replace the tool to be measured by a solid carbide gage.
- The measurement accuracy is limited to the distance as following:

10a | MOWI-DET-400
Measurement accuracy
< 1.0 mm (.040 in) max.

10b | MOWI-DET-650
Measurement accuracy
< 2.0 mm (0.080 in) max.

10c | MOWI-DET-H
Measurement accuracy
< 1.0 mm (.040 in) max.

10d | MOWI-DET-S
Measurement accuracy
< 2.0 mm (0.080 in) max.

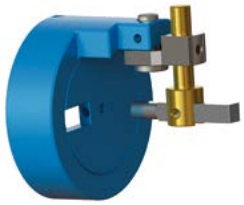
D. THE CONNECTORS

11a | MOWI-CONNECT-400-V3

11b | MOWI-CONNECT-650-V3

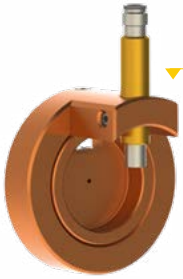
E. THE AVAILABLE KITS

12a | MOWI-KIT-CB-R04



12b | MOWI-KIT-ADDET-H

12c | MOWI-KIT-NANO



RECOMMENDATIONS

- Before the first use, charge the battery as per point 1: **PREPARATION BEFORE USE OF THE MOWIDEC-TT**
- Do not expose the device and accessories to liquid or corrosive products (chemical agents, oil, hydrocarbons, benzine, etc.).
- It is not recommended to fix the device inside the workplace of the machine.
- Unplug the Mowidec-TT device and disconnect the detector as soon as the measurement is done. In case of extended use, there may be a risk of overheating for the detector. This situation is normal but can reduce the lifetime of the detector.
- Avoid any impact or contact of material with the detector. If it is damaged, its operation may be disrupted, and errors of measurements are possible.
- Do not tighten or pull on the connector (11) when the detector (10) is connected, so as not to damage the micro-connectors.
- After each use, carefully clean the device with a soft and dry cloth to eliminate any traces of grease or oil and put it away with its accessories in its protective transport case.
- Avoid allowing the device or detector to touch or get near to magnets or external magnetic sources so as not to damage it.
- Check the functionality of the detector with ferrous material. The display must indicate measurement variations when the ferrous material is more or less close to the detector.
- The accuracy of the measurement is influenced by:
  - The distance between detector and tool (the bigger is the distance, the lower is the resolution)
  - The diameter of the tool
  - The form of the tool (only usable with cylindrical form)
  - The material of the tool (HSS or carbide)

PREPARATION BEFORE USE OF THE MOWIDEC-TT

1 | Connect the **POWER CABLE** (8a) to the **POWER SUPPLY PLUG** of the device (7).
Connect the USB plug (8b) to a transformer (not included).
Leave the device on charge for 2-3 hours.
Once the batteries are charged, it is possible to use the device freely.
The device can also be used during the charging phase when it is connected to a power source.

2 | **As per detector holder:**

For the **MACHINE ADAPTER RING** (9a) with or without **BAR ADAPTER RING** (9b)
- Put and fix the right **RING** on the sub spindle nose/guide bushing holder/or **BAR ADAPTER RING** (9b – After having fixed this bar adapter ring on the bar material (for a diameter greater than 3) or carbide rod ring).
- Insert and fix the **DETECTOR** (10a or 10b) on the **MACHINE ADAPTER RING** (9a).

For the **MOWI-INSIDE** (9c) and **MOWI-TS** (9d)
- Insert and fix the detector holder in the sub spindle collet / guide bushing / or tool collet.

For the **MOWI-BAR** (9e)
- Insert and fix the detector holder on the bar material (for a diameter greater than 3) or carbide rod.

3 | Connect the **DETECTOR CABLE** (11a or 11b) with the **DETECTOR** (10a or 10b) to the **DEVICE** (A).

4 | Switch on the **DEVICE** (A) by pressing **ON/OFF** (5).

5 | Install and position the cylindrical part of the tool to be centered as close as possible to the detector by moving the mowing elements (ex: sub spindle).

6 | Adjust the height as close as possible so that the measurement is displayed without being in contact. Secure the detector position with the screw.

7 | Check the rotation of the ring with the detector around the tool to ensure there is no contact during the measurement. Ensure that the rotation of the ring does not crash with any other tools or components in the work area.

8 | Select the measurement unit - inch/mil/mm/μm by pressing **UNIT** (3).

9 | Select the type of detector (only if the displayed type of detector on the playback screen is not the type of detector used) by pressing **SENSOR** (4).

10 | The **MOWIDEC-TT** device is now ready to be used.

USE OF THE MOWIDEC-TT

1 | Position the detector in "12 o'clock" **(POSITION 1)**.

2 | Press **RESET** (2) to reset the display to zero.
This position is now the basic reference to start the measurement.

3 | Rotate the ring through 180° manually by taking care not to pull or force the cable.

4 | Position the detector in opposite "6 o'clock" (**POSITION 2**).
The value now indicated on the screen represents the measured gap between the 2 points on a vertical plane.

5 | Make a correction of the position by moving the numeric axis of half of the displayed value (attention to respect the +/-)

6 | Once the correction is made, press **RESET** (2) to define this position as a new measurement reference.

7 | Rotate through 180° again to return to the starting point "12 o'clock" **(POSITION 1)**.
The display then indicates a new value under the previous one.

8 | Repeat the operation according to points 7-8-9 until the value is close to zero.
When the positioning of the 2 "12 o'clock" and "6 o'clock" points will be equidistant or close to zero, the middle will have been defined in the vertical plane.

9 | Press **RESET** (2) and rotate through 90° either to the left or to the right of the vertical axis **(POSITION 3)**.
The displayed value will now show the off-center value on a horizontal plane.

10 | Make a correction corresponding with the total value of the displayed measurement (observe the +/-) to approach the zero. When the 3 points display an identical value, the exact center of rotation of the tool is found.

11 | This position may be introduced as reference 0 and/or the values introduced in the offsets of the CNC machine.

POSITION 1

POSITION 2

POSITION 3

CENTERING AND ALIGNMENT OF THE HEADSTOCK, THE GUIDE BUSHING HOLDER, AND THE COUNTER-SPINDLE

- The alignment guide bushing allows you to align: the headstock, the guide bushing holder, and the counter-spindle of your machine.
- Before anything else make sure you have the corresponding alignment guide bushing and the corresponding sub spindle machine adapter ring for your machine.
- Put and fix the ring on the nose of the headstock with the detector measuring the cylindrical part **1** of the alignment guide bushing. You can center and align the headstock with the guide bushing holder.
- Then put and fix the ring on the nose of the sub spindle with the detector measuring the cylindrical part **2** of the alignment guide bushing. You can center the sub spindle with the guide bushing holder.

NOTES

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