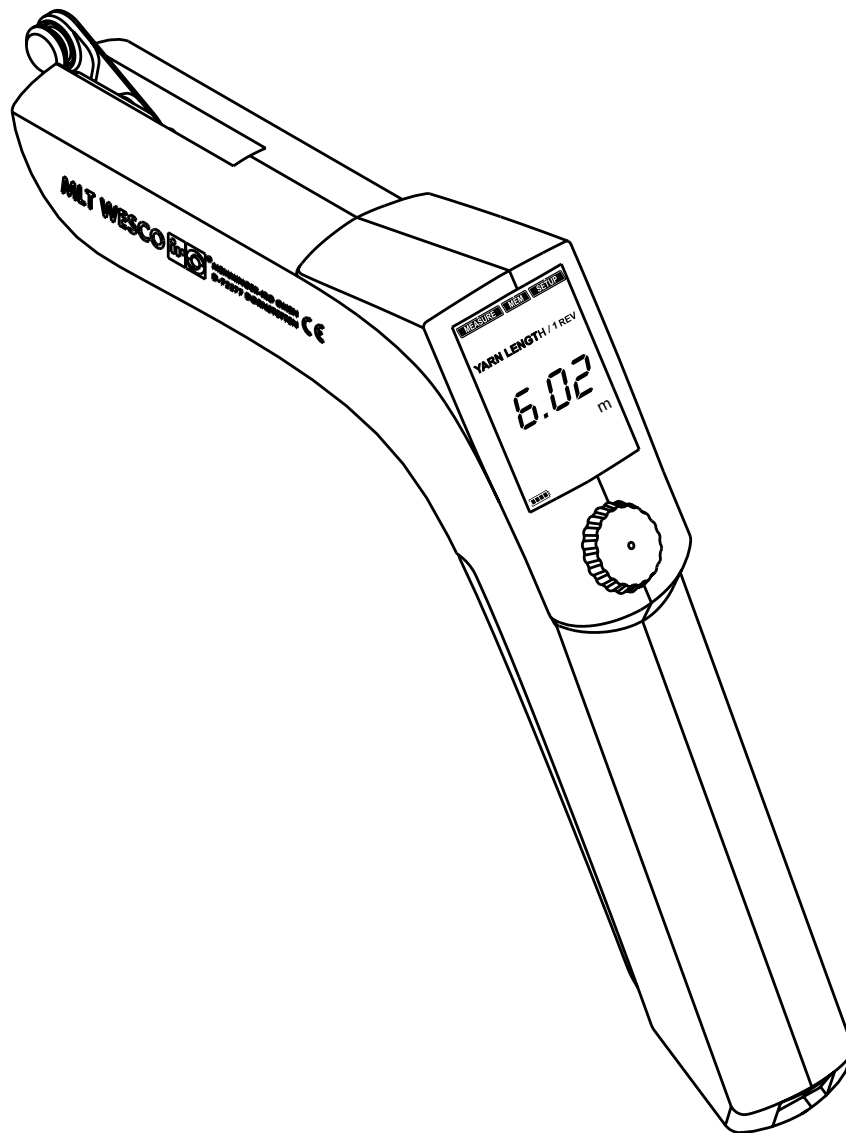


Betriebsanleitung
Operating Instructions
Instructions de service
Instrucciones de uso
Istruzioni per l'uso
Kullanma Kılavuzu
Instruções de utilização
操作手册

MLT WESCO



Preface

We are pleased that you selected a MEMMINGER-IRO product. The more familiar you make yourself with this product, the better the results that you achieve will be.

We therefore strongly recommend the following:

Please read these operating instructions carefully before putting the device into operation. It contains important information and notes that must be observed when using the device.

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The MLT WESCO yarn meter has exclusively been designed for measuring the yarn infeed and the yarn tension in textile machines.

We would like to point out that we cannot be held liable for any damage or operating failures arising due to an incorrect operation or improper device handling.

The metering roller must be able to rotate freely, without any obstruction.



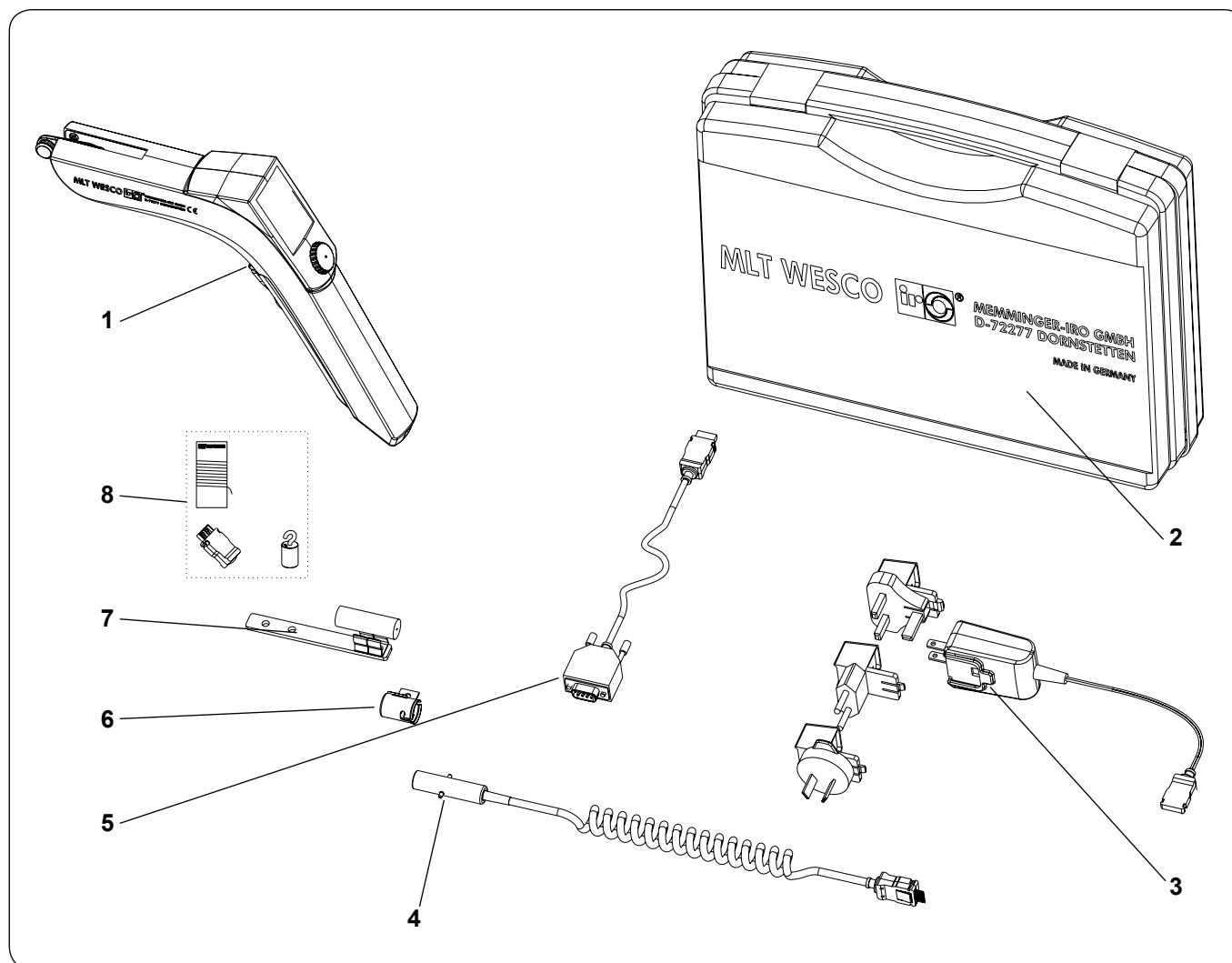
The MLT WESCO contains electronic components which can be destroyed by electrostatic discharge when touched. Therefore, all measures to avoid such discharge, e.g. by means of touching an earthed object (machine or earth contact of a plug, etc.), must be taken prior to opening the device.

► All contained components may only be replaced by original MEMMINGER-IRO spare parts.



NOTE!

Before using the MLT WESCO for the first time, or if it hasn't been used for a while, the unit has to be charged.



Accessories Supplied

The MLT WESCO yarn meter is supplied together with the following components:

- 1 - MLT WESCO yarn meter
- 2 - Carry case
- 3 - Battery charger with US plug and EU, UK, AUST. adapter
- 4 - Revolution sensor with cable and plug
- 5 - Data transmission cable with plug
- 6 - Holder for revolution sensor
- 7 - Magnet with holder
- 8 - Calibration set

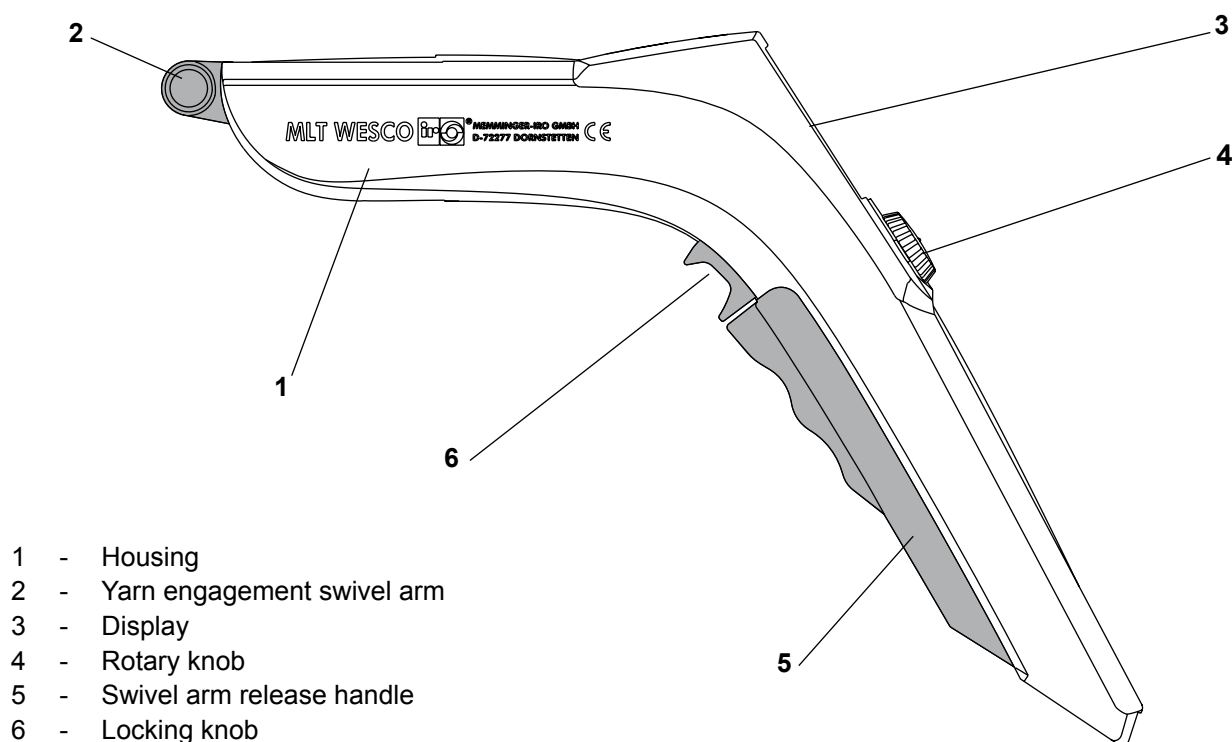
Function

The MLT WESCO yarn meter is a stand alone, electronic hand-held measuring device for the measurement and digital display of the machine speed, yarn consumption, yarn tension and yarn speed in circular and flat knitting machines as well as in body, stocking, hosiery and sock machines.

Application advantages of the MLT WESCO yarn meter:

- ▶ Measurement of the yarn consumption in meters or yards per machine revolution.
- ▶ Measurement of the yarn infeed in any knitting system, with and without positive yarn infeed.
- ▶ Enables quick and easy adjustments, to repeat the same fabric quality on different machines with identical gauge but differing cylinder diameters.
- ▶ Measurement of the yarn tension.
- ▶ Measurement of the yarn speed.
- ▶ Option for determining the yarn consumption of individual fabric qualities.
- ▶ The values can be measured and displayed without having to switch the machine off.
- ▶ The device is stand alone and transportable.
- ▶ All required accessories are included in the carry case.

Unit Components



The MLT WESCO offers four selectable MEASURING MODES:

MACHINE SPEED
YARN LENGTH
YARN TENSION
YARN SPEED

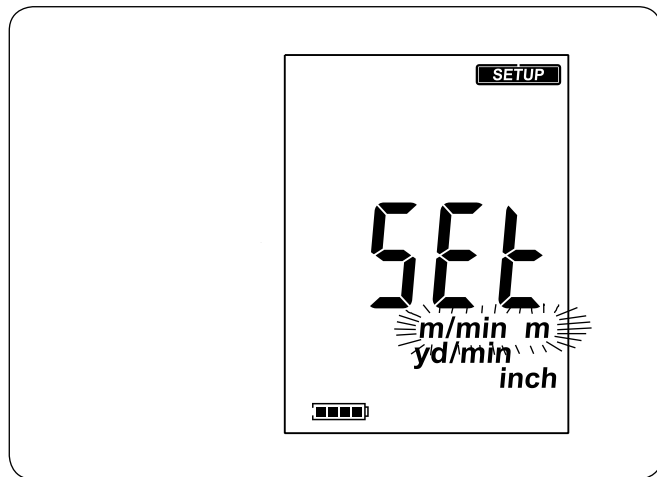
The **YARN LENGTH** mode can be set between:

1 to 100 machine revolutions

The **YARN TENSION** mode can be set to:

Normal = current yarn tension
Average = average yarn tension
Peak = maximum yarn tension

Yarn tension range: 0 to 50 cN

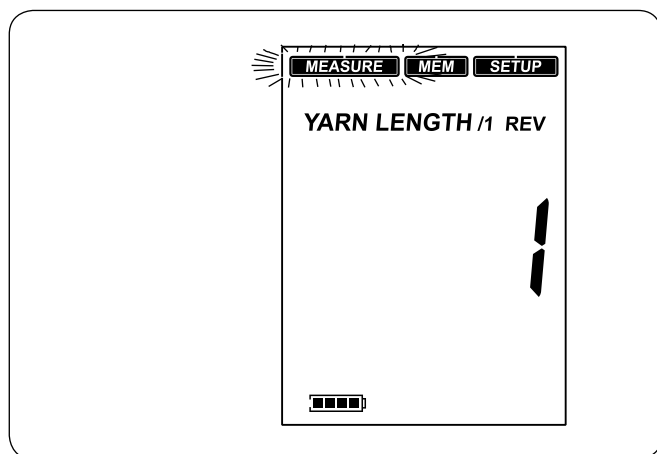


Initial Commissioning of the MLT WESCO

For measuring yarn lengths, the MLT WESCO can both be set to a metrical length unit (**m/min**) as well as to an English length unit (**yd/min**).

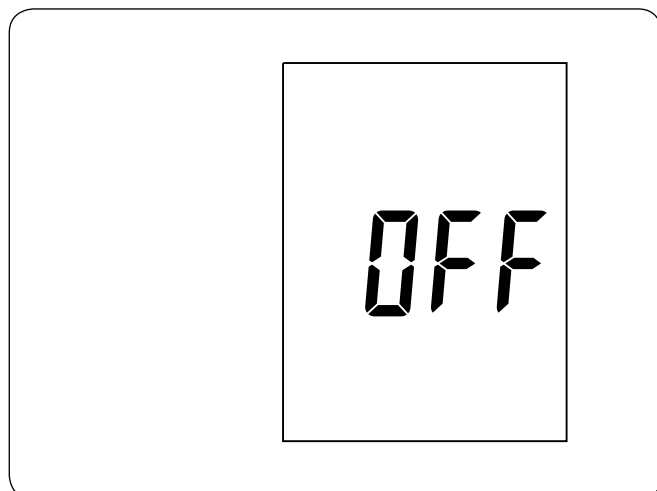
m/min oder yd/min auswählen

- ▶ Switch the MLT WESCO on by pressing the rotary knob for at least 2 seconds.
- ▶ The software version is shortly shown on the display. Then, **"SET mode"** is displayed.
- ▶ **"m/min m"** or **"yd/min inch"** flashes on the display.
- ▶ Select the desired **"m/min m"** or **"yd/min inch"** setting by turning the rotary knob to the left or the right.
- ▶ Confirm your selection by a short press of the rotary knob.



Switching the MLT WESCO on

- ▶ Switch the MLT WESCO on by a short press of the rotary knob (4).
- ▶ The previously set measuring mode, e.g. **"YARN LENGTH"**, is shown on the display.
- ▶ **"MEASURE"** flashes on the display.

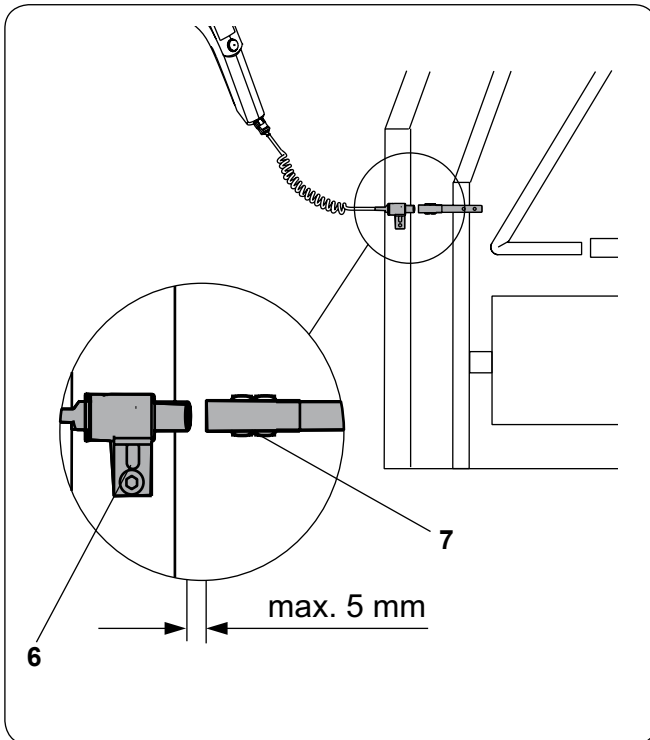


Switching the MLT WESCO off

- ▶ Press the rotary knob (4) for approx. 2 seconds.
- ▶ **"OFF"** is shown on the display.
- ▶ The MLT WESCO is switched off.

NOTE!
The MLT WESCO is automatically switched off after approx. 5 minutes of disuse.

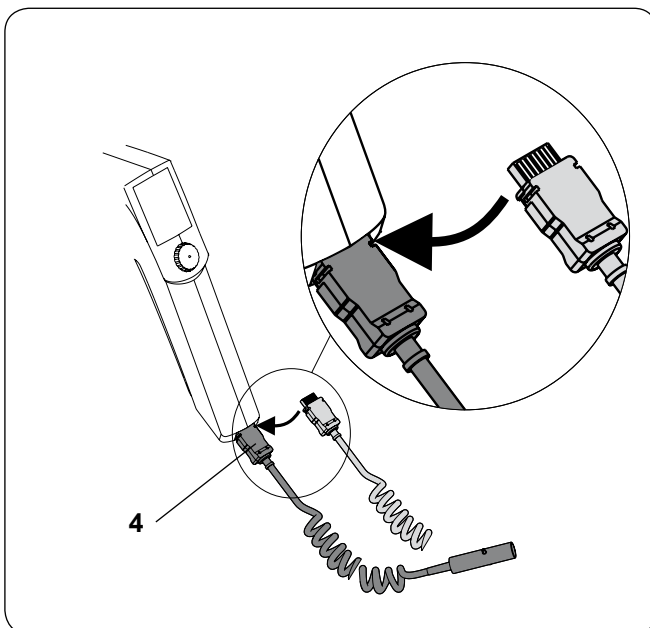
NOTE!
The MLT WESCO is automatically switched off after approx. 15 minutes of a continuous measuring process.



Installing the revolution sensor and magnet holders

- ▶ Mount the revolution sensor holder (6) to the machine frame.
- ▶ Mount the magnet holder (7) to the take-down or the cylinder drive ring together with the magnet.

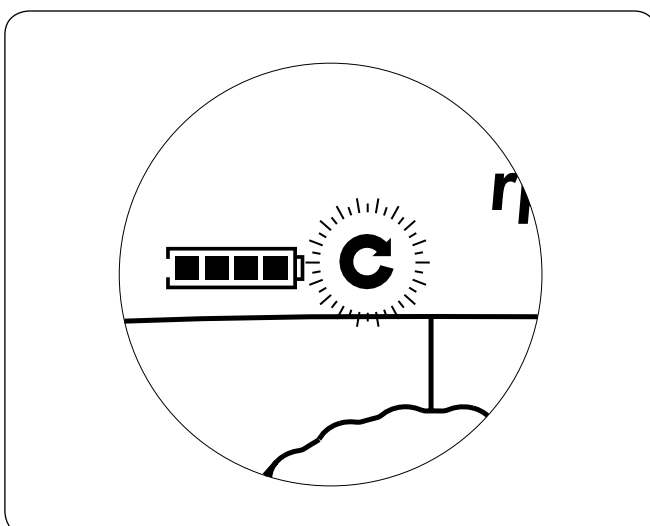
NOTE!
The maximum clearance between the magnet and the revolution sensor must not exceed 5 mm.



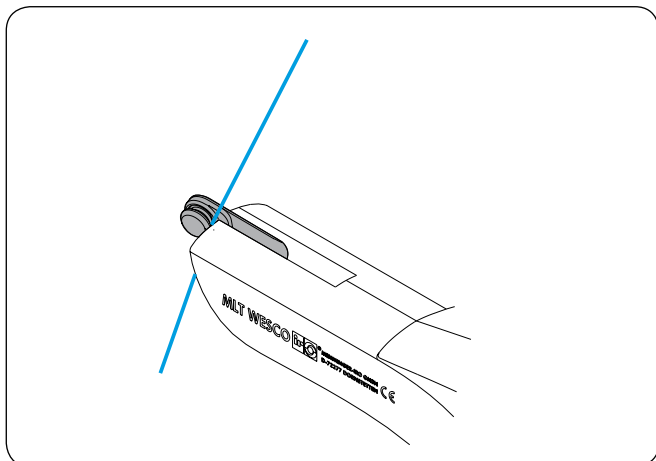
Connecting the MLT WESCO to the revolution sensor

- ▶ Plug the revolution sensor (4) into the socket of the MLT WESCO.

NOTE!
Press the release knob on the bottom when unplugging the revolution sensor.

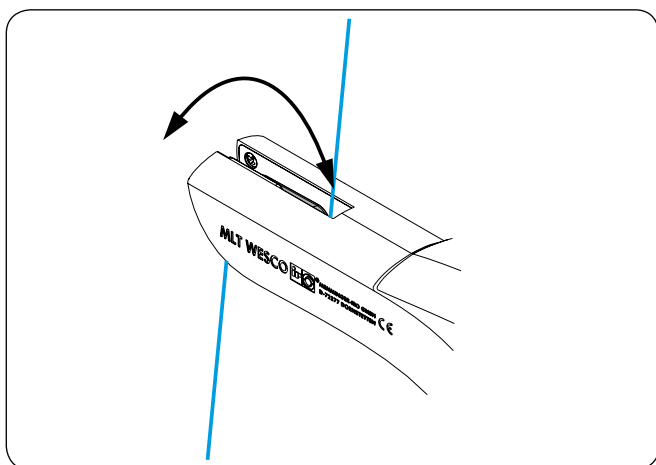


NOTE!
The Symbol **C** is shortly shown in the display at each machine revolution, when the magnet passes the revolution sensor.



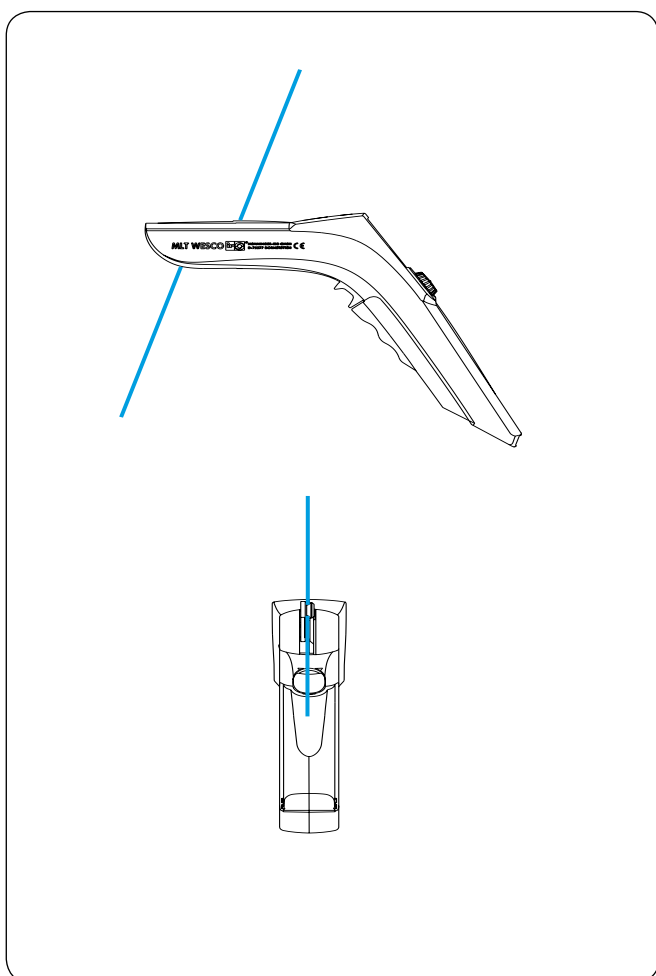
Threading

- ▶ Engage the yarn on the roller with the help of the swivel arm.



Starting the measuring process

- ▶ Press the swivel arm release handle. The arm then swivels into the measuring position together with the yarn. In this position the yarn is automatically positioned over the tension force sensor.
- ▶ Press the swivel arm release handle to the limit stop and keep it pressed. The measurement is started.
- ▶ The measured value in units of the preset system of measurement (e.g. **m** or **inch per revolution**) is shown on the display.



NOTE!

During the measuring process, the MLT WESCO must be held still and straight.



ATTENTION!

The measuring process is stopped as soon as the swivel arm release handle is released or no longer pressed.



NOTE!

The measuring process must be repeated for further measurements.

Measuring the machine speed

- ▶ Connect the MLT WESCO to the revolution sensor.
- ▶ Apply a short press to the rotary knob to access the "selection menu":

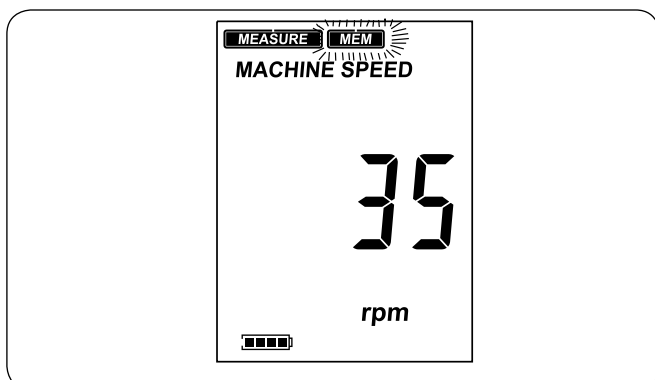
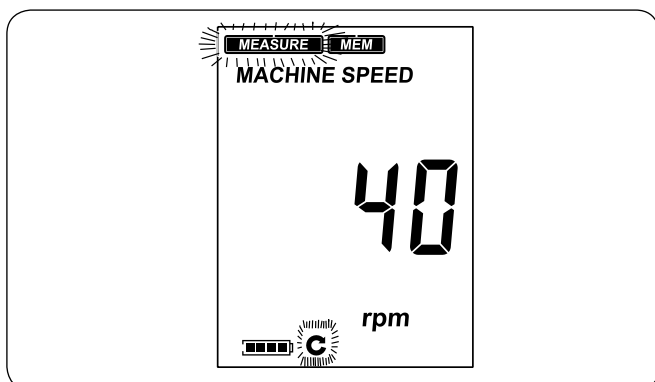
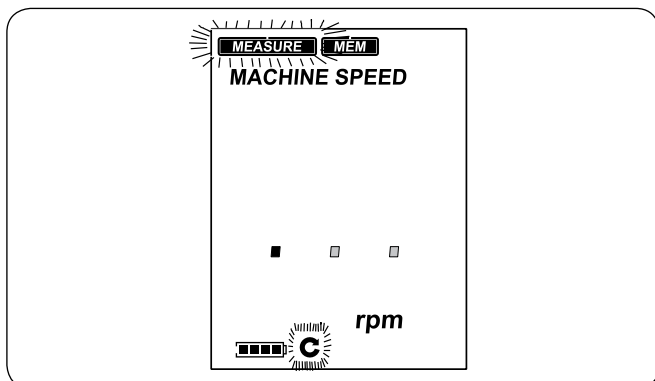
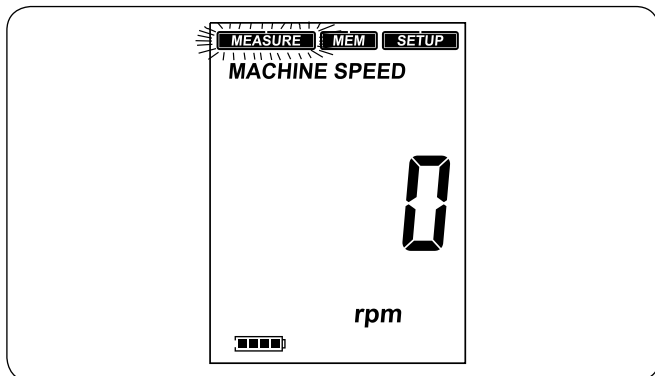
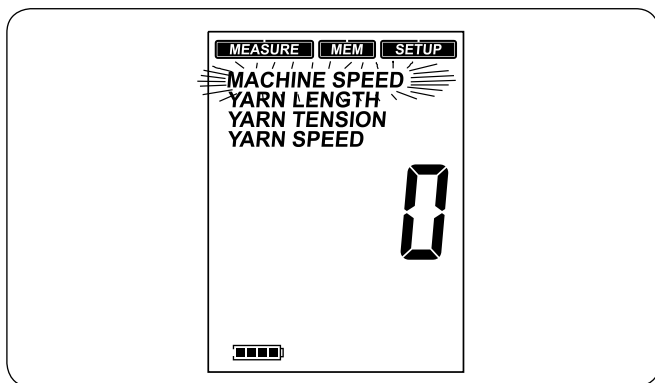
MACHINE SPEED
YARN LENGTH
YARN TENSION
YARN SPEED

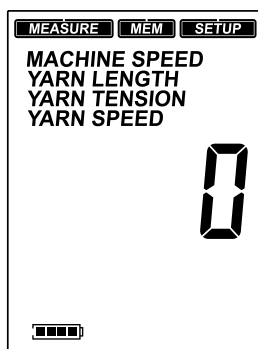
- ▶ Turn the rotary knob to the right or left until "**MACHINE SPEED**" flashes on the display.
- ▶ Press the rotary knob. The "**MACHINE SPEED**" menu is selected.
- ▶ "**MEASURE**" flashes on the display.
- ▶ Press the swivel arm release handle and keep it pressed. The measurement is started.
- ▶ "**MEASURE**" flashes on the display and the "**C**" symbol flashes upon each machine revolution.
- ▶ Furthermore, the display shows dots running from the left to the right during the measuring process until the machine speed is displayed.

- ▶ The machine speed is shown in "**rpm**" on the display.

Displaying the last or the penultimate measured value

- ▶ Turn the rotary knob to select "**MEM**" on the display. The last measured value is automatically displayed.
- ▶ Press the swivel arm release handle again and keep it pressed. The penultimate value is displayed.





Measuring the yarn length

- ▶ Connecting the MLT WESCO to the revolution sensor.
- ▶ Apply a short press to the rotary knob to access the "selection menu":

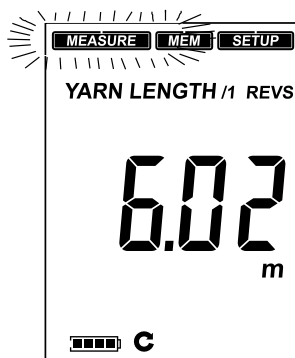
**MACHINE SPEED
YARN LENGTH
YARN TENSION
YARN SPEED**

- ▶ In the "selection menu", turn the rotary knob to select "YARN LENGTH" on the display.
- ▶ Apply a short press to the rotary knob, the "YARN LENGTH" selection is confirmed.
- ▶ Catch the yarn with the help of the swivel arm.
- ▶ Press the swivel arm release handle and keep it pressed. The measurement is started.
- ▶ The yarn length is shown on the display, e.g. in "m/1 machine revolution".



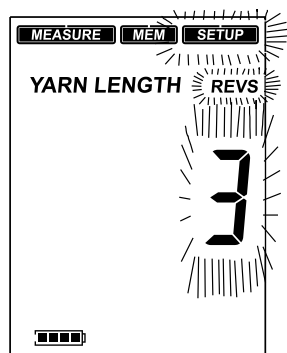
NOTE!

The yarn length to be measured can be measured within the range of 1 - 100 machine revolutions.



Setting the number of machine revolutions to be measured

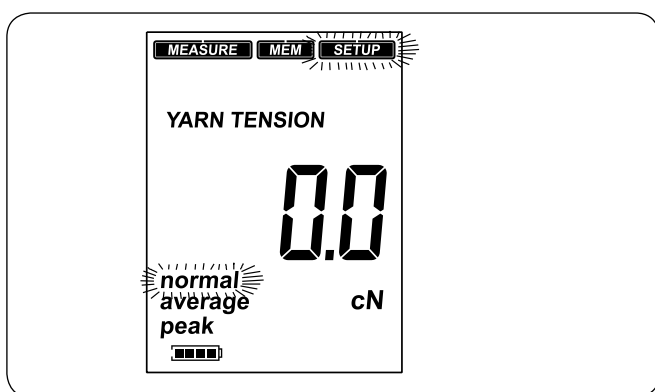
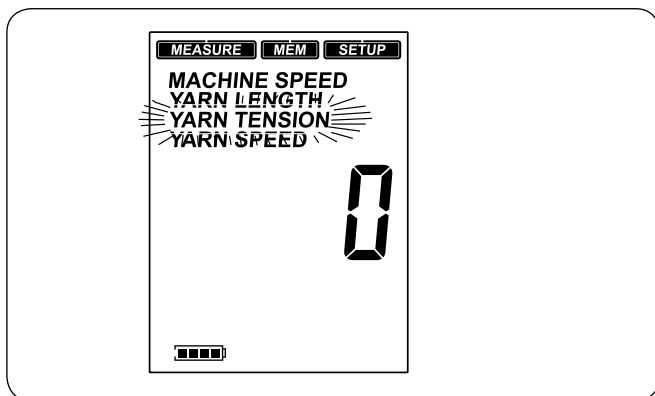
- ▶ Access the "SETUP" menu by turning the rotary knob. Confirm your selection (by pressing the rotary knob). "REVS", "SETUP" and the number of revolutions to be measured is displayed within the flashing.
- ▶ Select the number of machine revolutions to be measured (e.g. 3) by turning the rotary knob.
- ▶ Apply a short press to the rotary knob to confirm your selection.
- ▶ The measuring process can now be started.



Displaying the last or the penultimate measured value

- ▶ Turn the rotary knob to select "MEM" on the display. The last measuring value is automatically displayed.
- ▶ Press the swivel arm release handle again and keep it pressed. The penultimate value is displayed.





Selecting the Yarn Tension measuring modes

- Apply a short press to the rotary knob to access the "selection menu":

MACHINE SPEED
YARN LENGTH
YARN TENSION
YARN SPEED

- In the "selection menu", turn the rotary knob to select "YARN TENSION" on the display.
- Apply a short press to the rotary knob.
- In the "selection menu", turn the rotary knob to select "SETUP" on the display.
- Apply a short press to the rotary knob.
- The selection menu is displayed:

normal
average
peak

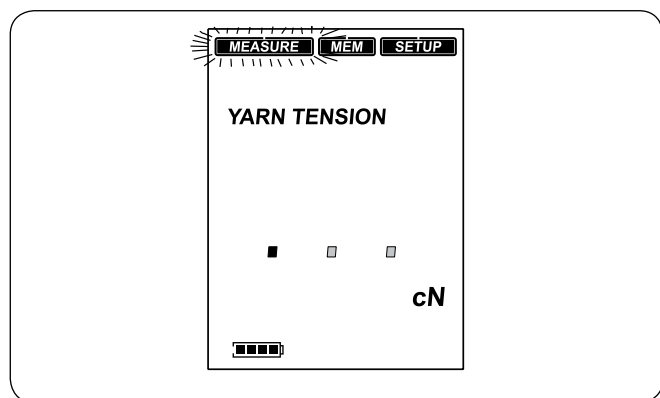
- The set mode, e.g. "normal", flashes on the display.

normal = The currently measured yarn tension is displayed.

average = The average yarn tension value throughout the entire measuring time is displayed.

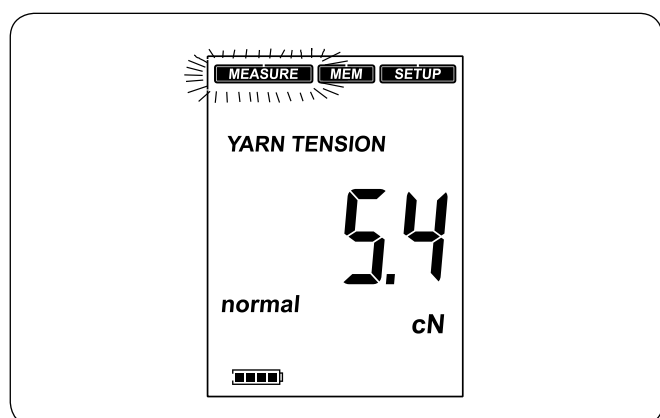
peak = The highest measured yarn tension (peak value), which is displayed. The peak tension display value will alter according to peak values measured.

- Select the respective setting by turning the rotary knob. The setting, e.g. "normal", flashes on the display.
- Apply a short press to the rotary knob to confirm your selection.

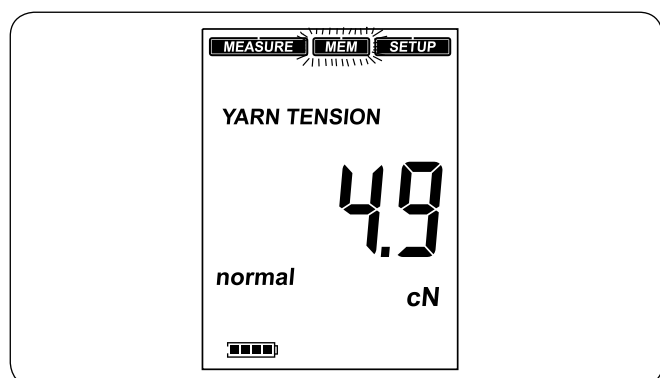


Measuring the yarn tension

- ▶ Catch the yarn with the help of the swivel arm.
- ▶ Press the swivel arm release handle and keep it pressed. The measurement is started.
- ▶ Furthermore, the display shows dots running from the left to the right during the measuring process until the yarn tension is displayed.

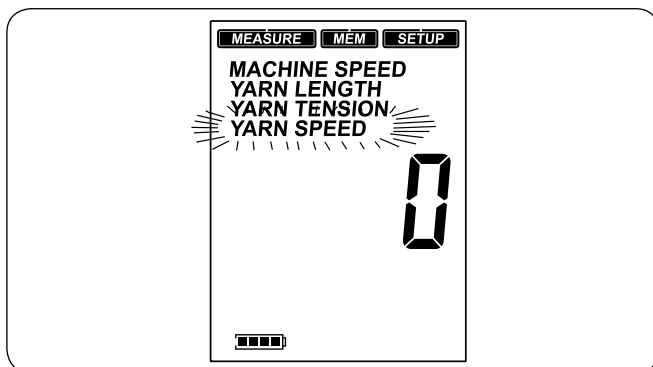


- ▶ The yarn tension is shown in "cN" on the display.



Displaying the last or the penultimate measured value

- ▶ Turn the rotary knob to select "MEM" on the display. The last measuring value is automatically displayed.
- ▶ Press the swivel arm release handle again and keep it pressed. The penultimate value is displayed.

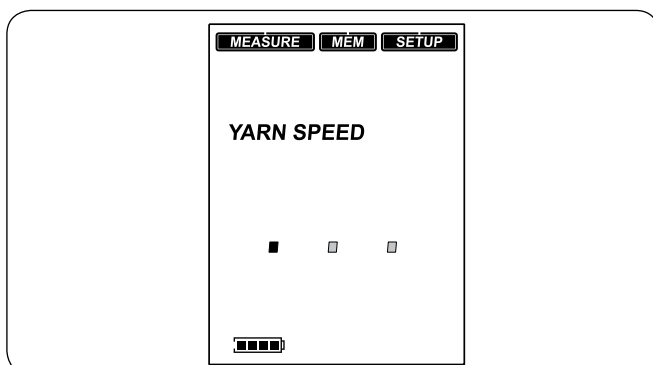


Measuring the yarn speed

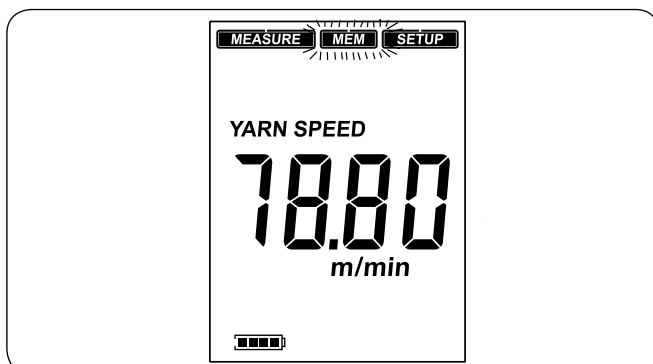
- ▶ Apply a short press to the rotary knob to access the "selection menu":

**MACHINE SPEED
YARN LENGTH
YARN TENSION
YARN SPEED**

- ▶ In the "selection menu", turn the rotary knob to select "YARN SPEED" on the display.
- ▶ "YARN SPEED" flashes on the display.
- ▶ Confirm your selection by a short press of the rotary knob.
- ▶ Catch the yarn with the help of the swivel arm.
- ▶ Press the swivel arm release handle and keep it pressed. The measuring process is started.
- ▶ Furthermore, the display shows dots running from the left to the right during the measuring process until the yarn speed is displayed.
- ▶ The yarn speed is shown in (m/min) or (yd/min) on the display.

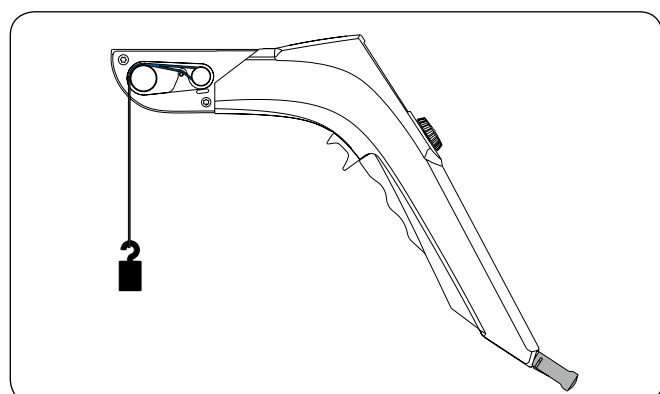
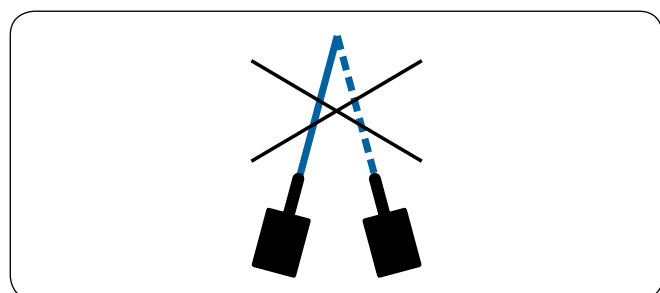
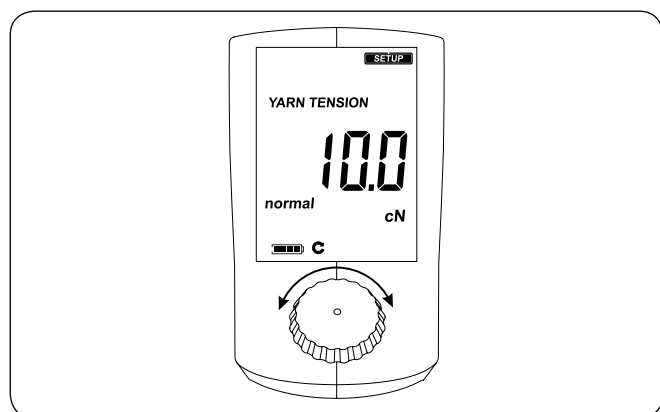
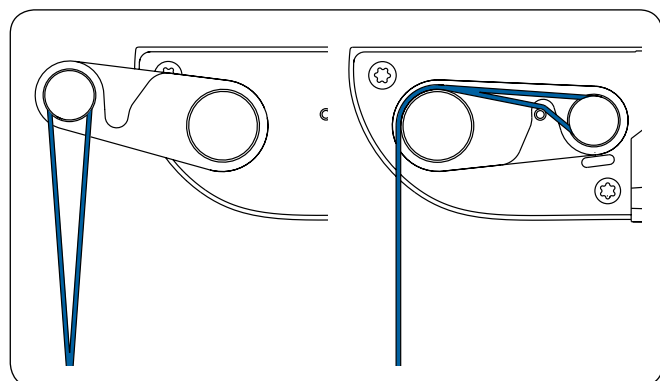
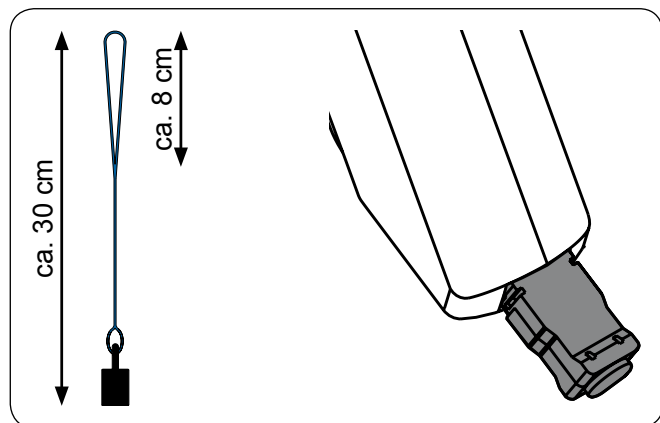


- ▶ The display is refreshed every 6 seconds.



Displaying the last or the penultimate measured value

- ▶ Select "MEM" by turning the rotary knob. The last measuring value is automatically displayed.
- ▶ Apply a short press to the swivel arm release handle and keep it pressed. The penultimate measuring value is displayed.



Calibration

The calibration set is used to check the correct yarn tension and to correct it if necessary.

- ▶ For calibration purposes take the thread and form a loop on each side. Attach the weight at the lower loop.
- ▶ The device is switched off.
- ▶ Insert the calibration plug in the MLT WESCO.
- ▶ Switch on the MLT WESCO and select **YARN TENSION**.
- ▶ Place the upper loop over the roller of the swivel arm. Trigger the swivel arm release handle and keep it pressed.
- ▶ If the MLT WESCO does not show 10.0 cN the value has to be corrected by turning the rotary knob.



NOTE!

The weight is not allowed to swing during calibration.




ATTENTION!

In order to get an exact calibration the procedure has to be repeated several times.

- ▶ To store the values unplug the calibration plug and switch off the MLT WESCO.

The following instructions must be observed:

- ▶ The batteries must not be opened or thrown into a fire.
- ▶ Replaced batteries must be appropriately disposed of.
- ▶ The rechargeable batteries must exclusively be charged with the supplied original charger unit.
- ▶ Depending on the local supply voltage, only the supplied charger (110 to 230 V) may be used for charging the batteries.
- ▶ The optimum battery charging temperature range lies between 10° and 35° C. Cooler or higher temperatures would impair the batteries' quality.
- ▶ The battery poles must not be short-circuited.
- ▶ The batteries and the charger must be stored in a cool and dry place.
- ▶ With longer storage periods, the batteries may be subject to self-discharge.
- ▶ The batteries must be recharged when the *Lo* and *bAtE* is alternatingly displayed.
- ▶ They must be recharged by means of the supplied charging unit until *FULL* is shown on the display and the running display has  come to a halt.

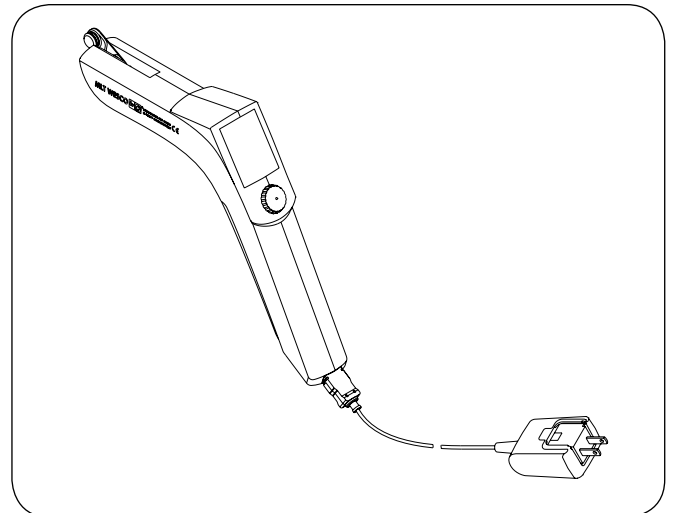
The batteries' duration cannot be guaranteed if the charging process is interrupted prematurely.



ATTENTION!
Change of batteries only while MLT WESCO is off.



NOTE!
Before using the MLT WESCO for the first time, or if it hasn't been used for a while, the unit has to be charged.



- ▶ Plug the DC connection cable into the MLT WESCO.
- ▶ Plug the charger into a Schuko socket by means of an adapter.

Battery duration: Approx. 50 hours of normal use.

Cleaning the MLT WESCO

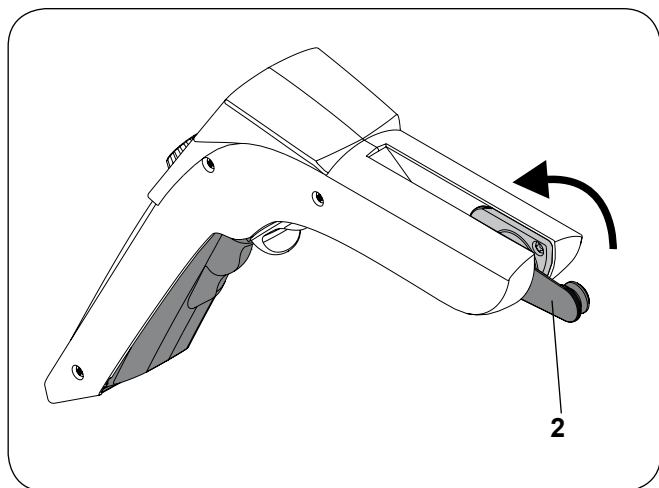
The MLT WESCO may only be cleaned with the help of a moist cloth.



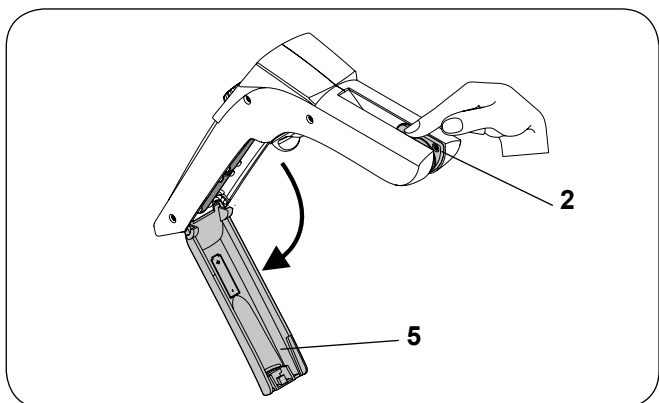
ATTENTION!
No chemical cleaning agents must be used.

Replacing the batteries

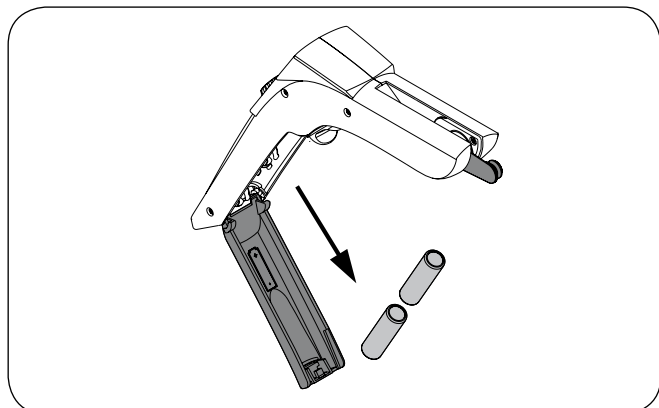
- Press the swivel arm (2) to the back.



- Retain the swivel arm (2).
- Disengage the swivel arm release handle (5).
- The swivel arm release handle (5) is hinged down, to provide access to the battery compartment.

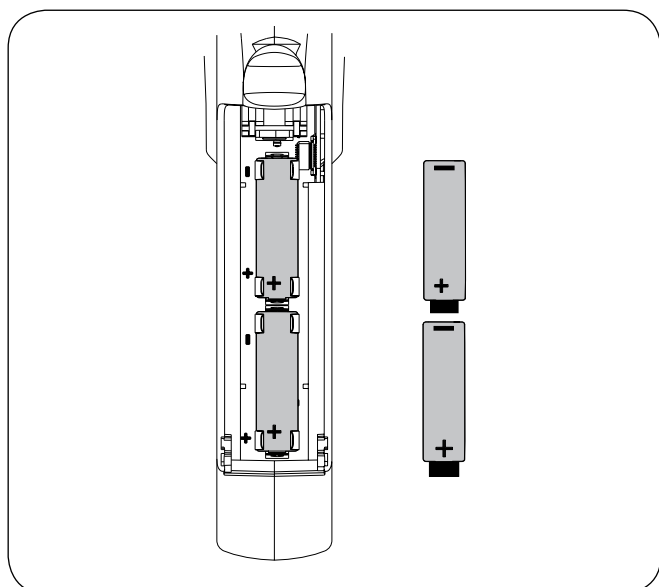


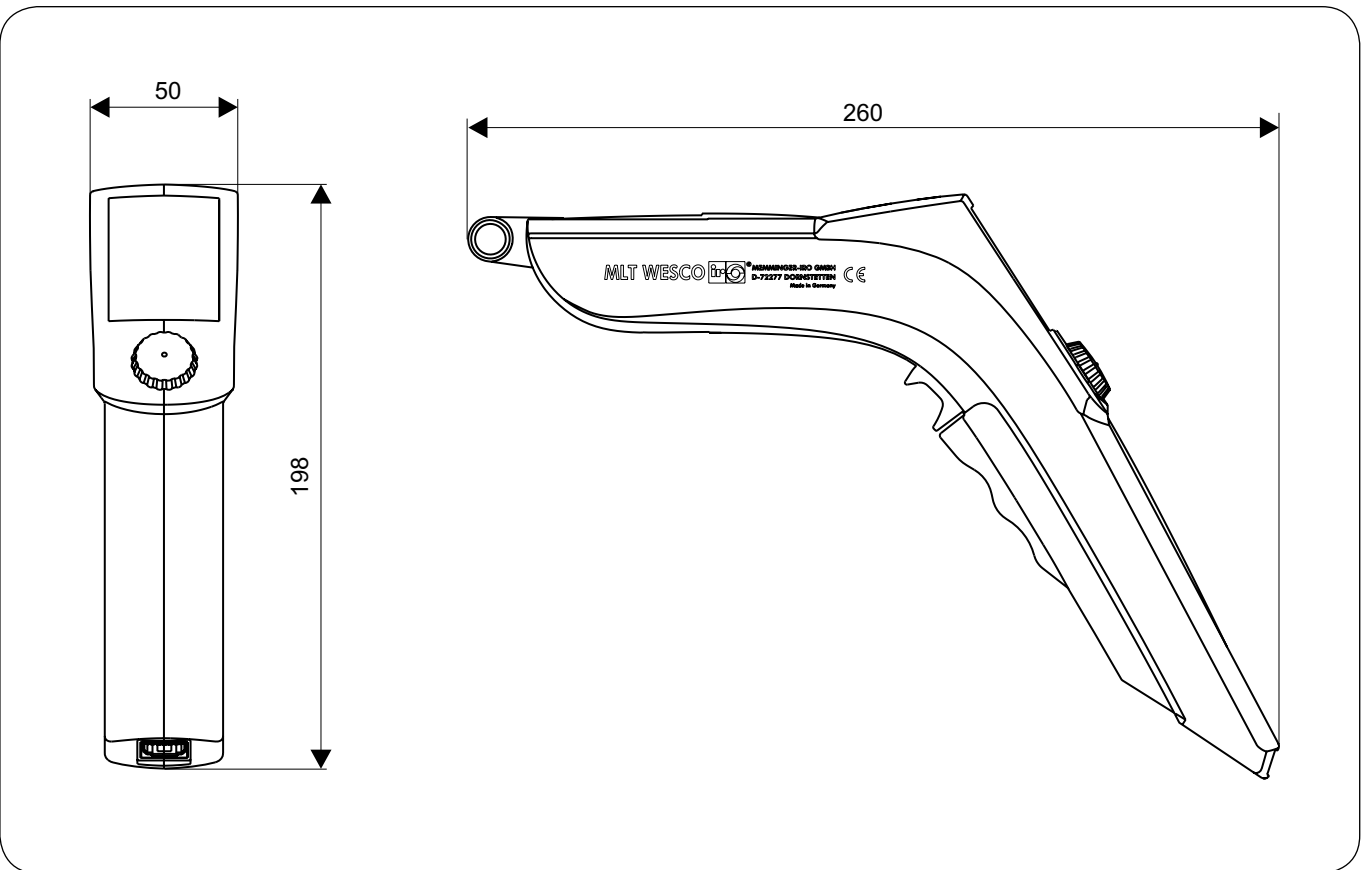
- The batteries can now be removed and replaced.



Inserting the batteries

- When inserting the batteries into the MLT WESCO, the correct polarity must be observed.





Technical Data

Power supply:	Rechargeable nickel-metal-hydride battery, 1.2 V, type Mignon AA or 2 dry batteries, type Mignon 1.5 V
Battery charging unit:	100 to 240 V AC, 47-63 Hz, output 5 V, 2 A DC
Digital LCD display:	1 to 9999 meters or inches
Maximum yarn speed:	1000 m/min or 900 yd/min
Measuring range for revolutions:	1 – 100 revolutions
Battery duration:	Approx. 50 hours of normal use
Battery charging time:	Approx. 6-8 hours for maximum loading result
Machine speed:	rpm
Yarn length:	m or inch (1 to 100 revolutions can be selected)
Yarn tension:	0 - 50 cN (normal, average or peak value)
Yarn speed:	m/min. or yd/min

Declaration of Conformity

in accordance with the Machinery Directive (98/37/EC), Annex II A
in accordance with the Low Voltage Directive (73/23/EC)
in accordance with the Electromagnetic Compatibility Directive (89/336/EC)

The manufacturer: MEMMINGER-IRO GmbH
Jakob-Mutz-Straße 7
D-72280 Dornstetten, Germany

hereby certifies that the following product:

MLT WESCO

conforms to the requirements of the above named directives.

The following harmonised standards were used:

EN ISO 12100	Safety of machinery
EN 61000-4-2	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
EN 61000-4-3	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-4	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
EN 61000-4-6	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
EN 61000-4-8	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test
EN 61000-6-2	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 55022	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement

The machine is complete with original operating manuals and technical documentation.

This declaration of conformity becomes null and void if the machine is modified without the manufacturer's prior written approval and authorisation.

Dornstetten, 14.12.2006



M. Kleindorp, Company Management