KERN & Sohn GmbH
Ziegelei 1
D-72336 Balingen
E-mail: info@kern-sohn.com
Tel: +49-[0]7433- 9933-0
Fax: +49-[0]7433-9933-149
Internet: www.kern-sohn.com

Operating instructions
Drive-through scale

KERN MWC

Version 1.0
2024-06
GB



MWC-BA-e-2410

GB

KERN MWC

Version 1.0 2024-06

Operating instructions Drive-through scale

Table of contents

1 Technical data 4

2 Device overview Display unit 5

2.1 Keyboard overview 6

3 Basic information (general) 6

3.1 Intended use 6

3.2 Improper use 6

3.3 Guarantee 7

3.4 Test equipment monitoring 7

4 Basic safety instructions 8

4.1 Observe the notes in the operating instructions 8

4.2 Staff training 8

5 Transport and storage 8

5.1 Control on takeover 8

5.2 Packaging/return transport 8

6 Unpacking, installation and commissioning 9

6.1 Installation site, place of use 9

6.2 Unpacking/installing 9

6.3 Scope of delivery/standard accessories: 10

6.4 Mains connection 10

6.5 Adjustment 11

7 Operation 13

7.1 Switch on 13

7.2 Switch off 13

7.3 Zeros 13

7.4 Simple weighing 13

7.5 Weighing with Tar a 14

7.6 Weighing with Pre-Tare 15

7.7 Call up saved pre-tare values 15

7.8 Save Pre-Tare values below 2% of Max 16

7.9 Hold function (animal weighing function) 16

8 Menu 17

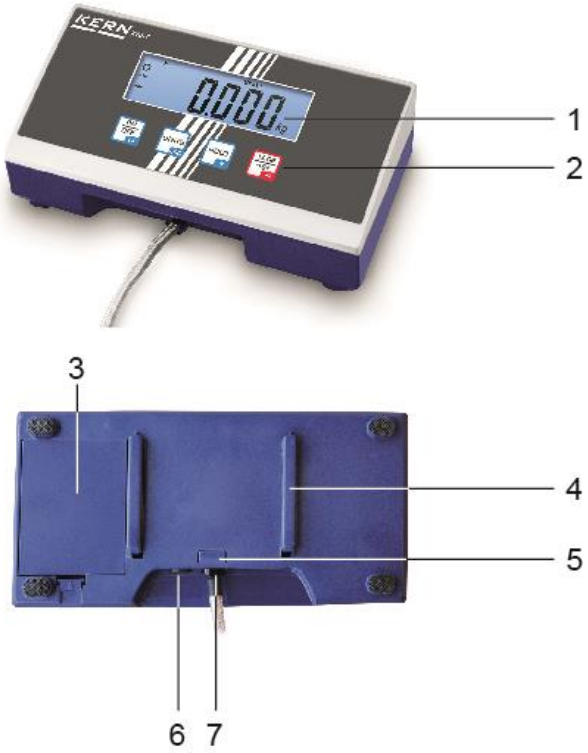
8.1 Navigation in the menu 17

8.2 Menu overview....18
9 Maintenance, servicing, disposal.... 19
9.1 Cleaning....19
9.2 Maintenance, servicing....19
9.3 Waste disposal....19
10 Error messages, minor breakdown assistance.... 20
11 Declaration of Conformity.... 21

1 Technical data

KERN	MWC 600K-1
Item number/type	TMWC 600K-1-A
Readability (d)	100 g
Weighing range (max)	600 kg
Reproducibility	200 g
Linearity	± 600 g
Recommended calibration weight, not included (class)	600 kg (M1)
Warm-up time	10 minutes
Settling time (typical)	2 s
Weighing unit	kg, lb
Auto Off	Adjustable 0-99 min
Ambient temperature	-10°C - 40°C
Ambient humidity	5 %- 80 % (non-condensing)
Power supply	Input voltage 100 V - 240 V, AC 50 / 60 Hz, 0.3 A
	Power supply unit Secondary voltage 9 V, 100mA
Display unit dimensions (W x D x H) mm	200 x 130 x 60
Weighing surface mm	800 x 800
Net weight kg	40

2 Device overview Display unit



1. Weight display
2. Keys
3. Battery compartment
4. Guide rail Table base/stand
5. Stop table base/stand
6. Mains adapter connection
7. Load cell cable connection

2.1 Keyboard overview

Button	Function
	Switching the scale on / off
	Hold/pet cradle function
	Tare the scale
	Switching the weighing unit Return to weighing mode or the menu

3 Basic information (general)

3.1 Intended use

The scale you have purchased is used to determine the weight. It is intended for use as a "non-automatic scale", i.e. the sample is placed manually, carefully and centred on the weighing plate. Once a stable weight value has been reached, the weight value can be read off.

3.2 Improper use

- Our scales are non-automatic scales and are not intended for the usage in a dynamic weighing process. However, the scales can also be used for dynamic weighing processes after checking the individual area of application and, in particular, the accuracy requirements of the application.
- Do not leave a permanent load on the weighing plate. This can damage the measuring mechanism.
- Avoid shocks and overloading the scales above the specified maximum load (Max), minus any tare load already present. This could damage the scales.
- Never operate the scales in potentially explosive atmospheres. The standard version is not explosion-proof.
- The scale must not be modified in any way. This can lead to incorrect weighing results, safety-related defects and the destruction of the scale.
- The scale may only be used in accordance with the specifications described. Deviating areas of use/application must be approved in writing by KERN.

3.3 Guarantee

Warranty expires with

- Non-compliance with our specifications in the operating instructions
- Use outside the described applications
- Modifying or opening the device
- Mechanical damage and damage caused by media, liquids, natural wear and tear
- Improper set-up or electrical installation
- Overload of the measuring unit

3.4 Test equipment monitoring

As part of quality assurance, the metrological properties of the indicator and any test weight must be checked at regular intervals. The responsible user must define a suitable interval as well as the type and scope of this test. Information regarding the test equipment monitoring of indicators and the test weights required for this is available on the KERN homepage (www.kern-sohn.com). KERN's accredited DKD calibration laboratory can calibrate test weights and indicators with connected weighing plates quickly and cost-effectively (traceability to the national standard).

4 Basic safety instructions

4.1 Observe the notes in the operating instructions



Please read these operating instructions carefully before installation and commissioning, even if you already have experience with KERN scales.

4.2 Staff training

The appliance may only be operated and maintained by trained personnel.

5 Transport and storage

5.1 Control on takeover

Please check the packaging immediately upon receipt and the appliance for any visible external damage when unpacking.

5.2 Packaging/return transport



- ⇨ Keep all parts in the original packaging for any necessary return transport.
- ⇨ Only the original packaging is to be used for return transport.
- ⇨ Disconnect all connected cables and loose/movable parts before despatch.
- ⇨ Refit any transport locks provided.
- ⇨ Secure all parts, e.g. glass draft shield, weighing plate, power supply unit, etc. against slipping and damage.

6 Unpacking, installation and commissioning

6.1 Installation site, place of use

The scales are designed to achieve reliable weighing results under normal operating conditions.
You can work accurately and quickly if you choose the right location for your scales.

Observe the following at the installation site:

- Place the scales on a stable, level surface.
- Avoid extreme heat and temperature fluctuations, e.g. by placing the appliance next to a radiator or in direct sunlight.
- Protect the scales from direct draughts through open windows and doors.
- Avoid vibrations during weighing.
- Protect the scales from high humidity, vapours and dust.
- Do not expose the appliance to high humidity for long periods of time. Unauthorised condensation (condensation of humidity on the appliance) can occur if a cold appliance is brought into a much warmer environment. In this case, acclimatise the appliance disconnected from the mains for approx. 2 hours at room temperature.
- Avoid static charging of items to be weighed and weighing containers.
- Do not operate in potentially explosive atmospheres or in areas at risk of explosion due to gases, vapours, mists or dusts!
- Chemicals (e.g. liquids or gases) that could attack and damage the inside or outside of the scales must be kept away.
- If electromagnetic fields or static charges occur (e.g. when weighing / counting plastic parts) or if the power supply is unstable, large display deviations (incorrect weighing results and damage to the scales) are possible. The location must then be changed or the source of interference eliminated.

6.2 Unpacking/installing

Carefully remove the display unit from the packaging, remove the plastic cover and

at the intended workplace.

Position the display unit so that it can be easily operated and viewed.
Slide the table base into the guide rail [4] as far as it will go, see section 2.

6.3 Scope of delivery/standard accessories:

- Display unit
- Platform
- Power supply unit
- Operating instructions

Only an exactly horizontally aligned scale provides accurate weighing results.
The scale must be levelled during initial installation and each time it is relocated.

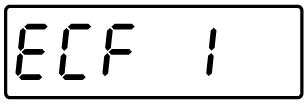
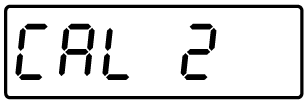
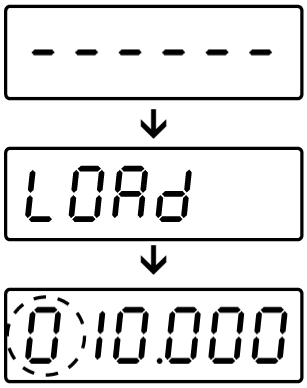
6.4 Mains connection

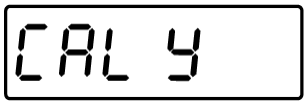
Power is supplied via the external power supply unit. The printed voltage value must match the local voltage.
Only use original KERN power supply units. The use of other makes requires the approval of KERN.

6.5 Adjustment

As the value of the acceleration due to gravity is not the same at every location on earth, every indicator with a connected weighing plate must be adjusted to the prevailing acceleration due to gravity at the installation site in accordance with the underlying physical weighing principle (only if the weighing system has not already been adjusted to the installation site at the factory). This adjustment process must be carried out during initial commissioning, after each change of location and in the event of fluctuations in the ambient temperature. In order to obtain accurate measured values, it is also recommended to periodically adjust the indicator during weighing operation.

- The calibration weight to be used depends on the capacity of the weighing system. Carry out the adjustment as close as possible to the maximum load of the weighing system. Information on test weights can be found on the Internet at: http://www.kern-sohn.com.
- Ensure stable ambient conditions. A warm-up time is required for stabilisation.

In weighing mode, press TARE →0← and HOLD ↑ simultaneously. <EcF 1> is displayed.	
(You can exit the calibration process at any time by pressing UNITS ESC. The scale then returns to weighing mode).	
Confirm display <EcF 1> with ON OFF ↵. <cAL 2> is displayed.	
Confirm with ON OFF ↵. <------> followed by <LoAd> is briefly displayed. The display for entering the recommended calibration weight then appears (see section 1 "Technical data") The left-hand number flashes. Enter the value of the calibration weight as follows: Use TARE →0← to switch to the next position to the right. Increase digit with HOLD ↑. Confirm the entered value with ON OFF ↵.	 (example)

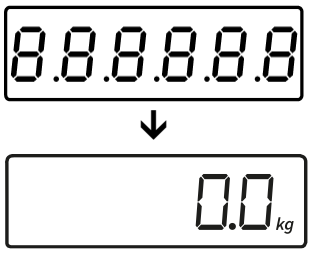
The entered calibration weight is displayed flashing.	 (example)
Place the calibration weight in the centre of the weighing plate and confirm with ON/OFF. <CAL 4> flashes briefly and an acoustic signal sounds. The calibration is carried out. The scale then automatically returns to weighing mode.	

In the event of a calibration error or incorrect calibration weight, an error message appears on the display. Remove the calibration weight and repeat the calibration process.

Keep the calibration weight with the scale. Daily checking of the scale accuracy is recommended for quality-relevant applications.

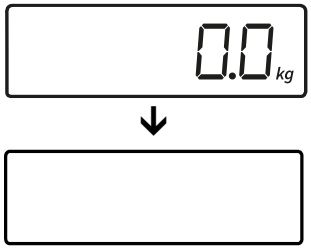
7 Operation

7.1 Switch on

Switch on the scales with ON/OFF. The scales carry out a self-test. As soon as the weight display appears, the scales are ready for weighing.	

If the scale does not display exactly zero despite the weighing plate being unloaded, press TARE →0← . After a short wait, the scale is reset to zero.

7.2 Switch off

Switch off the scales at ON/OFF , the display goes out.	

7.3 Zeros

Zeroing corrects the influence of light soiling on the weighing plate.

⇨ Relieve the load on the weighing system

⇨ TARE →0← Press , the zero display appears.

7.4 Simple weighing

⇨ Place the goods to be weighed.

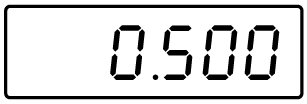
⇨ Wait for stability display <O >.

⇨ Read off the weighing result.

Overload warning

Avoid overloading the appliance beyond the specified maximum load (Max), minus any existing tare load. This could damage the appliance.
Exceeding the maximum load is indicated by the display <LLLLLL> and an acoustic signal. Relieve the weighing system or reduce the preload.

7.5 Weighing with Tar a

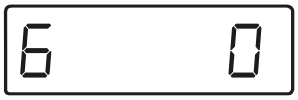
Place the empty weighing container on the scale, the weight of the weighing container is displayed. (The weight must be at least 2% of the maximum weight)	 (example)
Press TARE →0← , the zero display appears. The <NET> indicator is displayed.	 (example)
Weigh in the load, the net weight is displayed. The taring process can be repeated any number of times, for example when weighing several components into a mixture (additional weighing). The limit is reached when the entire weighing range is utilised. After removing the weighing container, the weight of the weighing container appears as a minus display. The tare weight remains stored until it is deleted.	 (example)
Save tare value: UNITS ESC and press HOLD ↑ . A 5 (for save) and a flashing 0 are displayed. Press HOLD ↑ to select a memory location from 0 to 9. Press ON OFF ↵ to confirm the selected memory location and accept the saved pre-tare value.	

7.6 Weighing with Pre-Tare

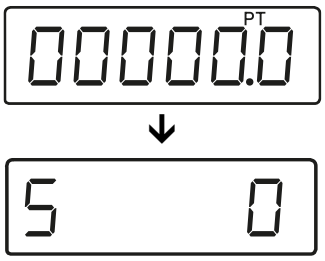
The scale has a pre-tare function. This allows tare weights to be entered manually, saved and, if necessary, saved values to be called up again.

TARE →0← for approx. 3 seconds. The display shows <000000>, with the left 0 flashing. The <PT> indicator appears. The position to be changed can be selected with TARE →0← . Press HOLD to set the corresponding value. Press ON OFF to accept the value.	

7.7 Call up saved pre-tare values

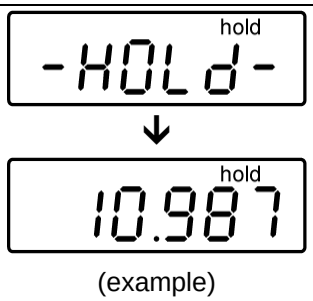
UNITS ESC for approx. 3 seconds. A 6 (for read) and a flashing 0 are displayed. Press HOLD to select a stored value from 0 to 9. Press ON OFF to confirm the selected memory location and display the saved pre-tare value.	

7.8 Save Pre-Tare values below 2% of Max

TARE for approx. 3 seconds. The display shows <00000.0>, with the left 0 flashing. The <PT> indicator appears. The position to be changed can be selected with TARE. Press HOLD to set the corresponding value. Press ON/OFF to accept the value. UNITS/ESC and press HOLD. A 5 (for save) and a flashing 0 are displayed. Press HOLD to select a memory location from 0 to 9. Press ON/OFF to confirm the selected memory location and accept the saved pre-tare value.	

7.9 Hold function (animal weighing function)

The scale has an integrated animal weighing function (averaging). This makes it possible to weigh pets or small animals (load min. 1% of max.) accurately, even though they are not standing still on the weighing plate.

Place the load on the scale and press HOLD. <hoLd> flashes on the display and the <hold> indicator appears. During this time, the scale records several measured values and then displays the calculated average value. This value remains on the display until HOLD is pressed again. The <hold> indicator goes out and the scale returns to normal weighing mode. This function can be repeated as often as required by pressing HOLD again.	 (example)

If the movement is too lively (strong display fluctuation), the average value cannot be determined.

8 Menu

8.1 Navigation in the menu

⇨ In weighing mode, press TARE →0← and ON OFF simultaneously. <uF 1> is displayed.

⇨ HOLD repeatedly until the desired function appears.

⇨ Confirm the selected function with ON OFF. The current setting is displayed. Use HOLD or TARE →0← to select the desired parameter. Use UNITS ESC to return to the menu.

⇨ To exit the menu, press UNITS ESC. The scale automatically returns to weighing mode.

8.2 Menu overview

UF-1	-1630 (example)	**Internal value** not documented
UF-2	AoFF 10 *	**Auto-Off** Automatic switch-off function Adjustable between 0-99 minutes
UF-3		**Backlighting of the display** adjustable:
	Lt on	Backlighting on
	Lt oFF	Backlighting off
	Lt A *	Backlighting off automatically
UF-4		Hold function (animal weighing function) adjustable:
	Hd 20d	Mean value is recorded, with weight fluctuations in the range of approx. 20 d
	Hd 5d	Mean value is recorded, with weight fluctuations in the range of approx. 5 d
	Hd 10d *	Mean value is recorded, with weight fluctuations in the range of approx. 10 d
UF-5	ZP 0 ↓ ZP 5	**Auto-Zero** adjustable:
		ZP 0 * — Auto-Zero: off
		ZP 1 — • 0.5 d/s
		ZP 2 — • 1 d/s
		ZP 3 — • 2 d/s
		ZP 4 — • 3 d/s
		ZP 5 — • 5 d/s
UF-6	9.79450 *	**G-value (value of the local gravitational acceleration)** adjustable

Factory settings are marked with *.

9 Maintenance, servicing, disposal

9.1 Cleaning

Please disconnect the appliance from the operating voltage before cleaning.

Do not use any aggressive cleaning agents (solvents or similar), but only a cloth moistened with mild soapy water. Ensure that no liquid penetrates the appliance and wipe with a dry, soft cloth.

9.2 Maintenance, servicing

The device may only be opened by trained service technicians authorised by KERN. Disconnect from the mains before opening.

9.3 Waste disposal

The operator must dispose of the packaging and appliance in accordance with the applicable national or regional legislation at the place of use.

10 Error messages, minor breakdown assistance

If there is a fault in the programme sequence, the appliance should be switched off briefly and disconnected from the mains. The weighing process must then be re-started from the beginning.

Malfunction	Possible cause
The weight display does not light up.	• The device is not switched on. • The connection to the mains is interrupted (mains cable defective). • The mains voltage has failed. • The batteries / rechargeable batteries are inserted incorrectly or are flat • No batteries / rechargeable batteries are inserted.
The weight display changes continuously	• Draught/air movement • Vibrations of the table/floor • The weighing plate is in contact with foreign objects. • Electromagnetic fields/static charge (choose a different installation location/switch off the interfering device if possible)
The weighing result is obviously wrong	• The scale display is not set to zero • The adjustment is no longer correct. • There are strong temperature fluctuations. • The warm-up time was not observed. • Electromagnetic fields / static electricity (choose a different location / if possible, switch off the offending appliance)

Error message	Possible cause
o-Err	• Weighing range exceeded
u-Err	• Preload too low, e.g. missing weighing plate
b-Err	• Internal memory error
1-Err	• Incorrect calibration weight
2-Err	• Improper adjustment
I-Err	• Unit weight too small

If other error messages occur, switch the appliance off and on again. If the error message remains, contact the manufacturer.

11 Declaration of Conformity

You can find the current EC/EU Declaration of Conformity online at

www.kern-sohn.com/ce