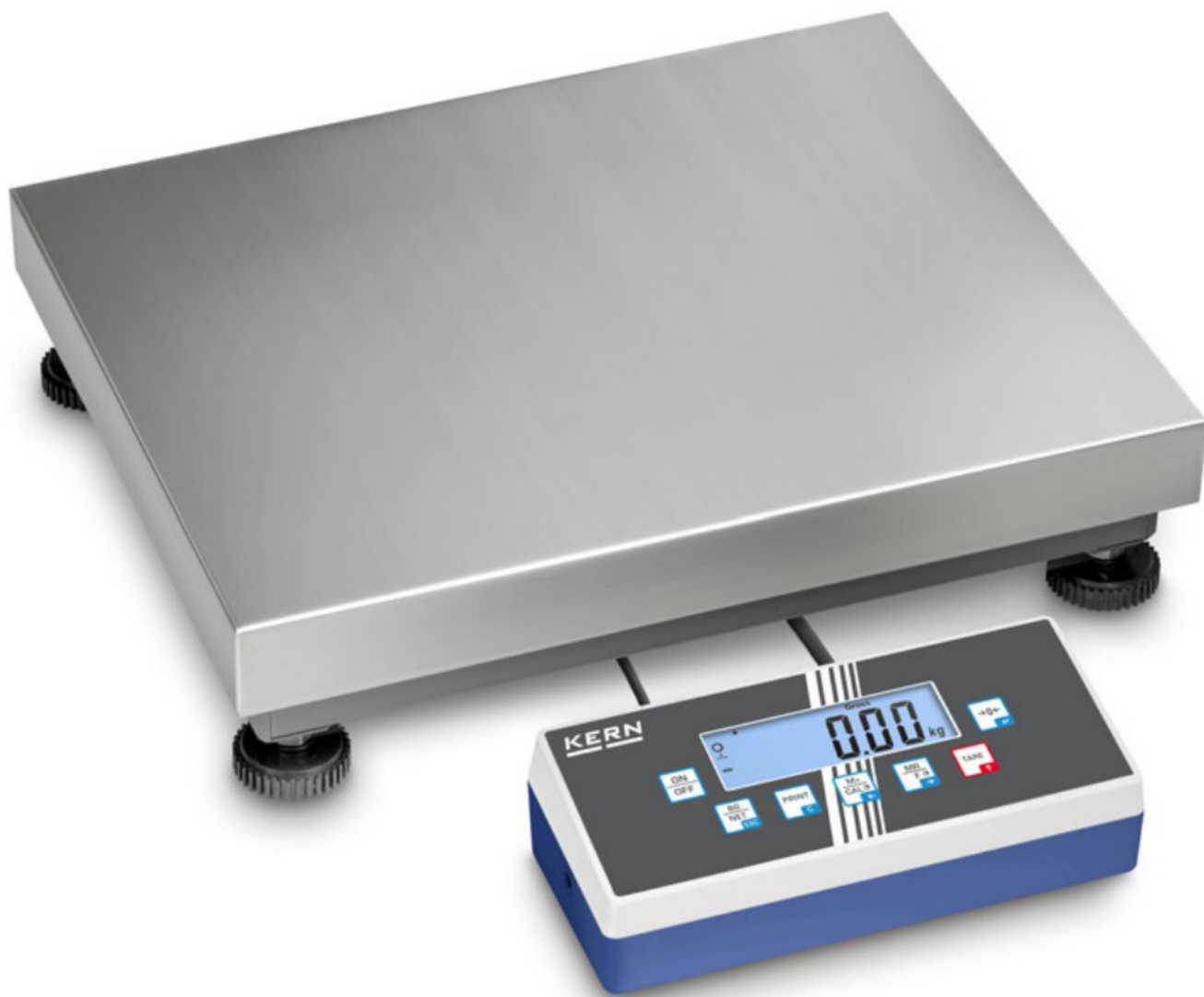


# KERN IOC Industrial Platform Scale User Manual

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**KERN IOC Industrial Platform Scale**



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## Introduction

Allround platform scale with a wide range of communication options and EC type approval [M] now also available as high-resolution version with fine display

- Verification plug, for verified balances this enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this at the same time as you purchase your scale, see accessories



Practical Flip/Flop display device: flexible positioning e.g. free-standing or screwed to the wall (optional). By rotating the upper housing shell you can determine the angle of the display as well as the cable outlet. Conversion of the display device, Factory Option for an additional cost, delivery time + 2 working days, KERN KIB-M01, see Accessories on the right, please indicate when placing your order



## Features

- Industry 4.0: A wide range of (optional) data interfaces allows that it is easy to transfer weighing data to tablets, laptops, PCs, networks, Smartphones, printers, etc.
- High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (laboratory, production, quality control, commissioning etc.)
- Platform: weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard, to give the most accurate weighing result

- Searching and remote control of the balance using external control devices or computers with the KERN Communication Protocol (KCP).

KCP is a standardised interface command structure for KERN balances and other instruments which allows you to recall and manage all relevant parameters and device functions. You can therefore simply connect KERN devices with KCP to computers, industrial control systems and other digital systems. In a large number of cases the KCP is compatible with the MT-SICS protocol.












## Technical data

- Large LCD display, digit height 25 mm
- Weighing plate dimensions W×D×H
  - A** 300×240×110 mm
  - B** 300×300×110 mm
  - C** 400×300×110 mm
  - D** 500×400×120 mm, see larger picture
  - E** 650×500×150 mm
  - F** 800×600×200 mm
- Dimensions of display device W×D×H 268×115×80 mm
- Permissible ambient temperature -10 °C/40 °C

## Accessories

- Protective working cover, scope of delivery: 5 items, KERN EOC-A01S05
- Stand to elevate display device, height of stand approx. 330 mm, KERN EOC-A05
- Mount to fasten the display device to the platform, can be retrofitted, KERN EOC-A03  
Benchtop stand incl. wall mount for display device, KERN EOC-A04
- Internal rechargeable battery pack, operating time up to 26 h with backlight, charging time approx. 3 h, KERN KFB-A01
- USB data interface, for transferring weighing to the PC, printer etc., KERN KIB-A03 · Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not possible in combination with verification, KERN KIB-A04
- WiFi interface for wireless connection of the balance to networks and WiFi capable devices, such as tablets, laptops or smartphones, continuous data transfer, must be ordered at purchase, KERN KIB-A10\
- Ethernet data interface, must be ordered at purchase, KERN KIB-A02
- Alibi memory, including USB interface for exporting weighing results to external data storage media, such as, for example, USB sticks, hard drives, etc., KERN KIB-A01
- Signal lamp, including interface, for visual support of weighing with tolerance range, must be ordered at purchase, KERN KIB-A06
- Verification plug, please order this at the same time as you purchase your scale, KERN KIB-A12
- Conversion of the display device, Factory Option, delivery time + 2 working days, KERN KIB-M01
- Note: In addition to the RS 232 data interface integrated as standard, only one further data interface can be fitted and operated

<b>STANDARD</b> 											
<b>OPTION</b> 						<b>FACTORY</b> 					

Mod el  KERN	Weighing capacity [Max] kg	Readability [d] g	Verification value [e] g	Minimal load [Min] g	Weighing plate		Option			
							Verification		DAkkS Calibr. Certificate	
									DAkks KERN	
Dual-range balance switches automatically to the next largest weighing capacity [Max] and readability [d]										
IOC 6K-4	3   6	0,1   0,2	—	—					963-128	
IOC 10K-4	6   15	0,2   0,5	—	—					963-128	
IOC 10K-4L	6   15	0,2   0,5	—	—					963-128	
IOC 30K-4	15   30	0,5   1	—	—					963-128	
IOC 60K-3	30   60	1   2	—	—					963-129	
IOC 60K-3L	30   60	1   2	—	—					963-129	
IOC 100 K-3	60   150	2   5	—	—					963-129	
IOC 100 K-3L	60   150	2   5	—	—					963-129	
IOC 300 K-3	150   300	5   10	—	—					963-129	
IOC 600 K-2	300   600	10   20	—	—					963-130	

IOC 6K-3 M	3   6	1   2	1   2	20   40	B		965-228		963-128	
IOC 10K- 3M	6   15	2   5	2   5	40   100	A		965-228		963-128	
IOC 10K- 3LM	6   15	2   5	2   5	40   100	C		965-228		963-128	
IOC 30K- 3M	15   30	5   10	5   10	100   200	C		965-228		963-128	
IOC 60K- 2M	30   60	10   20	10   20	200   400	C		965-229		963-129	
IOC 60K- 2LM	30   60	10   20	10   20	200   400	D		965-229		963-129	
IOC 100 K-2 M	60   150	20   50	20   50	400   1000	D		965-229		963-129	
IOC 100 K- 2LM	60   150	20   50	20   50	400   1000	E		965-229		963-129	
IOC 300 K-2 M	150   300	50   100	50   100	1000   200 0	E		965-229		963-129	
IOC 600 K-1 M	300   600	100   200	100   200	2000   400 0	F		965-230		963-130	

## Pictograms



### Internal adjusting:

Quick setting up of the balance's accuracy with internal adjusting weight (motordriven )



**Adjusting program CAL:**

For quick setting up of the balance's accuracy.  
External adjusting weight required



**Easy Touch:**

Suitable for the connection, data transmission and control through PC or tablet.



**Memory:**

Balance memory capacity, e.g. for article data, weighing data, tare weights, PLU etc.



**Alibi memory:**

Secure, electronic archiving of weighing results, complying with the 2014/31/EU standard.



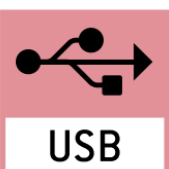
**Data interface RS-232:**

To connect the balance to a printer, PC or network



**RS-485 data interface:**

To connect the balance to a printer, PC or other peripherals. Suitable for data transfer over large distances.  
Network in bus topology is possible



**USB data interface:**

To connect the balance to a printer, PC or other peripherals



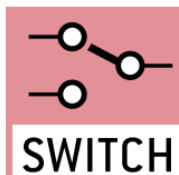
**Bluetooth\* data interface:**

To transfer data from the balance to a printer, PC or other peripherals



**WiFi data interface:**

To transfer data from the balance to a printer, PC or other peripherals



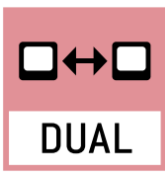
**Control outputs (optocoupler, digital I/O):**

To connect relays, signal lamps, valves, etc.



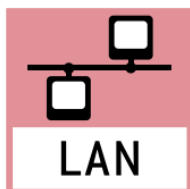
**Analogue interface:**

to connect a suitable peripheral device for analogue processing of the measurements



**Interface for second balance:**

For direct connection of a second balance



**Network interface:**

For connecting the scale to an Ethernet network



**KERN Communication Protocol (KCP ):**

It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and



controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems



**GLP/ISO log:**

The balance displays serial number, user ID, weight, date and time, regardless of a printer connection



**GLP/ISO log:**

With weight, date and time. Only with KERN printers.



**Piece counting:**

Reference quantities selectable. Display can be switched from piece to weight



**Recipe level A:**

The weights of the recipe ingredients can be added together and the total weight of the recipe can be printed out



**Recipe level B:**

Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display



**Totalising level A:**

The weights of similar items can be added together and the total can be printed out



**Percentage determination:**

Determining the deviation in % from the target value (100 % )



**Weighing units:**

Can be switched to e.g. nonmetric units. See balance model. Please refer to KERN's website for more details



**Weighing with tolerance range:**

(Checkweighing) Upper and lower limiting can be programmed individually, e.g. for sorting and dosing. The process is supported by an audible or visual signal, see the relevant model



**Hold function:**

(Animal weighing program) When the weighing conditions are unstable, a stable weight is calculated as an average value



**Protection against dust and water splashes IPxx:**

The type of protection is shown in the pictogram.



**Suspended weighing:**

Load support with hook on the underside of the balance



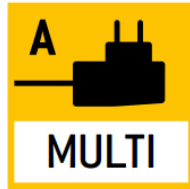
**Battery operation:**

Ready for battery operation. The battery type is specified for each device



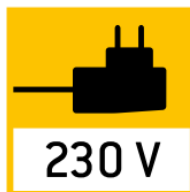
**Rechargeable battery pack:**

Rechargeable set



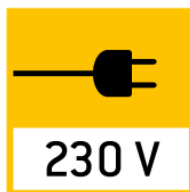
**Universal plug-in power supply:**

with universal input and optional input socket adapters for A) EU, CH, GB; B) EU, CH, GB, USA; C) EU, CH, GB, USA, AUS



**Plug-in power supply:**

230V/50Hz in standard version for EU, CH. On request GB, USA or AUS version available



**Integrated power supply unit:**

Integrated in balance. 230V/50Hz standard EU.  
More standards e.g. GB, USA or AUS on request



**Weighing principle: Strain gauges:**

Electrical resistor on an elastic deforming body



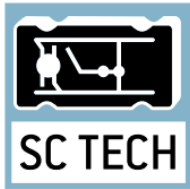
**Weighing principle: Tuning fork:**

A resonating body is electromagnetically excited, causing it to oscillate



**Weighing principle: Electromagnetic force compensation:**

Coil inside a permanent magnet. For the most accurate weighings



**Weighing principle: Single cell technology:**

Advanced version of the force compensation principle with the highest level of precision



**Verification possible:**

The time required for verification is specified in the pictogram



**DAkkS calibration possible (DKD):**

The time required for DAkkS calibration is shown in days in the pictogram



**Factory calibration (ISO):**

The time required for Factory calibration is shown in days in the pictogram



**Package shipment:**

The time required for internal shipping preparations is shown in days in the pictogram



**Pallet shipment:**

The time required for internal shipping preparations is shown in days in the pictogram

**KERN – Precision is our business**

**Your KERN specialist dealer:**

To ensure the high precision of your balance KERN offers you the the appropriate test weight in the international OIML error limit classes E1-M3 from 1 mg – 2500 kg.

In combination with a DAkkS calibration certificate the best pre-requisite for proper balance calibration.

The KERN DAkkS calibration laboratory today is one of the most modern and bestequipped DAkkS calibration laboratories for balances, test weights and force-measurement in Europe.  
Thanks to the high level of automation, we can carry out DAkkS calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

### Range of services:

- DAkkS calibration of balances with a maximum load of up to 50 t
- DAkkS calibration of weights in the range of 1 mg – 2500 kg
- Volume determination and measuring of magnetic susceptibility (magnetic characteristics) for test weights
- Database supported management of checking equipment and reminder service
- Calibration of force-measuring devices
- DAkkS calibration certificates in the following languages DE, EN, FR, IT, ES, NL, PL
- Conformity evaluation and reverification of balances and test weights

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| [info@kern-sohn.com](mailto:info@kern-sohn.com)**



### Documents / Resources

 <small>Industrial platform scale with built-in display and printer. The scale is shown in a compact, folded position. The display shows a weight reading. The printer is located on the side of the scale.</small>	<p><b><a href="#">KERN IOC Industrial Platform Scale</a> [pdf] User Manual</b> IOC Industrial Platform Scale, IOC, Industrial Platform Scale, Platform Scale, Scale</p>
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### References

- [!\[\]\(b7e1c8bc060ab2af8bc42ce81bfcf3c4\_img.jpg\) \*\*KERN & SOHN: Waagen, Mikroskope & Messinstrumente\*\*](#)