



KERN IoT-Line

Digital weighing solutions





One electronics platform for **all** KERN IoT-Line balances

Standardized. Simple. Effective.



All balances in the IoT-Line are based on a standardized platform with:

- uniform operation for all devices
- standardized accessories (e.g. interfaces: KUPs, KUMs) for high connectivity
- standardized data connection and data communication (KCP protocol)
- standardized spare parts

Definition of the KERN IoT-Line:

KERN IoT-Line balances – the name says it all: They are more than just scales, they function as compact industrial PCs. They set new standards with their exceptional ability for universal data connection and bidirectional communication. Their communication capabilities far exceed those of conventional scales and enable seamless integration with PCs and machines.

Bidirectionality: KERN IoT scales can not only output a wide range of data types, but can also simultaneously receive external commands and input data, such as the tare weight, and process them directly.

All functions are clearly described in the standardized KCP protocol (interface protocol): *https://www.kern-sohn.com/shop/en/downloads*

Interfaces

KERN IoT balances offer universal connectivity thanks to the flexible options with KUP (KERN Universal Port) and KUM (KERN Universal Module). These enable seamless integration into a wide range of systems and applications.

KERN Universal Port (KUP)

The KERN Universal Port (KUP) enables the connection of external KUP interface adapters, such as RS-232, USB, Bluetooth, Wi-Fi, analog, Ethernet, etc.

The outstanding advantage here is that the KUP interface adapters are simply plugged on, i.e. interfaces can be conveniently replaced and retrofitted without opening the scale housing or any complicated installation.

The interface adapters enable convenient transfer of weighing data to networks, PCs, smartphones, tablets, laptops, printers, etc. In addition, control commands and data inputs can also be sent to the scale via the connected devices.

The KERN Universal Module (KUM) is already installed in the operating terminal of platform, floor and pallet scales. Especially for use in moisture or dust-protected areas up to IP68, a connection via Bluetooth or Wi-Fi is recommended to avoid opening the terminal.



KCP: The data highway of the scale

The KERN Communication Protocol (KCP) enables the scale to be queried and remotely controlled via computer or CRM/ERP systems. The KCP is a standardized interface command set for KERN scales and other measuring instruments, which allows all relevant parameters and device functions to be accessed and controlled. KERN models from the IoT-line with KCP can therefore be easily connected to computers, industrial control systems, and other digital systems.

The KERN Communication Protocol is largely compatible with the MT-SICS protocol. The KCP is available via all KUPs and KUMs.

KCP – export ("outbound") – the highlights

- stable and immediate weight
- live transmission of the weights
- storage of gross, tare and net weights, stability feature, date, time, etc., in the tamper-proof alibi memory
- output of the weight in all available units, percent, and a free factor
- output of the weight in items (piece-counting function)
- output of the weight at freely definable intervals
- and much more

KCP – import ("inbound") – the highlights

- access to the central device data
- setup of or access to an individual device ID number
- setting or querying of a tare value (pre-tare value) from an external source
- access to stored weights from the alibi memory
- setting of the reference value in the scale to output the weight as a percentage or in items
- setting of a network address for the scale (IP) – also for Wi-Fi
- and much more

System integration of the scales

Typical target systems are:

- ERP systems
- production management systems
- quality control systems
- patient management systems
- MS Excel

How does the weighing data get into your target system?

We offer three options for capturing and processing transaction data for your target system:



Current IoT-Line model series | www.kern-sohn.com/shop/en/products/iot-line

Display devices KFC¦ KXC¹		Stainless steel platform scales SXC¹		Precision scales 572	
Baby scales MBA	The Tart H	Compact laboratory scales PCB, PCJ ¹	Example shows PCB	Wheelchair platform scales MWN¹	
Floor scales BFC; BXC; NFC; BFC1	Example shows BFC	Pallet scales UFC; UXC ¹	Example shows UFC	Chair scales MCN ¹	
Digital platforms KDP		Personal scales MPN ¹		Bench scales FCB ¹ , FKB ¹	
Digital weighing systems KGP		Platform scales DS, IFC; IXC ¹	Example shows IFC	Counting scales CDS, CKE	

¹ Verified operation: Weighing data from legally-regulated applications can be stored and archived in a compliant manner, by using models from this range with valid verification and measurement memory.