KERN SAUTER FK Series Digital Force Gauge User Guide

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KERN SAUTER FK Series Digital Force Gauge

Product Information: Digital Force Gauge SAUTER FK

The Digital Force Gauge SAUTER FK is a robust, digital force gauge used for both tensile and compressive force measurements with a measuring range of up to 5 kN. It is available in different models with varying measuring ranges and readouts. The device comes with various accessories such as a calibration block, a push/pull zero option, and further calibration options available on request.

The force gauge also comes with features such as an adjusting program for quick setting of the instrument's accuracy, peak hold function for capturing peak values within a measuring process, scan mode for continuous capture and display of measurements, focus function that increases the measuring accuracy of a device within a defined measuring range, internal memory to save measurements in the device memory, and various data interface options including RS-232, Profibus, Profinet, USB, and Bluetooth* for efficient data exchange with printers, PCs, or other peripheral devices.

Product Usage Instructions

1. Attach the force gauge to the object to be measured.
2. Apply force to the object either in tension or compression.
3. The force gauge will record the force applied and display it on the device's screen.
4. Use the various features such as peak hold and scan mode to capture and display peak values or continuous measurements.
5. If necessary, use the adjusting program or calibration block to adjust or correct the device's accuracy.
6. Save measurements in the device's internal memory or use one of the available data interface options such as RS-232, Profibus, Profinet, USB, or Bluetooth* to transfer data to printers, PCs, or other peripheral devices.

**Note: Bluetooth functionality may not be available on all models.*

Digital force gauge SAUTER FK

Robust, digital force gauge for tensile and compressive force measurements

Features

- Turnable display: automatic direction identification
- Secure operability due to the ergonomic design
- Peak-Hold function to capture peaks (value is “frozen” for approx. 10 seconds) or Track function mode for a continuous measurement indication
- Selectable measuring units: N, lbf, kgf, ozf
- Auto-Power-Off
- 1 Standard attachments as shown, extension rod: 90 mm
- Can be mounted on all SAUTER test stands up to 5 kN

Technical data

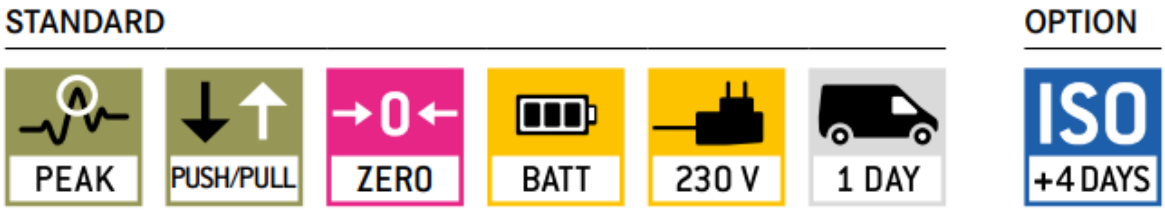
- Measuring precision: 0,5 % of [Max]
- Overload protection: 200 % of [Max]
- Overall dimensions W×D×H 195×82×35 mm
- Thread: M8
- Ready for use: Batteries included, 6×1.5 V AA
- Net weight approx. 0,75 kg

Accessories

- 2 With one of the two optional attachments for tensile strength testing, the SAUTER FK can become a tensiometer for testing the material tension characteristics of cables, threads, wires, twine etc. (up to ∅ 5 mm):

Illustration shows accessories SAUTER FK-A02

- Tensiometer attachment with Safe-insert function: Pull and release to insert the running cable in between the rolls, for tensile strength testing up to 250 N, aluminium attachment, rolls can be adjusted inwards, SAUTER FK-A01
- Tensiometer kit for high-capacity tensile strength testing up to 1000 N, steel attachment and steel rolls, rolls cannot be adjusted, SAUTER FK-A02
- 1 Standard attachments as standard, set can be reordered, SAUTER AC 430



Model	Measuring range	Readout	Option **Factory calibration certificate**		
			Tensile force	**Compressive force**	**Tensile/Compressive force**
SAUTER	[Max] N	[d] N	KERN	KERN	KERN
FK 10	10	0,005	961-161O	961-261O	961-361O
FK 25	25	0,01	961-161O	961-261O	961-361O
FK 50	50	0,02	961-161O	961-261O	961-361O
FK 100	100	0,05	961-161O	961-261O	961-361O
FK 250	250	0,1	961-161O	961-261O	961-361O
FK 500	500	0,2	961-161O	961-261O	961-361O
FK 1K	1000	0,5	961-162O	961-262O	961-362O

Further calibration options on request

SAUTER PICTOGRAMS

Adjusting program (CAL):
For quick setting of the instrument's accuracy. External adjusting weight required

Calibration block:
Standard for adjusting or correcting the measuring device

Peak hold function:
Capturing a peak value within a measuring process

Scan mode:
Continuous capture and display of measurements

Push and Pull:
The measuring device can capture tension and compression forces

Length measurement:
Captures the geometric dimensions of a test object or the movement during a test process

Focus function:
Increases the measuring accuracy of a device within a defined measuring range

WLAN data interface:
To transfer data from the balance/ measuring instrument to a printer, PC or other peripherals

Data interface Infrared:
To transfer data from the measuring instrument to a printer, PC or other peripheral devices

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

Analog output:
For output of an electrical signal depending on the load (e.g. voltage 0 V – 10 V or current 4 mA – 20 mA)

Statistics:
Using the saved values, the device calculates statistical data, such as average value, standard deviation etc.

PC Software:
To transfer the measurement data from the device to a PC

ZERO:
Resets the display to "0"

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

Rechargeable battery pack:
Rechargeable set

Plug-in power supply:
230V/50Hz in standard version for EU. On request GB, AUS or USA version available

Integrated power supply unit:
Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request

Motorised drive:
The mechanical movement is carried out by a electric motor

Motorised drive:
The mechanical movement is carried out by a synchronous motor (stepper)

Internal memory:
To save measurements in the device memory

Printer:
A printer can be connected to the device to print out the measurement data

Fast-Move:
The total length of travel can be covered by a single lever movement

Data interface RS-232:
Bidirectional, for connection of printer and PC

Network interface:
For connecting the scale/measuring instrument to an Ethernet network

Verification possible:
Models with type approval for construction of verifiable systems

Profibus:
For transmitting data, e.g. between scales, measuring cells, controllers and peripheral devices over long distances. Suitable for safe, fast, fault-tolerant data transmission. Less susceptible to magnetic interference.

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

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

Factory calibration:
The time required for factory calibration is specified in the pictogram

Profinet:
Enables efficient data exchange between decentralised peripheral devices (balances, measuring cells, measuring instruments etc.) and a control unit (controller). Especially advantageous when exchanging complex measured values, device, diagnostic and process information. Savings potential through shorter commissioning times and device integration possible

GLP/ISO record keeping:
Of measurement data with date, time and serial number.
Only with SAUTER printers

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

Measuring units:
Weighing units can be switched to e.g. non-metric. Please refer to website for more details

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

Data interface USB:
To connect the measuring instrument to a printer, PC or other peripheral devices

Measuring with tolerance range (limit-setting function):
Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model

Bluetooth* data interface:
To transfer data from the balance/measuring instrument to a printer, PC or other peripherals

Protection against dust and water splashes IPxx:
The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989+A1:1999+A2:2013

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Documents / Resources

	KERN SAUTER FK Series Digital Force Gauge [pdf] User Guide SAUTER FK Series, Digital Force Gauge, SAUTER FK Series Digital Force Gauge, Force Gauge, Gauge

References

- SAUTER – professionelle und verlässliche Messtechnik - Sauter