SAUTER

Digital force gauge SAUTER FH-M

Universal digital force gauge for tensile and compressive force measurements with external measuring cell

Features

- Turnable display with backlight
- Data interface RS-232, standard
- Delivered in a robust carrying case
- Selectable measuring units: N, kN, kgf, tf
- Peak-Hold function to capture peaks (measurement result will be "frozen" for a short time) or Track function mode for a continuous measurement indication
- Measuring with tolerance range (limit-setting function): Upper and lower limit adjustable, in pull and push direction. The process is supported by an audible and visual signal.
- Auto-Power-Off
- Internal memory for up to 10 measurement values
- Mini Statistics Kit: calculates the average result from up to 10 stored measured values, as well as, min., max., n

Technical data

- Measuring frequency: 2000 Hz
- Transfer rate to PC: approx. 25 measured values per second
- Measuring precision: 0,5 % of [Max]
- Overload protection: 150 % of [Max]
- Dimensions housing W×D×H 66×36×230 mm
- Rechargeable battery pack integrated, standard, operating time up to 12 h without backlight, charging time approx. 4 h
- 1️⃣ Tension loops and compression plates are included in delivery
- Cable length approx 3 m

Accessories

- Data transfer software with graphic display of the measurement process, SAUTER AFH FAST
  Force-displacement only in combination with SAUTER LD, SAUTER AFH LD
  Force-displacement only in combination with SAUTER LB, SAUTER AFH FD
- RS-232/PC connection cable to connect models from the SAUTER FH range to a PC or a printer, SAUTER FH-A01
- Matrix needle printer, KERN YKN-01
- Thermal printer, KERN YKB-01N
- Statistics thermal printer, KERN YKS-01
- Label printer, KERN YKE-01
- For further accessories see page 35 onwards or our website

STANDARD

| PEAK | PUSH/PULL | MEMORY | RS 232 | STATISTIC | TOL | ZERO | ACCU | 230 V | 1 DAY |

OPTION

| SWITCH | SOFTWARE | DAkkS +4 DAYS | ISO +4 DAYS |

Model	Measuring range [Max] kN	Readout [d] N	Dimensions load cell W×D×H mm	Thread		Option **DAkkS calibration certificate** (≤ 5 kN)/**Factory calibration certificates** (> 5 kN)		
						Tensile force	**Compressive force**	**Tensile/Compressive force**
SAUTER	kN	N	mm			KERN	KERN	KERN
FH 1K	1	0,5	76,2×51×19	M12		963-162	963-262	963-362
FH 2K	2	1	76,2×51×19	M12		963-162	963-262	963-362
FH 5K	5	1	76,2×51×28,2	M12		963-163	963-263	963-363
FH 10K	10	5	76,2×51×28,2	M12		961-164	961-264	961-364
FH 20K	20	10	76,2×51×28,2	M12		961-164	961-264	961-364
FH 50K	50	10	108×76,3×25,5	M18×1,5		961-165	961-265	961-365
FH 100K	100	50	178×152,2×51,3	M30×2		961-166	961-266	961-366

❗ Further calibration options on request

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

Internal memory:
To save measurements in the device memory

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

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.

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

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

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

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

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

Network interface:
For connecting the scale/measuring instrument 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 record keeping:
Of measurement data with date, time and serial number. Only with SAUTER printers

Measuring units:
Weighing units can be switched to e.g. non-metric at the touch of a key. Please refer to website for more details

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

Protection against dust and water splashes IPxx:
The type of protection is shown in the pictogram.

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

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

Power supply:
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)

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

Verification possible:
The time required for verification is specified in the pictogram

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

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

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Your KERN specialist dealer: