

## Digital force gauge SAUTER FL-TM

**NEW** **PREMIUM** ★★★



**Note:** The shown measuring cell is not included in the scope of delivery! Combine the FL TM with a measuring cell suitable for your application from the SAUTER program, such as CR P1, CR Q1, CS P1 or CS Q1

Digital Premium force gauge with graphics display for tensile and compressive force measurements, prepared for external measuring cells

### Features

- **Premium force-measuring** for connection of external measuring cells (measuring cell, tension loops and pressure plates not included with delivery)
- **Adjustable nominal loads:** 5 N, 10 N, 25 N, 50 N, 100 N, 250 N, 500 N, 1 kN, 2.5 kN, 5 kN, 10 kN, 20 kN, 50 kN
- Maximum resolution 2500 d
- **Premium force gauge** with external measuring cell, tension loops and compression plates included in delivery
- **Peak-Hold function** to capture peaks (measurement result will be "frozen" for a short time) or **Track function** mode for a continuous measurement indication
- **Metal housing** for durable usage in harsh environmental conditions
- **Capacity display:** A bar lights up to show how much of the measuring range is still available
- **Measuring with tolerance range (liwith-setting function):** Upper and lower liwithing can be programmed individually, in pull and push direction. The process is supported by an visual signal.

- **Internal memory** for up to 500 measurement values
- **Continuous analogue output:** Linear voltage signal in dependence to the load (-2 to +2 V)
- **Data interface USB** standard
- **Data interface RS-232 standard,** only for connection to the printer
- **Selectable measuring units:** N, kN, kg, oz, lbf

### Technical data

- Internal measuring frequency: 1000 Hz
- Transfer rate to PC: approx. 25 measured values per second
- Measuring precision: 0,2 % of [Max]
- Overload protection: 120 % of [Max]
- Overall dimensions: W×D×H 175×75×30 mm
- Rechargeable battery pack integrated, standard, operating time up to 10 h without backlight, charging time approx. 8 h
- Net weight approx. 0,5 kg

### Accessories

- **Plug-In for data transfer of measuring data** from the measuring instrument and transfer to a PC, e.g. in Microsoft Excel®, SAUTER AFI-1.0
- **Force-displacement data transfer software** with graphic display of the measurement process, only in combination with SAUTER LD, SAUTER AFH LD
- **Force-time data transfer software** with graphic display of the measurement process, SAUTER AFH FAST
- **Force-displacement data transfer software** with graphic display of the measurement process, only in combination with SAUTER LB, SAUTER AFH FD
- **USB cable,** SAUTER FL-A01
- **RS-232 adapter cable,** SAUTER FL-A04
- **Option FL-C01:** Solder connector for FL TM to measuring cell and adjusting the device, SAUTER

#### STANDARD



#### OPTION





































<b>Model</b>	
<b>SAUTER</b>	
<b>FL TM</b>	

Option <b>DAKkS calibration certificate</b> (≤ 5 kN)/ <b>Factory calibration certificates</b> (> 5 kN)						
Option	Measuring range optional load cell	Tensile force		Compressive force		Tensile/Compressive force
Load cell		KERN		KERN		KERN
Load cells see page S. 87-97	≤ 500 N	963-161		963-261		963-361
	≤ 2 kN	963-162		963-262		963-362
	≤ 5 kN	963-163		963-263		963-363
	≤ 20 kN	961-164		961-264		961-364
	≤ 50 kN	961-165		961-265		961-365
	≤ 120 kN	961-166		961-266		961-366

Further calibration options on request

## Pictograms

 <b>Adjusting program (CAL):</b> For quick setting of the instrument's accuracy. External adjusting weight required.	 <b>Control outputs (optocoupler, digital I/O):</b> to connect relays, signal lamps, valves, etc.	 <b>ZERO:</b> Resets the display to "0".
 <b>Calibration block:</b> standard for adjusting or correcting the measuring device.	 <b>Analogue interface:</b> to connect a suitable peripheral device for analogue processing of the measurements	 <b>Battery operation:</b> Ready for battery operation. The battery type is specified for each device.
 <b>Peak hold function:</b> capturing a peak value within a measuring process.	 <b>Statistics:</b> using the saved values, the device calculates statistical data, such as average value, standard deviation etc.	 <b>Rechargeable battery pack:</b> rechargeable set.
 <b>Scan mode:</b> continuous capture and display of measurements.	 <b>PC Software:</b> to transfer the measurement data from the device to a PC.	 <b>Mains adapter:</b> 230V/50Hz in standard version for EU. On request GB, AUS or USA version available.
 <b>Push and Pull:</b> the measuring device can capture tension and compression forces.	 <b>Printer:</b> a printer can be connected to the device to print out the measurement data.	 <b>Power supply:</b> Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request.
 <b>Length measurement:</b> captures the geometric dimensions of a test object or the movement during a test process.	 <b>Network interface:</b> For connecting the scale to an Ethernet network.	 <b>Motorised drive:</b> The mechanical movement is carried out by a electric motor.
 <b>Focus function:</b> increases the measuring accuracy of a device within a defined measuring range.	 <b>KERN Communication Protocol (KCP):</b> 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.	 <b>Motorised drive:</b> The mechanical movement is carried out by a synchronous motor (stepper).
 <b>Internal memory:</b> to save measurements in the device memory.		 <b>Fast-Move:</b> the total length of travel can be covered by a single lever movement.
 <b>Data interface RS-232:</b> bidirectional, for connection of printer and PC.	 <b>GLP/ISO record keeping:</b> of measurement data with date, time and serial number. Only with SAUTER printers	 <b>DAkkS calibration possible:</b> The time required for DAkkS calibration is shown in days in the pictogram.
 <b>Data interface USB:</b> To connect the measuring instrument to a printer, PC or other peripheral devices.	 <b>Measuring units:</b> Weighing units can be switched to e.g. non-metric at the touch of a key. Please refer to website for more details.	 <b>Factory calibration:</b> The time required for factory calibration is specified in the pictogram.
 <b>WLAN data interface:</b> To transfer data from the balance to a printer, PC or other peripherals.	 <b>Measuring with tolerance range (limit-setting function):</b> Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model	 <b>Package shipment:</b> The time required for internal shipping preparations is shown in days in the pictogram.
 <b>Data interface Infrared:</b> To transfer data from the measuring instrument to a printer, PC or other peripheral devices.		 <b>Pallet shipment:</b> The time required for internal shipping preparations is shown in days in the pictogram.

## Your KERN specialist dealer:

**Impex Produkter AS**  
**Gamle Drammensvei 107**  
**1363 Høvik**  
**www.impex.no**  
**info@impex.no**  
**Tel.: 22 32 77 20**