



# **LENGTH MEASUREMENT**

Industry | Laboratory | Quality Assurance



### **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



#### 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



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



#### WIFI 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



#### **Analogue 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 measure ment 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)**

lt 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. 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 cf. DIN EN 60529:2000-09, IEC 60529:1989 +A1:1999+A2:2013



#### **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



#### Integrated power supply unit

Integrated, 230V/50Hz in EU. More standards e.g. GB. AUS or US 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



Conformity assessment Models with type approval for construction of verifiable systems



### **DAkkS** calibration

possible The time required for DAkkS calibration is shown



#### Factory calibration (ISO)

in days in the pictogram

The time required for factory calibration is specified in the pictogram



#### Package shipment

The time required for internal shipping prepara-tions is shown in days in the pictogram



#### Pallet shipment

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

#### **SAUTER Models A-Z**

281/285	
283	6 7 5
287/289	5
AE 500	34
AFH FAST	35
AFH FD/AFH LD AFI 2.0	36 37
C	
CB	92 84
CE HSx	85
CJ CK	96
CP	88-89
CT CS CW	94-95 98-100
D	
DA	
DB DC Y1 · DC Y2	42 87
F	
FAFC	
FC 1K-BT	21
FG FH-M	20
FH-S	12
FL-M	15
FL-S FS	16-17
FS Set	18-19
Н	4.6
HB	61
HE HK-D/-DB	58 64
HMM/-NP	65
HN-D	6 <i>6</i>
НО	70-71
JCS	80-81
JCT	48
JIT	78
LB	39
S	
\$71	24 32
SD-MSO	/3
SPSU	75
SW	76-77
TB	44
TB-US	50
TC	
TE	46
TI	62
TI-HETN-EE	54
TN-GOLD	52
TO-EE	5 <i>6</i>
TVL/-E/-O/XLS	55 22
TVM-N/-NL/-LB	28-29
TVO-S/-LD	26-27
TVP/-L TVS/-LD	
Υ	
YKV	83

### **SAUTER Customer Consultants**

With questions about our products and services, we will be happy to advise you:

#### **Product Specialist Measuring Technology**



Irmgard Russo
Tel. +49 7433 9933-208
info.sauter@kern-sohn.com

PL, LV, LT, EE, SK, CZ, HU

Mark Hauder
Tel. +49 7433 9933-310
Mobil +49 160 3378426
mark.hauder@kern-sohn.com

SL, HR, AL, MK, BG, BA, ME, RO, GR, CY, GUS

North America, Africa, Asia, Middle East,

### **Product Specialist Measuring Technology**



Helga Biselli Tel. +49 7433 9933-188 info.sauter@kern-sohn.com



**Ariana Sevcenco**Tel. +49 7433 9933-203
Mobil +49 151 72434692
ariana.sevcenco@kern-sohn.com

#### **Product Specialist Measuring Technology**



Andreas Vossler Tel. +49 7433 9933-243 info.sauter@kern-sohn.com





UK, BE, IRE, IS, LUX, NL



Maren Neff Tel. +49 7433 9933-132 Mobil +49 151 46143240 maren.neff@kern-sohn.com

Category Manager Industrial Measuring Technology



Michael Stingel Tel. +49 7433 9933-293 michael.stingel@kern-sohn.com

Sales & Marketing Manager



**Stephan Ade** Tel. +49 7433 9933-121 Mobil +49 171 3060086 ade@kern-sohn.com

### **SAUTER Hotlines**



Technical questions about our products?
You will find assistance here quickly: +49 7433 9933-...

## Service Hotline → 199

for general technical questions about your SAUTER product

### SAUTER Measuring Instruments → 555

for all technical questions concerning our SAUTER measuring instruments, test benches, force measuring accessories (clamps etc.), SAUTER software

### Industrial Scales → 333

for all technical questions concerning our basic scales (laboratory & industry), pocket balances, school balances, bench scales, price-computing scales, platform scales, counting scales, counting systems, floor scales, pallet truck scales, crane scales, veterinary scales

#### **System Solutions Industry 4.0**

**→200** 

for all technical questions concerning the interlocking of the latest information and communication technology with our scales, load cells and measuring devices as well as questions about KERN software







## Distance measurement directly in machines or sites with RS-232 interface

#### **Features**

- Digital sliding calliper with a superior precision even at high transversal movement speed
- · Easy mounting to machine tools, conveyer, test stands e.g. SAUTER TVL-O, TVL-E, TVL-XLS, TVM-N etc.
- Zeroing, pre-added and pre-reduced length as well as switching the unit can be done manually
- · Data interface RS-232 as standard
- · Selectable measuring units: mm, inch

#### **Technical data**

- Overall dimensions W×D×H 350×42×30 mm
- Battery operation, batteries standard (3 V CR2032)

### Accessories

- RS-232/PC connection cable, SAUTER LB-A01, **€ 390,**-
- Mounting the length measuring device LB onto a SAUTER test stand at the factory, SAUTER LB-A02, € 210,-





OPTION	
	ISO
SOFTWARE	+4 DAYS
SOFTWARE	+4 DAYS

Model	Measuring range	Readout	Direction of measurement	Price excl. of VAT	Option  Factory calibration certificate	
	[Max]	[d]		ex works	•	
SAUTER	mm	mm		€	KERN	€
LB 200-2	200	0,01	vertical/horizontal	1140,-	961-150	167,-
LB 300-2	300	0,01	vertical/horizontal	1250,-	961-150	167,-
LB 500-2	500	0,01	vertical/horizontal	1200,-	-	-

### The oldest Precision Balance Factory in Germany

#### **SAUTER GmbH**

c/o KERN & SOHN GmbH

Ziegelei 1 72336 Balingen Germany Tel. +49 7433 9933-0 info@sauter.eu www.kern-sohn.com

# Discover the multifaceted World of Balances and Measuring Technology from SAUTER online: www.kern-sohn.com

- → Full KERN & SAUTER Product Range
- → Convenient 24/7 Ordering
- → Selection of more than 5,000 Items across Weighing and Measuring Technology, Optical Instruments as well as Accessories and Services
- → Extensive Information and useful Download Options
- → Technical Product Data Sheets
- → Operating Instructions
- → Descriptive Image and Video Material

- → Useful KERN Services
- → Technical Glossary
- → KERN Dealer Portal
- → Practical Filter and Search Functions











