

SCALE KITS

Industry | Laboratory | Quality Assurance



2025

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



Focus function

test process

Increases the measuring accuracy of a device within a defined measuring range



Internal memory To save measurements in the device memory



Data interface RS-232Bidirectional, 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 interfaceTo 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 in days in the pictogram



Factory calibration (ISO)

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	
287/289	[;]
AE 500	34
AFH FAST	35
AFH FD/AFH LD	36 37
AFI 2.0	
CB	92
CE HSx	84 85
CJ	96
CF	88-89
CR	9
CTCSCW	94-95
	98-100
DA	4
DB	42
DC Y1 · DC Y2	87
FA	3
FC	10
FC 1K-BT FG	20
FH-M FH-S	13
FK	
FL-M FL-S	15 14
FS	16-17
FS Set	10-15
HB	60
HD HE	6
HK-D/-DB	64
HMM/-NP HMO	65 67
HN-D HO	
J	/0-/
JCS	80-8
JCT JIT	48 78
L	
LB	39
S	
S71 SD-M	24
SO	73
SPSU	74 75
SW	76-7 <i>7</i>
TB	44
TB-US	5(
TC TD-US	45 5
TE	46
TF/TGTI	62
TI-HE TN-EE	59 54
TN-GOLD	52
TN-US TO-EE	5 <i>6</i>
TU-US	5 <i>5</i>
TVM-N/-NL/-LB	28-29
TVO	
TVP/-Ĺ	23
TVS/-LD	30-3
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

Product Specialist Measuring Technology



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



Ariana SevcencoTel. +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

North America, Africa, Asia, Middle East, Oceania, TR



Corinna Matthes
Tel. +49 7433 9933-215
Mobil +49 151 44568364
corinna.matthes@kern-sohn.com

 $\mathsf{UK}, \, \mathsf{BE}, \, \mathsf{IRE}, \, \mathsf{IS}, \, \mathsf{LUX}, \, \mathsf{NL}$



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 <u>ade@kern-soh</u>n.com

SAUTER Hotlines



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

Service Hotline

for general technical questions about your SAUTER product

→555

→ 199

SAUTER Measuring Instruments

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

IP 65





Scale kit with build-type approval for individual assembly of floor scales – suitable for use in harsh industrial environments with humid environmental conditions

Features

Weighing solutions, e.g. for industry, automotive manufacturing and agriculture, in order to fulfil the diverse requirements in terms of dimensions, materials, combinations of peripheral devices, etc. Especially suitable, for example, for the manufacture of platform scales, weigh hoppers, silo scales, as well as flush-mounted floor scales. Area of use: Measuring mass and compressive force in harsh environments

- Details for weighing cells:
- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- ■ Protection against dust and water splashes IP67 (in accordance with EN 60529)
- Nickel-plated steel
- Nominal sensitivity: 3 mV/V
- 4-wire connection
- Junctionbox SAUTER CJ P4PG:
- The robust aluminium diecast housing
- Protection against dust and water splashes IP65
- Note: Use the SAUTER CW in combination with one of our display devices, for example, KFS-TM, YKV, CE HS (see *internet*)

Accessories

- Assembly of components,
 50 kg 350 kg, KERN 965-412, € 119,-
- Assembly of components,
 350 kg 1500 kg, KERN 965-413, € 143,-
- Assembly of components,
 2900 kg 6000 kg, KERN 965-415, € 300,-

Note: For individual special solutions we have special scale kits available for you which you can use to create a tailor-made solution which is just right for you. In this way you can use the most varied platform sizes or individual weighing systems, e.g. within larger production plants, which match your requirements perfectly.

Model	Nominal load	Scope of delivery Load cells	Scope of delivery	Price excl. of VAT ex works
SAUTER	kg			€
CW 300	300	4 × CB 100-3P1		640,-
CW 750	750	4 × CB 250-3P1	- 4 Adjustable feet CE P2012	640,-
CW 1500	1500	4 × CT 500-3P2	- 4 Distance plates CE P3012	580,-
CW 3000	3000	4 × CT 1000-3P2	- 1 Junction box CJ P4PG	590,-
CW 4500	4500	4 × CT 1500-3P1	_	580,-
CW 7500	7500	4 × CT 2500-3P1	- 4 Adjustable feet CE P2018	680,-
CW 9000	9000	4 × CT 3000-3P2	- 4 Distance plates CE P3015	680,-
CW 15000	15000	4 × CT 5000-3P1	- 1 Junction box CJ P4PG	690,-
CW 300KFB	300	4 × CB 100-3P1	4 D'	920,-
CW 750KFB	750	4 × CB 250-3P1	- 1 Display device KFB-TM	920,-
CW 1500KFB	1500	4 × CT 500-3P2	- 4 Adjustable feet CE P2012- 4 Distance plates CE P3012	860,-
CW 3000KFB	3000	4 × CT 1000-3P2	1 Junction box CJ P4PG	860,-
CW 4500KFB	4500	4 × CT 1500-3P1	- I Juniouou Box OJ I 41 G	860,-
CW 7500KFB	7500	4 × CT 2500-3P1	- 1 Display device KFB-TM	970,-
CW 9000KFB	9000	4 × CT 3000-3P2	- 4 Adjustable feet CE P2018	980,-
CW 15000KFB	15000	4 × CT 5000-3P1	- 4 Distance plates CE P3015 - 1 Junction box CJ P4PG	980,-





SAUTER CW KFNB

Scale kit for individual assembly of floor scales – suitable for use in harsh industrial environments with humid environmental conditions

Features

- With SAUTER scale kits, individual weighing solutions can be put together, for example, individual balance manufacturing in agriculture or the food industry. In this way, a wide range requirements in terms of dimensions, materials, combinations of peripheral devices etc. can be fulfilled. Especially suitable for the manufacture of platform scales, weigh hoppers, silo scales, weighing devices for manure spreaders in agriculture, weighing device in municipal vehicles, e.g. waste disposal or winter road services, flush-mounted floor scales and other weighing devices
- Details for weighing cells:
- CE and RoHS compliant
- In Protection against dust and water splashes IP68/IP69K
- Stainless steel

SAUTER CW RB

- 2-wire connection
- Nominal sensitivity: 3 mV/V
- Junctionbox SAUTER CJ X467:
- 2 Robust housing made of stainless steel with IP67 dust and spray protection
- Note: Use the SAUTER CW RB in combination with one of our display devices, for example, KFS-TM, YKV, CE HS (see internet)

Accessories

- Assembly of components,
 50 kg 350 kg, KERN 965-412, € 119,-
- Assembly of components,
 350 kg 1500 kg, KERN 965-413, € 143,-

Note: For individual special solutions we have special scale kits available for you which you can use to create a tailor-made solution which is just right for you. In this way you can use the most varied platform sizes or individual weighing systems, e.g. within larger production plants, which match your requirements perfectly.



Model SAUTER	Nominal load kg	Scope of delivery Load cells	Scope of delivery	Price excl. of VAT ex works €
CW 300R	300	4 × CB 100-3Q1	- 1 Junction box CJ X467	1090,-
CW 600R	600	4 × CB 200-3Q1	- 1 Junction box CJ X467	1090,-
CW 300RKFN	300	4 × CB 100-3Q1	 1 Display device KFN-TM 	1490,
CW 600RKFN	600	4 × CB 200-3Q1	- 1 Junction box CJ X467	1490,-



Scale kit for individual assembly of floor scales – suitable for use in harsh industrial environments with humid environmental conditions

Features

With SAUTER scale kits, individual weighing solutions can be put together, for example, individual balance manufacturing in industry, automotive manufacturing and agriculture. In this way, a wide range requirements in terms of dimensions, materials, combinations of peripheral devices etc. can be fulfilled. Especially suitable for the manufacture of platform scales, weigh hoppers, silo scales, flush-mounted floor scales and other weighing devices. Area of use: Measuring mass as well as compressive force in harsh environments

- Details for weighing cells:
- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP68/IP69K
- alloy steel
- 6-wire connection
- Nominal sensitivity: 2 mV/V
- Junctionbox SAUTER CJ X467:
- Robust housing made of stainless steel with IP67 dust and spray protection
- Note: Use the SAUTER CW R in combination with one of our display devices, for example, KFS-TM, YKV, CE HS (see internet)

Accessories

- Assembly of components,
 350 kg 1500 kg, KERN 965-413, € 143,-
- Assembly of components,
 2900 kg 6000 kg, KERN 965-415, € 300,-

Note: For individual special solutions we have special scale kits available for you which you can use to create a tailor-made solution which is just right for you. In this way you can use the most varied platform sizes or individual weighing systems, e.g. within larger production plants, which match your requirements perfectly.

STANDARD



Model	Nominal load kg	Scope of delivery Load cells	Scope of delivery	Price excl. of VAT ex works €
CW 1500R	1500	4 × CT 500-3Q1	4.4.1	1200,-
CW 3000R	3000	4 × CT 1000-3Q1	- 4 Adjustable feet CE RQ12	1610,- 1200,-
CW 4500R	4500	4 × CT 1500-3Q1	- 4 Distance plates CE P3012- 1 Junction box CJ X467	
CW 6000R	6000	4 × CT 2000-3Q1	- 1 Juliction box CJ X407	1200,-
CW 9000R	9000	4 × CT 3000-3Q1	4 Adjustable feet CE RQ35917 - 4 Distance plates CE P3015 - 1 Junction box CJ X467	2890,-
CW 1500RKFN	1500	4 × CT 500-3Q1	- 1 Display device KFN-TM	1610,-
CW 3000RKFN	3000	4 × CT 1000-3Q1	- 4 Adjustable feet CE RQ12	1610,-
CW 4500RKFN	4500	4 × CT 1500-3Q1	- 4 Distance plates CE P3012	1610,-
CW 6000RKFN	6000	4 × CT 2000-3Q1	- 1 Junction box CJ X467	1610,-
CW 9000RKFN	9000	4 × CT 3000-3Q1	- 1 Display device KFN-TM - 4 Adjustable feet CE RQ35917 - 4 Distance plates CE P3015 - 1 Junction box CJ X467	3290,-

Accredited Calibration with Calibration Certificate for Force Gauges

The KERN calibration laboratory is at your side when you need to calibrate with accreditation reliably. From the transducer to the full measuring chain, we are happy to take care of traceable calibration of your test equipment for you. Our accreditation includes the calibration of tensile and compressive force up to 5 kN according to the standards DIN EN ISO 376 and DKD-R 3-3, each with the Newton (N) display unit for a complete measuring chain (situation A) or voltage ratio/transmission coefficient (mV/V, situation B).

Below you will find a comparison of which standard meets which criteria:

Comparison of DIN EN ISO 376 and DKD-R 3-3

	ISO 376	DKD-R 3-3	
Standardization	ISO standard (internationally standardized)	Standard of the DKD (Germany)	
Measuring equipment	Force transducers and complete measuring chains	Force transducers and complete measuring chains	
Area of application	Specifically force gauges for the testing of testing equipment	General force gauges	
Number of power stages	8	5	
Classification/Assessment	Classification in classes 00; 0,5; 1 and 2	None in standard	
Test sequences	Fixed procedure	Processes A, B, C and D possible. Standard is A; B, C and D are reduced processes, corresponding previous knowledge is necessary	
Summary	Higher-quality calibration, as 8 force levels are calibrated	High-quality calibration, reduced sequences with less effort possible	

Prices for accredited Calibration of Force Gauges and Force Transducers

Situation A: Force transducer (voltage ratio, in mV/V) $^{\star\,1,2}$

	ISO 376 (8 stages)		DKD-R 3	-3 (5 stages, seque	ence A)
KERN	Measuring range	Price € ex works excl. of VAT	KERN	Measuring range	Price € ex works excl. of VAT
Tensile force:	,				
963-161IV (R)	≤ 500 N	250,-	963-161V (R)	≤ 500 N	235,-
963-162IV (R)	≤ 2 kN	300,-	963-162V (R)	≤ 2 kN	280,-
963-163IV (R)	≤ 5 kN	390,-	963-163V (R)	≤ 5 kN	360,-
Compression	force:				
963-261IV (R)	≤ 500 N	250,-	963-261V (R)	≤ 500 N	235,-
963-262IV (R)	≤ 2 kN	300,-	963-262V (R)	≤ 2 kN	280,-
963-263IV (R)	≤ 5 kN	390,-	963-263V (R)	≤ 5 kN	360,-
Tensile and Co	ompression force:				
963-361IV (R)	≤ 500 N	420,-	963-361V (R)	≤ 500 N	390,-
963-362IV (R)	≤ 2 kN	500,-	963-362V (R)	≤ 2 kN	465,-
963-363IV (R)	≤ 5 kN	670,-	963-363V (R)	≤ 5 kN	610,-

Situation B: Complete force gauge (in N)*2

IS	SO 376 (8 stages)		DKD-R 3	3-3 (5 stages, seque	ence A)
KERN	Measuring range	Price € ex works excl. of VAT	KERN	Measuring range	Price € ex works excl. of VA
Tensile force:					
963-161I (R)	≤ 500 N	205,-	963-161 (R)	≤ 500 N	187,-
963-162I (R)	≤ 2 kN	250,-	963-162 (R)	≤ 2 kN	225,-
963-163I (R)	≤ 5 kN	345,-	963-163 (R)	≤ 5 kN	315,-
Compression for	ce:				
963-261I (R)	≤ 500 N	205,-	963-261 (R)	≤ 500 N	187,-
963-262I (R)	≤ 2 kN	250,-	963-262 (R)	≤ 2 kN	225,-
963-263I (R)	≤ 5 kN	345,-	963-263 (R)	≤ 5 kN	315,-
Tensile and Comp	pression force:				-
963-361I (R)	≤ 500 N	375,-	963-361 (R)	≤ 500 N	340,-
963-362I (R)	≤ 2 kN	460,-	963-362 (R)	≤ 2 kN	420,-
963-363I (R)	≤ 5 kN	620,-	963-363 (R)	≤ 5 kN	560,-

(R): Recalibration
For each force gauge without interface
or from other manufacturers we charge a
surcharge of € 10,- for the additional effort.

1 Compatibility with our amplifiers required
1 Installation in our measuring equipment
required

Factory Calibration Certificates

As DAkkS calibration certificates cannot be offered for all measuring devices or measurement sizes, or where it is not customary, we then offer factory calibration certificates. This is not an accredited calibration (no proof of metrological traceability). These calibrations are carried out according to in-house specifications and are available for many measuring instruments, such as:

- Mechanical balances (spring balances, etc.)
- · Force-measuring devices up to 250 kN
- Measuring devices for layer thickness 0 μm 2000 μm
- · Hardness testing devices in accordance with Leeb tests
- Ultrasonic material thickness testing device 25 mm 300 mm

We carry out calibrations independent of brand. In order to avoid any unnecessary delays when processing your order, please send us the technical documents and necessary accessories with the checking device. Calibration time 4 working days.

For up-to-date information on test services for further measuring sizes, please visit our website www.kern-lab.com

Factory Calibration for Force

Situation A: Force transducer (voltage ratio, in mV/V)*1,2 Complete force gauge (in N)*2 KERN Measuring Price Measuring Price **KERN** excl. of VAT excl. of VAT range range ex works ex works € € Tensile force: 961-161V (R) ≤ 500 N 235, 961-161 (R) ≤ 500 N 187,-961-162V (R) ≤ 2 kN 280.-961-162 (R) ≤ 2 kN 225.-961-163V (R) ≤ 5 kN ≤ 5 kN 360,-961-163 (R) 315,-961-164V (R) ≤ 20 kN ≤ 20 kN 460, 961-164 (R) 410,-961-165V (R) ≤ 50 kN 460,-961-165 (R) ≤ 50 kN 410.-961-166V (R) ≤ 120 kN 495,-961-166 (R) ≤ 120 kN 455,-961-167V (R) ≤ 250 kN 495,-961-167 (R) ≤ 250 kN 455,-Compression force: 961-261V (R) ≤ 500 N 235,-961-261 (R) ≤ 500 N 187,-961-262V (R) ≤ 2 kN 280,-961-262 (R) ≤ 2 kN 225.-961-263V (R) ≤ 5 kN 360,-961-263 (R) ≤ 5 kN 315,-961-264V (R) $\leq 20 \text{ kN}$ 460,-961-264 (R) $\leq 20 \text{ kN}$ 410,-961-265V (R) ≤ 50 kN 460,-961-265 (R) ≤ 50 kN 410,-961-266V (R) ≤ 120 kN 495,-961-266 (R) ≤ 120 kN 455,-961-267V (R) ≤ 250 kN 495,-961-267 (R) ≤ 250 kN 455,-Tensile and Compression force: ≤ 500 N 340.-961-361V (R) ≤ 500 N 390,-961-361 (R) 961-362V (R) ≤ 2 kN 465. 961-362 (R) ≤ 2 kN 420,-961-363V (R) ≤ 5 kN ≤ 5 kN 610, 961-363 (R) 560.-961-364V (R) ≤ 20 kN 660,-961-364 (R) ≤ 20 kN 610.-961-365V (R) ≤ 50 kN 96<u>1-365</u> (R) ≤ 50 kN 660, 610,-961-366V (R) ≤ 120 kN 720,-961-366 (R) ≤ 120 kN 670,-

(R): Recalibration

961-367V (R)

For each force gauge without interface or from other manufacturers we charge a surcharge of € 10,– for the additional effort.

961-367 (R)

≤ 250 kN

670,-

720,-

≤ 250 kN

Factory Calibration Certificates

KERN	Physical unit	Measuring range	Price excl. of VAT ex works €	
Factory calib	ration			
961-102K	Force (for digital dynamometer KERN MAP)	≤ 130 kg	167,-	
961-110	Coating thickness	≤ 2000 µm F or N	167,-	
961-112	Coating thickness	≤ 2000 µm FN	235,-	
961-113	Wall thickness (ultra sound)	≤ 300 mm (in stainless steel)	167,-	
961-170	Hardness comparison plate (Shore)	For sets up to 7 plates	132,-	
961-131	Hardness tester (Leeb)	400 – 800 HLD	167,-	
961-132	Hardness comparison plate (Leeb)	Hardness comparison plate (for Leeb durometer)	167,-	
961-270	Hardness (UCI)	200 – 800 HV	360,-	
961-150	Length	≤ 300 mm	167,-	
961-190	Light	≤ 200000 lx	325,-	
961-100	Mass (Mechanical balances/ spring balances)	≤ 5 kg	99,-	
961-101	Mass (Mechanical balances/ spring balances)	> 5 - 50 kg	123,-	
961-102	Mass (Mechanical balances/ spring balances)	> 50 - 350 kg	146,-	
961-103	Mass (Mechanical balances/ spring balances)	> 350 - 1500 kg	225,-	
961-120	Torque wrench test devices	1 Nm – 200 Nm	235,-	
Additional se	ervices			
962-116	Express service with 48 hour delivery		52,-/ instrument	

^{*1} Compatibility with our amplifiers required

^{*2} Installation in our measuring equipment required

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











