

10

LOAD CELLS



Various accuracy classes with nominal loads from 300 g to 100 t and protection classes up to IP69K are available to you in the SAUTER product range. Whatever the project – whether it's the development of customised weighing systems, installation in silos and storage tanks or in shelving for continuous inventory, for special application in mechanical engineering or in any type of test stand – SAUTER can offer you just the right load cell.

Of course, we can also supply you with the appropriate accessories such as load corners, pivot heads, display devices, junction boxes or the relevant calibration certificate at the same time.

Any special requests? Do you need special load cells, other capacities or cable lengths, individual force test stands or a special mount for your test item? No problem, our product specialist for load cells Mr Stefan Herrmann is available at any time to help you and will work with you to develop a customised concept for your application.

Accuracy class	Combined error
C5	≤ 0,01 %
C4	≤ 0,015 %
C3	≤ 0,02 %
C2	≤ 0,03 %
C1	≤ 0,05 %
G1	≤ 0,1 %
G2	≤ 0,2 %
G3	≤ 0,3 %
G5	≤ 0,5 %
G10	≤ 1,0 %

Note

Individual scale construction according to your individual requirements, also possible with third-party components

Tip: Analogue torque sensors are compatible with the SAUTER CE HSx display device (rail-mounted module)



Discover more details and matching accessories online!

DC Y1
Static torque sensor
made of alloy steel

Technical data

- High precision (comprehensive Error 0,5 % F.S.)
- RoHS compliant
- For monitoring or measurement of static torques, tests of manual torque wrenches or transfer of static load torques
- Nominal sensitivity: 1,0~1,5 mV/V, depending on nominal load
- Supply voltage max. 10 V DC
- 4-wire connection
- Simple and quick installation
- High torsional stiffness
- Cable length approx. 2 m

DC Y2
Static torque sensor
made of alloy steel

Technical data

- High precision (comprehensive Error 0,5 % F.S.)
- RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- For monitoring or measurement of static torques, tests of manual torque wrenches or transfer of static load torques
- Nominal sensitivity: 1,5 mV/V
- Supply voltage max. 15 V DC
- 4-wire connection
- High torsional stiffness
- Cable length approx. 2 m

Other designs and nominal loads on request

STANDARD



STANDARD



OPTION



Model Nominal load

SAUTER	Nm
DC 5-Y1	5
DC 10-Y1	10
DC 20-Y1	20
DC 50-Y1	50
DC 100-Y1	100
DC 200-Y1	200
DC 500-Y1	500

Model Nominal load

SAUTER	Nm
DC 200M-Y2	0,2
DC 1-Y2	1
DC 10-Y2	10
DC 20-Y2	20
DC 50-Y2	50



CP P4 · CP Y4
Single-point load cell
made of anodised aluminium

Technical data

- CP P4: Accuracy in accordance with OIML R60 C3
- CP Y4: Accuracy in accordance with OIML R60 C2
- CE and RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- Aluminium, anodised
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size: 200×200 mm
- Nominal sensitivity: 0,9 mV/V
- 4-wire connection
- Cable length approx. 0,4 m

CP P1 · CP Y1
Single-point load cell
made of anodised aluminium

Technical data

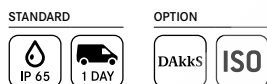
- CP P1: Accuracy in accordance with OIML R60 C3
- CP Y1: Accuracy in accordance with OIML R60 C2
- CE and RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- Aluminium, anodised
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size: 250×350 mm
- Nominal sensitivity: 2 mV/V
- 4-wire connection

CP P3
Single-point load cell
made of anodised aluminium

Technical data

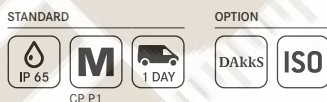
- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- Aluminium, anodised
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size: 350×400 mm
- Nominal sensitivity: 2 mV/V
- 4-wire connection
- Cable length approx. 3 m

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Model Nominal load

SAUTER	kg
CP 300-0P4	0,3
CP 600-0P4	0,6
ECO design	
CP 300-0Y4	0,3
CP 1500-0Y4	1,5
CP 3000-0Y4	3



Model Nominal load Cable length

SAUTER	kg	m
CP 3-3P1	3	0,4
CP 3-2-3P1	3	2
CP 5-3P1	5	0,4
CP 6-3P1	6	0,4
CP 8-3P1	8	0,4
CP 10-3P1	10	0,4
CP 10-3-3P1	10	3
CP 15-3P1	15	0,4
CP 15-3-3P1	15	3
CP 20-3P1	20	0,4
CP 30-3P1	30	0,4
CP 35-3P1	35	0,4
CP 35-3-3P1	35	3
CP 40-3P1	40	0,4
CP 50-3P1	50	0,4
CP 50-2-3P1	50	2
ECO design (without EC type approval)		
CP 3-2Y1	3	0,45
CP 5-2Y1	5	0,45
CP 10-2Y1	10	0,45
CP 15-2Y1	15	0,45
CP 20-2Y1	20	0,45
CP 30-2Y1	30	0,45
CP 100-3-3Y1	100	3



Model Nominal load

SAUTER	kg
CP 30-3P3	30
CP 40-3P3	40
CP 50-3P3	50
CP 75-3P3	75
CP 100-3P3	100

Discover more details and matching accessories online!



CP P2
Single-point load cell
made of aluminium

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- Aluminium alloy, anodized
- Suitable for price computing scales, bench scales etc.
- Maximum platform size
100 – 300 kg: 400×400 mm
400 – 500 kg: 450×450 mm
- 4-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 2 m
- Version in accordance with OIML R60 C4 or C5 on request

CP P7
Single-Point load cell
made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP67 (in accordance with EN 60529)
- Stainless steel
- Area of application: Mass as well as compressive force measurement in harsh environmental conditions
- Suitable for price computing scales, bench scales etc.
- Maximum platform size: 400×400 mm
- 6-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 1 m
- Version in accordance with OIML R60 C4 on request

CP P8
Single-point load cell
made of aluminium

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP65 (in accordance with EN 60529)
- Aluminium alloy, anodized
- Suitable for price computing scales, bench scales etc.
- Maximum platform size: 600×600 mm
- 6-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 3 m
- Version in accordance with OIML R60 C4 or C5 on request

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Discover more details and matching accessories online!

STANDARD: IP 65, 1 DAY
OPTION: DAkkS, ISO

STANDARD: IP 67, 1 DAY
OPTION: DAkkS, ISO

STANDARD: IP 65, 1 DAY
OPTION: DAkkS, ISO

Model Nominal load

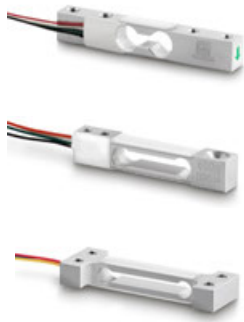
SAUTER	kg
CP 100-3P2	100
CP 150-3P2	150
CP 200-3P2	200
CP 300-3P2	300
CP 400-3P2	400
CP 500-3P2	500

Model Nominal load

SAUTER	kg
CP 30-3P7	30
CP 50-3P7	50
CP 75-3P7	75
CP 100-3P7	100
CP 150-3P7	150

Model Nominal load

SAUTER	kg
CP 50-3P8	50
CP 100-3P8	100
CP 150-3P8	150
CP 200-3P8	200
CP 250-3P8	250
CP 300-3P8	300
CP 500-3P8	500
CP 600-3P8	600



CK P1

CK P2

CK P4



CK Y1



CK Y4

CK P1 · CK P2 · CK P4
Miniature load cell
made of aluminium

Technical data

- High level of accuracy
- Comprehensive error
 CK P1 / CK P2: 0,03 %
 CK P4: 0,05 %
- Protection against dust and water splashes
 IP65 (in accordance with EN 60529)
- Aluminium
- Suitable for small scales and kitchen scales
 and force-measuring devices
- Cable length: 0,25 m

CK Y1 · CK Y4
Flat miniature alloy steel
load cell

Technical data

- Accuracy in accordance with OIML C1
- RoHS compliant
- High precision
 (comprehensive Error 0,05 % F.S.)
- Very low design
- Ideal, for example, for the construction of personal floor scales, kitchen scales, postal scales or other scales with minimal structural height
- Cable length: 0,45 m

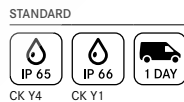
CK Y1

- Protection against dust and water splashes
 IP66
- Scope of delivery: 1 piece
- Full bridge circuit(junction box required to connect several measuring cells)

CK Y4

- Protection against dust and water splashes
 IP65
- Scope of delivery: 4 pieces
- Quarter bridge circuit: 4 weighing cells are connected to a full bridge
- No junction box necessary
- No corner adjustment

Discover more details and matching accessories online!



Model Nominal load

SAUTER	kg
CK 600-0P1	0,6
CK 1-0P1	1
CK 2-0P1	2
CK 3-0P1	3
CK 5-0P1	5
CK 6-0P1	6
CK 300-0P4	0,3
CK 500-0P4	0,5

Model Nominal load

SAUTER	kg
CK 10-Y1	10
CK 30-Y1	30
CK 10-Y4	40
CK 30-Y4	120
CK 50-Y4	200



CR Q1
Loadcell
made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 C1
- RoHS compliant
- Protection against dust and water splashes IP68 (in accordance with EN 60529), hermetically encapsulated
- Stainless steel
- Area of application: Measuring mass as well as compressive force
- Suitable for vehicle scales, weigh hoppers, vehicle testing equipment, test stands
- Nominal sensitivity: 2 mV/V
- Cable length 10 m

CR P1
Loadcell
made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP68 (in accordance with EN 60529), hermetically encapsulated
- Stainless steel
- Area of application: Measuring mass as well as compressive force
- Suitable for weighbridges, handing scales, silo scales and other types of balances, test stands, etc.
- Nominal sensitivity: 1 – 2 mV/V, depending on nominal load
- Cable length
[Max] ≤ 1000 kg: 3 m
[Max] ≥ 2000 kg: 6 m

CR Y1
Loadcell
made of steel alloy

Technical data

- Accuracy in accordance with OIML R60 C1
- RoHS compliant
- High precision (comprehensive Error 0,05 % F.S.)
- Protection against dust and water splashes IP68 (in accordance with EN 60529), hermetically encapsulated
- Alloy steel
- Area of application: for weight, tensile and compressive force measurement
- Suitable for weight measurement as well as force and force test stands
- Force transmission via pressure piece or threaded hole
- Nominal sensitivity: 2 mV/V
- Cable length: 3 m
- Pressure piece included with delivery
- Thread for pressure piece or other force application: up to 5000 kg M16×1,5, from 10000 kg M32×1,5

Discover more details and matching accessories online!

STANDARD

IP 68 1 DAY

OPTION

ISO

[Max] 25 t/250 kN

Model **Nominal load**

SAUTER

CR 2500-1Q1	2,5 t/25 kN
CR 5000-1Q1	5 t/50 kN
CR 10000-1Q1	10 t/100 kN
CR 20000-1Q1	20 t/200 kN
CR 30000-1Q1	30 t/300 kN

STANDARD

IP 68 4 DAYS

OPTION

DAkkS ISO

[Max] ≤ 500 kg/5 kN

Model **Nominal load**

SAUTER

CR 60-3P1*	60 kg/0,6 kN
CR 130-3P1*	130 kg/1,3 kN
CR 250-3P1*	250 kg/2,5 kN
CR 500-3P1*	500 kg/5 kN
CR 2000-3P1*	2000 kg/20 kN

! * ONLY WHILE STOCKS LAST

STANDARD

IP 68 1 DAY

OPTION

DAkkS ISO

[Max] ≤ 500 kg/5 kN

Model **Nominal load**

SAUTER

CR 500-1Y1	0,5 t/5 kN
CR 1000-1Y1	1 t/10 kN
CR 5000-1Y1	5 t/50 kN
CR 10000-1Y1	10 t/100 kN
CR 20000-1Y1	20 t/200 kN



CB Q1 · CB Q2
Bending beam and shear beam load cell made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP68/IP69K (in accordance with EN 60529), welded to create a hermetic seal
- Stainless steel
- Area of application: Measuring mass as well as compressive force in harsh environments
- Suitable for platform scales, weigh hoppers, floor scales and other weighing devices
- 4-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 3 m
- Accuracy class OIML R60 C6 or EX version on request

CB P1
Bending beam made of nickel-plated steel

Technical data

- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP67 (in accordance with EN 60529), hermetically encapsulated
- Nickel-plated steel
- Area of application: Measuring mass as well as compressive force in harsh environments
- Suitable for platform scales, silo scales, bed scales and other types of scales
- 4-wire connection
- Nominal sensitivity: 3 mV/V
- Cable length: 3 m

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Discover more details and matching accessories online!

STANDARD: IP 68, IP 69K, 1 DAY
 OPTION: DAkkS, ISO
[Max] ≤ 500 kg

STANDARD: IP 67, M, 1 DAY
 OPTION: DAkkS, ISO

Model	Nominal load
SAUTER	kg
CB 5-3Q1	5
CB 10-3Q1	10
CB 20-3Q1	20
CB 30-3Q1	30
CB 50-3Q1	50
CB 75-3Q1	75
CB 100-3Q1	100
CB 150-3Q1	150
CB 200-3Q1	200
CB 250-3Q1	250
CB 300-3Q1	300
CB 500-3Q1	500
CB 750-3Q2*	750
CB 1000-3Q2*	1000
CB 1500-3Q2*	1500

Model	Nominal load
SAUTER	kg
CB 100-3P1	100
CB 250-3P1	250

! * ONLY WHILE STOCKS LAST



CT Q1
Shear beam
made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP68/IP69K (in accordance with EN 60529), welded to create a hermetic seal
- Stainless steel
- Area of application: Measuring mass as well as compressive force in harsh environments
- Suitable for platform scales, weigh hoppers, flush-mounted floor scales and other weighing devices
- 6-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 5 m
- EX version on request

CT P1 · CT P2
Shear beam
made of nickel-plated steel

Technical data

- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Protection against dust and water splashes IP67 (in accordance with EN 60529), welded to create a hermetic seal
- Nickel-plated steel
- Area of application: Measuring mass as well as compressive force in harsh environments
- Suitable for platform scales, weigh hoppers, flush-mounted floor scales and other weighing devices
- 4-wire connection
- Nominal sensitivity: 3 mV/V
- Cable length
 [Max] ≤ 1000 kg: 4 m
 [Max] ≥ 1500 kg: 6 m
- CT P2: Delivery with calibrated sensitivity, when ordering several cells

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Discover more details and matching accessories online!

STANDARD: IP 68, IP 69K, 1 DAY
 OPTION: DAkkS, ISO
 [Max] ≤ 500 kg

STANDARD: IP 67, M, 1 DAY
 OPTION: DAkkS, ISO
 [Max] ≤ 500 kg

Model	Nominal load
SAUTER	kg
CT 300-3Q1	300
CT 500-3Q1	500
CT 750-3Q1	750
CT 1000-3Q1	1000
CT 1500-3Q1	1500
CT 2000-3Q1	2000
CT 3000-3Q1	3000
CT 5000-3Q1	5000
CT 7500-3Q1	7500
CT 10000-3Q1	10000

Model	Nominal load
SAUTER	kg
CT 500-3P1	500
CT 1000-3P1	1000
CT 1500-3P1	1500
CT 2500-3P1	2500
CT 3000-3P1	3000
CT 5000-3P1	5000
CT 10000-3P1	10000
CT 500-3P2	500
CT 1000-3P2	1000
CT 5000-3P2	5000
CT 3000-3P2	3000
CT 10000-3P2	10000



CS P1
4-wire “S” measuring cell
made of nickel-plated steel for
force and mass measurement

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP67 (in accordance with EN 60529), welded to create a hermetic seal
- Nickel-plated steel
- Area of application: for tensile and compressive force measurement
- Suitable for hanging scales, weigh hoppers and other weighing devices as well as force measurement devices and test stands
- **1** 4-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length
 [Max] ≤ 1500 kg: 3 m
 [Max] ≥ 2000 kg: 6 m
- Note: EX version or accuracy class C4 on request

CS Q1
6-wire “S” measuring cell
made of nickel-plated steel for
force and mass measurement

Technical data

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Protection against dust and water splashes IP67 (in accordance with EN 60529), hermetically encapsulated
- Nickel-plated steel
- Area of application: for tensile and compressive force measurement
- Suitable for hanging scales, weigh hoppers and other weighing devices as well as force measurement devices and test stands
- **1** 6-wire connection
- Nominal sensitivity: 2 mV/V
- Cable length: 5 m

1 With 6-wire measuring circuits, the cable can be shortened without affecting the temperature compensation and the actual characteristic value. For 4-wire measuring circuits the cable length should not be changed

Discover more details and matching accessories online!

STANDARD OPTION

[Max] ≤ 500 kg/5 kN [Max] ≤ 25 t/250 kN

STANDARD OPTION

[Max] ≤ 500 kg/5 kN [Max] ≤ 12 t/120 kN

Model	Nominal load
SAUTER	
CS 25-3P1	25 kg/0,25 kN
CS 50-3P1	50 kg/0,5 kN
CS 100-3P1	100 kg/1 kN
CS 150-3P1	150 kg/1,5 kN
CS 250-3P1	250 kg/2,5 kN
CS 500-3P1	500 kg/5 kN
CS 600-3P1	600 kg/6 kN
CS 750-3P1	750 kg/7,5 kN
CS 1000-3P1	1000 kg/10 kN
CS 1500-3P1	1500 kg/15 kN
CS 2000-3P1	2000 kg/20 kN
CS 2500-3P1	2500 kg/25 kN
CS 5000-3P1	5000 kg/50 kN
CS 7500-3P1	7500 kg/75 kN
CS 10000-3P1	10000 kg/100 kN
CS 15000-3P1	15000 kg/150 kN
CS 20000-3P1	20000 kg/200 kN
CS 30000-3P1	30000 kg/300 kN

Model	Nominal load
SAUTER	
CS 50-3Q1	50 kg/0,5 kN
CS 100-3Q1	100 kg/1 kN
CS 150-3Q1	150 kg/1,5 kN
CS 200-3Q1	200 kg/2 kN
CS 300-3Q1	300 kg/3 kN
CS 500-3Q1	500 kg/5 kN
CS 750-3Q1	750 kg/7,5 kN
CS 1000-3Q1	1000 kg/10 kN
CS 1500-3Q1	1500 kg/15 kN
CS 2000-3Q1	2000 kg/20 kN
CS 3000-3Q1	3000 kg/30 kN
CS 5000-3Q1	5000 kg/50 kN
CS 6000-3Q1	6000 kg/60 kN



CO Y1



CO Y2/CO Y3



CO Y4



CS Y1 Miniature "S"-load/force measuring cell made of stainless steel

Technical data

- High precision (comprehensive Error 0,05 % F.S.)
- Accuracy in accordance with OIML C1
- RoHS compliant
- Protection against dust and water splashes IP65
- Stainless steel
- Area of application: Tensile and compressive applications, mass and force measurement
- Suitable for force test stands, hanging scales, silo scales and various other balances
- 4-wire connection
- Nominal sensitivity: 1,3 – 2 mV/V, depending on nominal load
- Cable length: 2 m



Model Nominal load

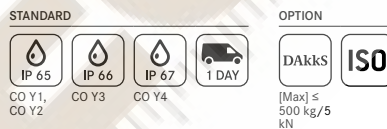
SAUTER

CS 1-Y1	1 kg/10 N
CS 2-Y1	2 kg/20 N
CS 5-Y1	5 kg/50 N
CS 10-Y1	10 kg/100 N
CS 20-Y1	20 kg/200 N

CO Y1 · CO Y2 · CO Y3 · CO Y4 Miniature cylindrical load cell made of stainless steel

Technical data

- RoHS compliant
 - Suitable for weight measurement as well as force and force test stands
 - 4-wire connection
- CO Y1 · CO Y4**
- High precision (comprehensive Error 0,5 % F.S.)
 - Accuracy in accordance with OIML G5
 - Area of application: Compressive applications
 - Nominal sensitivity: 1,0 – 1,5 mV/V, depending on nominal load
- CO Y2 · CO Y3**
- High level of accuracy, Comprehensive error
CO Y2: 0,5 % F. S. | CO Y3: 0,1 % F. S.
 - Accuracy in accordance with OIML G5 (CO Y2) | G10 (CO Y3)
 - Area of application: Tensile and compressive applications
 - Nominal sensitivity: 1,5 – 2 mV/V, depending on nominal load
 - Cable length: 2 m



Model Nominal load

SAUTER

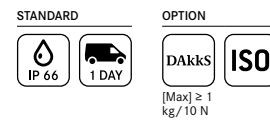
CO 10-Y1	10 kg/100 N
CO 20-Y1	20 kg/200 N
CO 50-Y1	50 kg/500 N
CO 100-Y1	100 kg/1 kN
CO 200-Y1	200 kg/2 kN
CO 500-Y1	500 kg/5 kN
CO 1000-Y1	1000 kg/10 kN
CO 2000-Y1	2000 kg/20 kN
CO 10-Y2	10 kg/100 N
CO 20-Y2	20 kg/200 N
CO 50-Y2	50 kg/500 N
CO 100-Y2	100 kg/1 kN
CO 200-Y2	200 kg/2 kN
CO 500-Y2	500 kg/5 kN
CO 1000-Y2	1000 kg/10 kN
CO 2000-Y2	2000 kg/20 kN
CO 5-Y3*	5 kg/50 N
CO 10-Y3*	10 kg/100 N
CO 5-Y4*	5 kg/50 N
CO 10-Y4*	10 kg/100 N

! * ONLY WHILE STOCKS LAST

CO Y5 Tension and compression force measuring cell made of stainless steel

Technical data

- Accuracy in accordance with OIML R60 G1
- CE and RoHS compliant
- Protection against dust and water splashes IP66 (in accordance with EN 60529)
- Stainless steel
- Very low design
- Suitable for test stands, force gauges, automation systems, etc.
- 4-wire connection
- Nominal sensitivity:
CO 0.5-Y5, CO 1-Y5: 1 mV/V
CO 5-Y5, CO 10-Y5: 2 mV/V
- Cable length: 2 m



Model Nominal load

SAUTER

CO 0.5-Y5	500 g/5 N
CO 1-Y5	1 kg/10 N
CO 5-Y5	5 kg/50 N
CO 10-Y5	10 kg/100 N

Discover more details and matching accessories online!



CJ P4



CJ P4PG



CJ X467



CJ X468

CJ P
Junction box for the connection of several measuring cells to an evaluation unit

Features

- Prepared for 4-wire and 6-wire measuring cells
- The robust aluminium diecast housing
- Protection against dust and water splashes

CJ X
Junction box for the connection of several measuring cells to an evaluation unit

Features

- Prepared for 4-wire and 6-wire measuring cells

CJ X467

- Robust housing made of stainless steel with IP67 dust and spray protection

CJ X468

- The robust aluminium diecast housing, Protection against dust and water splashes IP68

STANDARD



Model Number of connection options

SAUTER

CJ P4	4
CJ P4PG	4

STANDARD



CJ X467 CJ X468

Model Number of connection options

SAUTER

CJ X468	4
CJ X467	4

Discover more details and matching accessories online!

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 Recalibration of Force Gauges and Force Transducers

Situation A: Force transducer (voltage ratio, in mV/V) *1,2

ISO 376 (8 stages)		DKD-R 3-3 (5 stages, sequence A)	
KERN	Measuring range	KERN	Measuring range
Tensile force:			
963-161IVR	≤ 500 N	963-161VR	≤ 500 N
963-162IVR	≤ 2 kN	963-162VR	≤ 2 kN
963-163IVR	≤ 5 kN	963-163VR	≤ 5 kN
Compression force:			
963-261IVR	≤ 500 N	963-261VR	≤ 500 N
963-262IVR	≤ 2 kN	963-262VR	≤ 2 kN
963-263IVR	≤ 5 kN	963-263VR	≤ 5 kN
Tensile and Compression force:			
963-361IVR	≤ 500 N	963-361VR	≤ 500 N
963-362IVR	≤ 2 kN	963-362VR	≤ 2 kN
963-363IVR	≤ 5 kN	963-363VR	≤ 5 kN

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

ISO 376 (8 stages)		DKD-R 3-3 (5 stages, sequence A)	
KERN	Measuring range	KERN	Measuring range
Tensile force:			
963-161IR	≤ 500 N	963-161R	≤ 500 N
963-162IR	≤ 2 kN	963-162R	≤ 2 kN
963-163IR	≤ 5 kN	963-163R	≤ 5 kN
Compression force:			
963-261IR	≤ 500 N	963-261R	≤ 500 N
963-262IR	≤ 2 kN	963-262R	≤ 2 kN
963-263IR	≤ 5 kN	963-263R	≤ 5 kN
Tensile and Compression force:			
963-361IR	≤ 500 N	963-361R	≤ 500 N
963-362IR	≤ 2 kN	963-362R	≤ 2 kN
963-363IR	≤ 5 kN	963-363R	≤ 5 kN

R = Recalibration

For each force gauge without interface or from other manufacturers we charge a surcharge

*1 Compatibility with our amplifiers required

*2 Installation in our measuring equipment required

Factory Calibration Certificates

As DAKKS-accredited 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.

Factory Calibration for Force

Situation A: Force transducer (voltage ratio, in mV/V) * 1,2		Situation B: Complete force gauge (in N) *2	
KERN	Measuring range	KERN	Measuring range
Tensile force:			
961-161VR	≤ 500 N	961-161R	≤ 500 N
961-162VR	≤ 2 kN	961-162R	≤ 2 kN
961-163VR	≤ 5 kN	961-163R	≤ 5 kN
961-164VR	≤ 20 kN	961-164R	≤ 20 kN
961-165VR	≤ 50 kN	961-165R	≤ 50 kN
961-166VR	≤ 120 kN	961-166R	≤ 120 kN
961-167VR	≤ 250 kN	961-167R	≤ 250 kN
Compression force:			
961-261VR	≤ 500 N	961-261R	≤ 500 N
961-262VR	≤ 2 kN	961-262R	≤ 2 kN
961-263VR	≤ 5 kN	961-263R	≤ 5 kN
961-264VR	≤ 20 kN	961-264R	≤ 20 kN
961-265VR	≤ 50 kN	961-265R	≤ 50 kN
961-266VR	≤ 120 kN	961-266R	≤ 120 kN
961-267VR	≤ 250 kN	961-267R	≤ 250 kN
Tensile and Compression force:			
961-361VR	≤ 500 N	961-361R	≤ 500 N
961-362VR	≤ 2 kN	961-362R	≤ 2 kN
961-363VR	≤ 5 kN	961-363R	≤ 5 kN
961-364VR	≤ 20 kN	961-364R	≤ 20 kN
961-365VR	≤ 50 kN	961-365R	≤ 50 kN
961-366VR	≤ 120 kN	961-366R	≤ 120 kN
961-367VR	≤ 250 kN	961-367R	≤ 250 kN

R = Recalibration

For each force gauge without interface or from other manufacturers we charge a surcharge

*1 Compatibility with our amplifiers required

*2 Installation in our measuring equipment required

Factory Calibration Certificates

KERN	Physical unit	Measuring range
Factory calibration		
961-102KR	Force (for digital dynamometer KERN MAP)	≤ 130 kg
961-110R	Coating thickness	≤ 2000 µm F or N
961-112R	Coating thickness	≤ 2000 µm FN
961-113R	Wall thickness (ultra sound)	≤ 300 mm (in stainless steel)
961-170R	Hardness comparison plate (Shore)	For sets up to 7 plates
961-131R	Hardness tester (Leeb)	400 – 800 HLD
961-132R	Hardness comparison plate (Leeb)	Hardness comparison plate (for Leeb durometer)
961-270R	Hardness (UCI)	200 – 800 HV
961-150R	Length	≤ 300 mm
961-190R	Light	≤ 200000 lx
961-100R	Mass (Mechanical balances/ spring balances)	≤ 5 kg
961-101R	Mass (Mechanical balances/ spring balances)	> 5 – 50 kg
961-102R	Mass (Mechanical balances/ spring balances)	> 50 – 350 kg
961-103R	Mass (Mechanical balances/ spring balances)	> 350 – 1500 kg
961-120R	Torque wrench test devices	1 Nm – 200 Nm

Additional services

962-116R Express service with 48 hour delivery