



tecsis.

Because force measurement
is a matter of trust.

ONE NAME. ALL SOLUTIONS.







Put your trust in leading manufacturer

Why do we place so much emphasis on “trust”? Because force measurement technology is all about protecting people, high asset values, reliability and manufacturing safety. And that’s why a trustworthy partner is important to you: A manufacturer that is also a privately-owned company with a long-term perspective. And a 90-year track record.

tecsis now has production facilities in Europe, the USA and Asia. Our products, solutions and engineering skills are convincing customers from practically every industry. Big companies and many well-known small and medium-sized enterprises alike are placing their trust in measurement and sensor technology from tecsis:

Because our know-how will help you take the next step. We have development relationships of long years’ standing with many of our customers. Our experienced engineers and technicians have a profound understanding of procedures and processes and work together to develop solutions. As a leading manufacturer, we know what we are doing – with both our standard products and customised solutions.

Because you can rely on our production processes. We manufacture load cells at facilities on three continents: an economically efficient operation with consistent quality and reliable service along the entire value creation and

delivery chain. Depending on requirements, we make use of three important technologies: Strain gauges, thin film sensors and hydraulic force measurement technology.

Because you can find load cells and electronics for every use and application. The tecsis product range includes tension and compression load cells, shear and bending beams, platform load cells, load pins, tension links, ring and special load cells as well as electronics and complete systems. In every individual geometry and size, manufactured in small quantities or large production runs.

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Put your trust in our know-how

Rapid time-to-market, precision, investment and reliability are what matters to you: whether it is for harbour logistics, mechanical engineering, cranes and lifting equipment, medical or agricultural technology, or any other application. Reliable force measurement from tectsis makes all the difference. We already have the right solution – or we will work with you to develop it.

Standard products

A comprehensive range of products, high level of availability, fast delivery: As a manufacturer, tectsis can offer you reliable quality for practically every application. A variety of load cell types are already available as standard models. In many cases, we can flexibly adapt these to different applications without the need for complete redevelopment; because often slight production modifications will suffice.

Constructive solutions

Whether in small quantities or a large production run: You can count on the engineering skills of our engineers and technicians for your special construction requirements and applications. For such projects, we start with a force sensor as an additive component to the module for an optimized integrated force measurement solution.

Consistently high quality

Selected materials, high-quality components, consistent quality control: You can rely on tectsis experience when it comes to standard products and customised components. Our technical sales department will be with you every step of the way from your enquiry to scheduled delivery.



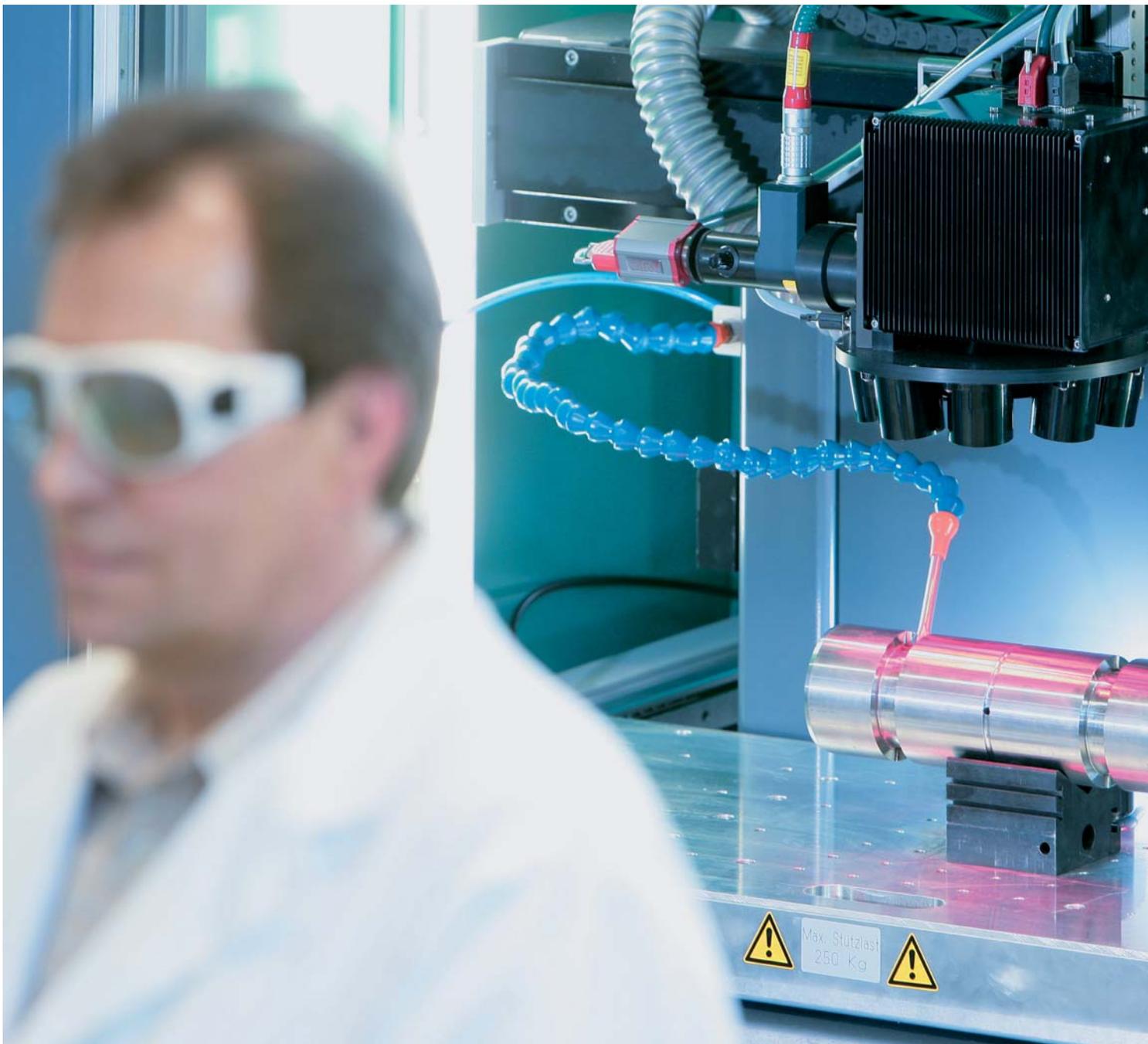


Put your trust in technologies from one source

Is functional safety important to you? Do measurement components have to withstand extreme conditions?

teccis works in accordance with Machine Directive 2006/42/EC. The products you obtain from us are performance level (PL) and safety integrity level (SIL) rated and/or can be used in explosion hazard areas (ATEX, IECEx, FM, CSA, UL).

We use three important force measurement technologies to meet the needs of any application.





Thin film technology

Redundant output signals and a high linearity level, patented technology and high-quantity availability due to an industrialised production process: Making thin film cells the first choice for many requirements, even complex situations. The measuring bridge is connected at an atomic level to the measurement cell body (\varnothing 7 or 12 mm) using a sputter process rather than with an adhesive connection.

The advantages:

- robust design and a high level of long-term stability
- cost efficiency, even in high quantities
- low space requirements
- measurement range from 0...1 kN to 0...10,000 kN
- amplifier integrated into the geometry
- redundant 2-channel designs

Strain gauges

Strain gauges make use of the piezo-resistive resistance effect principle and the Thomson effect: Compression reduces and expansion increases the electrical resistance. The strain gauges adhere to the actual deformation element. This technology offers a high level of geometric variability, accuracy and is well-suited for detecting the smallest forces.

The advantages:

- high level of geometric variability from miniature through to large formats
- high level of accuracy from 0.01% of F.S.
- measurement range from 0...0.5 N to 0...10,000 kN

Hydraulic force measurement technology

Hydraulic force measurement makes use of a piston-housing combination with different seals as a sensor unit.

The advantages:

- autonomous systems without auxiliary energy, immediately operationally ready and easy to use
- robust and reliable, with high level of waterproofing, even in harsh environments
- loss-free separation of the sensor from the evaluation unit
- measurement range from 0...160 N to 0...10,000 kN

Put your trust in technological diversity

Choose from a diverse range featuring several standard products: whether for minor measurements, safety-related measuring tasks (safety) or heavy-duty applications. Thanks to our universal interfaces, we can use this basis to efficiently and economically create customised load cells for you.

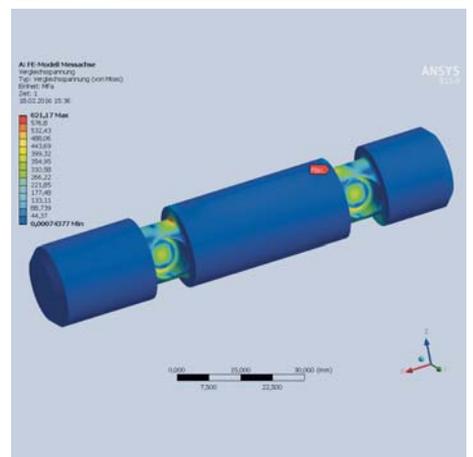


tecsis quality

- Precision at every manufacturing stage: high-quality materials, received goods inspection, milling, sensor welding, electronic set-up, final assembly, ageing cycle, temperature synchronisation, calibration, final inspection with documentation
- Advanced, robust electronics or reliable measurement data processing
- Certified systems comprising load cells and control systems
- Retrofitting to existing applications in accordance with customer requirements with no need for adaptation
- A wide variety of models can be created: living up to your expectations of accuracy and meeting geometric requirements
- Depending on the design, temperature resistance from $-40\dots250\text{C}^{\circ}$
- Load cells for heavy-duty applications – when a high level of robustness is what counts: under extreme influences and in harsh environmental conditions
- Special transducer and construction solutions
- Product diversity for safety-related applications (SIL-3, safety)
- Products for explosion hazard areas (ATEX, IECEx, CSA, UL, FM)
- Global, reliable product deliveries in compliance with AEO-F status as an “authorised economic operator”
- Finite elements method (FEM) with variant comparisons and extreme case simulations

tecsis products

- Compression load cells
- Tension/compression load cells
- Shear beams and bending beams
- Platform load cells
- Load pins
- Ring load cell
- Tension links
- Special load cells
- Electronics and systems



Put your trust in our eye for essentials

Production facilities on three continents, decades of experience in practically every relevant field of application: tecsis sees the big picture and has an eye for constructive details. We know from experience what really matters – at every stage of our cooperation.





Dedicated consulting

Find the right constructive solution for your application: We take the areas of application, environmental conditions and any special environmental influences into account: such as temperature fluctuations, moisture, dust accumulation, or special safety requirements (safety, performance level, SIL).

Technically adept and internationally experienced advisors will provide you with dedicated and competent consultation.

Highly efficient production processes

We systematically aim to achieve a cost-benefit optimisation that will feature in every production phase: from semi-finished products and production materials through to electronic components. This includes careful processing of work-pieces and standardised, certified processes with a properly documented final inspection.

Secure delivery chain

Quality doesn't stop at the loading ramp: tecsis delivers products all over the world. With hand-picked logistics partners, a well-thought-out goods management system and AEO-F status as an "authorised economic operator". All with one objective: Your delivery should arrive quickly and safely.

Area of application: Harbour logistics

Safely prevent overloading and protect people and materials: Leading harbour logistics companies and terminal operators rely on tectis load cells, such as in deflection rollers, forked and roller bearings or as a direct replacement for retention bolts in existing structures. The ELMS1 overload protection unit evaluates the input signals and makes the data available. The system meets all requirements in compliance with SIL 2/PL d.





Application: Harbour crane

Handle containers and goods flexibly and economically: At tecsis, you will find robust load cells that reliably deliver all data to the electronic evaluation system.

Products used include:

- Tension links
- Heavy-duty load pins
- Inclination sensors

Application: Ship-to-shore crane

With high harbour container turnover, short handling times are what counts: Robust load cells with associated overload protection electronics are thus used in ship-to-shore cranes. Products used include:

- Heavy-duty load pins
- Safety electronics



Application: Spreaders

Detect and reliably weigh loads directly at the spreader: tecsis offers two solutions here.

Measuring the container weight and load distribution using ring load cells or the integrated twistlock sensor. Products used include:

- Ring load cells
- Twistlock sensing system

Area of application: Mechanical engineering

Technological edge and reliable quality: these are the key success factors in mechanical engineering - and this is why tecsis is close to the sector for your special construction requirements. Whether for drive and conveyor technology, in tool, packaging or paper processing, or in process technology and automation.





Application: Presses and stamps

tecsis measurement technology does its bit to ensure reproducible pressing and stamping. The processes are evaluated via displays, limit switches and amplifiers. Products used include:

- Strain transducers
- Compression load cells
- Hydraulic load cells
- Shear beams
- Ring load cell
- Evaluation Electronics
- Pressed-in sensors

Application: Robotics

Measuring small forces in complex structures: Space-saving, lightweight, high-precision miniature load cells are tecs' choice for automation technology. Products used include:

- Compression load cells
- Miniature tension/compression load cells



Application: Packaging machines

Enabling precise monitoring at several points of the packaging process: High-frequency measurements can be taken with tecs' load cells, even where maximum hygiene is required, such as in the foodstuffs and pharmaceuticals industries. Products used include:

- Miniature compression load cells
- Compression load cells
- Shear and bending beams

Application: Hot sealing units

Measuring the contact force of the heating track: tecs' customised, adapted platform load cells are an excellent solution. Products used include:

- Platform load cells
- Compression load cells

Area of application: Crane and lifting equipment

Using machinery at the edge of their performance parameters, protecting people and equipment and minimising maintenance and service expenses: Load monitoring systems from tecsis contribute to the functional safety of systems and machines, whether in production areas, materials handling, storage and retrieval equipment or in the steel and metal processing industry.





Application: Indoor and gantry cranes

Simply integrate force load pins into existing structures: tectis measurement technology enables precise measurement without friction or lateral force impact when monitoring loads, e.g. on pulleys.

Products used include:

- Load pins
- Compression load cells

Application: Mobile crane

Safe for use even where ground conditions are poor or there is little room to extend the supports: all made possible by special tectis measurement technology using tectis variable support system for mobile cranes.

Products used include:

- Force transducer for support cylinders
- Tension links
- Inclinations sensors



Application: Revolving tower crane

Working safely at height requires a head for heights and first-class technology. Redundant load pins and inclination sensors from tectis meet the high safety requirements for the crane with the highest level of precision and reliability, protecting people and machinery. Products used include :

- Load pins
- Tension links
- Inclinations sensors

Area of application: Medical technology

Medical technology is about people's well-being. This means force measurement technology has to meet high standards of precision and functional reliability, often using as little space as possible. In addition to standard products, we also make use of customised, adapted solutions – one of tectis particular strengths.





Application: Incubators

Monitoring the weight of newborns: tectis platform load cells are integrated into the incubator below the bed surface to take measurements.

Products used include:

- Platform load cells



Application: Blood mixing scales

Making sure that taking blood is safe for donors: Blood donation companies and clinics use blood mixing scales to check collection quantity per time unit and to monitor the absolute quantity collected.

Products used include:

- Platform load cells

Application: Infusion pumps

Ensuring continuity of medication flow: This is often achieved in infusion pumps with the aid of miniature customised tectis compression load cells.

Products used include:

- Miniature compression load cells

Area of application: Agriculture technology

Perfect metering is essential in agricultural technology. Weighing systems and force measurement technology from tecsis can achieve this even under unfavourable environmental conditions such as moisture, temperature fluctuations or dust accumulation, delivering reliable and precise measurement values at all times.





Application: Baling presses

Reliable determination of bale weight while moving or at rest, even under unfavourable usage conditions. Products used include:

- Load pins
- Shear beams
- Inclination sensors
- Strain transducers

Application: Combine harvesters

Reliably determining the harvested quantities of various cultivated grains: platform load cells are used for weighing grain tanks or determining flow volume, for instance. Products used include:

- Compression load cells
- Shear beams
- Platform load cells
- Inclination sensors



Application: Silos

Precise weighing and fill-level monitoring, even when in contact with aggressive media: tecsis provides the right products and kits for a range of silo sizes and containers for harvested goods and animal feed. Products used include:

- Compression load cells
- Shear beams
- Platform load cells
- Digital displays

Application: Fertilization spreaders

Accurately determine and reliably monitor flow volumes when fertilizing: tecsis shear beams and inclination sensors help to ensure that dosage is precisely adjusted to requirements metering during the fertilization process.

Products used include:

- Shear beams
- Inclination sensors

Compression load cells

Force load cells in various designs and nominal loads
for compression forces of 0...0.5 N to 0...10,000 kN.



Model F119

Compression load cell
hydraulic

Rated force F_{nom} 0...320 N to 0...500 kN

Relative linearity error
analogue $\leq \pm 1.6 \% F_{nom}$
digital $\leq \pm 0.5 \% F_{nom}$

Output signal analogue or digital display

Protection IP 65 analogue display
IP 65 digital display

Data sheet DE 816



Model F1211

Compression load cell
with electrical output

Rated force F_{nom} 0...1 kN to 0...1,000 kN

Relative linearity error $\leq \pm 0.2 \% F_{nom}$

Output signal 2 mV/V

Protection IP 67

Data sheet DE 910



Model F1222

Compression load cell
miniature

Rated force F_{nom} 0...0.5 N to 0...5,000 N

Relative linearity error $\pm 1 \% F_{nom}$

Output signal 1...10 mV/V/N

Protection IP 65

Data sheet DE 911_F1222



Model F1224

Compression load cell
miniature

Rated force F_{nom} 0...1 kN to 0...500 kN

Relative linearity error $\pm 1.0 \% F_{nom}$

Output signal 1.5 mV/V

Protection IP 65

Data sheet DE 911_1224



Model F1233

Compression load cell
Canister

Rated force F_{nom} 0...10,000 to 0...750,000 lbs

Relative linearity error $\pm 0.03 \% F_{nom}$

Output signal 2 mV/V (3 mV/V optional)

Protection -

Data sheet F1233

Tension/Compression load cells

Tension/Compression load cells are available with internal and external threads, as well as various designs for reliable detection of forces in several directions.



Model F2211

Tension/Compression load cell
S-Type with internal thread

Rated force F_{nom} 0...0.02 kN to 0...50 kN

Relative linearity error $\leq \pm 0.2 \% F_{nom}$

Output signal 2 mV/V
(1 mV/V 0.02 kN)

Protection IP 67, to 1 kN IP 65

Data sheet DE 921



Model F2220

Tension/Compression load cell
miniature

Rated force F_{nom} 0...1.5 N to 0...5.000 N

Relative linearity error $\pm 0.5 \% F_{nom}$

Output signal 2 mV/V (to 5 N 15 mV/V)

Protection IP 67

Data sheet AE982_F2220



Model F2226

Tension/Compression load cell
with external thread

Rated force F_{nom} 0...10 kN to 0...3,300 kN

Relative linearity error $\leq \pm 0.2 \% F_{nom}$

Output signal 2 mV/V

Protection IP 65

Data sheet DE 922_F2226



Model F2301

Tension/Compression load cell
with thin-film technology

Rated force F_{nom} 0...1 kN to 0...500 kN

Relative linearity error $\pm 0.2 \% F_{nom}$

Output signal 4...20 mA 2-wire
4...20 mA, 3-wire
2 x 4...20 mA redundant
0...10 V 3-wire
2 x 0...10 V redundant

Protection IP 67 (optional IP 69k)

Data sheet DE 941



Model F2210

Tension/Compression load cell
for material testing, high dynamic

Rated force F_{nom} 0...0.5 kN to 0...2,000 kN

Relative linearity error $\leq \pm 0.15 \% F_{nom}$
tension or compression
 $\leq \pm 0.30 \% F_{nom}$
tension and compression

Output signal 2 mV/V

Protection IP 67

Data sheet DE 920



Shear beams/Bending beams

Shear and bending beams are used for weight monitoring of small to medium sized containers.



Model F3833

Bending beam

Rated force F_{nom} 0...20 kg to 0...500 kg

Relative linearity error $0.02 \% F_{nom}$

Output signal $2.0 \pm 1\% \text{ mV/V}$

Protection IP 68

Data sheet DE 9004



Model F3271

Shear beam for compression forces

Rated force F_{nom} 0...5 kN to 0...100 kN

Relative linearity error $\leq \pm 0.04 \% F_{nom}$
 $\leq \pm 0.02 \% F_{nom}$ (Option)

Output signal 2 mV/V

Protection IP 68

Data sheet AE 932



Model F3831

Shear beam

Rated force F_{nom} 0...500 kg to 0...10,000 kg

Relative linearity error $0.03 \% F_{nom}$

Output signal $2.0 \pm 1\% \text{ mV/V}$
 $3.0 \pm 1\% \text{ mV/V}$ (Option)

Protection IP65 (<500 kg)
IP67 (500 kg)

Data sheet DE 9005



Model F3272

Shear beam for compression forces

Rated force F_{nom} 0...227 kg bis 0...4,536 kg

Relative linearity error $\leq \pm 0.05 \% F_{nom}$
 $\leq \pm 0.02 \% F_{nom}$ (Option)

Output signal 2 mV/V

Protection IP 68 / IP 69K

Data sheet AE 931_720



Model F3270

Shear beam for compression forces

Rated force F_{nom} 0...91 kg to 0...2,268 kg

Relative linearity error $\leq \pm 0.04 \% F_{nom}$
 $\leq \pm 0.02 \% F_{nom}$ (Option)

Output signal 2 mV/V

Protection IP 67

Data sheet AE 931



Model F3301

Shear beam with thin-film technology

Rated force F_{nom} from 0...2 kN

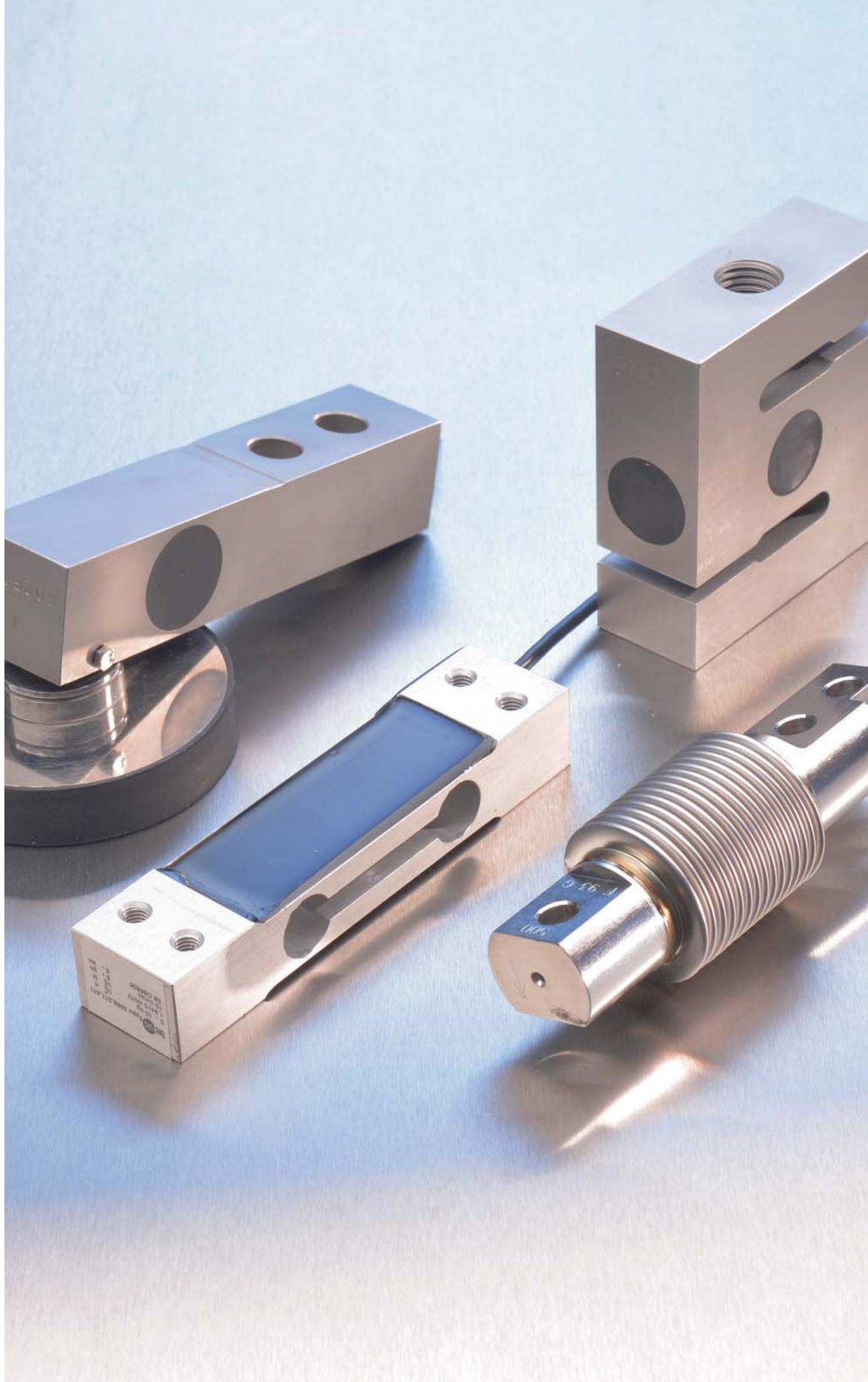
Relative linearity error $\leq \pm 0.5 \% F_{nom}$

Output signal 4...20 mA 2-wire
4...20 mA, 3-wire
2 x 4...20 mA redundant
0...10 V 3-wire
2 x 0...10 V redundant

Protection IP 67 (optional IP 69k)

Data sheet DE 973





Single point load cells

In weighing technology single point load cells are used in small and medium sized platform scales.



Model F4801

Single point load cell

Rated force F_{nom} 0...3 kg to 0...250 kg

Relative linearity error 0.02 % F_{nom}

Output signal 2.0 ± 10% mV/V

Protection IP 65

Data sheet DE 9002



Model F4812

Single point load cell

Rated force F_{nom} 0...50 kg to 0...650 kg

Relative linearity error 0.02 % F_{nom}

Output signal 2.0 ± 10% mV/V

Protection IP 65

Data sheet DE 9003



Model 4817

Single point load cell

Rated force F_{nom} 0...100 kg to 0...2,000 kg

Relative linearity error 0.02 % F_{nom}

Output signal 2.0 ± 10% mV/V

Protection IP 65

Data sheet DE 9029



Model F4270

Single point load cell
air tight, stainless steel

Rated force F_{nom} 0...10 kg to 0...200 kg

Relative linearity error $\leq \pm 0.04$ % F_{nom}
 $\leq \pm 0.02$ % F_{nom} (Option)

Output signal 2 mV/V

Protection IP 68/IP 69k

Data sheet AE 996

Accessories

Installation kits for load cells that provide an ideal load transmission are the perfect complement to our single point load cell programm.



Model AZK01X710

Weigh module
lift-off protection, 2-sided limit stop

Nominal load range 0...20 kg to 0...10 t

Material steel, electrogalvanised
stainless steel (optional)

Single point load cell F3270, F3271, F3272

Application hoppers, tanks and mixer
weighing

Data sheet AE 940



Model AZK01X711

Rocker pin

Nominal load range 7.5 t / 15 t / 22.5 t

Material steel, electrogalvanised
stainless steel (optional)

Single point load cell F1270

Application platform weighing
machines with high
nominal load

Data sheet AE 941



Model AZK01X712

Rocker pin

Nominal load range 30 t / 40 t / 50 t

Material steel, electrogalvanised

Single point load cell F1270

Application vehicle weighing machines

Data sheet AE 942



Model AZK01X713

Weigh module

Nominal load range 0...7.5 t to 0...300 t

Material steel, electrogalvanised

Single point load cell F1270

Application hopper and tank weighing

Data sheet AE 952



Model AZK01X721

Rocker pin
height-adjustable with ball-shaped head

Nominal load range 0...20 kg to 0...2,500 kg

Material stainless steel

Single point load cell F3270, F3271, F3272

Application weighing machines

Data sheet AE 936



Model AZK01X730

Rocker pin
for the highest possible repeatability

Nominal load range 0...100 kg to 0...10,000 kg

Material stainless steel

Single point load cell F3270, F3271, F3272

Application platform weighing,
industrial weighing,
container weighing

Data sheet AE 939

Load pins/Tension links

Thanks to their space-saving design tectsis load pins can be integrated directly into the flow of forces.

Tension links are primarily used between fork bearings or rope constructions.



Model XLPD	
Load pin	high-precision
Rated force F_{nom}	0...150 kN
Relative linearity error	0,25 % F_{nom}
Output signal	2,0 mV/V
Protection	IP 67
Data sheet	XLPD



Model F5301	
Load pin	
Rated force F_{nom}	0 ... 10 kN to 0 ... 70 kN
Relative linearity error	$\pm 1 / \pm 1,5 \% F_{nom}$
Output signal	4...20 mA 2-wire 4...20 mA, 3-wire 2 x 4...20 mA redundant 0...10 V 3-wire 2 x 0...10 V redundant
Protection	IP 67 IP 69k (optional)
Data sheet	DE 940



Model F5308	
Load pin	Heavy Duty
Rated force F_{nom}	from 0 ... 10 kN
Relative linearity error	$\pm 1 / \pm 1,5 \% F_{nom}$
Output signal	4...20 mA 2-wire 4...20 mA, 3-wire 2 x 4...20 mA redundant 0...10 V 3-wire 2 x 0...10 V redundant
Protection	IP 67 IP 69k (optional)
Data sheet	DE 997



Model F7301	
Tension link	customized
Rated force F_{nom}	from 0...5 kN
Relative linearity error	$\leq \pm 0,5 \% F_{nom}$
Output signal	4...20 mA 2-wire 4...20 mA, 3-wire 2 x 4...20 mA redundant 0...10 V 3-wire 2 x 0...10 V redundant
Protection	IP 67/IP 69k
Data sheet	DE 990





Ring load cells

Ring load cells are used to monitor compression forces. They are available as hydraulic or electrical load cells.



Model F6210

Ring load cell
for bold forces

Rated force F_{nom} 0...15 kN to 0...500 kN

Relative linearity error $\leq \pm 1\% F_{nom}$ with compression force
 $3\% F_{nom}$ in pretensioning force

Output signal 0.8 ... 1.2 mV/V

Protection IP 65

Data sheet AE 921



Model F6212

Ring load cell
flat version with large inner diameter

Rated force F_{nom} 0...2 kN to 0...100 kN

Relative linearity error $\leq \pm 0.2\% F_{nom}$

Output signal 0.8...1.2 mV/V

Protection IP 65

Data sheet AE 993



Model F6213

Ring load cell
universal

Rated force F_{nom} 0...5 kN to 0...5,000 kN

Relative linearity error $\leq \pm 0.5\% F_{nom}$

Output signal 1 mV/V

Protection IP 66

Data sheet AE 923



Model F61xx

Ring load cell
hydraulic, Geotechnics - Version

Rated force F_{nom} 0...80 kN to 0...6,000 kN

Relative linearity error analogue $\leq \pm 1.6\% F_{nom}$
digital $\leq \pm 0.5\% F_{nom}$

Output signal analogue or digital display

Protection IP 65 analogue display
IP 65 digital display

Data sheet DE 819

Special force transducers

Engineering competence is required in a variety of situations:

We offer customized special force transducers for those applications.



Model F5302

Shackle load cell
for load measuring in hoisting devices

Rated force F_{nom} 0.5 t; 1.3 t; 5 t; 7.5t; 10t; 15 t

Relative linearity error $\leq \pm 1 \% F_{nom}$

Output signal 4 ... 20 mA 2-wire
0 ... 10 VDC 3-wire

Protection IP 67

Data sheet DE 988



Model F9302

Strain transducer

Rated force F_{nom} 0...±200 εμ, 0...±500 εμ,
0...±1,000 εμ

Relative linearity error $\leq \pm 1 \% F_{nom}$

Output signal 4 ... 20 mA

Protection IP 67
IP 69k (optional)

Data sheet DE 996



Model F9204

Clamp-On-Sensor

Rated force F_{nom} 0...1 t to 0...15 t

Relative linearity error $\pm 3 \% F_{nom}$

Output signal 4 ... 20 mA 2-wire

Protection IP 66

Data sheet DE 915



Model F1301

Force transducer for support cylinders

Rated force F_{nom} 0...280 kN to 0...2,060 kN

Relative linearity error 0.5 % F_{nom}

Output signal customized

Protection IP 67

Data sheet -



Model F9205

Twistlock sensor

Rated force F_{nom} 0...23 t

Relative linearity error $\leq \pm 0.5 \% F_{nom}$

Output signal 4...20 mA 3-wire,
CANopen®, SAE J1939

Protection IP 67

Data sheet DE 989



Model F9303

Pressed-in sensor

Rated force F_{nom} 0.1 ‰ $\leq \epsilon \leq$ 0.25 ‰

Relative linearity error $\leq \pm 2 \% F_{nom}$

Output signal 4 ... 20 mA 2-wire
0 ... 10 V DC 3-wire

Protection IP 67

Data sheet DE 944

Electronics/Safety electronics/Displays

Control systems, safety electronics, limit switches, amplifiers and displays for the interaction of the measuring components.



Model EGS80

Limit switch digital, SIL acc. IEC 61508

Input signal 0/4...20 mA (analogue)

Output signal 0/4...20 mA (analogue)

Output 2 relay outputs, each relay output individually parameterisable as high or low alarm or error message output

Display display, various status LED

Data sheet AE 987



Model ECPS8

Load monitoring system

Input signal 4 x 4...20 mA, resolution 16 bit

Output signal (sum signal) 4...20 mA 3-wire, resolution 16 bit

Repeatability < 0.1%

Accuracy 0.2% of F.S.

Data sheet DE 957



Model ELMS

Intelligent safety electronic DIN EN 13849-1:2008-12 (Kat. 4, PL e)

Input signal 12 safe digital inputs
8 safe analogue inputs

Output signal 12 safe digital outputs
4 analogue outputs

Module Profi Bus, Can-Bus, Ethernet

Protection housing and clamps: IP 20
installation site : min. IP 54

Data sheet DE 999



Model E1932

Weighing indicator display digits 20mm high

Input signal up to 3mV/V (4- and 6-wire)
optional 4...20 mA / 0...10 V input (passive)

Display high contrast backlight LCD display, 6-digits, measuring-units: g, kg, lb or t

Approval NMI (S-420), OIML R76

Protection ABS housing (IP 54 or IP 65)

Data sheet DE 931



Model E1931X800/E1931X800

Large digital display high bright LED's

Input signal 3 programmable user inputs (pnp- or npn-switching)

Output signal analogue output 0 ... 20 mA
o. 0 ... 10V, RS-232/485-interface, Profi-DP interface

Display 5-digit, 100 mm high

Protection hoseproof from the front and impervious to dust in acc. with IP 65

Data sheet AE 950_951



Model EPS03

Touch-Display LED-Display

Input signal CANopen®

Interface 2x USB Host 2.0, RS-232, RS-422/RS-485

Display 10,92 cm / 4,3"-TFT, 480 x 272 pixel (WQVGA)

Protection IP65 (front side)
IP20 (back side)

Data sheet DE 9064

Inclination sensors/Test technology

Inclination sensors determine the orientation angle of an object concerning the gravitational field of the earth.

The application possibilities for these sensors are versatile.



Model N1001

Inclination sensor
standard

Measuring range 0...90°, 0...180°, 0...360°

Resolution <0.3%

Output signal 4...20 mA 3-wire
CANopen®

Protection IP 67

Data sheet DE 991_standard



Model N2101

Inclination sensor
XYZ

Measuring range various measuring ranges
within max. -45°...+45°
selectable
2 axes freely selectable
(X-,Y-,Z-direction)

Resolution from <0,05°

Output signal 4...20 mA 3-wire

Protection IP 67

Data sheet DE 991_xyz



Model N131C

Inclination sensor
Ex d

Measuring range 0...360°

Resolution from <0,01°

Output signal 4...20 mA 3-wire
redundant 2x 4...20 mA

Protection IP 67

Data sheet DE 991_ex



Model FRKS

Chain Hoist Testing Set

Measurement range 0...3,500 kg

Accuracy 2 kg

Output signal 4...20 mA 2-wire

Protection Force transducer IP 67
Hand-held indicator IP 40

Data sheet DE 985



Model FSK01

Test set
for measuring of electrode forces

Rated force F_{nom} 10 kN; 20 kN

Relative
linearity error < 0.2 % F_{nom}

Output signal 4...20 mA 2-wire

Protection Force transducer IP 67
Hand-held indicator IP 40

Data sheet DE 994

Put your trust in certified safety

You are always on the safe side with tectis force measurement technology: even when the highest safety standards are essential and measurement components have to withstand extreme usage conditions. Whether offshore or on land, for gas, oil, dust or in the mining industry: equipment and safety systems have to be certified for explosion hazard areas. And so have load sensors, because primary explosion protection is not always possible. Our products are designed to achieve this and boast a range of certifications in accordance with ATEX, FM, CSA, UL or IECEx and SIL. Put your trust in tectis experience and know-how: Because there can be no compromises when it comes to safety.





CANopen

CANopen
safety easy to use

ATEX approvals

tecsis load cells with tried-and-tested thin film measuring cell and integrated amplifier technology have been certified in accordance with EU Directive 94/9/EC: for Group I (mining), Category M2, Group II (other locations) and Category 2G for Zones 1 and 2 (gas, mists or vapours). Further zones are available upon request.

Stages

Overload detection and load indication for upper and lower machinery on-stage and in theatres: teccis load cells 2-channel control systems achieve safety integrity level SIL 3.

Complex equipment:

CANopen® and CANopen® Safety

We supply load cells with CANopen® and CANopen® Safety protocols for safety-related measurement tasks. This means that we deliver a standardised, safety-based field bus system with defined safe statuses through to performance level e.

Put your trust in tecsis



As a globally active company, tecsis has been a byword for engineering competence and a technological edge in measurement technology for more than 90 years. With our specially customised range of products that include load, compression and temperature measurement technologies and switches, tecsis provides exactly the right components for mechanical engineering and process technology. To aid our clients, we have a policy of constant product optimisation, a “zero-error” philosophy and top-quality partner organisations. Europe, USA, Asia, and Australia: tecsis is there for you all around the world. You can rely on our on-site servicing and flexible logistics. Our employees know your applications and speak your language.

tecsis stands for:

- **Customised solutions:** Our experienced engineers and technicians have a profound understanding of procedures and processes. Our development skills mean we will always find the optimum solution for your applications.
- **Reliable quality:** All important technologies, production and testing are located under one roof. Comprehensive quality control and stress tests are performed prior to practical implementation.
- **High cost security:** Thanks to a comprehensive selection of tried-and-tested standard products from our own manufacturing facilities. Cost-efficient prototype construction in large batch quality on highly flexible production lines.

Get in touch with us or find out more at www.tecsis.com

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