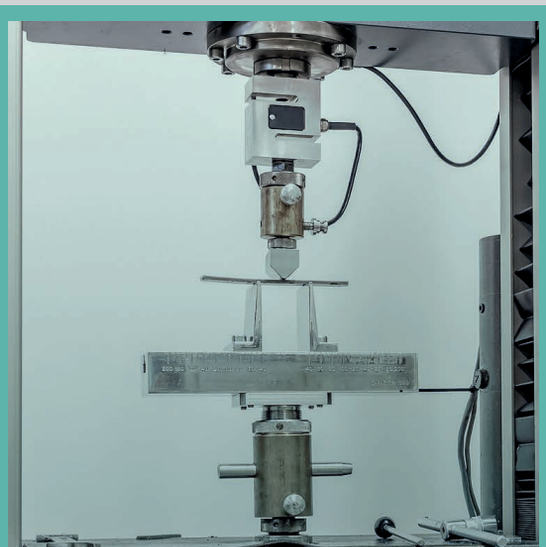
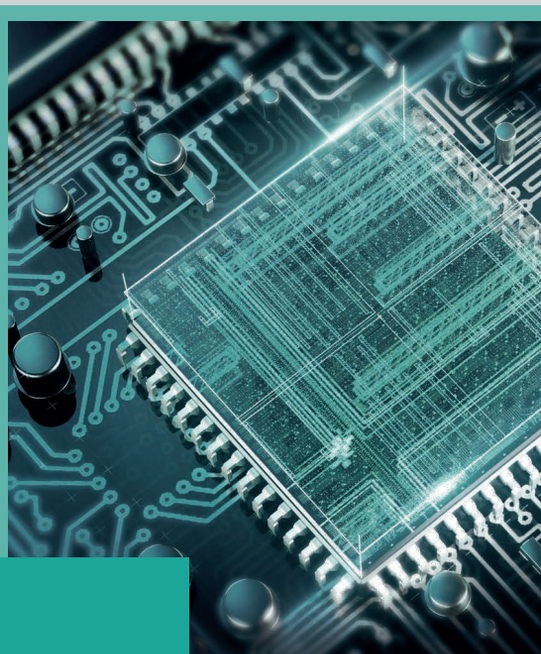




ME-Measurement systems GmbH

Product catalog
2022

ME::Technology first

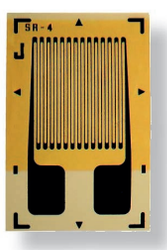
The ME-measurement systems GmbH is a medium-sized company that currently employs 80 employees. The ME-measurement systems GmbH has been a manufacturing company since 1995 and manufactures sensors and electronics for measuring force, strain and torque.

Our range of services includes, among others:

- Installation of strain gauges
- Performing measurements with strain gauges
- Development of sensors and electronics
- Production of customized sensors and electronics
- Data acquisition and evaluation for your measurement tasks
- Development of complete measuring systems and devices

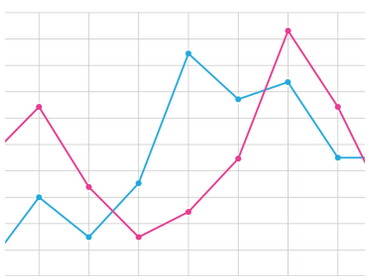
SENSORS

ELEKTRONICS

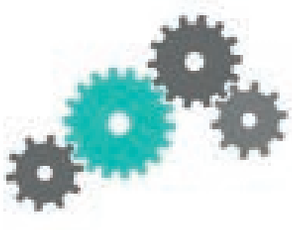


STRAIN GAUGE

CONNECTORS



SOFTWARE



SUPPORT

FORCE SENSORS / BENDING BEAM

KD33 50mN

- Type: Bendbar force sensor;
- Nominal force: 50 mN;
- Accuracy class: 0.5%;
- Dimensions: 33 mm x 16 mm;
- Force introduction: flange of 16, 4x internal thread M1,4;
- Connection: 3m MESC-4x0014-PUR;
- Material: titanium alloy, brass housing;

KD39

- Type: double bending beam force sensor;
- Nominal force: ±5N, ±10N, ±20N;
- Accuracy class: 0,1%;
- Dimensions: 39mm x 12mm x 6mm;
- Force transmission: 1x female thread M2,5x0,45;
- Vonnection: 1m STC-31V-4;
- Material: Aluminium alloy;

KD45

- type: double bending beam force sensor;
- nominal force: ±2N, ±5N, ±10N, ±20N, ±50N;
- accuracy class: 0,1 %;
- dimensions: 45 mm x 8 mm x 8 mm;
- force transmission: 2 x female thread M3x0,5;
- connection: 1 m STC-31V-4;
- material: Aluminium alloy / stainless steel

KD60

- Type: Bending beam force sensor;
- Nominal force: ± 5N, ± 10N, ± 20N, ± 50N, ± 100N, ± 200N, ± 500N, ± 1000N;
- Accuracy class: 0.1%;
- Dimensions: 60 mm x 10 mm x 10 mm;
- Force transmission: 1 x internal thread M5x0.8;
- Connection: 1m STC-31V-4;
- Material: aluminum alloy / stainless steel;

KD68

- Type: double bending beam force sensor;
- Nominal force: ±5N, ±10N, ±20N, ±50N, ±100N, ±200N, ±300N, ±500N, ±1000N;
- Accuracy class: 0,1 %;
- Dimensions: 68 mm x 16 mm x 14 mm;
- Force transmission: 1 x female thread M6x1;
- Connection: 1 m STC-31V-4;
- Material: aluminium alloy / stainless steel;

KD78 500mN

- Type: Bending beam force sensor;
- Nominal force: 500 mN;
- Accuracy class: 0.1%;
- Dimensions: 78 mm x 8 mm x 23 mm;
- Force transmission: 2 x internal thread M3x0,5;
- Connection: 2 m STC-31V-4;
- Material: aluminum alloy, gold anodized;

KD120

- Type: Bending beam force sensor;
- Nominal force: ± 100N, ± 200N, ± 500N, ± 1000N, ± 2000N;
- Accuracy class: 0.1%;
- Dimensions: 120 mm x Ø42 mm;
- Force transmission: 2 x through holes 8.2 mm;
- Connection: 5 m Unitronic FD CP Plus / 4x0,14 / E 2419 Item 6 6x0,25 PTFE;
- Material: stainless steel;

KD140

- Type: Bending beam force sensor;
- Nominal force: ± 50N, ± 100N, ± 200N, ± 500N, ± 1000N;
- Accuracy class: 0.1%;
- Dimensions: 140 mm x 28 mm x 30 mm;
- Force transmission: 4 x female thread M6x1 on both sides; 3 x through holes 8.2 mm;
- Connection: 3 m Unitronic FD CP Plus / 4x0,14;
- Material: aluminum alloy; gold anodized;

KD191

- Type: Bending beam force sensor;
- Nominal force: 50kg ... 1000kg;
- Accuracy class: 0.1% / 0.04%;
- Dimensions: 191 mm x 81 mm x 76 mm;
- Force transmission: 4 x female thread M8x1.25 per mounting surface;
- Connection: 3 m, shielded, PVC;
- Material: aluminum alloy;

S-TYPE-FORCE SENSORS

KD18s

- Type: S-form force sensor;
- Nominal force: ±0,1N, ±2N, ±10N;
- Accuracy class: 0.1% / 0.5%;
- Dimensions: 18 mm x 12.3 mm x 18 mm;
- Force transmission: internal thread M2.5;
- Cable outlet: radial / axial
- Connection: 3 m STC-32T-4 pin teflon cable
- Material: aluminum alloy / titanium

KD24s

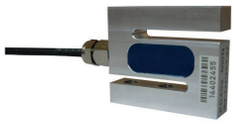
- Type: S-type force sensor;
- Nominal force: 2 N ... 2kN;
- Accuracy class: 0.1%;
- Dimensions: 24 mm x 26 mm x 10 mm;
- Force transmission: 2 x female thread M5x0.8 / 2 x clamp connection diameter 5 H7;
- Connection: 2 m STC-31V-4;
- Material: aluminum alloy / stainless steel;

KD34s

- Type: s-form force sensor;
- Nominal force: ±250mN, ±500mN, ±1N, ±2N, ±5N, ±10N;
- Accuracy class: 0,1 %;
- Dimensions: 34 mm x 10 mm x 24 mm;
- Force transmission: 2 x female thread M3x0,5;
- Connection: 2 m STC-31V-4;
- Material: aluminium alloy;

KD40s

- Type: S-type force sensor;
- Nominal force: ± 2N ... 5kN;
- Accuracy class: 0.1%;
- Dimensions: 40mm x 30mm x 10mm / 40mm x 34mm x 10mm;
- Force transmission: 2 x female thread M5x0.8 / M6x1;
- Connection: 3 m ME-SYSTEME.DE / 24-4 PUR;
- Material: aluminum alloy / stainless steel;



KD80s

- Type: s-form force sensor;
- Nominal force: 100N ... 200kN;
- Accuracy class: 0,05 %;
- Dimensions: 50mm x 60mm x 12,5mm ... 150mm x 200mm x 60mm;
- Force transmission: 2 x female thread M8x1,25 ... M42x3;
- Connection: 5 m Unitronic FD CP Plus /ALMI HAFL-C MOD. SO / round plug connector M12, 4-pole, male;
- Material: stainless steel;

KD80se

- Type: s-form force sensor;
- Nominal force: 100N ... 200kN;
- Accuracy class: 0,05 %;
- Dimensions: 50mm x 60mm x 12,5mm ... 150mm x 200mm x 60mm;
- Force transmission: 2 x female thread M8x1,25 ... M42x3;
- Connection: 5 m Unitronic FD CP Plus /ALMI HAFL-C MOD. SO / round plug connector M12, 4-pole, male
- integrated electronics GSV-13q;
- Analog output: 0.05V ... 10V / 4 ... 20mA, 10S/s;
- Autozero, Autoscale;
- Material: stainless steel;

FORCE LOAD CELL

KM10

- Type: Load cell;
- Nominal force: 25N, 50N, 100N, 200N, 500N, 1kN;
- Accuracy class: 1%;
- Dimensions: Ø9.8 mm x 4 mm;
- Force transmission: load button R4, Ø2,4 mm;
- Connection: 3 m STC-36T-4;
- Material: stainless steel;

KM12

- Type: load cell;
- Nominal force: 5 kN;
- Accuracy class: 1 %;
- Dimensions: Ø12 mm x 7.5 mm;
- Force transmission: load button R15, Ø3 mm;
- Connection: 3 m ME-SYSTEME.DE / 36-4 PUR;
- Material: Stainless steel;

KM25

- Type: Load cell;
- Nominal force: 100N, 200N, 500N, 1kN;
- Accuracy class: 1%;
- Dimensions: Ø25 mm x 3 mm;
- Force application: load button R20, Ø12 mm;
- Connection: 3 m STC-36T-4;
- Material: stainless steel;

KM26

- Type: Load cell;
- Nominal force: 100N, 200N, 500N, 1kN, 2kN, 5kN, 10kN;
- Accuracy class: 1%;
- Dimensions: Ø25.4 mm x 11 mm;
- Force transmission: load button R40, Ø8 mm;
- Connection: 3 m STC-31V-4;
- Material: stainless steel;

KM38

- Type: Load cell;
- Nominal force: 1kN, 2kN, 5kN, 10kN, 20kN;
- Accuracy class: 1%;
- Dimensions: Ø38 mm x 10 mm;
- Force transmission: inner bore: Ø7 mm; *optional: inner thread M4x0.7;
- Connection: 3 m STC-31V-4;
- Material: stainless steel;

KM55

- Type: load cell;
- Nominal force: 10kN, 20kN, 50kN;
- Accuracy class: 1 %;
- Dimensions: Ø55 mm x 16 mm;
- Force transmission: inner bore: Ø12 mm; *optional: inner thread M10;
- Connection: 3 m ME-SYSTEME. DE / 24-4 PUR;
- Material: stainless steel;

KM40 / KM40e*

- Type: Load Cell;
- Nominal force: 100N, 200N, 500N, 1kN, 2kN, 5kN, 10kN, 20kN, 50kN;
- Accuracy class: 0.2%;
- Dimensions: Ø40 mm x 25 mm;
- Force transmission: load button R50, Ø11 mm;
- Connection: 3 m Unitronic FD CP Plus / 4x0,14 // 3 m Unitronic FD CP Plus / 5x0,14;
- Material: stainless steel;
- *optional with integrated electronics: GSV-13i;
- Analog output: 0...10V / 4...20mA; 10S/s;
- autoscale function for input sensitivity 0.1 ... 3.0 mV/V;
- autozero function for zeroing to 4mA;

KM90 / KM90e*

- Type: Load Cell;
- Nominal force: 20kN, 50kN;
- Genauigkeitsklasse: 0,5 %;
- Accuracy class: Ø90 mm x 48 mm;
- Force transmission: load button R100, Ø24 mm;
- Connection: 3m SUPER-PAAR-TRONIC-C /2x2x0,25 // Unitronic FD CP TP Plus / 3x2x0,14;
- Material: stainless steel;
- *optional with integrated electronics: GSV-15L;
- Analog output: 0...10V / 4...20mA;
- digital input for automatic zero adjustment;
- digital input for autoscale;
- 1x digital threshold output;

FORCE LOAD CELL

KM115

- Type: Load cell;
- Nominal force: 50kN, 100kN, 200kN;
- Accuracy class: 0.5%;
- Dimensions: Ø115 mm x 60 mm;
- Force transmission:: load button R160, Ø32 mm;
- Connection: 5 m SU-PER-PAIR-TRONIC-C / 2x2x0.25;
- Material: stainless steel;

KM115e

- Type: Load cell;
- Nominal force: 50kN, 100kN, 200kN;
- Accuracy class: 0,5 %;
- Dimensions: Ø115 mm x 60 mm;
- Force transmission: Lastknopf R160, Ø32 mm;
- Connection: 5 m Unitronic FD CP TP Plus / 3x2x0,14;
- Material: stainless steel;
- *optional with integrated electro-nics GSV-15L;
- Analog output: 0...10V / 4-20mA;
- digital input for automatic zero adjustment;
- digital input for autoscale;
- digital threshold output;

KM10z

- Type: tensile and compressive Load cell;
- Nominal force: 25N, 50N, 100N, 200N;
- Accuracy class: 1%;
- Dimensions: Ø 9.8 mm x 19.8 mm;
- Force transmission: 2 x 7 mm external thread M2,5x0,45;
- Connection: 3 m STC-36T-4;
- Material: stainless steel;

KM16z

- Type: tensile and compressive force sensor;
- Nominal force: 5kN, 10kN, 20kN, 50kN;
- Accuracy class: 1%;
- Dimensions: Ø 18 mm x 40 mm / Ø 29 mm x 50 mm;
- Force transmission: 2 x 10 mm external thread M10x1.5;
- Connection: 3 m STC-31V-4 / ME-SYSTEME.DE / 24-4 PUR;
- Material: stainless steel;

KM26z

- Type: tensile and compressive Load cell;
- Nominal force: 20N; 50N; 100N, 200N, 500N, 1kN, 2kN, 5kN;
- Accuracy class: 1%;
- Dimensions: Ø25.4 mm x 49 mm;
- Force transmission: 2 x 16 mm external thread M6x1;
- Connection: 3 m STC-31V-4;
- Material: Alumium alloy / stain-less steel;

KM30z

- Type: tensile and compressive force sensor;
- Nominal force: 1kN, 2kN, 10kN, 20kN, 50kN;
- Accuracy class: 0.5 / 1%;
- Dimensions: Ø30 mm x 90 mm;
- Force transmission: 2 x 25 mm external thread Mx;
- Connection: 3 m ME-SYSTEME.DE / 24-4 PUR;
- Material: aluminum alloy / stain-less steel;

KM50z

- Type: tensile and compressive force sensor;
- Nominal force: 100 kN;
- Accuracy class: 0.5 / 1%;
- Dimensions: Ø50 mm x 130 mm;
- Force transmission: 2 x 40 mm external thread M30x2;
- Connection: 5 m Unitronic FD CP Plus / 4x0,14;
- Material: stainless steel;

KM70z 200kN

- Type: tensile and compressive force sensor;
- Nominal force: 200 kN;
- Accuracy class: 0.5 / 1%;
- Dimensions: Ø70 mm x 260 mm;
- Force transmission: 2 x 80 mm external thread M45x3;
- Connection: integrated circular connector M12, 4-pin, male;
- incl. 10m connection cable with circular connector M12, 4-pole, female;

COLUMN LOAD CELL

KRAFTSENSOR KA90

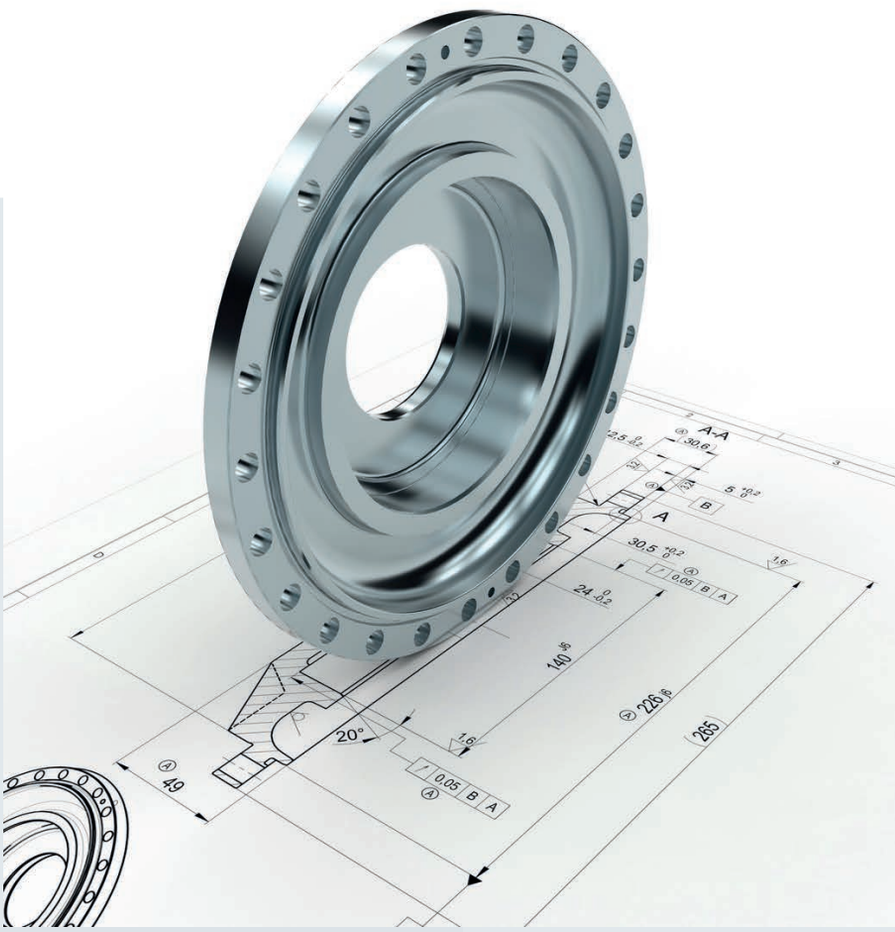
- Type: column load cell;
- Nominal force: 6t, 13t, 28t, 60t, 130t, 280t;
- Accuracy class: 0.2%;
- Force transmission: 2x load button;
- Connection: 5 m connection cable;
- Material: stainless steel;

KA105

- Type: column load cell;
- Nominal force: 10t, 25t, 40t, 60t, 100t;
- Accuracy class: C3 / C2;
- Force transmission: load button;
- Connection: 10m connection cable;
- Material: stainless steel;

KA224

- Type: column load cell;
- Nominal force: 100kN, 250kN, 630kN, 1MN;
- Accuracy class: 0.1%;
- Force transmission: load button;
- Connection: M23 connector, 6-pin;
- Material: tool steel, coated;

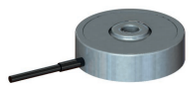


RING FORCE SENSORS

KR20

- Type: bolt force sensor;
- Nominal force: 10kN, 20kN, 30kN, 40kN, 50kN, 60kN, 100kN, 200kN;
- Accuracy class: 1%;
- Dimensions: Ø 16 mm x 7 mm ... Ø 40 mm x 12 mm;
- Inner diameter: 6 mm ... 16 mm;
- Connection: 3 m STC-32-T-4 assembled with SubD connector, 15-pin, male;

KR29



- Type: force sensor;
- Nominal force: 2kN / 5kN / 10kN;
- Accuracy class: 1 %
- Dimensions: Ø 29mm x 9mm
- Inner diameter: 4,3 / 5,3 / 6,3 mm
- Connection: 3 m STC-31V-6pol. / STC-32T-6pol. (HT);
- Material: stainless steel;

KR55

- Type: ring torsion force sensor;
- Nominal force: ±1kN, ±2kN, ±5kN, ±10kN
- Accuracy class: 0,05 %
- Dimensions: Ø55mm x 27 mm
- Force transmission: internal thread M10;
- Connection: 2 m Unitronic FD CP TP Plus / 2x2x0,25
- Material: stainless steel;

KR70

- Type: ring torsion force sensor;
- Nominal force: ± 20N; ± 50N; ± 100N;
- Accuracy class: 0.1%;
- Dimensions: Ø 70 mm x 12 mm;
- Inner diameter 12 mm H7;
- outer circle: 58 mm, inner circle di: 30 mm;
- Connection: 3 m ME-SYSTEME.DE / 24-4 PUR;
- Material: aluminum;

KR80

- Type: ring torsion force sensor;
- Nominal force: 0.25t, 0.5t, 1t, 2t, 3.5t, 5t, 10t;
- Accuracy class: 0.02%;
- Dimensions: Ø80 mm x 25 mm ... Ø95 mm x 35 mm;
- Force transmission: stepped bore for load button R100, Ø18.9 mm x 20 mm;
- Connection: 3 m;
- Material: stainless steel;

KR110a

- Type: ring torsion force sensor;
- Nominal force: ± 50N; ± 100N, ± 200N; ± 500N, ± 1kN, ± 2kN, ± 5kN;
- Accuracy class: 0.1%;
- Dimensions: Ø 110 mm x 14 mm / Ø 110 mm x 20 mm;
- Inner diameter 25 mm H7;
- outer circle: 100 mm, inner circle di: 50 mm;
- Connection: 3 m Unitronic FD CP Plus / 4x0,14;
- Material: aluminum / stainless steel;

3-AXIS FORCE SENSORS

K3D35

- Type: 3-axis force sensor;
- Nominal force: ±0,5N, ±2N, ±10N;
- Accuracy class: 1 %;
- Dimensions: Ø35 mm x 28 mm;
- Force transmission: 4 x Innengewinde M3, 2 x Passbohrung Ø2 mm E9;
- Connection: 3m STC-32T-12;
- Material: aluminum housing;

K3D40

- Type: 3-axis force sensor;
- Nominal force: ± 2N, ± 10N, ± 20N, ± 50N;
- Accuracy class: 0.5%;
- Dimensions: 40mm x 40mm x 20mm;
- Force transmission: 4 x internal thread M3x0,5;
- Connection: 3 m STC-32T-12;
- Material: aluminum alloy;

K3D60a

- Type: 3-axis force sensor;
- Nominal force: ±20N, ±50N, ±100N, ±200N, ±500N;
- Accuracy class:0.5%;
- Dimensions: 60mm x 60mm x 25mm;
- Force transmission: 4 x internal thread M3x0,5; 2 x hole 2 mm E7;
- Connection: 3 m STC-32T-12;
- Material: aluminum alloy / stainless steel;

K3D120

- Type: 3-axis force sensor;
- Nominal force: ± 50N, ± 100N, ± 200N, ± 500N, ± 1kN, ± 2kN, ± 5kN;
- Accuracy class: 0.5%;
- Dimensions: 120 mm x 120 mm x 30 mm;
- Force transmission: 4 x female thread M6x1;
- Connection: 3 m Unitronic FD CP (TP) Plus 6 x 2 x 0.14;
- Material: aluminum / stainless steel;

K3D160

- Type: 3-axis force sensor;
- Nominal force: ± 2kN, ± 5kN, ± 10kN, ± 20kN, ± 50kN;
- Accuracy class: 0.5%;
- Dimensions: 160 mm x 160 mm x 66 mm;
- Force transmission: 6 x internal thread M10 x 1.5; Fitting bore 8 mm H7;
- Connection: 5 m Unitronic FD CP (TP) Plus 6 x 2 x 0.14;
- Material: tool steel, nickel-plated;

K3D300

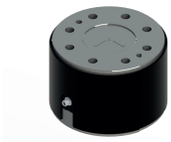
- Type: 3-axis force sensor;
- Nominal force: ± 50kN, ± 100kN, ± 200kN;
- Accuracy class: 0.5%;
- Dimensions: 300 mm x 300 mm x 100 mm;
- Force transmission: 4 x internal thread M24x3, 5 x fitting bore 25 mm H7;
- Connection: M23 flange socket (male) 12-pin;
- Material: tool steel, galvanized;

K3D400 500kN

- Type: 3-axis force sensor;
- Nominal force: Fx: 500 kN, Fy: 500 kN, Fz: 500 kN;
- Accuracy class: 0.5%;
- Dimensions: 400 mm x 400 mm x 100 mm;
- Force transmission: 4 x internal thread M30x3, 5 x fitting bore 30 mm H7;
- Connection: M23 flange socket (male) 12-pin;
- Material: tool steel, galvanized;

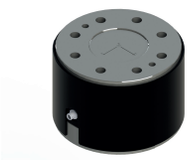
3-AXIS FORCE SENSORS

K3A100



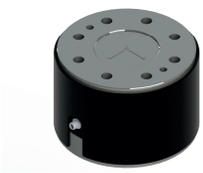
- Type: 3-axis force sensor;
- Nominal force: 10kN/10kN/20kN, 25kN/25kN/60kN;
- Accuracy class: 0,2 %;
- Dimensions: Ø100 mm x 72 mm;
- Force transmission: 8 x internal thread M10x1.5;
- Connection: integrated circular connector (M12), 12-pin, male;
- Material: steel;

K3A125



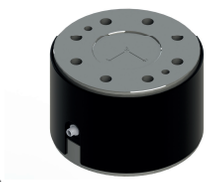
- Type: 3-axis force sensor;
- Nominal force: 30kN/30kN/60kN, 30kN/30kN/120kN;
- Accuracy class: 0,2 %;
- Dimensions: Ø125 mm x 90 mm;
- Force transmission: 8 x internal thread M12x1.75;
- Connection: integrated circular connector (M12), 12-pin, male;
- Material: steel;

K3A155



- Type: 3-axis force sensor;
- Nominal force: 50kN/50kN/200kN, 100kN/100kN/250kN;
- Accuracy class: 0,2 %;
- Dimensions: Ø155 mm x 105 mm;
- Force transmission: 8x internal thread M10x1,5;
- Connection: integrated circular connector (M12), 12-pin, male;
- Material: steel;

K3A225



- Type: 3-axis force sensor;
- Nominal force: 100kN/100kN/200kN, 200kN/200kN/400kN, 50kN/250kN/500kN;
- Accuracy class: 0,2 %;
- Dimensions: Ø225 mm x 150 mm;
- Force transmission: 8x internal thread M20x2,5;
- Connection: integrated circular connector (M12), 12-pin, male;
- Material: steel;

K3R70

- Type: 3-axis force-torque sensor;
- Nominal force: Fz: ±20N, ±50N; ±100N;
- Nominal torque: Mx,My: 200mNm, 500mNm; 1Nm;
- Accuracy class: 0,1 %;
- Dimensions: Ø 70 mm x 12 mm;
- Inner diameter: 12 mm H7;
- Outer pitch circle da: 58 mm, inner pitch circle di: 30 mm;
- Connection: 3m ME-SYSTEME.DE / 30-12 PUR / 12x0,061mm²;
- Material: aluminium;

K3R110

- Type: 3-axis force-torque sensor;
- Nominal force: Fz: ± 50N; ± 100N, ± 200N, ± 500N, ± 1000N, ± 2000N, ± 5000N;
- Nominal torque: Mx, My: 1 Nm, 2 Nm, 4 Nm, 10 Nm, 20 Nm, 40 Nm, 100 Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø 110 mm x 14 mm / Ø 110 mm x 20 mm;
- Inner diameter 25 mm H7;
- outer circle: 100 mm, inner circle di: 50 mm;
- Connection: 3m ME-SYSTEME.DE 24-10 PUR / 10x0,14;
- Material: aluminum / stainless steel;

6-AXIS FORCE-TORQUE-SENSORS

K6D27 50N/1Nm

- Type: 6-axis force / torque sensor;
- Measuring range: 50N/1Nm;
- Accuracy class: 0.5%;
- Dimensions: Ø27 mm x 25 mm;
- Mounting and centering:: 6 x internal thread M2x0.4, 2 pilot holes Ø2 mm H7;
- Connection: Cable gland (CG) with 3 m 2 x STC32T-12;
- Material: stainless steel / aluminum;

K6D40

- Type: 6-axis force / torque sensc
- Measuring range: 50N/5Nm, 200N/5Nm, 500N/20Nm;
- Accuracy class: 0.2%;
- Dimensions: Ø60 mm x 40 mm;
- Mounting and centering:: 6 x internal thread M5x0.8, 2 pilot holes Ø3 mm H7;
- Connection: Cable gland (CG) with 5m 33-24 PUR / 24x0.03 mm2 / integrated circular connector (MP11);
- Material: aluminum alloy / stainless steel housing;

K6D68

- Type: 6-axis force / torque sensor;
- Measuring range: 1kN/20Nm, 2kN/50Nm, 5kN/50Nm, 10kN/100Nm, 10kN/500Nm;
- Accuracy class: 0.2%;
- Dimensions: Ø83 mm x 64 mm;
- Mounting and centering: 6 x female thread M10x1,5; 2 drill hole Ø6 mm H7;
- Connection: Cable gland (CG) with 5 m 33-24 PUR / 24x0.03 mm2;
- Material: stainless steel / aluminum alloy;

K6D80

- Type: 6-axis force / torque sensor;
- Measuring range: 1kN/50Nm, 2kN/100Nm, 500N/20Nm, 5kN/250Nm;.
- Accuracy class: 2%;
- Dimensions: Ø80 mm x 50 mm;
- Mounting and centering: 6 x feale thread M8x1,25; 2 drill hole Ø5 mm E7;
- Connection: integrated circular connector (MP11);
- Material: aluminum alloy / stainless steel;

K6D110

- Type: 6-axis force / torque sensor;
- Measuring range: 1kN/100Nm, 4kN/250Nm, 8kN/500Nm, 10kN/750Nm;
- Accuracy class: 0,2 %;
- Dimensions: Ø110 mm x 60 mm;
- Connection: integrated circular connector (MP11);
- Material: aluminum alloy / stainless steel;

K6D130

- Type: 6-axis force / torque sensor;
- Measuring range: 1kN/200Nm, 5kN/500Nm, 15kN/1.2kNm;
- Accuracy class: 0,2 %;
- Dimensions: Ø130 mm x 80 mm;
- Connection: integrated circular connector (MP11);
- Material: aluminum alloy / stainless steel;

K6D150

- Type: 6-axis force / torque sensor;
- Measuring range: 2kN/200Nm, 4kN/500Nm, 10kN/1kNm, 30kN/3kNm;
- Accuracy class: 0,2 %;
- Dimensions: Ø150 mm x 90 mm;
- Connection: integrated circular connector (MP11);
- Material: aluminum alloy / stainless steel;

K6D154

- Type: 6-axis force / torque sensor;
- Measuring range: 50N/5Nm, 100N/10Nm, 200N/20Nm, 500N/50Nm;
- Accuracy class: 0,2 %;
- Dimensions: Ø154 mm x 100 mm;
- Connection: integrated circular connector (UP13), 27-pole, female;
- Material: aluminum alloy

6-AXIS FORCE-TORQUE-SENSORS

K6D175

- Type: 6-axis force / torque sensor;
- Measuring range: 10kN/1kNm, 20kN/2kNm, 50kN/5kNm;
- Accuracy class: 0.5%;
- Dimensions: Ø175 mm x 110 mm;
- Mounting and centering: 6 x female thread M6x2; 2 drill hole Ø10 mm F7;
- Connection: integrated circular connector (UP13), 27-pole, female;
- Material: stainless steel, stainless steel housing;

K6D225

- Type: 6-axis force/torque sensor;
- Measuring range: 50kN/10kNm, 100kN/15kNm, 200kN/20kNm;
- Dimensions: Ø225 mm x 140 mm;
- Mounting and centering: 12 x internal thread M20x2.5, 2 pilot holes 2x Ø12 mm E7;
- Connection: 2x integrated round plug connector (UP13), 27-pole, female;
- Material: stainless steel, stainless steel housing;

K6D300

- Type: 6-axis force/torque sensor;
- Measuring range:: 400kN/40kNm;
- Dimensions: Ø300 mm x 175 mm;
- Mounting and centering: 12 x internal thread M30, 2 drill hole Ø16 mm E7;
- Connection: 2x integrated round plug connector (UP13), 27-pole, female;
- Material: stainless steel, stainless steel housing;

F6D45

- Type: 6-axis force- torque sensor;
- Measuring range: 20N/1Nm;
- Accuracy class: 1%;
- Dimensions: Ø45 mm x 27 mm;
- Mounting and centering: 3 x inner thread M3; 3 drill hole Ø1,5 mm E7;
- Connection: side cable gland (CG) with 2x 3m 30-12 PUR / 12x0,061mm²;
- Material: aluminium alloy;

F6D80-40

- Type: 6-axis force- torque sensor;
- Measuring range: 100N/10Nm, 300N/30Nm;
- Accuracy class: 1%;
- Dimensions: Ø80 mm x 40 mm;
- Circle: Ø40 mm;
- Mounting and centering: 4 x inner thread M6x1, 2 drill hole Ø6 mm H7;
- Connection: integrated circular connector (MP11), 24-pin, male;
- Material: aluminium alloy;

F6D80-40e

- Type: 6-axis force- torque sensor;
- Measuring range: 100N/10Nm, 300N/30Nm;
- Accuracy class: 1%;
- Dimensions: Ø80 mm x 40 mm;
- Circle: Ø40 mm;
- Mounting and centering: 4 x inner thread M6x1, 2 drill hole Ø6 mm H7;
- Assembled with round plug M12x1, 5 pole;
- Material: aluminium alloy;
- with integrated elektronic GSV-6 CAN Bus;

6-AXIS FORCE-TORQUE-SENSORS

F6D100-50

- Type: 6-axis force- torque sensor;
- Measuring range: 200N/20Nm, 600N/60Nm;
- Accuracy class: 1%;
- Dimensions: Ø100 mm x 40 mm;
- Circle: Ø50 mm;
- Mounting and centering: 4 x inner thread M6x1 ,2 drill hole Ø6 mm H7;
- Connection: integrated circular connector (MP11), 24-pin, male;
- Material: aluminium alloy;

F6D100-50e

- Type: 6-axis force- torque sensor;
- Measuring range: 200N/20Nm, 600N/60Nm;
- Accuracy class: 1%;
- Dimensions: Ø100 mm x 40 mm;
- Circle: Ø50 mm;
- Mounting and centering: 4 x inner thread M6x1 ,2 drill hole Ø6 mm H7
- Assembled with round plug M12x1, 5 pole, male;
- Material: aluminium alloy;
- with integrated elektronic GSV-6 CAN Bus;

BEARING FORCE SENSORS

KS180

- Type: Double shearbeam force sensor;
- Nominal force: 5kN, 10kN, 15kN, 20kN, 30kN;
- Accuracy class: 0.5%;
- Dimensions: 130mm x 36mm x 25mm ... 200mm x 54mm x 34mm;
- Force transmission: 2x internal thread M12x1.75, 2x internal thread M12x1.75;
- Connection: 5 m 2x2x0.25 / PUR;
- Material: tool steel, galvanized;

KS420

- Type: Double shearbeam force sensor;
- Nominal force: 10kN, 20kN, 50kN;
- for INA pillow block bearings: Ø 80 mm;
- External dimensions: 420 x 80 x 40 mm;
- Length force range: 232 mm;
- Connection: 2x2x0.25 / PUR, 5 m;
- Material: spring steel, galvanized;

KS575 100kN

- Type: Double shearbeam force sensor;
- Nominal force: 100kN;
- Accuracy class: 0.1%;
- Dimensions: 575mm x 70mm x 63mm;
- Force transmission: 5m connection cable 2x2x0,25 / PUR;
- Material: stainless steel;

TENSION LOAD CELL

KL20

- Type: belt sensor;
- Nominal force: 100N;
- Accuracy class: 1%;
- Dimensions: 31 mm x 24 mm x 4 mm;
- for belt width 5 mm ... 20 mm;
- Belt thickness 0.4 mm ... 1.5 mm;
- Connection: 1m STC-36T-4
- Material: aluminum alloy;

KL500

- Type: tensile load cell with spherical bearings;
- Nominal force: ± 100kN, ± 200kN, ± 500kN, ± 1MN;
- Accuracy class: 0.5%;
- Dimensions: 225mm x 85mm x 28mm ... 650mm x 240mm x 100mm;
- Spherical bearing: Ø 25 ... Ø 100;
- Connection: integrated circular connector M8 / M12, 4-pin, male;
- incl. 10m connection cable with circular connector M8 / M12, 4-pole, female;
- Material: tempered steel, galvanized;
- Output signal: 1mV / V;

U-SHAPE FORCE SENSOR

KD115u

- Type: force sensor;
- Nominal force: ± 1kN, ± 5kN, ± 10kN;
- Accuracy class: 0.1%;
- Dimensions: 115mm x 60mm x 50mm;
- Force introduction: 4x internal thread M6 x 1;
- Through hole 28 x 28mm;
- Connection: integrated circular connector M12, 4-pin, male;
- incl. 5m connection cable with circular connector M12, 4-pole, female;
- Material: aluminum alloy, natural anodized;

LOAD PIN

KB16X32

- Type: load pin;
- Nominal force: 1kN, 2kN, 5kN, 10kN;
- Accuracy class: 1%;
- Dimensions for clevis according to DIN 71752 / DIN ISO 8140;
- Connection: 5m connection cable FD 4x0,14 / PUR;
- Material: stainless steel;

*** further load pin on request**

BENDING BEAM / SHEAR BEAM LOAD CELL

LCB70

- Type: Bending beam load cell;
- Nominal force: 2 kg, 5 kg;
- Accuracy class: 0.1%;
- Dimensions: 70mm x 15mm x 22mm;
- Force application: 2 x threaded hole M3x0,5;
- Connection: 0.4 m PVC;
- Material: aluminum;

LCB110

- Type: Bending beam load cell;
- Nominal force: 300 g / 600 g;
- Accuracy class: 0.1%;
- Dimensions: 110 mm x 10 mm x 33 mm;
- Force application: 2 x threaded hole M3x0,5;
- Connection: 0.4 m PVC;
- Material: aluminum;

LCB120

- Type: Bending beam load cell;
- Nominal force: 10kg, 20kg, 50kg, 100kg, 200kg, 350kg, 500kg;
- Accuracy class: 0.04%;
- Dimensions: 120 mm x Ø 39 mm;
- Force transmission: 1 x through hole Ø8,2 mm / Ø10,3 mm;
- Connection: 3 m PVC;
- Material: stainless steel;

LCB130

- Type: Bending beam load cell;
- Nominal force: 3kg, 5kg, 10kg, 20kg, 30kg, 35kg;
- Accuracy class: 0.04%;
- Dimensions: 130mm x 25mm x 22mm ... 130mm x 40mm x 22mm;
- Force introduction: 4 x threaded hole M6x1;
- Connection: 0.5 m PVC;
- Material: aluminum;

LCB150

- Type: Bending beam load cell;
- Nominal force: 1kg, 5kg, 10kg, 20kg, 50kg, 100kg;
- Accuracy class: 0.04%;
- Dimensions: 150mm x 20mm x 40mm / 150mm x 25mm x 40mm;
- Force introduction: 2 x threaded hole M6x1;
- Connection: 1 m PVC;
- Material: aluminum;

LCB174

- Type: Bending beam load cell;
- Nominal force: 100kg, 250kg;
- Accuracy class: 0.04%;
- Dimensions: 174 mm x 60 mm x 60 mm;
- Force introduction: 2 x 4 threaded hole M8x1,25;
- Connection: 1.5 m PVC;
- Material: aluminum;

LCB176

- Type: Bending beam load cell;
- Nominal force: 2 t;
- Accuracy class: 0.04%;
- Dimensions: 174 mm x 76 mm x 76 mm;
- Force introduction: 4 x threaded hole M16x2;
- Connection: 6 m PVC;
- Material: aluminum;

LCS130

- Type: shear beam load cell;
- Nominal force: 500kg, 1t, 2t;
- Accuracy class: C3 (0.04%);
- Dimensions: 130mm x 32mm x 32mm;
- Force application: 1x tapped hole M12x1.75;
- Connection: 3m connection cable PVC;
- Material: stainless steel

TORQUE SENSORS

TA125

- Type: Torque Sensor;
- Nominal torque: ± 15Nm, ± 50Nm, ± 120Nm, ± 350Nm, ± 600Nm;
- Accuracy class: 1%;
- Dimensions: 101.5 mm x Ø12 mm ... 200 mm x Ø43 mm;
- Extension 101.5 mm with inner and outer square 1/4 ‚' ... 200 mm, outer and inner square 3/4 ‚';
- Connection: 3 m ME-SYSTEME. DE / 24-4 PUR / LAPP FD CP Plus 4x0,14;
- Material: tool steel;

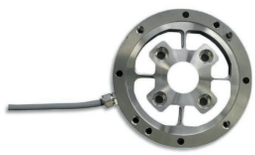
TD50

- Type: Torque Sensor;
- Nominal torque: 150mNm, 300mNm, 500mNm;
- Accuracy class: 0.1%;
- Dimensions: Ø 50 mm x 10 mm;
- outer circle: 45 mm;
- inner pitch circle: 20 mm;
- Inner bore: 4 mm;
- Connection: 2 m STC-31V-4;
- Material: aluminum alloy;

TD70

- Type: Torque Sensor;
- Nominal torque: 25mNm, 50mNm, 150mNm, 300mNm, 1Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø 70 mm x 10 mm;
- outer pitch: 58 mm;
- inner pitch circle: 30 mm;
- Inner bore: 6 mm;
- Connection: 2 m STC-31V-4;
- Material: aluminum alloy;

TD110a



- Type: Torque Sensor;
- Nominal torque: 5Nm, 10Nm, 20Nm, 50Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø110 mm x 13 mm;
- outer pitch circle: 100 mm;
- inner pitch circle: 50 mm;
- Inner bore: 25 mm;
- Connection: 3 m Unitronic FD CP Plus / 4x0,14;
- Material: stainless steel;

TD175

- Type: Torque Sensor;
- Nominal torque: 10Nm, 20Nm, 50Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø175 mm x 98 mm;
- inner pitch circle: 149 mm;
- Inner bore: 108 mm;
- Connection: M12 connector, mating connector with 5 m cable SAC-5P- 5.0-PUR / M12FS SH;
- Material: aluminum;

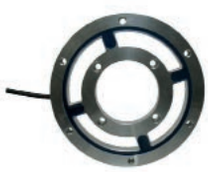
TS70

- Type: Torque Sensor;
- Nominal torque: ± 2Nm, ± 5Nm, ± 10Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø 70 mm x 10 mm;
- outer pitch: 58 mm;
- inner pitch circle: 30 mm;
- Inner bore: 12 mm;
- Connection: 2 m STC-31V-4;
- Material: aluminum;

TS110A

- Type: Torque Sensor;
- Nominal torque: ± 20Nm, ± 50Nm, ± 100Nm, ± 200Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø 110 mm x 14 mm;
- outer pitch circle: 100 mm;
- inner pitch circle: 50 mm;
- Inner bore: 25 mm;
- Connection: 3 m Unitronic FD CP Plus / 4x0,14;
- Material: aluminum / stainless steel;

TS170



- Type: Torque Sensor;
- Nominal torque: ± 50Nm, ± 100Nm, ± 200Nm, ± 500Nm;
- Accuracy class: 0.1%;
- Dimensions: Ø 170 mm x 16 mm;
- outer pitch circle: 155 mm;
- inner pitch circle: 85 mm;
- Inner bore: 70 mm;
- Connection: 5 m Unitronic FD CP Plus 4x0,14;
- Material: aluminum;

DA26

- Type: Strain sensor;
- Dimensions: 62mm x 26mm x 20mm;
- Al housing with pre-wired strain gauge;
- Fixing with 2 screws M6x25;
- integrated Teflon O-ring;
- M12 flange socket type 763 (plug, pin contacts);
- Strain gage type: FAE4-10S (full bridge, 350Ohm)

DA40 PUR/10S

- Type: Strain sensor;
- Dimensions: 26mm x 40mm x 10mm;
- Al housing with pre-wired strain gauge;
- Fixing with 2 screws M4x12;
- integrated Teflon seal;
- Connection: 5m 24-4 PUR;
- Strain gage type: FAE4-10S (full bridge, 350 ohms);

DA54

- Type: Strain sensor;
- Dimensions: 30mm x 54mm x 20mm;
- Al housing with pre-wired strain gauge;
- Mounting with 4 screws M6x25;
- integrated Teflon O-ring;
- M12 flange socket type 763 (plug, pin contacts);
- Strain gage type: FAE4-10S (full bridge, 350 ohms) / 125US (shear, 350 ohms);
- for measuring tension, pressure and bending;

DA54-MAG M12L

- Type: Strain sensor;
- Dimensions: 38mm x 54mm x 20mm;
- Al housing with pre-wired strain gauge;
- 4 integrated holding magnets, mounting without threaded holes;
- integrated O-ring;
- M12 flange socket type 763 (plug, pin contacts);
- Strain gage type: 10s (FAE4 / 350Ohm) / 125US (shear, full bridge, 350 ohms) / S120P (FAE4 / 1000 ohms);
- for measuring tension, pressure and bending;

DA68

- Type: Strain sensor;
- Strain gage type: FAE4-S120P / FAE4-10S (full bridge, 350 / 1000Ohm);
- Dimensions: 38 mm x 68 mm x 20 mm;
- Fastening: 4 integrated holding magnets + gluing;
- Connection: Flange plug M12 4-pin (male);
- IP protection class: IP 65;
- Housing: aluminum alloy / stainless steel;

DA68e

- Type: Strain sensor;
- Strain gage type: 10s (FAE4 / 350 ohms) / 125us (shear, full bridge, 350 ohms);
- Accuracy class: 1%;
- Dimensions: 38 mm x 68 mm x 20 mm;
- Fastening: 4 integrated holding magnets + gluing;
- integrated electronics: GSV-15L 0 ... 10V / 4 ... 20mA;
- Zeroing to 5V;
- Connection: Flange plug M12 4-pin (male);
- IP protection class: IP 65
- Housing: aluminum alloy / stainless steel;

HIGH-RESOLUTION STRAIN SENSORS / CYLINDRICAL

DA54-TIEWRAP

- Type: Strain sensor;
- Dimensions: 30mm x 54mm x 21mm;
- Al housing with pre-wired strain gauge;
- for diameter 140mm-220mm;
- integrated O-ring;
- 2x metal cable ties MLT6S-CP;
- 15m cable 2x2x0.25 PUR;
- Strain gage type: 10s (FAE4 / 350Ohm);
- for measuring tension, pressure and bending;

DAdx

- Type: Strain sensor for columns;
- clamping range according to customer specifications: 50mm ... 220mm;
- 2 half-shells connected with hinge and interconnected;
- Connection: integrated round connector M12, 4-pole, male;
- incl. 10m connection cable with round connector M12, 4-pin, female;
- oil-resistant seal;

STRAIN SENSORS / SCREW-ON STRAIN SENSORS

DA70 PUR

- Type: Strain sensor;
- Dimensions: 78mm x 40mm x17mm;
- Material: tool steel, galvanized;
- Connection: 5m 2 x 2 x 0.25 PUR;

DA90

- Type: Strain transducer;
- Dimensions: 90mm x 25mm x 12mm;
- Material: tool steel, 42CrMo4 + QT, galv. Galvanized ZN12B;
- Connection cable: 5m Unitronic FD CP Plus 4x0,14;

DA120

- Type: Strain transducer;
- Accuracy class: 0.5%;
- Dimensions: 120 mm x 20 mm x 11 mm;
- Mounting: 4x M6;
- Connection: 5 m Unitronic FD CP Plus 4x0,14;
- Material: tool steel, galvanized;

DA70e

- Type: Strain transducer;
- Dimensions: 78mm x 40mm x 17mm;
- Mounting: 2 screws M10x40;
- Connection: 5m 3x2x0,14 UNITRONIC FD CP (TP) Plus;
- Material: tool steel, galvanized, 2µm / ZN12b;
- integrated electronics: GSV-15L 010/105 / 3,5 / 4-20 / 105 / 3,5 / 010-5 / 105 / 3,5 / 4-20-12 / 105 / 3,5;
- Zero balance digital input on 0V / + 5V / 12mA;
- Digital input for automatic scaling;
- 1x threshold output;

DA90e

- Type: Strain transducer;
- Dimensions: 90 mm x 25 mm x 12 mm;
- Mounting: 4x M6;
- Connection: 5m Unitronic FD CP Plus 7x0,14;
- Material: tool steel, galvanized;
- integrated electronics: GSV-15L 010/105 / 3.5 / 010-5 / 105 / 3.5 / 24 / 4-20 / 105 / 3.5 / 24 / 4-20-12 / 105 / 3.5 / 24;
- Zero balance digital input on 0V, 5V, 4mA, 12mA;
- Digital input for automatic scaling;
- 1x threshold output;

STRAIN SENSORS / SCREW-ON STRAIN

DA120e

- Type: Strain sensor
- Accuracy class: 0.5%;
- Dimensions: 120mm x 20mm x 12mm;
- Mounting: 4x M6;
- Connection: 5m Unitronic FD CP Plus 7x0,14;
- Material: tool steel, galvanized;
- integrated electronics: GSV-15L 010/105 / 3,5 / 010-5 / 105 / 3,5 / 4-20-12 / 105 / 3,5 / 4-20 / 105 / 3,5;
- Digital input for zeroing;
- Digital input for automatic scaling;
- 1x threshold output;

DA120i

- Type: Strain sensor
- Accuracy class: 0.5%;
- Dimensions: 120 mm x 22.5 mm x 12 mm;
- Mounting: 4x M6;
- Connection: 5m Unitronic FD CP Plus 7x0,14;
- Material: tool steel, galvanized;
- integrated electronics: GSV-6L;
- Analog output: 0 ... 10V, ± 10V, 0 ... 5V, ± 5V, 4 ... 20mA, 0 ... 20mA;
- adjustable analogue output offset;
- Configuration via two control lines „Tare“ and „Scale“;

DA90i

- Type: Strain sensor
- Dimensions: 90 mm x 25 mm x 12 mm;
- Mounting: 4x M6;
- Connection: 5m Unitronic FD CP Plus 7x0,14;
- Material: tool steel, galvanized;
- integrated electronics: GSV-6L;
- Analog output: 0 ... 10V, ± 10V, 0 ... 5V, ± 5V, 4 ... 20mA, 0 ... 20mA;
- adjustable analogue output offset;
- Configuration via two control lines „Tare“ and „Scale“;

ACCELERATION SENSORS

AS28 / AS28e*

- Type: acceleration sensor;
- Rated acceleration: ± 5g ... 100g;
- Cut-off frequency: 800 Hz ... 1000 Hz;
- Accuracy class: 1%;
- Dimensions: 30 mm x 18 mm x 9 mm;
- Through-hole: 2x through-hole 3.2 mm;
- Connection: 3 m connection cable STC-31V-4;
- Material: aluminum alloy;
- *optional: Output signal: ± 2 volts, zero signal: 2.5 volts;

A3S 4030

- Type: 3 axial DC-Response acceleration sensor;
- Capacitive Silicon MEMS Element;
- Nominal acceleration: ±2 g / ±6 g;
- Limit frequency: 200Hz;
- Analog output signal: ± 2V;
- Sensitivity: 1000 mV/g / 333 mV/g;D
- Dimensions: 70,5 mm x 40 mm x 15 mm;
- Mounting: 2x through hole 6,77 mm;
- Connection cable: 3m PVC 6x0.14 mm, #24 AWG;
- Material: Nylon 6-6;

DISPLACEMENT SENSORS

LRW2-C-X

- Type: linear potentiometer „LRW2-F“ with ball tip;
- Measuring range: 0-10 mm ... 0-150 mm;
- Linearity: ± 0.3% ... ± 0.05%;
- Operating temperature: -30 ... + 100 ° C;
- Connection: 1m connection cable: 3-wire, shielded;
- Protection class: IP40;

LRW3-C-X

- Type: linear potentiometer „LRW2-C“ with ball tip;
- Measuring range: 0-10 mm ... 0-150 mm;
- Linearity: ± 0.3% ... ± 0.05%;
- Operating temperature: -30 ... + 100 ° C;
- Connection: with 5-pin M12 connector output;

LRW2-F-X-S

- Type: linear potentiometer „LRW2-F“ with ball tip;
- Measuring range: 0-10 mm ... 0-150 mm;
- Linearity: ± 0.3% ... ± 0.05%;
- Operating temperature: -30 ... + 100 ° C;
- Connection: 1m connection cable: 3-wire, shielded;
- Protection class: IP40;

LRW3-F-X-S

- Type: linear potentiometer „LRW2-C“ with ball tip;
- Measuring range: 0-10 mm ... 0-150 mm;
- Linearity: ± 0.3% ... ± 0.05%;
- Operating temperature: -30 ... + 100 ° C;
- Connection: with 5-pin M12 connector output;
- Protection class: IP40;

SX50

- Draw wire sensor „SX50-50-1R-SA“;
- Measuring range: 50mm ... 1000mm;
- Linearity: 0.5% ... 0.10%;
- Potentiometer 1 kOhm, IP65;
- Connection: M12 connector output axial;

SX80

- Draw wire sensor „SX80-3000-1R-SA“;
- Measuring range: 3000mm;
- Linearity: 0.10%;
- Potentiometer 1 kOhm, IP65;
- Connection: M12 connector output axial;

CS40

- Type: Crack sensor;
- Measuring range: 5mm;
- Output signal 1,5 mV/V;
- Dimensions: 70mm x 40mm x 15mm;
- Spring thickness 0.2mm;
- Material: 1.4310;
- Connection: 3m Connection cable STC-31V-4, ed. 2.2mm, PVC;

CS05

- Type: ultraminiature crack sensor;
- Measuring range: ±0,5mm;
- Accuracy class: 1%;
- Dimensions: 21mm x 14mm x 15mm;
- Connection: 3m Connection cableSTC-31V-4 / STC-36T-4, diameter. 2,2mm, PVC;

KG-A

- Type: crack sensor;
- Measuring range: 2mm, 5mm,
- Accuracy class: 1%;
- Crack width: 0mm ... 64mm;
- Dimensions: 124mm x 30mm x 34mm;
- Connection: 2m connection cable, assembled with M12 connector, 4-pin, diam. 6mm;
- Material: stainless steel housing;
- Protection class: IP65;

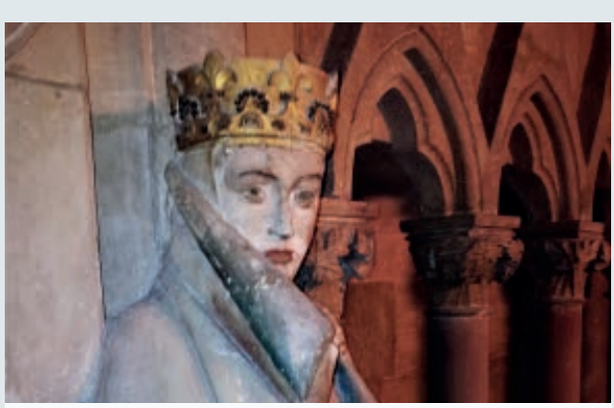
FORCE SENSORS / APPLICATIONS

Landmaschinen

- Measurement technology solutions for process monitoring and process control
- Overload detection and regulation of agricultural processes

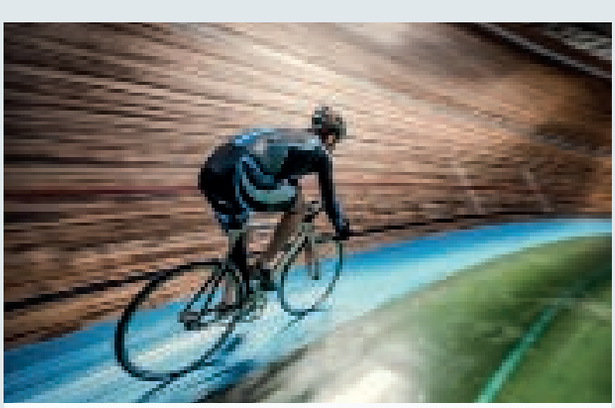
Produktionsmaschinen

- The force and torque sensors of the K6D series are well suited for measuring forces and torques, for example in robot-based milling or grinding



Bauwerke und Skulpturen

- Measurement of crack propagatin on sculptures with crack sensor CS05
- Measurements of crack propagation on bridges and supporting structures



Sportgeräte

- ME-Meßsysteme entwickelt und fertigt Sensoren für den Leistungssport
- Der Bluetooth-Messverstärkers GSV-6BT in Verbindung mit Dehnungsmessstreifen FAED kommt erfolgreich zum Einsatz im Bahn-Radsport

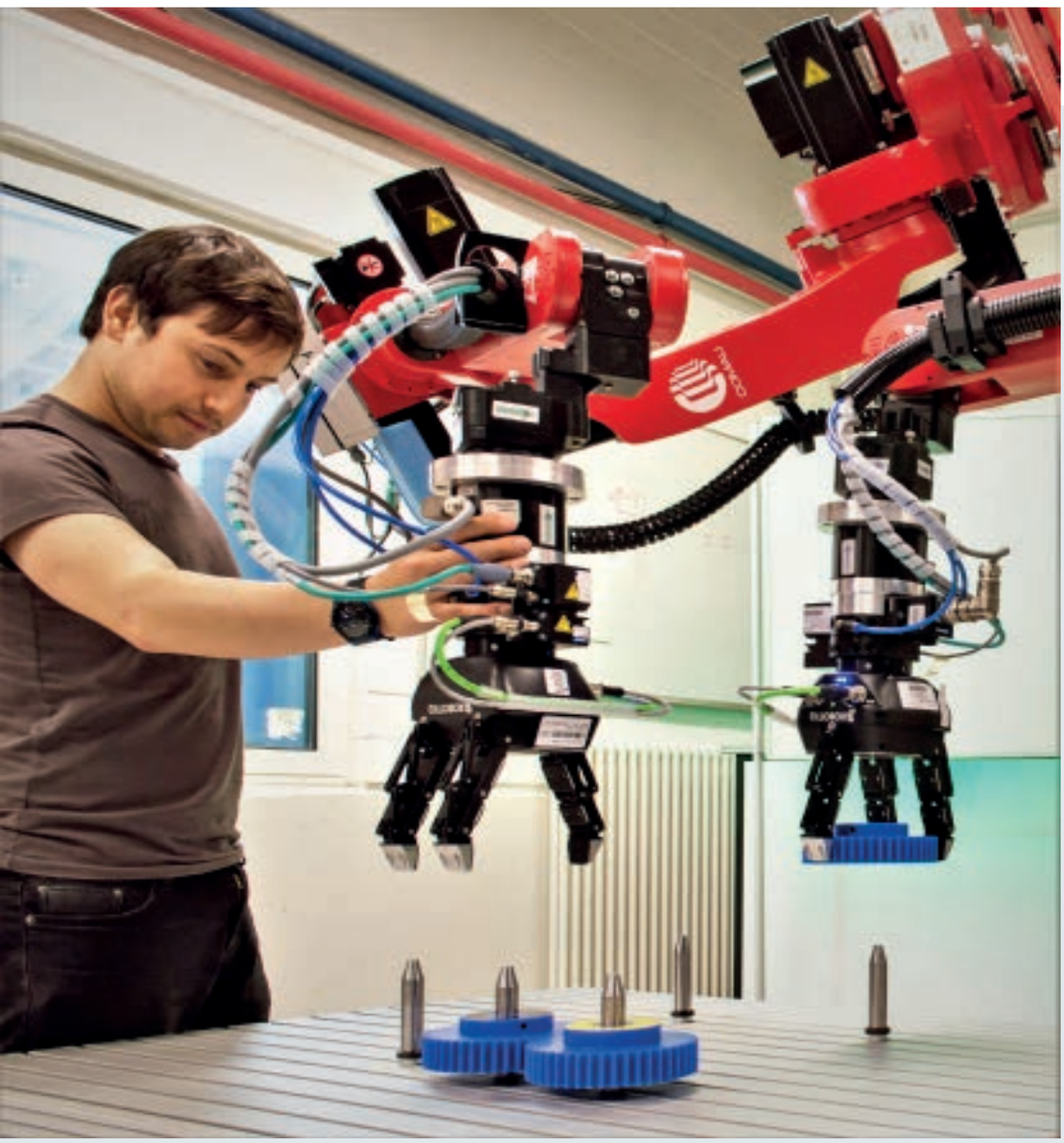
HIGHLIGHTS IN ROBOTICS

6-axis force / torque sensors of the K6D series are particularly suitable for COLLABORATIVE ROBOT SYSTEMS

- They serve as reliable companions and helpers of people in handling tasks in production or assembly.

- Outstanding properties for users in automation technology:

- compact design
- 3-dimensional measurement of forces (Fx, Fy, Fz axis) and moments (Mx, My, Mz axis)
- Robustness and reliability
- modular design
- high measuring accuracy
- flexibility



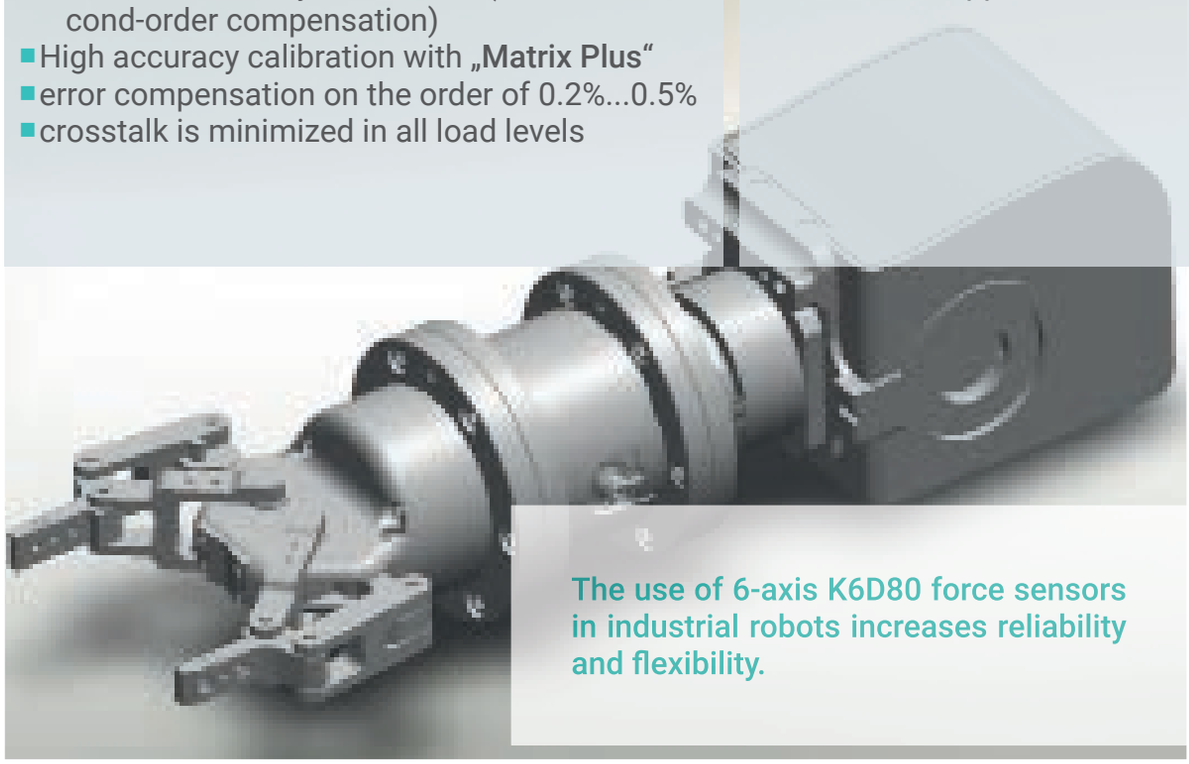
FORCE-/ TORQUE-SENSOR K6D

SENSOR-CHARACTERISTICS:

- compact design;
- 3-dimensional measurement of forces (Fx-,Fy-,Fz-axis) and torques (Mx, My-,Mz-axis);
- protection IP67 / IP68
- Accuracy incl. crosstalk better 1% (with first order compensation)
- Increased accuracy better 0.2% (with second-order compensation)
- High accuracy calibration with **„Matrix Plus“**
- error compensation on the order of 0.2%...0.5%
- crosstalk is minimized in all load levels

APPLICATION AREAS:

- automation technology
- Teach-in and collision detection for collaborative robots
- quality inspection
- Medical technology
- Aerospace
- Research and Development
- Wind tunnel applications

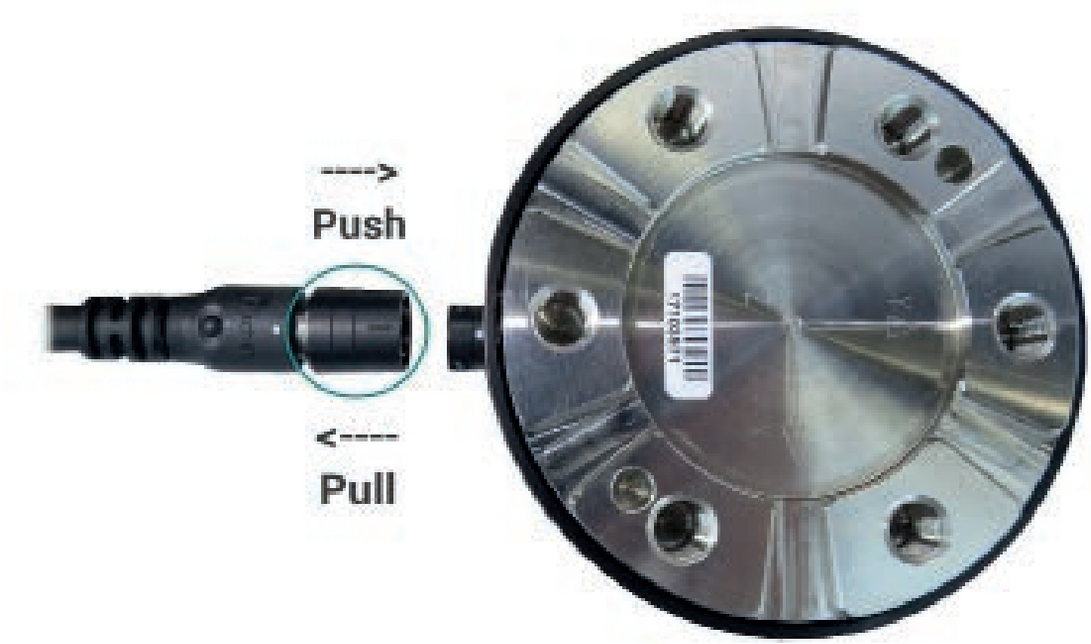


The use of 6-axis K6D80 force sensors in industrial robots increases reliability and flexibility.

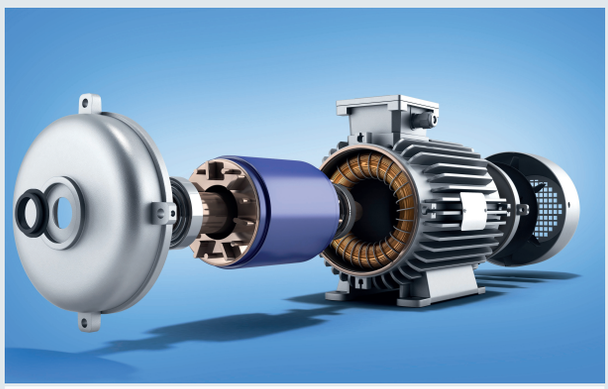
MINIATURE CONNECTOR FOR K6D SENSORS

MIL - CONNECTOR MP11 / UP13

- low weight
- smallest dimensions
- vibration-proof, trouble-free transmission
- robust IP68 connection plugged in and unplugged;
- simple „push-pull“ locking
- fast and secure alignment of the contacts without visual inspection

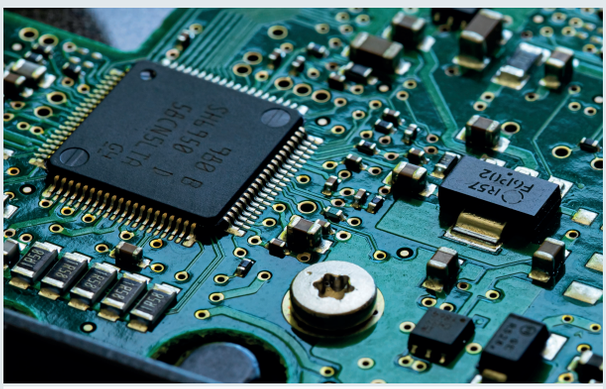


FORCE SENSORS / APPLICATIONS



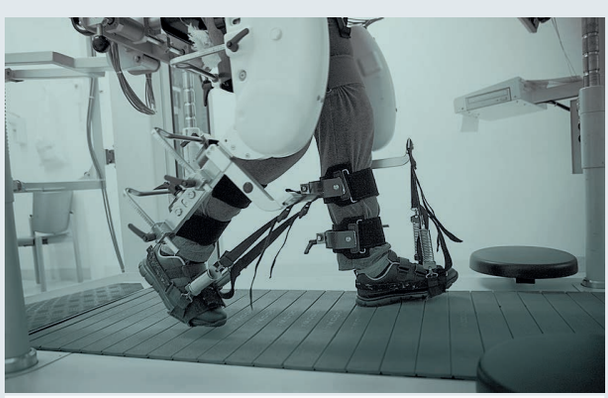
Torque and drive technology

- Torque sensors for drive technology, customized interfaces: Ethercat, CAN-Bus, SPI, ...



Bonding and welding

- Measurement of forces and torque during bonding of micro-chips
- Measurement of contact forces during laser welding



Rehabilitation

- Measurement of forces and torque on orthoses and prosthesis

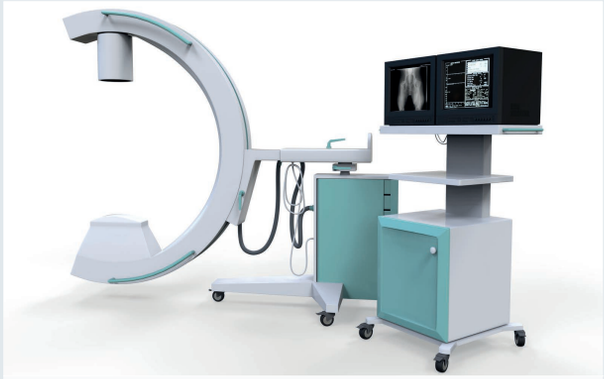
Tribologie

- Measurement of frictional force in wear testing
- Measurement of rolling resistance of tires, rolling bearings, watch bearings ...
- Measurement of friction force of linings, material pairings, sports shoes

KRAFTSENSOREN / ANWENDUNGEN / MEDIZINTECHNIK

3-axis force sensors

- Installation between ski and ski binding
- Measurement of forces while skiing
- Optimization of the construction
- flat design and low mass
- Compensation of bending moment
- Display of the components of the
- force vectors in the x, y and z directions

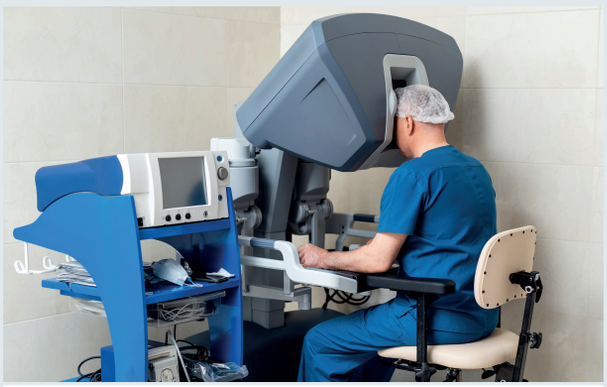


3-axis force sensors

- Production of 3-axis sensors for medical technology
- Use of 3-axis sensors in aircraft assembly
- Use in test stands for railways, automobiles and aircraft

Human-Robot-Collaboration

- Torque sensor TS110a is integrated into the exoskeletons that assist humans in lifting heavy loads



Human-Robot-Collaboration

- 3-axis force sensor K3D35 have been assisting surgeons with precise and stable control of Da Vinci robots during surgical procedures for years

ELECTRONICS

ANALOGUE AMPLIFIER OF THE SERIES GSV-1

GSV-1H

- 1-channel strain gauge amplifier in DIN rail housing;
- Connection: 8 compression fittings;
- Dimensions: 12.5mm x 114.5mm x 99mm;
- Analog output: -10V ... + 10V / 4 ... 20mA;
- Cutoff frequency: 250Hz / 2.5kHz / 10kHz

GSV-1A

- 1-channel strain gauge amplifier in aluminum housing;
- Connection: 8-pin. Screw terminal RM 3,81mm;
- Dimensions: 58mm x 64mm x 35mm;
- Analog output: -10V ... + 10V / 4 ... 20mA / 12mA + -8mA;
- Cutoff frequency: 250Hz / 2.5kHz / 10kHz;

GSV-1A4 M12/2

- 4-channel strain gauge amplifier;
- Connection: Connector M12;
- Dimensions: 170mm x 109mm x 35mm;
- Analog output: ± 10V and 4 ... 20mA (zero signal = 12mA) via 15pin SUB-D (female);
- Cutoff frequency: 250 Hz;

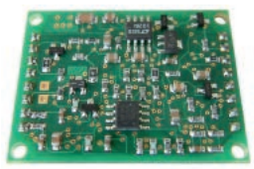
GSV-1A4 SUBD37/2

- 4-channel strain gauge amplifier;
- Connection: Connector SubD37;
- Dimensions: 170mm x 109mm x 35mm;
- Analog output: ± 10V and 4 ... 20mA (zero signal = 12mA) via 15pin SUB-D (female);
- Cutoff frequency: 250 Hz;

GSV-1M

- 1-channel strain gauge amplifier in the potting housing;
- Connection: 2x 4-pin. Connector type 718, with necessary mating connectors (accessory pack);
- Dimensions: 55mm x 36mm x 17mm;
- Analog output: -5V ... + 5V / -10V ... + 10V;
- Cutoff frequency: 250Hz / 10kHz;

GSV-1L



- 1-channel strain gauge amplifier as printed circuit board;
- Connection: solder connection;
- Dimensions: 30mm x 40.5mm x 6.5mm;
- Analog output: -5V ... + 5V / -10V ... + 10V;
- Cutoff frequency: 250Hz / 2.5kHz;

DIGITAL AMPLIFIER OF THE SERIES GSV-2

GSV-2LS -5+5/250/2

- 1-channel strain gauge amplifier as printed circuit board;
- Connection: screw terminal;
- Dimensions: 125mm x 53mm x 29mm;
- Analogue output: -5V ... + 5V;
- Cutoff frequency: 250Hz;
- Interface: RS232, RS422;

GSV-2LS -5+5/250/2/CANOPEN

- 1-channel strain gauge amplifier as printed circuit board;
- Connection: screw terminal;
- Dimensions: 125mm x 53mm x 29mm;
- Analogue output: -5V ... + 5V;
- Cutoff frequency: 250Hz;
- Interface: RS232, RS422;

GSV-2AS -5+5/250/2

- 1-channel strain gauge amplifier in aluminum housing;
- Connection: screw terminal;
- Dimensions: 178mm x 64mm x 37mm;
- Analogue output: -5V ... + 5V;
- Cutoff frequency: 250Hz;
- Interface: RS232, RS422;

GSV-2AS -5+5/250/2/CANOPEN

- 1-channel strain gauge amplifier in aluminum housing;
- Connection: screw terminal;
- Dimensions: 178mm x 64mm x 37mm;
- Analogue output: -5V ... + 5V;
- Cutoff frequency: 250Hz;
- Interface: RS232, RS422;
- CANopen interface: galvanically isolated;

GSV-2ASD -5+5/250/2

- 1-channel strain gauge amplifier in die-cast aluminum housing with display;
- Connection: metal cable gland, M12;
- Dimensions: 178mm x 64mm x 37mm;
- Analogue output: -5V ... + 5V;
- Cutoff frequency: 250Hz;
- Interface: RS232, RS422;

GSV-2FSD-DI

- 1-channel strain gauge amplifier in the front panel housing;
- Connection: screw terminal;
- Dimensions: 72mm x 144mm x 64mm;
- Analog output: -10V ... + 10V / 4 ... 20mA / -5V ... + 5V;
- Cutoff frequency: 250Hz;
- 16 digit LC display 9mm;
- Four-key operation;
- Zeroing and short circuit key;
- Interface: RS232, RS422;

GSV-2TSD-DI

- 1-channel strain gauge amplifier in the Botego desktop housing;
- Connection: 15-pin. Sub-D input socket for SG full bridges / sensors;
- Connection: screw terminals for strain gauge full- and half-quarter bridges;
- Display: 9mm, 16 characters;
- Dimensions: 174mm x 65mm x 196mm;
- Analog output: -5 + 5V;
- Cutoff frequency: 260Hz;
- Interface: RS232, USB port, Ethernet, CANOpen;
- integrated battery;
- integrated charging circuit;
- RS232 connection cable (accessory pack);

GSV-2MSD-DI IP65 / IP43

- 1-channel strain gauge amplifier handheld with data logger, aluminum housing with membrane keyboard, SD card slot;
- Connection: connector;
- Display: 9mm, 16 characters;
- Dimensions: 108 mm x 175 mm x 34 mm;
- Analog output: -5 + 5V;
- Interface: USB port;
- integrated battery;
- integrated charging circuit;

ELECTRONICS

DIGITAL AMPLIFIER OF THE SERIES GSV-3

GSV-3LS 05-2,5/1K2/2

- 1-channel strain gauge amplifier as printed circuit board;
- Connection: solder connection;
- Dimensions: 30 mm x 15 mm x 10 mm;
- Interface: UART interface TTL-RS232;
- Analog output: -2.25V ... 2.25V;
- Tare at 2.5V;
- Output stroke ± 2.4V;
- Cut-off frequency: 1220 Hz;
- Resolution: 16 bits;

GSV-3CAN 05-2,5/1K2/2

- 1-channel strain gauge amplifier in aluminum housing;
- Connection: connector;
- Dimensions: 57 mm x 64 mm x 35 mm;
- Interface: CAN bus;
- Analog output: 0 ... 5V;
- galvanic isolation;
- Cutoff frequency: 1250Hz
- Protection class: IP66;

GSV-3USBX2

- 2-channel strain gauge amplifier in aluminum housing;
- Connection: connector;
- Dimensions: 110 mm x 85 mm x 35 mm;
- Interface: 1x USB port, 2x 5pol. Circular connector series 763;
- Cut-off frequency: 1250 Hz;

GSV-3USB

- 1-channel strain gauge amplifier in aluminum housing;
- Connection: connector;
- Dimensions: 110 mm x 85 mm x 35 mm;
- Interface: 1x USB port, 1x 15pol. Sub-D;
- Analog output: 0 V ... 5 V;
- Cut-off frequency: 1250 Hz;

GSV-3BT M12

- 1-channel strain gauge amplifier in the potting housing;
- Connection: connector;
- Dimensions: 120mm x 80mm x 55mm;
- Interface: wireless interface via Bluetooth®;
- Data rates from 1Hz to 1000Hz;
- Standby: 40h;
- integrated battery, 2.6Ah for 12h operation time;
- 1x M12 flange socket (female) for sensor connection;
- 1x M8 flange socket (male) for connection of charger / external power supply;
- Resolution: 16 bits;

DIGITAL-MESSVERSTÄRKER DER SERIE GSV-4

GSV-4USB M12

- 4 - channel strain gauge amplifier in aluminum housing;
- Connection: Connector M12;
- Dimensions: 120mm x 109mm x 35mm;
- Interface: USB;
- Trigger input;
- Input sensitivity: 2 mV / V / 10 mV / V;
- Cutoff frequency: 900 Hz;

GSV-4USB SUBD37

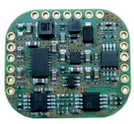
- 4 - channel strain gauge amplifier in aluminum housing;
- Connection: Sub-D37 connector;
- Dimensions: 120mm x 109mm x 35mm;
- Interface: USB;
- Trigger input;
- Input sensitivity: 2 mV / V / 10 mV / V;
- Cutoff frequency: 900 Hz;

GSV-4BT M12

- 4 - channel strain gauge amplifier in IP 67 housing;
- Connection: connector;
- built-in battery, 2.6Ah for 8h operation time;
- Dimensions: 120mm x 80mm x 55mm;
- Standby: 24h;
- Interface: Bluetooth® 2.0 + EDR;
- 4x M12 flange socket for sensor connection;
- M8 socket for connection charger / external power supply;
- Cutoff frequency: 450 Hz;

ANALOGUE AMPLIFIER OF THE SERIES GSV-5

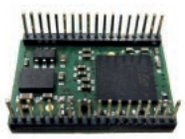
GSV-5



- 1- channel straingauge amplifier as a printed circuit board;
- Connection: solder connection;
- Dimensions: 23mm x 20mm x 6mm;
- Analog output: -5V...+5V / -10V...+10V;
- Cutoff frequency: 250Hz / 2.5kHz/10kHz;
- Input sensitivity: 2 mV/V;
- Supply voltage: 10V..28V DC;

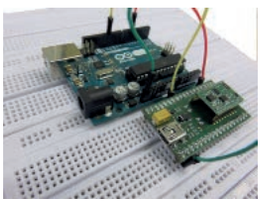
ANALOG AND DIGITAL AMPLIFIER OF THE SERIES GSV-6

GSV-6CPU



- 6 - channel strain gauge amplifier as printed circuit board;
- Connection: solder connection;
- Dimensions: 19mm x 14mm x 4mm;
- Interface: UART, CAN, TEDS, (SPI), (I2C);
- Analog output: 1.5V ± 1V;
- Data frequency 10Hz ... 25kHz;

GSV-6DEV



- Development board for GSV-6CPU;
- Dimensions 49mm x 28mm x 14mm;
- USB port „Mini“ for power supply;
- Communication with GSV-6 UART via USB port;
- 2x 18 socket contacts in 1mm pitch to accommodate GSV-6CPU;
- 2x 18 plug contacts in pitch 2.54;

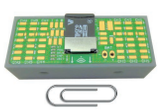
GSV-6K

- 1 - channel strain gauge amplifier in the connector housing;
- Connection: connector;
- Dimensions: Ø20mm x 70mm;
- Interface: TEDS;
- Analog output: -10V ... + 10V or 4 ... 20mA;
- IIR filter 0.1Hz ... 2Hz;
- Data frequency 10Hz ... 25kHz;

GSV-6L

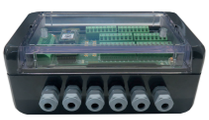
- 1 - channel strain gauge amplifier as printed circuit board;
- Connection:;
- Dimensions: 22mm x 14mm x 9mm;
- Interface: TEDS;
- Analog output: -10V ... + 10V or 4 ... 20mA;
- IIR filter 0.1Hz ... 2Hz;
- Data frequency 10Hz ... 25kHz;
- Configuration via two control lines „Tare“ and „Scale“;

GSV-6BT



- 6-channel strain gauge measuring amplifier with Bluetooth 4.0;
- Bluetooth configurable Class 2, (+ 12dBm), up to about 400m range; Bluetooth LE configurable;
- configurable input for strain gauge full, half, quarter bridge, / 350/1000 ohms;
- Dimensions 50 mm x 20 mm x 17 mm;
- 16Bit ADC,
- Measurement frequency (float format) up to 10 to 600Hz (6-channel) or 10 to 2000Hz (1-channel);
- Measurement frequency (16-bit format) to 10 Hz to 1 kHz (6-channel) or 10 Hz to 3 kHz (1-channel);
- digital inputs / outputs;
- Inputs individually configurable: 0.1 ... 8 mV / V, 1.5V + -1V;
- Power: 2.8V to 5.5V;
- integrated charging circuit for Li-Ion and Li-Po battery, 500mA charging current;

GSV-6BT M8



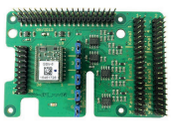
- 6-channel strain gauge amplifier with Bluetooth 4.0;
- Plastic housing with SubD44HD connector, integrated battery and charging socket;
- Bluetooth configurable class 2, (+ 12dBm), up to approx. 100m range; Bluetooth LE configurable;
- configurable input for strain gauge full, half, quarter bridges, / 350/1000 ohms;
- Dimensions: 150 mm x 97 x 61 mm;
- 16 bit ADC,
- Measuring frequency (float format) up to 10 to 600Hz (6-channel) or 10 to 2000 Hz (1 channel);
- Measuring frequency (16bit format) up to 10 Hz to 1 kHz (6-channel) or 10 Hz to 3 kHz (1 channel);
- Digital inputs / outputs;
- Inputs individually configurable: 0.1 ... 8 mV / V, 1.5V + -1V;
- Supply: 2.8V ... 5.5V;
- Integrated charging circuit for Li-Ion and Li-Po battery, 800mA charging current;

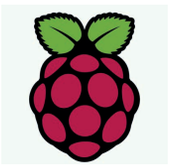
ANALOG AND DIGITAL AMPLIFIER OF THE SERIES GSV-6

GSV-6A M12

- 1 - channel strain gauge amplifier in aluminum housing;Cconnection: Circular connector;
- 1 x Flange plug M12 8pin.
- 1 x Flange box M12 5pin.
- Dimensions: 58mm x 64mm x 35mm;
- Interface: TEDS and 2 connectors for buttons;
- Analog output: -10V... +10V or 4...20mA;
- Input sensitivity: 0.1mV/V... 8mV/V;
- Data frequency 10Hz ... 25kHz;
- Supply voltage: 12V... 24V DC;
- Protection class: IP66;

GSV-6PI Shield





- Raspberry PI shield, with 6-channel measurement amplifier;
- 1x GSV-6 Shield with straingage inputs and voltage inputs;
- delivery with UART interface, without application software;
- Suitable for the development of data loggers;
- 2x 40-pin plug connector, RM2.5 for sensor connection;
- 1 x 40-pin connector for raspberry PI;
- 1x input for strain gauge full bridge, half bridge or quarter-bridge;
- 5x input configurable for straingage or voltage + -10V;
- 6x half bridges completition, 6x quarter bridges completition 120 ohms, 350 ohms, 1 kOhms;
- Power supply 5V;
- Dimensions 85mm x 58mm x 18mm

ANALOG AND DIGITAL AMPLIFIER OF THE SERIES GSV-8

GSV-8DS

- 8 - channel strain gauge amplifier in aluminum housing;
- Connection: connector;
- Dimensions: 172 x 172 x 55 mm / 176 x 221 x 58 mm;
- Interface: 1x USB port;
- Analog output: + -10V or 4 ... 20mA (scalable);
- Data frequency: 48kS / s simultaneously on 8 channels;
- configurable fourth-order filters: lowpass, bandpass, bandstop, highpass;

GSV-8AS

- 8 - channel strain gauge amplifier in aluminum housing;
- Connection: screw terminal;
- Dimensions: 172 x 172 x 55 mm / 176 x 221 x 58 mm;
- Interface: 1x USB port;
- Analog output: + -10V or 4 ... 20mA (scalable);
- Data frequency: 48kS / s simultaneously on 8 channels;
- configurable fourth-order filters: lowpass, bandpass, bandstop, highpass;

ANALOG AMPLIFIER OF THE SERIES GSV-11

GSV-11H

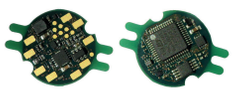
- 1-channel strain gauge amplifier in DIN rail housing;
- Connection: 8 compression fittings;
- Dimensions: 75 mm x 25 mm x 53 mm;
- Analogue output: 0V ... + 10V / 4 ... 20mA;
- Taring to 0 V or 5 V;
- Cutoff frequency: 20 Hz;

ELECTRONICS

ANALOG AMPLIFIER OF THE SERIES GSV-13

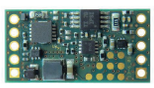
GSV-13i

- 1-channel strain gauge amplifier as printed circuit board;
- Connection: solder connection;
- Dimensions: Ø 18mm, height 3.5mm;
- Autoscale function for input sensitivity 0.1 ...2.0 mV/V
- Autozero function for zeroing at 5V / 12mA;
- Analog output: 0.05V ... 10V / 4 ... 20mA;
- Measuring frequency: 1000 S/s or 10S/s;
- supply voltage 18V..28V DC;



GSV-13q

- 1-channel strain gauge amplifier as printed circuit board;
- Dimensions: 22mm x 11mm x 4mm;
- Analog output 0V ... 10V or 4mA ... 20mA or 0V ... 5V,
- Autoscale function for input sensitivity 0.1 ... 3.0 mV/V;
- Autozero function for zeroing to 5V or 12mA or 2.5V;
- Measuring frequency: 1000 S/s or 10S/s;
- Supply voltage 14V..28V DC or 9V ... 28V DC;



ANALOG AMPLIFIER OF THE SERIES GSV-15

GSV-15HSW

- 1-channel strain gauge amplifier in DIN rail housing;
- Connection: compression fittings;
- Dimensions: 75 mm x 38 mm x 45 mm;
- Analog output: 4-20mA and -10V ... + 10V configurable;
- Input sensitivity: 0.2 ... 3.5 mV / V / 10 mV / V;

GSV-15L

- 1-channel strain gauge amplifier as printed circuit board;
- Connection: solder connection;
- Dimensions: 16 mm x 33 mm x 5 mm;
- Analog output: 0 ... 10 V / 4 ... 20mA;
- Automatic zeroing via control line;
- Automatic scaling via control line;
- Input sensitivity: 0.1 ... 3.5 mV/V;

GSV-15KL4

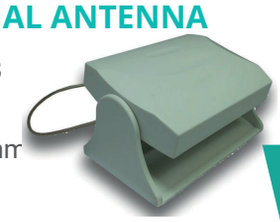
- 1-channel strain gauge amplifier in the terminal box;
- Connection: 6x M16 cable gland;
- Dimensions: 220mm x 142mm x 81mm;
- Analog output: 4-20mA and -10V ... + 10V configurable;
- Input sensitivity: 0.2 ... 3.5 mV/V;

MEASURING AMPLIFIER ACCESSORIES

BLUETOOTH-USB-ADAPTER

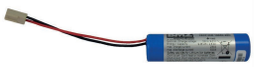
- Bluetooth 4.0 adapter, USB 2.0 Micro, Class 1;
- Bluetooth v 4.0 (Downward Compatible);
- Maximum range:: 100 m;
- Data transmission: 3 Mbit /s;

BTPROMIPAT DIRECTIONAL ANTENNA



- Accessories for: Bluetooth USB Dongle; Bluetooth directional antenna;
- 9 dBi, dimensions 90x120x20mm
- SMA connection right-hand thread;

LI-ION 1S/1P/2600MAH



- Li-ion battery 2600 mAh;
- Rated capacity 2600 mAh;
- Rated voltage 3.7 V;
- Final discharge voltage 2.75V Charging current (max.) 2.60A (1C) Charging voltage (max.) 4.2V (4.2V + - 0.03V)

CHARGING CABLE 0.50 M RED / BLACK

- Connecting cable between charger and rechargeable battery; Charging cable 0.5m;
- 4mm plug for connection to charger;
- Molex connector for connecting the battery;

CHARGER IMAX B6AC V2

- Charger for battery packs, for 1 - 15 cells, max. 6 A
- Technology: NiCd, NiMh, Li-Ion, Li-Pol, LiFePO, lead
- Charging current: max. 6.0 A
- PC interface: USB
- Voltage input (mains): 100 - 240 V AC
- Low voltage input: 11-18 V DC

PCAN-USB ADAPTER

- PCAN-USB Adapter mit Sub-D-15 Stecker (male) zum Anschluss an CAN Bus
- und einem USB Typ A zum Anschluss an PC;
- Kabellänge: 200 mm;
- Hersteller: PEAK, Art. IPEH-002022;

CONFIGURATION AND CALIBRATION OF GSV-6 MADE SIMPLE

ME145

- Calibrator for Strain Gauge Amplifier Levels 0.2, 0.5, 1.0, 2.0, 0.3, 0.35, 0.875, 1.75, 3.5 mV / V;
- Vernier adjustment;
- Reversible polarity;
- Setting for full bridge or quarter bridge;
- Screw terminals, 4mm sockets and 4-pin. Connector M12, type 763;

GSV-6L-NEEDLE ADAPTER

- Needle adapter for GSV-6L;
- Tool for configuration and calibration;
- D-Sub15 plug for connecting of
- Supply voltage, Tara scale, output signal, TEDS...
- or to connect the GSV-6-black box;

GSV-6-BLACKBOX

- Accessory for configuration and calibration;
- Setting ClickR ClackR menu using
- Tare and Scale functions;
- with D-Sub15 and M12 connectors
- for connection to GSV-6K and GSV-6L;
- Setting from:
- Measuring range in mV / V, output signal, offset, frequency, autoscale level in%, threshold generator, manufacturer settings
- Operating light LED;

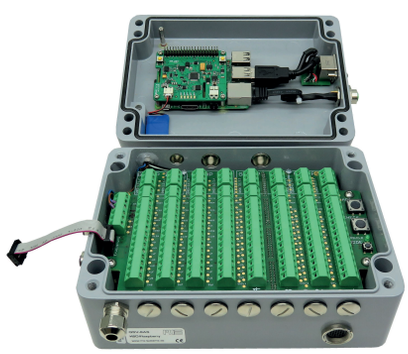
8 - CHANNEL AMPLIEFIER GSV-8

- 8 - channel strain gauge amplifier in aluminum housing
- Dimensions: 172 x 172 x 55 mm / 176 x 221 x 58 mm
- Inputs configurable for strain gauge, full, half, quarter bridge, + -10V, PT1000
- 8x analog output + -10V or 4 ... 20mA (scalable)
- Interfaces: USB port, optional EtherCat, CAN / CANopen
- Read and write TEDS
- robust, compact, IP66 / 68
- Input sensitivity: 2 / 3.5 / 7 mV / V
- Data frequency: 48kS / s simultaneously on 8 channels
- configurable fourth-order filters: low-pass, bandpass, band-stop filter, high pass
- Supply voltage: 12V ... 28V DC
- 24-bit resolution

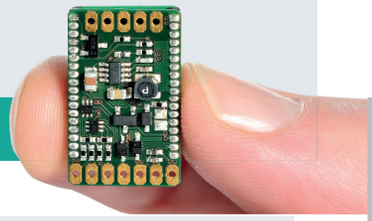
compact multi-channel data acquisition

USB, fieldbus, digital IO and analog integrated

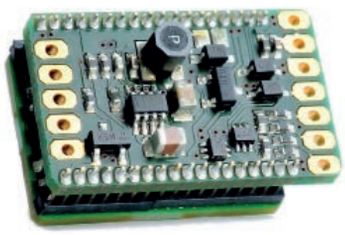
robust IP67



smart with Raspberry Pi



MEASURING AMPLIFIER GSV-6

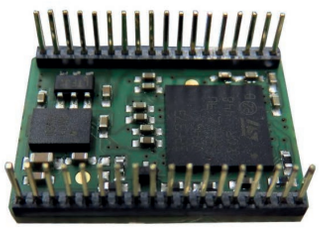


GSV-6L

- Measuring amplifier as a printed circuit board
- 22mm x 14mm x 9mm
- automatic taring
- automatic scaling
- Optimal for integration in sensors

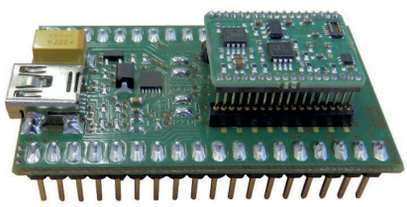
GSV-6K

- Measuring amplifier in the connector housing
- Ø 20 mm x 70 mm
- automatic taring
- automatic scaling
- Evaluate TEDS



GSV-CPU

- Strain gauge amplifier platform
- open for self-development
- UART or CAN interface
- for integration into devices



GSV-6DEV

- Development board for GSV-6CPU
- 49mm x 28mm x 14mm;
- USB port „Mini“ for power supply;
- Communication with GSV-6 UART via USB port;

MEASURING AMPLIFIER ACCESSORIES GSV-8

ADAPTER SUBD15HD

- Adapter D-Sub terminal block;
- D-Sub 15HD pin plug;
- HD - high density, 3 rows of pins;
- 2 x 8-pin terminal block (15 pins connected);
- Pitch 3.81 mm;
- Dimensions: 54 mm x 31 mm x 15 mm;
- Use: accessory for GSV 8DS SubD15HD;

ADAPTER SUBD44HD

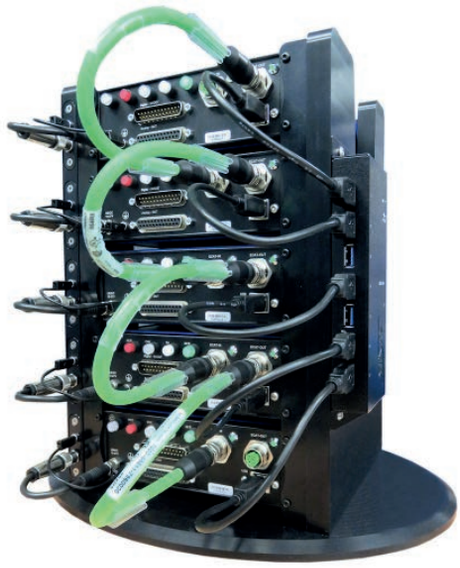
- Adapter D-Sub terminal block;
- 44HD D-Sub pin connector;
- 3 x 15 pin terminal block (44 pins connected);
- Pitch 3.81 mm;
- Dimensions: 80 mm x 54 mm x 14 mm;
- Use: accessory for GSV 8DS SubD44HD;

ADAPTER SUBD15HD

- Adapter Sub-D 25-pin to 27-pin terminal block;
- Sub-D 25 pin connector, female / male;
- 3 x 9 pin terminal block (25 pins wired);
- Pitch 3.81 mm;
- Socket / pin plug with nuts;
- This dapter is suitable for special industrial applications, e.g. for connecting individual cable strings with open cable ends;

GSV-8DS SYNC-CABLE

- Sync-cable for the synchronization of several GSV-8DS;
- 150mm round cable, 4-core;
- 2x ...4xx SubD25, female;
- Connection of DIO16 (Pin 13), DGND (Pin 5) between two devices;
- Required device configuration 1x as master, 1x ...3x as slave;



GSM-INTERFACE

- GSM interface for GSV-8DS / GSV-8AS;
- Five band UMTS / HSPA 800/850/900/1900/2100 MHz;
- Quad-band GSM / GPRS / EDGE 850/900/1800/1900 MHz;
- Type oncell g3151-HSPA from Moxa;
- mounted on GSV-8DS housing;
- incl. zero modem cable, antenna and power supply;

WIFI-INTERFACE

- WLAN Interface for GSV-8DS/ GSV-8AS;
- Type nport W2150A from Moxa;
- Wireless-LAN Standard 802.11a/b/g;
- Wireless-LAN Modes: Infrastructure, Ad-Hoc;
- mounted on GSV-8DS housing;
- incl. null modem cable, antenna and power supply;

TCP-IP-INTERFACE

- TCP / IP interface for GSV-8DS and GSV-8AS;
- Type nport 5110A from Moxa;
- Mounted on amplifier housing;
- Incl. Zero modem cable, power supply and RS232 Port for the amplifier;

ELECTRONICS HIGHLIGHTS

INTERNET OF THINGS:: WIRELESS MEASURING DATA

GSV-6BT

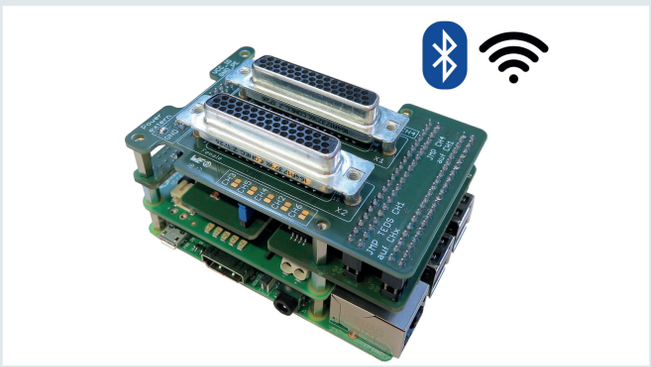
- 6-channel strain gauge measurement amplifier with Bluetooth 4.0 and with data logger function;
- configurable input for strain gauge full, half, quarter bridge, / 350/1000 ohms;
- Range 400m;
- Measuring frequency (float format) from 1 to 500Hz / 1 to 2000 Hz;
- Measuring frequency (16bit format) from 1 Hz to 1 kHz / 1 Hz to 3 kHz;;
- integrated charging circuit for Li-Ion and Li-Po battery, 500mA charging current;

GSV-6BT M8

- 6-channel strain gauge measurement amplifier with Bluetooth 4.0 and with data logger function;
- plastic housing with 6 x M8 cable glands, optional with 6 x M8 connector 4-pin, integrated battery and charging socket;
- configurable input for strain gauge full, half, quarter bridge, / 350/1000 ohms;
- Range 100m;
- Measuring frequency (float format) up to 10 to 600Hz / 10 to 2000 Hz;
- Measuring frequency (16bit format) up to 10 Hz to 1 kHz / 10 Hz to 3 kHz;
- integrated charging circuit for Li-Ion and Li-Po battery, 800mA charging current;

ELEKTRONICS HIGHLIGHTS

INTERNET OF THINGS:: WIRELESS MEASURING DATA



GSV-6PI for K3D /K6D

- 6-channel amplifier Shield;
- with Raspberry Pi;
- Open source software;
- Real Time Clock;
- Interface: **WIFI, Bluetooth;**
- easy connection of one 3-axis sensor K3D or one 6-axis sensor K6D;
- connection via integrated 2x SubD44HD-socket;

GSV-8DS - WIFI

- 8-channel measuring amplifier;
- WIFI-Interface for GSV-8DS SubD44HD for wireless short distance monitoring;
- LAN Interface for world wide / long distance monitoring;
- high-resolution wireless data transmission;

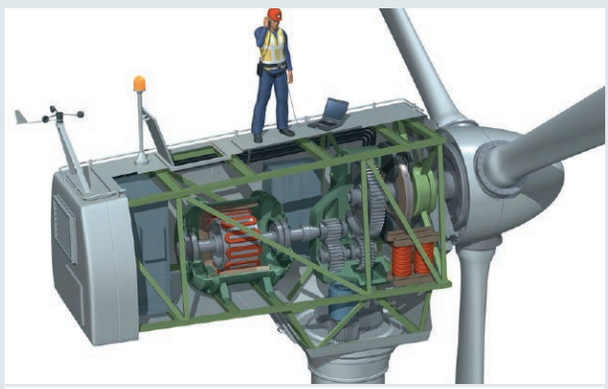
ELECTRONICS APPLICATIONS

Stress analysis

- Installation of strain gauges for vehicles, rail vehicles, for medical technology, for plant and apparatus construction..

Measurement of preload force

- Installation of strain gauges with ME data logger GSV-2MSD-DI for the fully automatic handling of containers in the port terminal.



Measuring the power

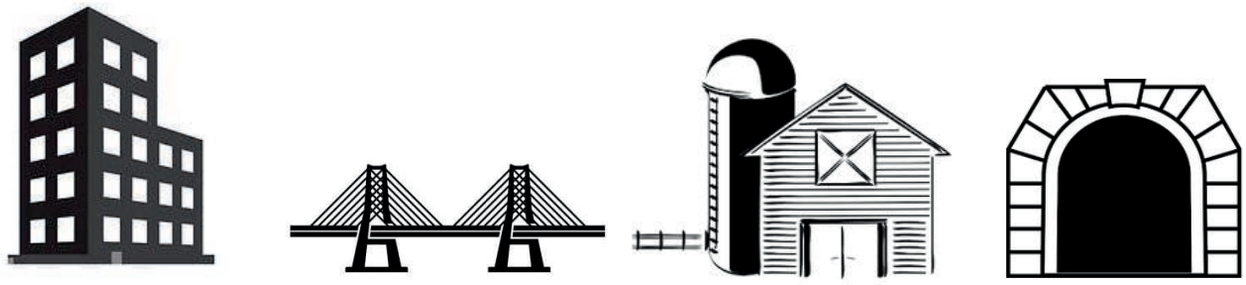
- The measuring amplifier GSV-6BT is suitable for determining the power at the rotating shaft.

Automation technology

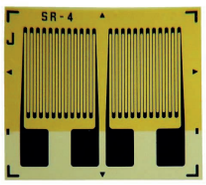
- 8-channel measuring amplifiers in conjunction with 6-axis force / torque sensors are used for automated assembly.

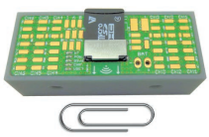
ELECTRONICS HIGHLIGHTS

ME-Data logger for online monitoring



Installation of





- Strain gauges
- data logger
  GSV-6BT,
  GSV-2MSD-DI

recording of measurement data

Alerting via

- E-Mail
- SMS

Online-Monitoring

K6D - MEASURING SYSTEM

6D force sensor + Plug connector + Electronics + Software

The robust MP11 connectors allow the connection of external electronics. The highest resolution, highest data frequency (48kS / s), simultaneous sampling, analogue outputs, USB port and field bus CANbus or EtherCat are available especially with the GSV-8DS!
The software GSVmulti is a universal tool for configuration, data recording and data analysis.

K3D - MEASURING SYSTEM

3D force sensor + Plug connector + Electronics + Software

The GSV-4USB is an economical w4-channel measuring system with USB interface. The software GSVmulti is a universal tool for configuration, data recording and data analysis.
Alternatively, the GSV-1A4 provides four analog outputs.

MEASUREMENT SYSTEMS / SELECTED EXAMPLES

KDS - MEASURING SYSTEM

Force sensor + Plug connector + Electronics + Software

The universal S-shape sensors of the KDs series are available in measuring ranges from 0.25N to 200kN. With the display devices GSV-2TSD-DI or GSV-2MSD-DI you have your readings in view. Additionally included are: analog output (TSD-DI), USB (MSD-DI and TSD-DI) and RS232 (TSD-DI) as well as recording with SD card (MSD-DI).
The software GSVmulti is a universal tool for configuration, data recording and data analysis.

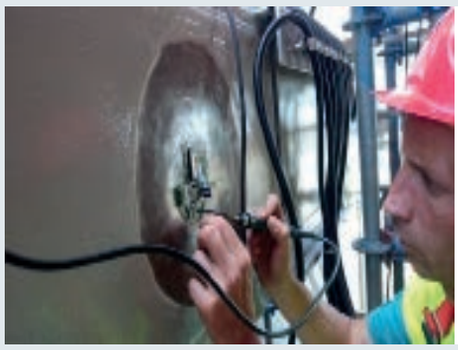
KM - MEASURING SYSTEM

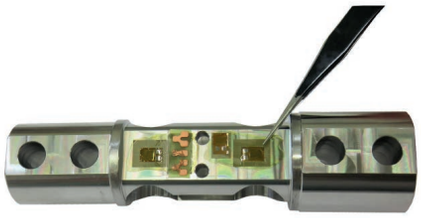
Force sensor + Electronics

For use in the control cabinet or for the conversion to a robust 4-20mA signal, DIN rail mounted mount amplifiers GSV-1H and instrumentation amplifiers (GSV-1A) and amplifiers for integration into the GSV-6K cable are suitable.

We are happy to adapt the measuring system to your data acquisition and configure the sensors with connectors of your choice.

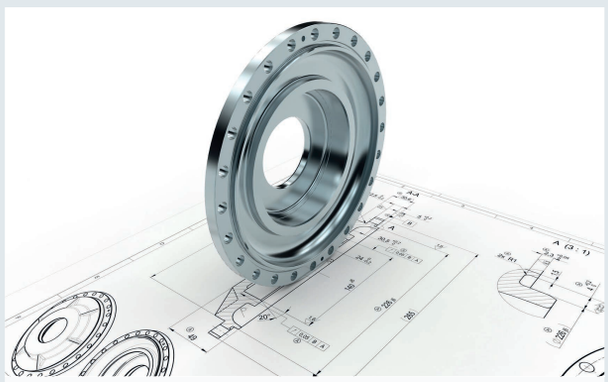
SERVICE





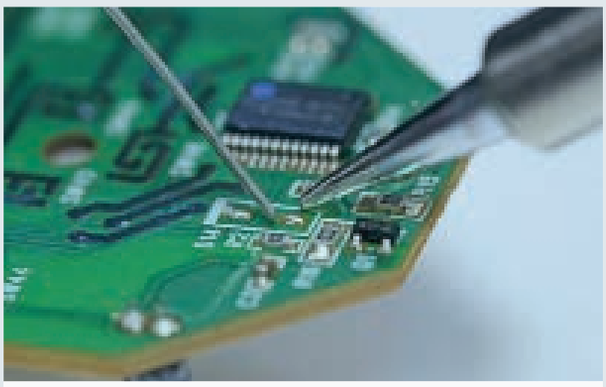
Installation of strain gauges

- Bonding of strain on supplied parts
- Installation of strain gauges on structures or machines on site
- Development of sensors for integration in machines and products
- Individual pieces and series applicationsen



Development of sensors

- Sensors according to customer- spe-cific requirements
- Sensors for machine or process monitoring
- Single and series production

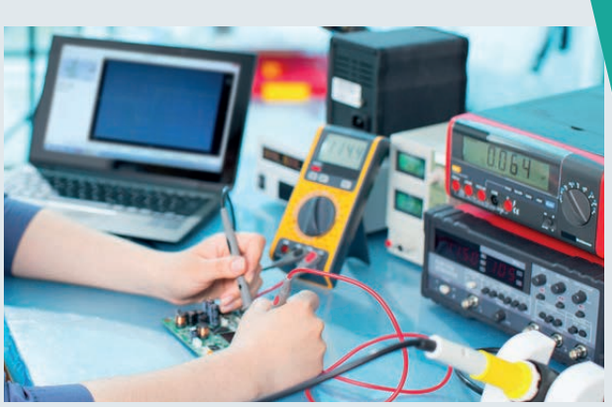


Development of electronics

- Electronics according to customer requirements
- Software development
- Single and series production

Training and seminars

- Basics of strain gauge metrology
- Application of strain gauge with practical exercises
- Circuit techniques, compensation techniques and stress analysis with strain gages
- Bonding technology, wiring technology, soldering
- individual tasks and application-related content as desired
- Carrying out individual work steps on current components
- at ME-Measuring Systems Ltd. or directly on-site



Support

- Commissioning of sensors and measuring amplifiers
- Data acquisition
- Troubleshooting and error analysis
- Repairs

Production management / ERP System.

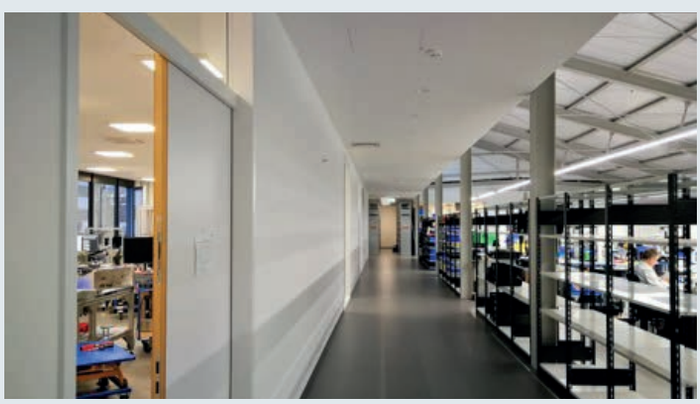
- transparent information system, online interface
- fully integrated order planning
- Control of manufacturing processes and capacity management
- Use of the most modern production equipment (laser, ultrasonic cleaning, cleanroom

Database-driven acquisition and documentation of:
Environmental influences on sensor characteristics, such as

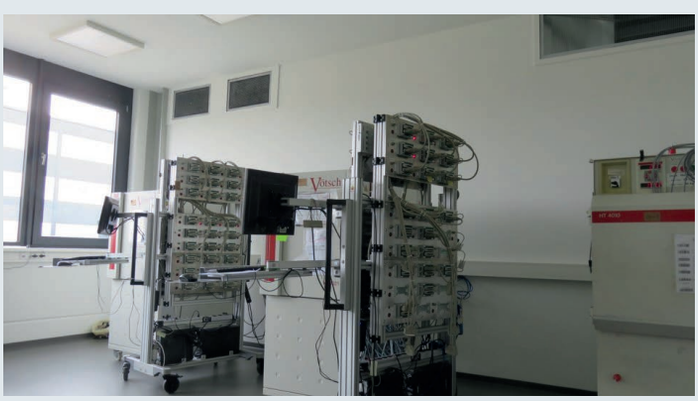
- zero point
- Drift
- Zero point return error

Recording the calibration data:

- characteristic value
- linearity



- Short delivery times due to large stock warehouse
- Automated data exchange between Web shop and ERP system
- Efficient ecosystem between suppliers, customers, universities and research institutions for the best solution to your task

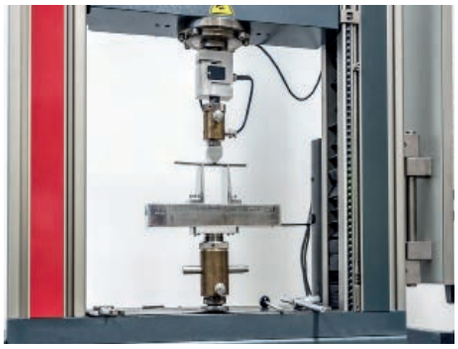


- Own development of solutions for automated test procedures
- Highest process reliability and cost-effective production
- Construction, electronics, application software and embedded software from a single source
- Shortest development times from your idea to the product

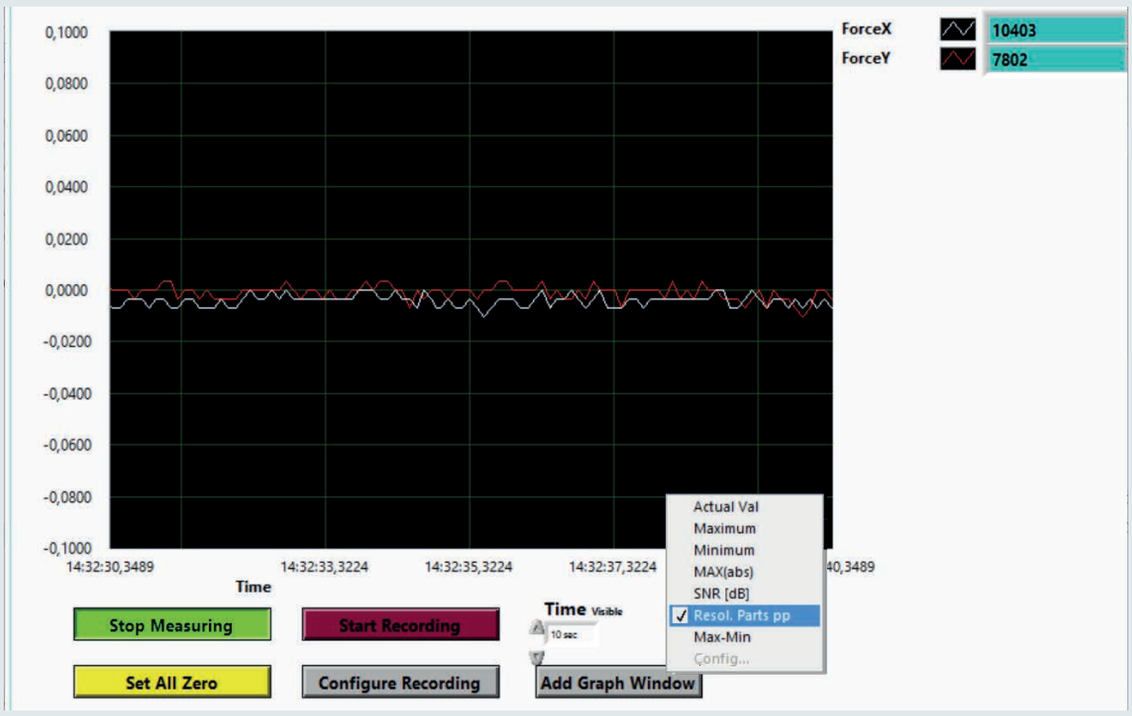
DATA ACQUISITION

Calibration

- Force (tension, compression), torque
- DIN EN ISO/IEC 17025
- DAkkS traceability

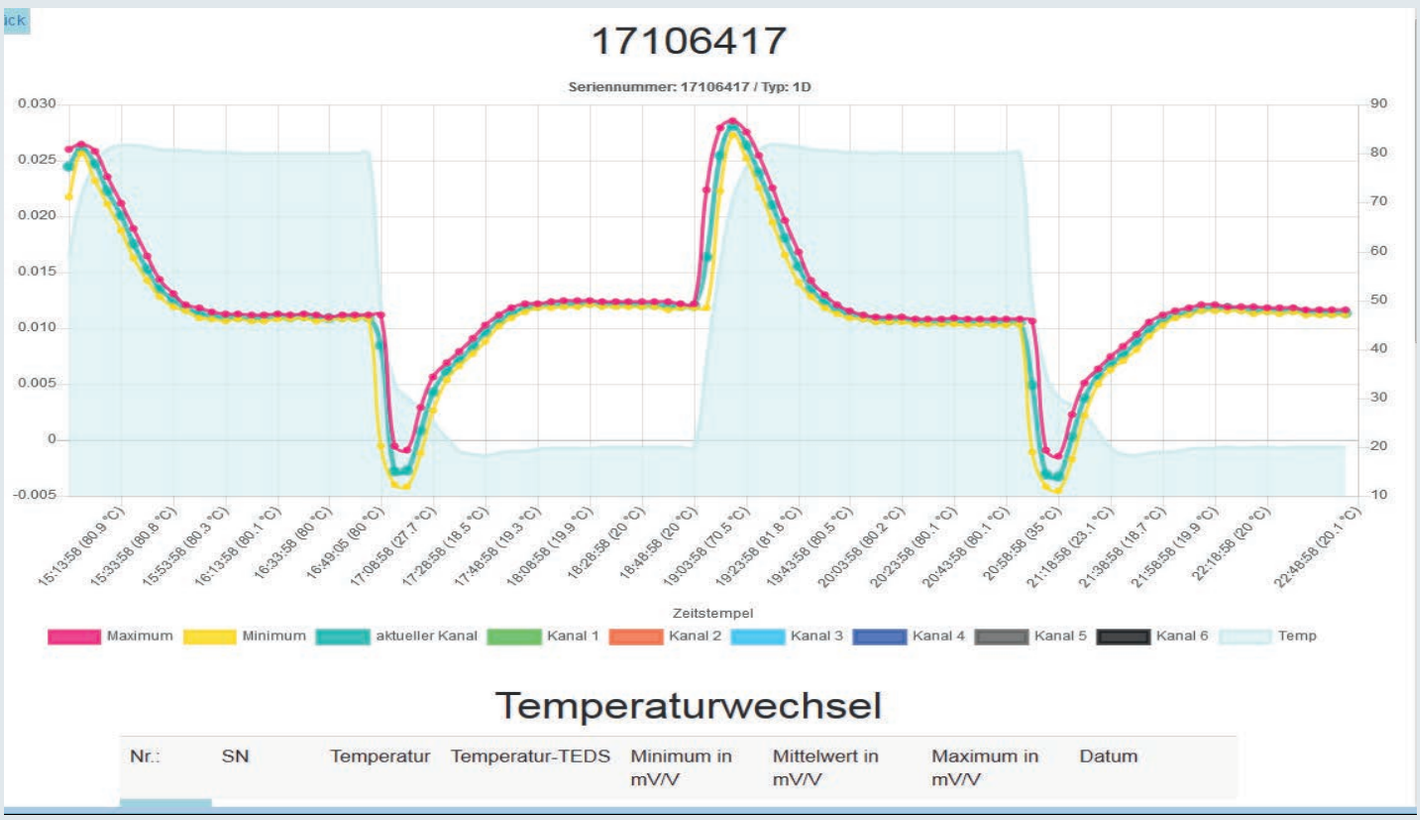


Automated documentation of the test results:
Web2Print, Product-Information-Management (PIM)

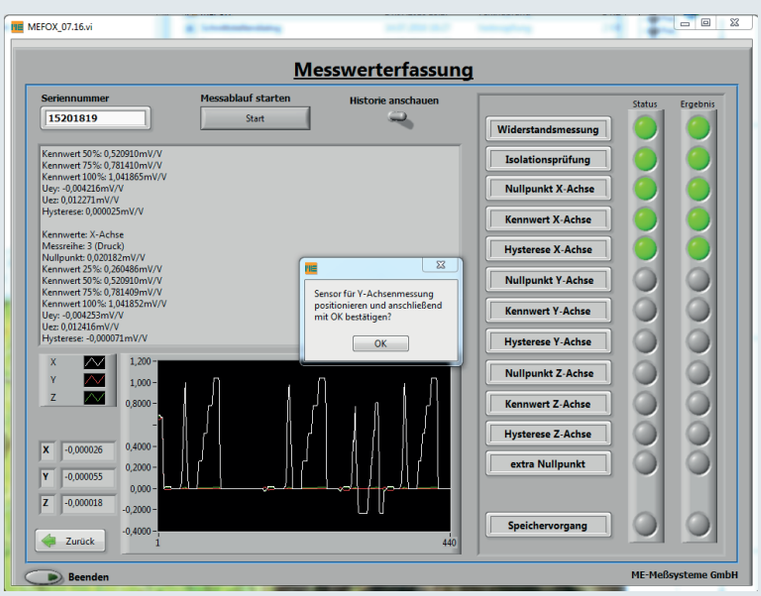


Quality assurance

- Automated temperature testing, database-supported quality monitoring, online documentation of measured data.
- Automated mechanical test procedures, database-supported analysis and documentation of measured values, online interface for exporting quality data



Software-supported calibration process



DATA ACQUISITION

Software GSVmulti

- The Windows program GSVmulti is suitable for live display, recording and viewing / analysis of stored measurement data.
- Several channels can be recorded over the time axis (y-t diagram) or over an „x-axis“ (x-y diagram).
- The software GSVmulti is suitable for all our GSV measuring amplifiers with interface (RS232, Bluetooth, USB, GSV-6CAN), which can be configured herewith..

TEDS

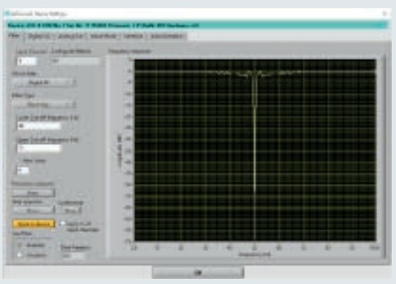
In version 1.38 and GSV-8 as of firmware 1.35 there are available template 33 (2-point calibration for sensors) and template 35 (strain gauges) as well as the basic settings, such as. e.g. Serial number, manufacturer, etc.

SETTING DISPLAY

The scaling factor can be determined:
- by entering the sensor data „characteristic value“, „nominal force“ and the input sensitivity of the measuring amplifier
- by performing a 2-point calibration, measuring the signal without load and with a known load (calibration weight)
- for measurements with strain gauges by entering the bridge type, the k factor and, if necessary, the transverse contraction number, as well as the input sensitivity of the measuring amplifier

TRIGGER

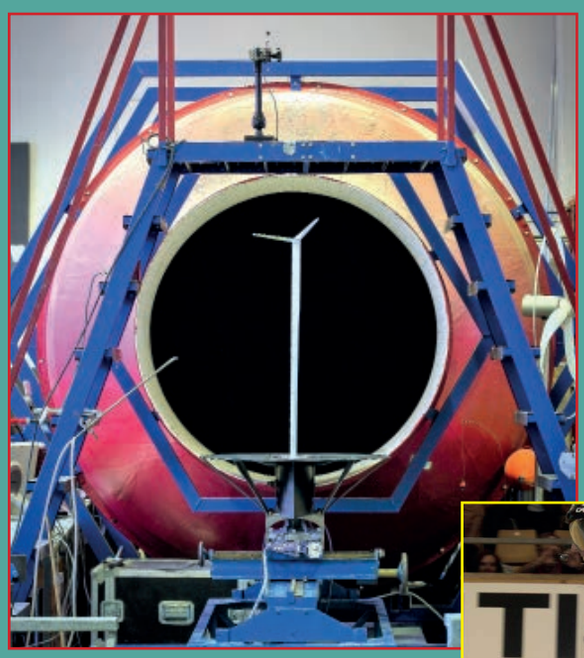
Recording with GSVmulti can be easily started and stopped by software triggers.
For applications without GSVmulti, the digital inputs can also be configured to start the measured value transmission.

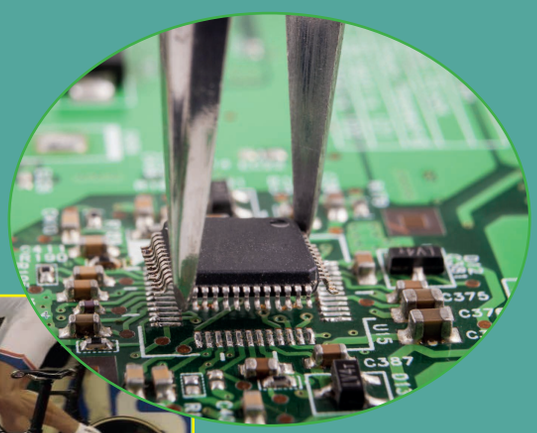


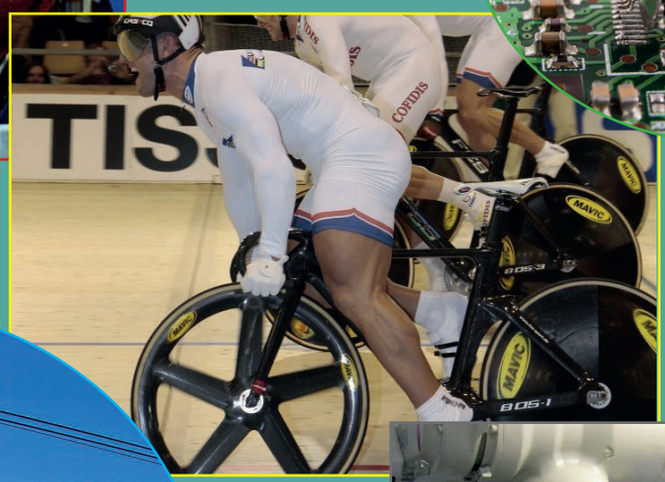
FILTER

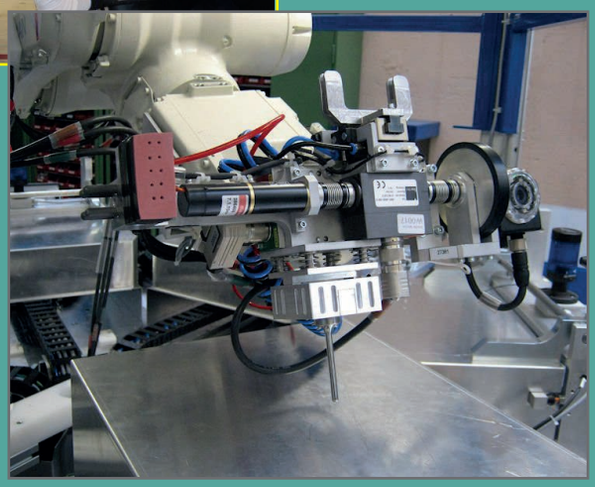
Fourth-order digital filters IIR and FIR up to 14th order can be easily adjusted with GSVmulti. Frequency response, step response and the filter coefficients are displayed.ellt.

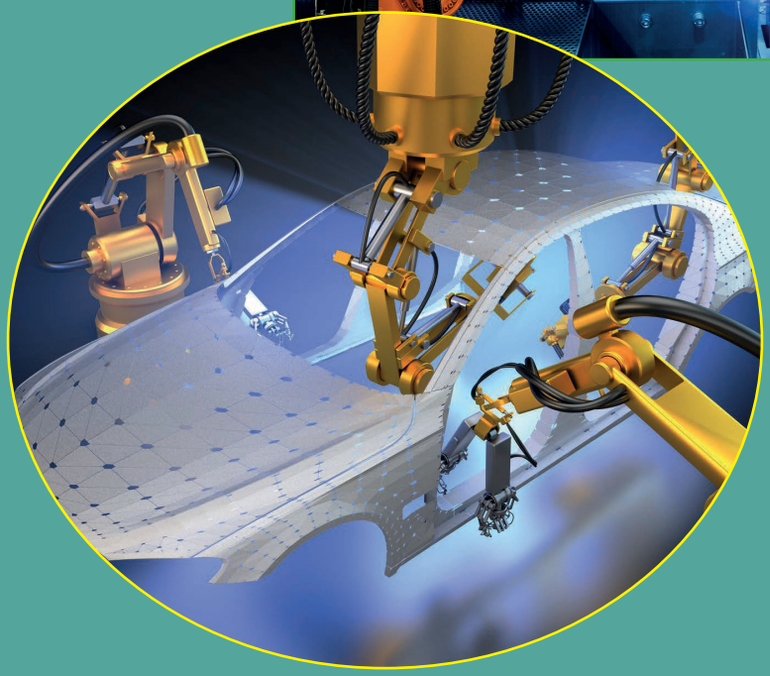
Application first











Innovative solutions

ME-Products worldwide

Netherlands

bienfait BV

www.bienfait.nl
info@bienfait.nl

Switzerland

Transmetra GmbH

info@transmetra.ch
www.transmetra.ch

Austria

nbn Austria GmbH

www.nbn.at
info@nbn.at

Italy

Instrumentation Devices srl

www.instrumentation.it
info@instrumentation.it

Frankreich

PM Instrumentation

www.pm-instrumentation.fr
contact@pm-instrumentation.com

Sweden

Profcon AB

www.profcon.se
info@profcon.se

Spain

ENCOSOLUTION, S.L.

www.enco-solution.com
info@enco-soution.com

Our partner for measuring pins

Batarow Sensorik GmbH

www.batarow.com
info@batarow.com

Turkey

Marmatek

marmatek.com
info@marmatek.com

Israel

Larit Measurements Ltd

avi@larit.co.il
www.larit.co.il

United Kingdom

Interface UK Ltd

www.interface.uk.com
info@interface.uk.com

USA and worldwide

Interface Inc.

www.interfaceforce.com
contact@interfaceforce.com

China

New Transform Technology Co.,ltd.

colinli@sensorstech.com
www.sensorstech.com

Australia

Bestech Australia Pty Ltd

www.bestech.com.au
Enquiry@bestech.com.au

South Korea

RADIANQBIO Co., Ltd.

www.radianqbio.com
ynbaek@radianqbio.com

India

ELTEK SYSTEMS

www.elteksystems.com
info@elteksystems.com

ME-Meßsysteme GmbH
Eduard-Maurer-Str. 9
16761 Hennigsdorf

Tel: 03302 89824 10
Fax: 03302 89824 69
www.me-systeme.de
vertrieb@me-systeme.de

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