

DS EUROPE

SHORT FORM CATALOG

LOAD CELLS

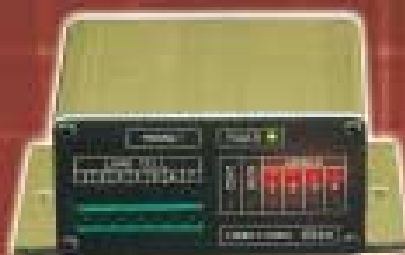


LIQUID LEVEL SYSTEMS



CANopen Modbus RS485

INDICATORS



POSITION TRANSDUCERS

PRESSURE TRANSDUCERS



CONDITIONER 594A

MORE THAN 250 MODELS DESIGNED AND MANUFACTURED BY DS EUROPE

LOAD CELLS AND PRESSURE TRANSDUCERS WITH INTERNAL ELECTRONICS

CANopen - Modbus - DSEbus



Internal digital electronics:
setups of 4 level thresholds

ANALOG ELECTRONICS (CE mark)

Voltage output: 0 to ± 5 V; 0 to ± 10 V.
Current output: 4 to 20 mA.

Main peculiarities: compactness, simplicity, better insensitivity to electrical disturbances, price convenience.

DIGITAL ELECTRONICS (CE mark)

Outputs: RS485 and RS422 (Modbus; DSEbus);
CAN (CANopen DSP406; DEVICENET).

Main peculiarities: high resolution (A/D 24bit), electrical noise protection, high sampling rate (960Hz), autozeroing, data transmission in engineering units (Kg, bar etc.), digital filter, easy service (overload memory), alarm levels, accuracy (10 points linearization), compactness, easy to use.

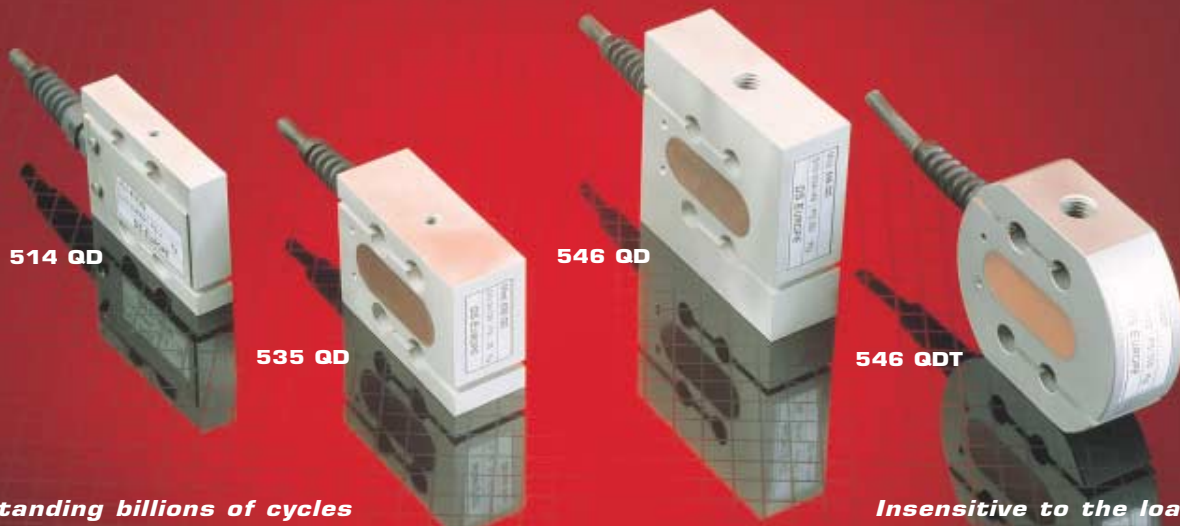


Internal digital electronics: window configuration for the utility program with graph of the transducer output v.s. time.

LOAD CELLS

500 QD Series

from 2 Kg to 2 tons fs



withstanding billions of cycles

Insensitive to the load position

Measuring ranges: tension and compression.

514 QD: 0 to 2 - 3 Kg.; 535 QD: 0 to 6 - 12 - 25 Kg.
546 QD: 0 to 60 - 110 Kg.; 546 QDT: 0 to 220 - 330 - 550 - 1000 - 2000 Kg.

Technical specifications:

non-linearity: $< \pm 0,023\%$ Fs. Flexing parallelogram insensitive to the load position (as for scale cells). Options: internal electronics: analog (5V, 10V, 4-20mA) or digital (CANopen, RS 485, RS 422).

Applications:

off-centre beam load cells with on axis clampings.

For general purpose where insensitivity to off-centre loads, great accuracy and convenient price are imperative.

TENSIOMETERS FOR WEBS: RADIAL LOAD CELLS

LCR 200 Series

from 5 Kg. to 1500 Kg. fs

Measuring ranges:

LCR 215: 0 to $\pm 5 - 10 - 20 - 50 - 80$ Kg.

LCR 220: 0 to $\pm 100 - 200 - 350$ Kg.

LCR 240: 0 to $\pm 500 - 1000 - 1500$ Kg.

Main specifications: Axial through hole: for the endshaft of the roller.
Thin thickness: for extending the installation possibilities on new machines and on retrofits.

Possibility of rotation of the central measuring body: for an accurate alignment of the measuring axis.

Very effective protection of the rolling bearings against dust.

All axes overload protections.

Outputs: 2 mV/V, ± 5 V, ± 10 V, 4-20 mA, RS485, RS422, CAN open.

Main applications: to be installed on measuring rollers; on textile machines, in paper, plastic, metal foil, in printing machines, to control the radial force of webs.



LOW COST LOAD CELLS

SERIES MB490 BEAM LOAD CELLS:

Measuring ranges:

Mod. MB491 0 \div 300-400-500-600-700Kg (compression).

Mod. MB491-P 0 \div ± 300 -400-500-600-700Kg (tension and compression).

Main specifications:

Beam load cells with low price and compactness.

Main applications:

For general purpose, automation, machine tools, weighing, medical machines, vehicles.

SERIES MP WASHER LOAD CELLS.

Measuring ranges: 0 \div 500-1000-1500-2000-2500Kg.

Main specifications:

Flat with central hole and connector.

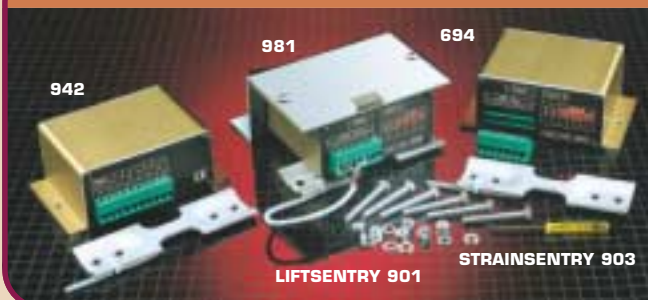
Outputs: 2 mV/V, 5 V, 10 V, 4-20 mA.

Main applications:

To be applied onto actuators or tie rods for force measurements and for general use.



LOW COST FORCE MEASUREMENT BY MECHANICAL STRAIN



LIFTSENTRY SYSTEM 901: flexional link for lifts.

It measures the load into the lift cabin with 2 or 4 overload levels with relays outputs.

It includes: a flexional link 942 (patent), the signal conditioner 694, the protection base 981 and a set of screws and screwdriver.

STRAINSENTRY 903: general purpose.

Force/overload monitoring of presses; machine tools, on the rods of die-casting machines, on shearing machines, on metal trestles bridges, on cranes, on frameworks of tanks, on industrial mixers (944 torsion), on concrete structures. CE mark.

SMARTANK = LEVEL INTO TANKS

Liquid level measuring system with float and tank shape linearization.

Measuring strokes: from 100 mm to 3 meters (as for PC series).

Units of the system: PC probe, one or two AFC-2S floats, MLPS electronic box, Fastset software.

MPLS electronics: 5 digits LED display, LED warning messages, switching from "mm" to "liters", 2 level alarms. Mains: 220 Vac or 24 Vdc.

Fastset software: on a 3 1/2 disk. Easy to use, RS232 computer connection, Windows. Linearization table (fig. C) up to 1000 points: to adapt to any tank shape. Level visualisation (fig. A). Probe calibration (fig. B). Wave filtering. Resolution: 0,2 mm. Non-linearity: 0,025% fs (on mm measures). Option: RS485 output.

Applications:

for food applications compatible with stainless steel Aisi 316L. On fix or mobile tanks, for milk, wine, oil, basins, rivers and for all the not-explosive fluids and areas. CE mark.

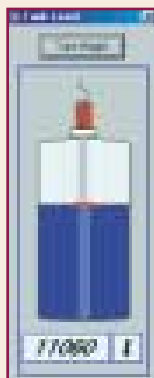


Fig. A



Fig. B



Fig. C

PANEL METERS - SIGNAL CONDITIONERS

PANEL METER MOD. PITAGORA:

Panel meter with microprocessor, easy to use, compact and with low price. It shows on display the engineering units of transducer measured signals.

Main specifications:

High background brightness LCD display with 7 digits (± 9999999) and alphanumeric line (= easy to use), shows the measures of connected transducers in engineering units, with 4 slots for built-in optional input/output cards, with 24bit A/D converter (= high resolution) and It can be connected to all DS Europe transducers.

Main functions:

Gross, net, tare, piece counting, peak memory, zeroing, hold, digital filtering, sum of signal from 4 transducers, alarm levels with relay outputs, analog output options (5V, 10V, 4-20mA, 0-20mA), digital outputs (RS232, RS485 and CAN Open), with error messages (= easy to use and service).

Allowance controlled pin insertion inside hole: PITAGORA can control the force necessary to insert a pin into an hole having its alarm levels operating onto the peak force value memorized within a certain measuring window.

PANEL METER MOD. AN401PLUS:

AN401Plus is like PITAGORA but with a 5 digits red LEDs display (± 99999) with high brightness fit for low environment luminosity applications.



Pitagora



AN 401 Plus

DIGITAL SIGNAL CONDITIONER MODEL 698 - SERIAL ADAPTER 658



Setup of the 4 level alarms.



Main window of the utility program, with graph of the transducer output vs time.



698

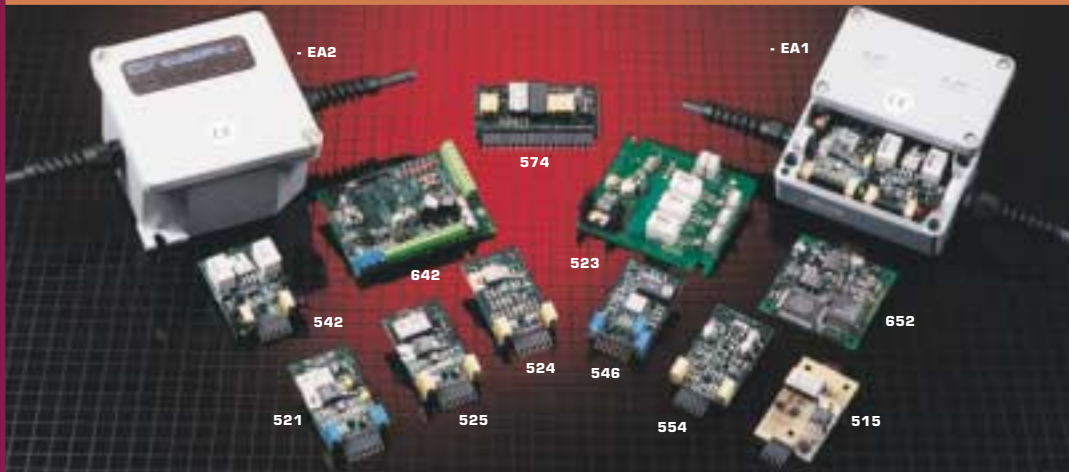


658

Digital signal conditioner 698: for one (or two) transducers. Resolution: 24bit max. Sampling rate: 960Hz max. Digital outputs: CAN (CANopen DSP406, DEVICENET), RS485 and RS422 (DSEbus, Modbus). 4 alarm levels with settable hysteresis. Calibration profile. Software for calibration and parameter setting. Analog output: 0 to 5V (option).

Serial adapter 698: powered from computer, It converts RS232 to RS422 or RS232 to RS485.

ANALOG SIGNAL CONDITIONER BOARDS EL 500 SERIES



They are multilayer printed boards with SMD components, complete with multivoltage regulations and connector; very compact, accurate, advisable for their technical specifications and their convenient price.

When settled into the metal box (suffix EA) they are prearranged to satisfy CE mark.

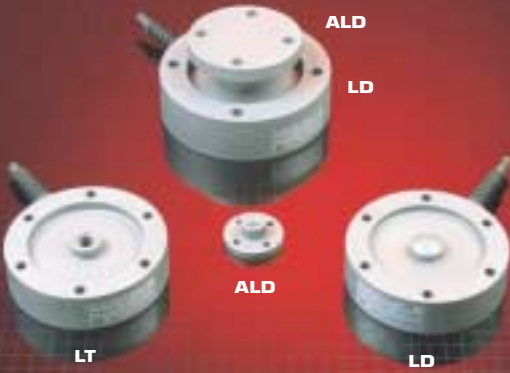
- EL 525 - EL 521:** Voltage amplifiers for transducers. Outputs: EL 525: ± 5 V; EL 521: ± 10 V
- EL 524:** Current amplifier for transducer. Output: 4 to 20 mA.
- EL 546:** Signal conditioner for LVDT transducer. Output: ± 5 V (± 10 V).
- EL 574:** Summing unit for transducers: up to 4 transducers. Output: the voltage amplified sum of the 4 transducer signals.
- EL 542-EL 543:** Up to 2 (EL 542) or 3 (EL 543) settable levels with multivoltage potentiometers. Outputs relays and LED.
- EL 554:** Voltage (± 5 V) to current (4 to 20 mA) converter.
- EL 515:** General purpose stabilised power supply. Supply: 8 to 28 Vdc. Output: ± 15 V; 100 mA max. (for ES 261 servoinclinometer too)

LOAD CELLS

(only some standard series)

LD-LT Series

from 10 Kg. to 500 tons fs



Measuring ranges:

Series LD for compression:

Mod. LD 1: 0 ÷ 10 - 20 - 50 - 100 - 200 - 500 Kg.

Mod. LD 5: 0 ÷ 1 - 2 - 5 tons.; Mod. LD 10: 0 ÷ 5 - 10 tons.

Mod. LD 100: 0 ÷ 20 - 50 - 100 tons.; Mod. LD 300: 0 ÷ 300 - (500) tons.

Series LT: for tension and compression:

Mod. LT 05: 0 ÷ ± 10-20-50-100-200 Kg.; Mod. LT 1: 0 ÷ ± 200-500-1000 Kg.;

Mod. LT 5: 0 ÷ ± 2 - 3 tons. Mod. LT 50: 0 ÷ ± 5 - 10 - 30 tons.

Main specifications: Round and thin pancake load cells:

Total error: < ± 0,2 % fs; Low price; Hermetically sealed; N° of strain gauges increasing from 4 to 12 with the diameter: for a better insensitivity to the transversal loads; Internal calibrator; Final test certificate; Options: internal analog (5V, 10V, 4-20mA) or digital (CANopen, RS485, RS422) electronics.

Main applications:

for general purpose; for machine tools, for actuators, for weighing systems.

Measuring ranges:

HC 2001: 0 to 50 - 100 - 200 - 300 Kg. (Al).

HC 2001: 0 to 500 - 1000 Kg. (Fe).

HC 2005: 0 to 5 tons.

HC 2030: 0 to 30 tons.

HC 2002: 0 to 2 ton.

HC 2015: 0 to 10 - 15 tons.

HC 2080: 0 to 50 - 80 tons.

Main specifications: washer load cells:

flat, with large central hole. Internal calibration. Final test certificate.

Main applications:

for general purpose, for automatic control of axial thrusts: on punching machines; on machine tools, presses, power hammers, actuators.

HC 2000 Series

from 50 Kg. to 80 tons fs



MD 5000 Series

from 1 to 60 tons fs



Measuring ranges:

MD 5005: 0 to 1 - 3 - 5 tons.

MD 5025: 0 to 25 tons.

MD 5015: 0 to 10 - 15 tons.

MD 5060: 0 to 40 - 60 tons.

Main specifications: Pin load cells:

Body of the pin: in solid rod (no tube).

Sensors: on all the diaphragms of the 4 cavities.

Extreme sturdiness: for use also outdoor and in industrial environmental conditions.

Each model supplied with 2 lengths: standard or as long as requested.

Options: internal analog or digital electronics.

Main applications: for industrial machines, in substitution of pins: of wheels, of pulleys, of cranes, of hydraulic actuators, for the measure of fix or of mobile reservoirs.

Measuring ranges:

AP 7010: 0 to 10 tons.

AP 7050: 0 to 50 tons.

AP 7025: 0 to 25 tons.

AP 7100: 0 to 100 tons.

Main specifications: column load cells:

for tension and compression. Extremely robust and resistant to high loads. For applications also outdoor and in industrial environmental conditions. Long screwed fittings. Options: internal analog (5V, 10V, 4-20mA) or digital (CANopen, RS485, RS422) electronics.

Main applications:

for fix and mobile weighing systems, for hanged loads, for general purposes.

AP 7000 Series

from 10 to 100 tons fs



BC 300 Series

from 3 Kg. to 2 tons fs



Measuring ranges:

Compression:

BC 302: 0 to 3 - 6 - 12 - 20 - 30 - 60 - 100 Kg.

BC 303: 0 to 150 - 350 - 500 Kg.

BC 304: 0 to 500 - 1000 - 2000 Kg.

Tension and compression:

BC 301: 0 to 3 - 6 - 12 - 20 - 30 - 60 - 100 - 150 Kg.

BC 305: 0 to 500 - 1000 - 1500 Kg.

Main specifications: button load cells:

miniaturized, ultraflat, price convenient.

Main applications: for general purposes, for industrial and medical weighing platforms, textile machines, vehicle tests benches.

SERIES LP660 PRESSURE TRANSDUCERS (very convenient prices)



Measuring ranges: 0 to 1 - 2 - 5 - 10 - 20 - 50 - 100 - 200 - 400 - 600 bars. (LP 650 Series, measuring ranges: up to 1400 bars).
 Hydraulic connections: G 1/4" or G 1/2". Electrical connection: by connector (central hole for zero regulation).

Model	Internal electr.	N. of wires	Supply	Output	Model	Internal electr.	N. of wires	Supply	Output
LP665	Voltage amplifiers	3	0 to 12 V to 36 V	0 to 5 V	LP664	Current amplif.	2	0 to 8 up 36 V	4 to 20 mA
LP661				0 to 10 V	LP668				Digital
					LP669				

POSITION TRANSDUCERS AND MEASURING SYSTEMS

PC SERIES: MAGNETOSTRICTIVE; one or two cursors or floats.
Measures of: position; velocity; level.

Measuring strokes: from 100 to 1000 mm.: intervals of 50 mm.
 from 1000 to 3000 mm: intervals of 100 mm.

PCR: displacement rule.

PCS: standard with screwed electronic head.

PCP: with probe extraction from the well, screwed to the reservoir.

PCM: with miniaturised measuring probe.

Main specifications: no electrical contact between fix probe and cursor or float: no frictions, no wears. Operating probe pressure: 350 bars (700 max.). Digital technology. Outputs: 0÷10V, 4-20mA, RS485, CAN open, Start Stop, SSI.

Applications: for oil and air actuators and pistons, on operating machines, for level measures on reservoirs (see also Smartank)

PC Series

Strokes from 100 mm to 3 meters



SP Series LVDT Strokes: $\pm 2,5 \pm 100$ mm

AN 401



SP

EL 546

Measuring strokes: $\pm 2,5; \pm 5; \pm 12,5; \pm 25; \pm 50; \pm 100$ mm.
 Non linearity: $< \pm 0,2$ % fs. Resolution: infinite.

Main specifications:

- no mechanical contact between fix and movable parts: no frictions, no wears.
- external surfaces and side boards: in stainless steel.
- central tube for the sliding core: in stainless steel.
- extremely robust and environment protected.
- high number of coil turns: to warranty a linear signal without jumps.

SERVOINCLINOMETERS - SERVOACCELEROMETERS - MEASURING SYSTEMS

ES261 Series

down to microns/meter



Measuring ranges: inclination: $\pm (5,75^\circ); 14,5^\circ; 30^\circ; 45^\circ; 90^\circ$ degrees.
 acceleration: $\pm (100); 250; 500; 700; 1000$ millig.
 With electronics inside: supply: ± 15 V; Output: ± 5 V (± 10 V).

Main specifications: measuring ranges extended to low values down to one millionth of the full scale. Linearity: $\pm 0,05\%$ fs. Bandwidth: from gravity (zero) to 55 Hz. High repeatability, resolution, sturdiness.

Indicator - conditioner AN 401: 5 full digits with direct reading in sessagesimal degrees. 4 alarm levels. With microprocessor.

Shock absorber box ES 291: on x-y-z- axes. Up to 2 units ES261 for x-y axes.

Specifications and prices may change without notice.

Bulletin: 100202-E



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