

Press Load Cell

for hand and automatic operated presses

MODEL 8552



Flexible mechanical adaption

Highlights

- Measuring ranges from 0 ... 100 N up to 0 ... 25 kN
- Small, compact design
- Pin/hole diameter from 8 mm to 16 mm
- Different diameter for pin and hole can be combined
- Mechanical overload protection for all measurement ranges

Applications

- Forces in component joining
- Press-fitting
- Bending forces during material deformation
- Cutting forces when severing material
- Forces during stamping processes
- Punching forces for blanks
- Break-out forces used in destructive testing



Simple adapter mounting



Flexible configuration of hole and pin



Mounting potentiometric displacement sensors of the 871x model series

Product description

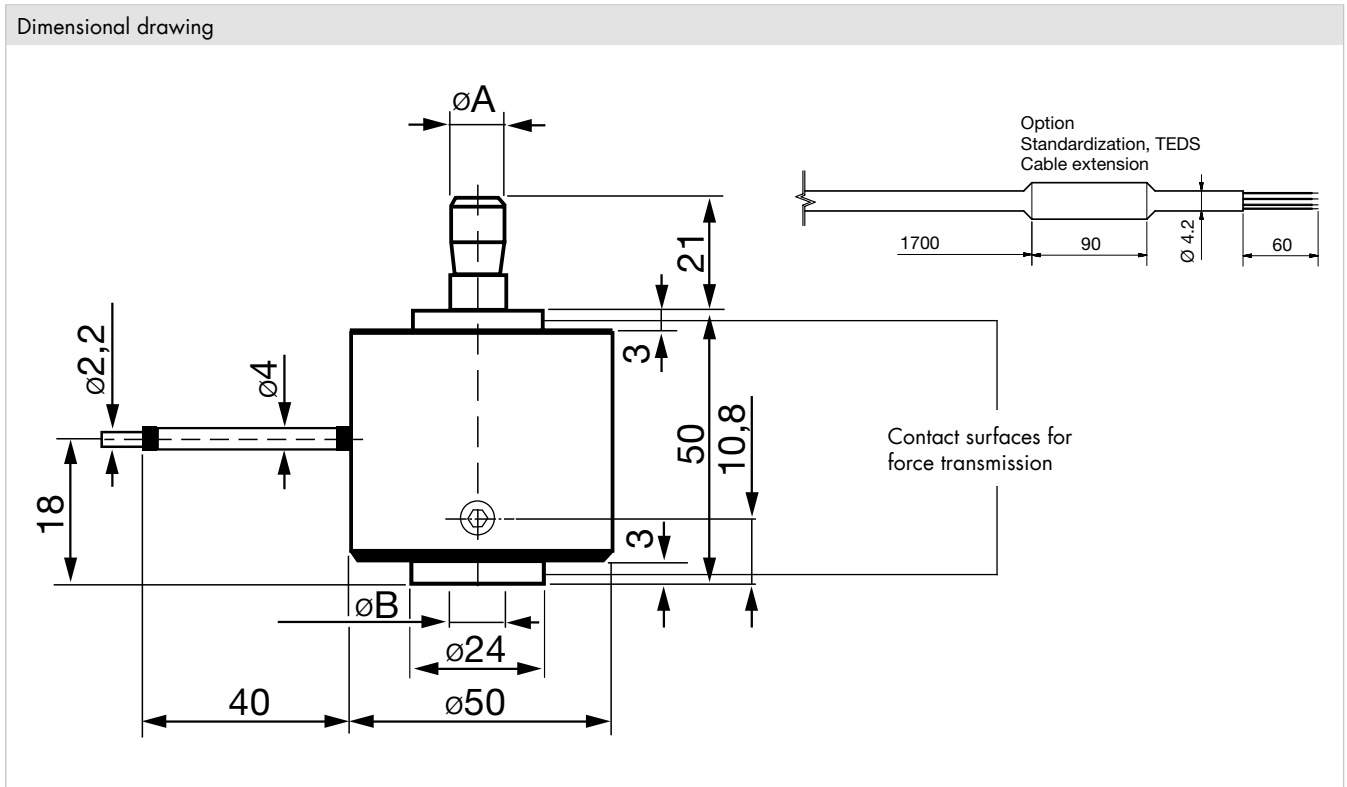
The load cell measures the compression forces between the circular contact surfaces of plunger and tool. The pin on its top side and hole on its lower face are simply provided for mechanical fixing and centering the components correctly. To provide as large a range of mechanical compatibility as possible, the pins/holes are available in different diameters. Attachments are available which clamp onto the press sensors to enable easy mounting of displacement sensors according to the circumstances of use.

Technical Data

8552	-	5100	5250	5500	6001	6002	6005	6010	6025	
Measuring range calibrated in N and kN from 0 ...		100 N	250 N	500 N	1 kN	2,5 kN	5 kN	10 kN	25 kN	
		22.4 lbs	56.2 lbs	112.4 lbs	224.8 lbs	562.0 lbs	1.1 klbs	2.2 klbs	5.62 klbs	
Accuracy										
Relative non-linearity*		≤ ±0.75 % F.S.					≤ ±1.00 % F.S.		≤ ±1.50 % F.S.	
Characteristic curve deviation*		≤ ±1.00 % F.S.					≤ ±1.50 % F.S.		≤ ±2.00 % F.S.	
Relative hysteresis		≤ 0.75 % F.S.				≤ 1.00 % F.S.			≤ 2.00 % F.S.	
Temperature effect on zero output		≤ ±0.03 % F.S./K								
Temperature effect on nominal sensitivity		≤ ±0.03 % F.S./K								
Electrical value										
Sensitivity nominal		1.0 mV/V								
Measurement direction		Compression direction								
Standardization		option 0.8 mV/V (±0.5 %)								
Bridge resistance		350 Ω nominal (deviations are possible)								
Excitation		5 V DC (max. 10 V DC)								
Insulation resistance		> 30 MOhm at 45 V								
Environmental conditions										
Nominal temperature range		0 °C ... +70 °C								
Operating temperature range		0 °C ... +70 °C								
Mechanical values										
Deflection full scale	[µm]	< 100								
Maximum operating force		120 % of nominal load (after that overload protection takes effect)								
Max. static load capacity of the overload protection		1 kN	2.5 kN	5 kN	10 kN	25 kN	30 kN			
Dynamic performance		recommended: 70 %								
Material		Sensor body made of highgrade anodized aluminum				Sensor body made of stainless steel 1.4542				
Protection class (EN 60529)		IP40 (in installed state)								
Geometry										
General tolerance of dimension		ISO 2768f								
Mounting										
Mounting fixing pin diameter		Diameter dimension A (8 f9/10 f9/12 f9/15 f9/16 f9)								
Mounting receiving hole diameter		Diameter dimension B (8 H7/10 H7/12 H7/15 H7/16 H7)								
Clamping screws for tool pin		M6								
Mounting instructions		(see dimensional drawing) Force transmission between the circular contact surfaces (press ram/press tool). The pin and hole are used only for mechanical fastening and centric alignment								
Other		5100	5250	5500	6001	6002	6005	6010	6025	
Natural frequency	[Hz]	90	170	225	255	290	330	370	410	
Mass	[g]	300								

* The data in the area 20 % - 100 % of rated load





Electrical termination

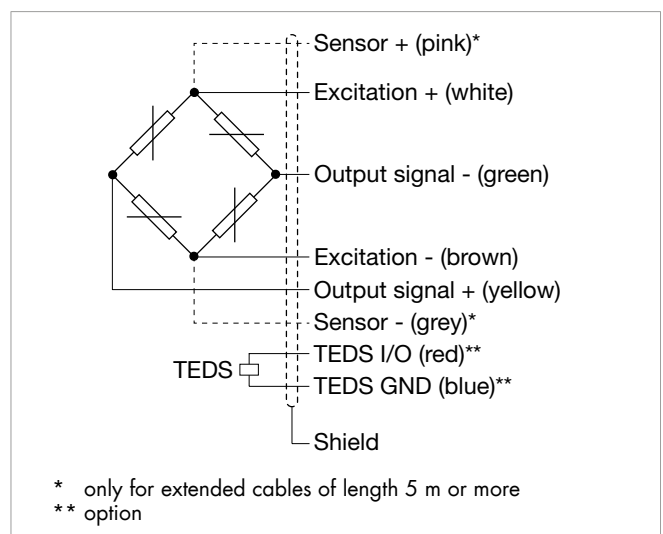
Output signal

burster load cells are based on a strain-gage Wheatstone bridge. This measurement principle means that the output voltage mV/V is highly dependent on the sensor supply voltage. Our website contains details of suitable instrumentation amplifiers, indicator and display devices and process instruments.

burster TEDS



The "**burster** Transducer **E**lectronic **D**ata **S**heet" (TEDS) is a memory in which identification data of the sensor, calibration data and other sensor parameters are saved. In conjunction with your own suitable burster device, there is the option of performing a simple adjustment in order to achieve the maximum accuracy of the measuring chain. A simple sensor exchange is thus possible in just a few steps without losing precision.



8552	-	5100	5250	5500	6001	6002	6005	6010	6025
Measuring range from 0 ...		100 N	250 N	500 N	1 kN	2,5 kN	5 kN	10 kN	25 kN
Electrical termination									
Specifications		1.7 m, shielded, highly flexible, flame retardant, Bending radius > 30mm with fixed cable, 7,7 x d with moving cable							
Cable model		PVC, 4 x 0.22, Ø = 2.2							



Accessories

Connectors and units

Order code

Connectors

9941	Connectors 12 pin, suitable to all burster desktop units
9900-V209	Connectors 9 pin, suitable to SENSORMASTER, DIGIFORCE® and TRANS CAL
9900-V229	Connectors 9 pin with TEDS
9900-V245	Connectors 8 pin, suitable to ForceMaster

Displacement transducer

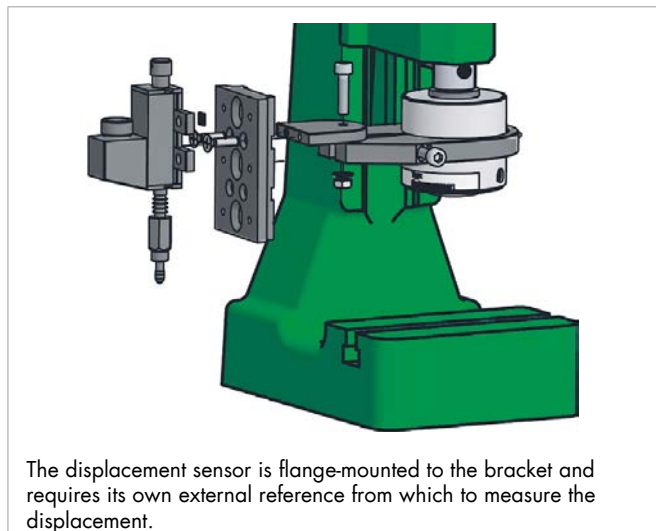
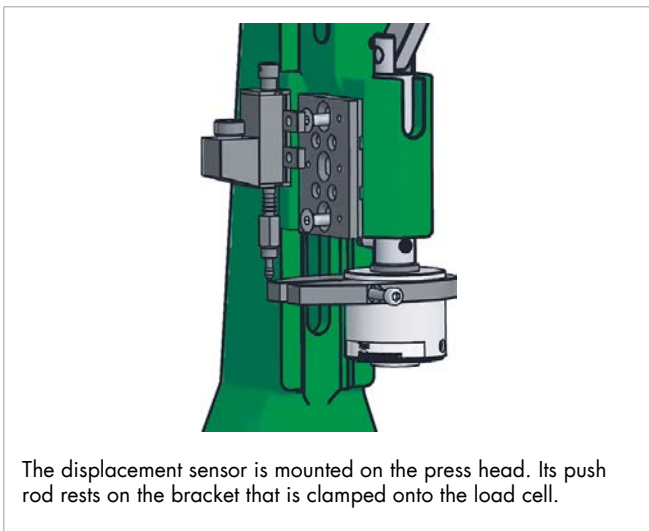
8712-.../8713-...	Potentiometric displacement transducers
5501-Z004	Mounting potentiometric displacement sensors of the 871x model series

Units

9110	ForceMaster 9110 - Monitoring for hand presses
refer to section 9	Sensor electronics, amplifier and process control units like digital indicator model 9180, model 9163, modular amplifier model 9250 or DIGIFORCE® Model 9307

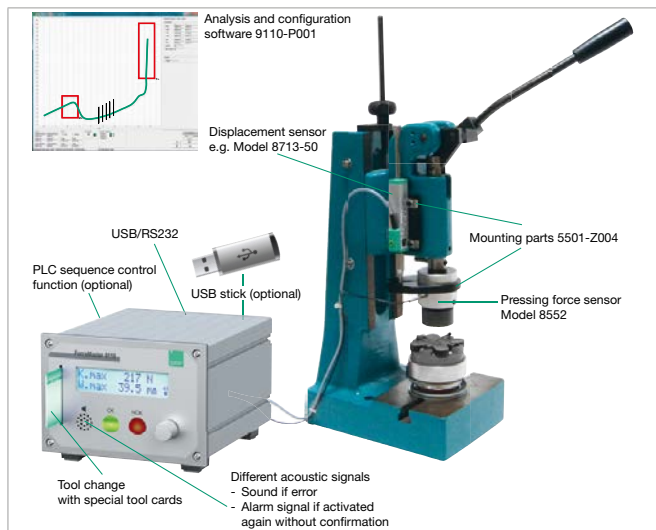
Examples

Example showing use of mounting parts to fit displacement sensor Model 5501-Z004



Example of a measuring chain

- Load cell 8552-6005-NOHOSBBO
- Displacement sensor 8713-50
- Connector plug 9900-V221
- Fitting of plug 99005
- Mounting parts 5501-Z004
- ForceMaster 9110-V0000



Calibration

Test and calibration certificate	
Supplied with the sensor	Amongst other data, includes figures for zero point, full-scale output and calibration offset
Standard factory calibration certificate for load cells or measurement chains (WKS)	
Optionally available	Our standard factory calibration is performed in 5 force steps (20% steps) starting from zero until the reaching the nominal force, for increasing and decreasing compression load under the same installation position.
Special factory calibration certificate for load cells or measurement chains (WKS)	
On request	We are happy to calibrate sensors and measurement chains to the customer's specification.
Calibration certificate with accreditation symbol for product group load cell 8552	
Optionally available	Calibration certificate with accreditation symbol for load cells 8552. Calibration is performed on the basis of the accreditation of the calibration laboratory D-K-15141-01-00, for the scope of accreditation listed in the annex to the certificate. The traceability to national standards as well as a wide international recognition (DAkkS as signatory of the Multilateral Agreements of EA, ILAC and IAF) are thus guaranteed. Calibration is performed according to ISO 376 in 10 force steps (10% steps) vstarting from zero until the reaching the nominal force, for increasing and decreasing load under various installation positions.

Order Code

Measuring range	Code	Measuring range
0 ... 100 N	5 1 0 0	0 ... 22.4 lbs
0 ... 250 N	5 2 5 0	0 ... 56.2 lbs
0 ... 500 N	5 5 0 0	0 ... 112.4 lbs
0 ... 1 kN	6 0 0 1	0 ... 224.8 lbs
0 ... 2.5 kN	6 0 0 2	0 ... 562.0 lbs
0 ... 5 kN	6 0 0 5	0 ... 1.1 klbs
0 ... 10 kN	6 0 1 0	0 ... 2.2 klbs
0 ... 25 kN	6 0 2 5	0 ... 5.62 klbs

										Delivery ex stock at short notice								
										N	0	0	0	S	B	B	0	
8	5	5	2	-					-				0	S				0
<input type="checkbox"/> Nominal sensitivity/not standardized										N								
<input type="checkbox"/> Standardization at 0.8 mV/V										B								
<input type="checkbox"/> Connection cable 1.7 m (with standardization in the cable 2 m)										0								
<input type="checkbox"/> Connection cable 1 m										C								
<input type="checkbox"/> Connection cable 3 m										F								
<input type="checkbox"/> Connection cable 5 m										G								
<input type="checkbox"/> Connection cable 3 m extended *										L								
<input type="checkbox"/> Connection cable 5 m extended * (with sens line)										M								
* shortened delivery time compared with cable length 3 m and 5 m in one piece																		
<input type="checkbox"/> Open cable ends + 6 cm single wires										0								
<input type="checkbox"/> 9 pins Sub-D connector model 9900-V209										B								
<input type="checkbox"/> 9 pins Sub-D connector model 9900-V209 for 9163-V3xxxx										E								
<input type="checkbox"/> 12 pins round connector model 9941 for burster desktop devices										F								
<input type="checkbox"/> 8 pins coupling connector model 9900-V245 with sensor datas for 9110-Vxxxx										H								
<input type="checkbox"/> 9 pins Sub-D connector with burster TEDS model 9900-V229										T								
<input type="checkbox"/> Non-linearity $\leq \pm 0.25\%$ F.S. up to $\leq \pm 0.75\%$ F.S. **										S								
** The data in the area 20% - 100% of rated load F																		
<input type="checkbox"/> Fixing pin 8 mm															A			
<input type="checkbox"/> Fixing pin 10 mm															B			
<input type="checkbox"/> Fixing pin 12 mm															C			
<input type="checkbox"/> Fixing pin 15 mm															D			
<input type="checkbox"/> Fixing pin 16 mm															E			
<input type="checkbox"/> Receiving hole 8 mm																A		
<input type="checkbox"/> Receiving hole 10 mm																B		
<input type="checkbox"/> Receiving hole 12 mm																C		
<input type="checkbox"/> Receiving hole 15 mm																D		
<input type="checkbox"/> Receiving hole 16 mm																E		
<input type="checkbox"/> Nominal temperature range 0 °C ... +70 °C																		0

4440-008552EN-5699-0911532