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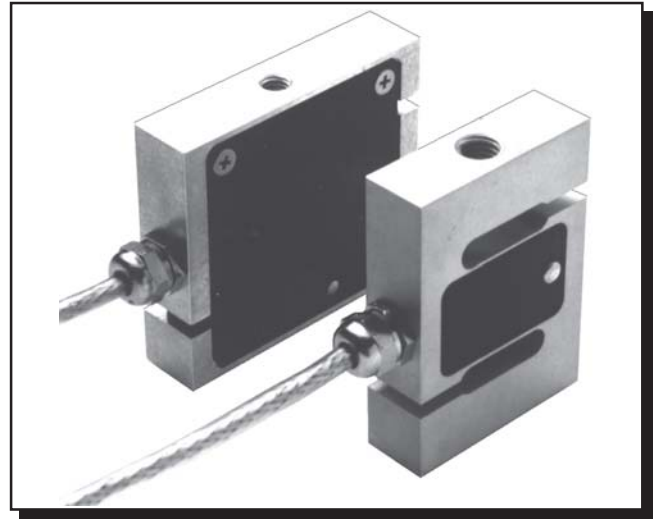
## ZP-S Series Force Transducers

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*NOTE: Not available in U.S.*

### FEATURES

- 10 N to 50 kN
- High precision
- Low assembly dimensions
- For tensile and pressure forces
- Enclosure protection IP 42
- To 50 N with integrated overload protector



### DESCRIPTION

The force transducers of the ZP-S series are designed for the measurement of static and dynamic forces and are characterised by their low dimensions at a high measuring accuracy. The force is introduced centrally through a tapped hole. A strain gauge bridge converts the elastic deformation of the S-shaped flexional body into an electrical signal that can be evaluated. Compensation and adjustment elements are used to set the required technical data. The transducers up to the construction size 50 N are manufactured in high-strength

aluminium alloy, while larger sizes are made of a special stainless steel. An integrated overload fuse ensures the safe operation of the 10N, 20N and 50N construction sizes. As a standard, the transducers are equipped with a 3 m connection cable, which has free ends on the other side. The transducer can also be supplied with an integrated amplifier (model ZP-E/10 N to 2 kN, dimensions have changed). The output signals (0 to 10) V or (4 to 20) mA can be selected.

Accuracy class		0.2	0.1	0.05
Nominal force (=F <sub>N</sub> )	N	10/20	10/20/50/100/200	50/100/200
Nominal force (=F <sub>N</sub> )	kN		0.5/1/2/5/10/20/50	0.5/1/2/5/10/20/50
Max. permissible force/load	%F <sub>N</sub>		150	
Ultimate overload (with overload protection)	%F <sub>N</sub>		>500	
Ultimate overload (without overload protection)	%F <sub>N</sub>		>300	
Max. transverse force	%F <sub>N</sub>		10	
Reference temperature	°C		+23	
Nominal temperature range	°C		-20 to +60	
Storage temperature range	°C		-30 to +70	
Enclosure protection (DIN 40050)			IP 42	
Nominal sensitivity (=S)	mV/V	2.000 ±0.002; for 10/20/50N: 2.000 ±0.005		
Zero tolerance band	%S	≤1; for 10/20/50N: ≤10		
Max. supply voltage	V	10		
Input resistance	Ω	380 ±30		
Output resistance	Ω	352 ±3		
Insulation resistance	Ω	>5 × 10 <sup>9</sup>		
Linearity error *	%S	≤0.2	≤0.1	≤0.05 **
Width of backlash *	%S	≤0.2	≤0.1	≤0.05
TC of zero per 10 K	%S	≤0.2	≤0.1	≤0.05
TC of sensitivity per 10 K	%S	≤0.2	≤0.1	≤0.05
Zero recovery error (30 min)	%S	≤0.2	≤0.1	≤0.05
Creepage error (30 min)	%S	≤0.2	≤0.1	≤0.05

\* According to VDE / VDI 2638

\*\* At 0.004 F<sub>N</sub> is the linearity error <1%

## PIN CONNECTIONS

Pin	To DIN
Supply voltage (+)	brown
Supply voltage (-)	yellow
Measuring voltage (+)	green
Measuring voltage (-)	white
Shield ***	black
Cable length	3 m

**Note :** In model ZP-E load cells, the pins for supply voltage (-) and measuring voltage (-) are interconnected internally.

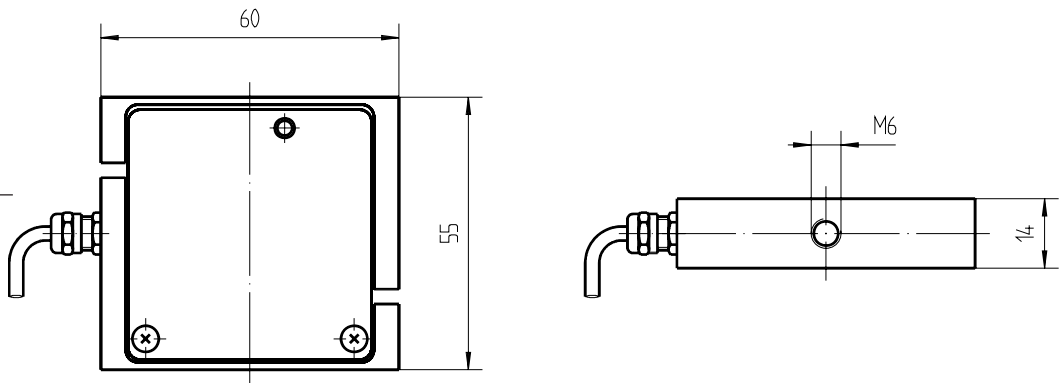
\*\*\* Directly coupled with transducer case

**ZP-S 10 N to 50 N**

**MODELS**  
**Nominal force**

- 10 N
- 20 N
- 50 N

Weight: 0.10 kg

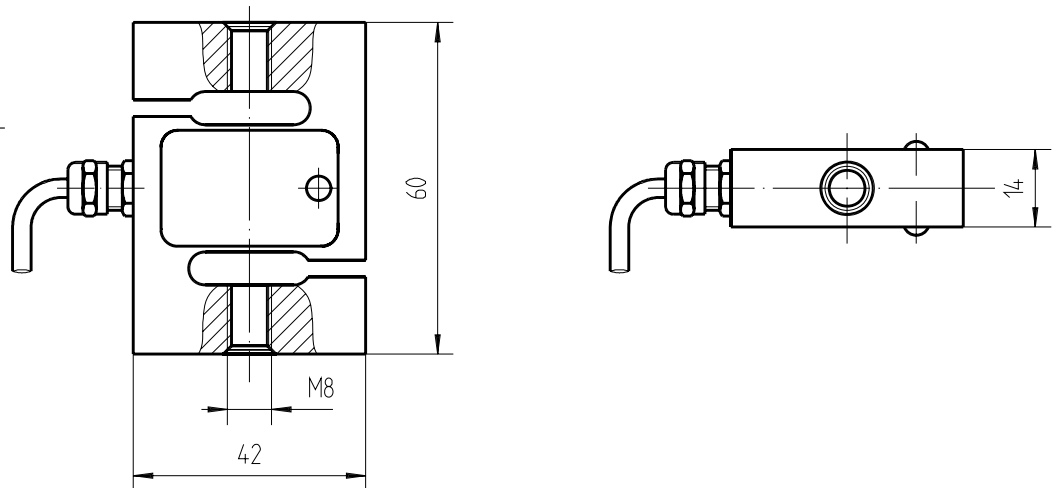


**ZP-S 100 N to 2 kN**

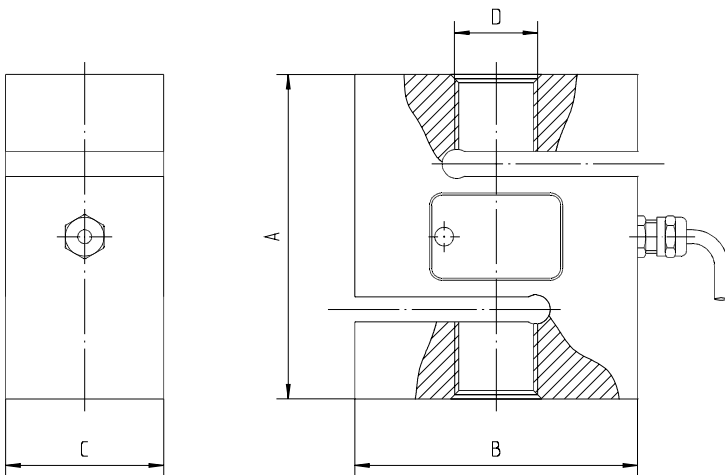
**MODELS**  
**Nominal force**

- 100 N
- 200 N
- 0.5 kN
- 1 kN
- 2 kN

Weight: 0.25 kg



**ZP-S 5 kN to 50 kN**



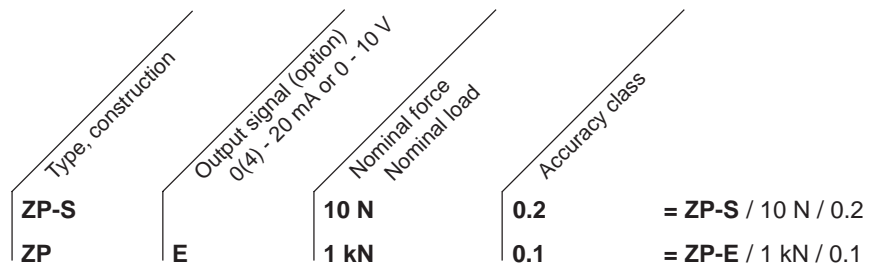
Model	A	B	C	D	Weight
ZP-S 5 kN	70	60	26	M12	0.75 kg
ZP-S 10 kN	70	60	35	M12	1.00 kg
ZP-S 20 kN	78	68	38	M20x1.5	1.30 kg
ZP-S 50 kN	78	68	38	M24x2	1.30 kg

## ORDERING INFORMATION

### Explanation of Type Code (Ordering Example)

for Force Transducers

for Force Transducers with  
integrated amplifier



## ORDERING INFORMATION FOR MECHANICAL ACCESSORIES

### ZP-S 10 N to 2 kN

AM 029	Force introduction calotte A6-16 for ZP-S 10 N to 50 N
AM 040	Force introduction calotte A8-16 for ZP-S 100 N to 2 kN
AA 6	Flexible head (external screw thread) with counter nut for ZP-S 10 N to 50 N
AA 8	Flexible head (external screw thread) with counter nut for ZP-S 100 N to 2 kN

### ZP-S 5 kN to 50 kN

AM 019	Force introduction calotte A12-50 for ZP-S 5 kN to 10 kN
AM 043	Force introduction calotte A20-50 for ZP-S 20 kN
AM 017	Force introduction calotte A24-50 for ZP-S 50 kN
AA 12	Flexible head (external screw thread) with counter nut for ZP-S 5 kN to 10 kN
AA 20	Flexible head (external screw thread) with counter nut for ZP-S 20 kN
AA 25	Flexible head (external screw thread) with counter nut for ZP-S 50 kN

## SYSTEM OPTIONS

Model No.	Product Description	Ordering Number
LMU 112	Load monitoring unit containing 2 level detectors, 1 current and 1 voltage O/Ps	224-112-000-XXX
LMU 116	Load monitoring unit containing 4 level detectors, taring and 4 summer functions	224-116-000-XXX
LMU 117	Dual channel load monitoring unit (2 x LMU 112)	224-117-000-XXX
AN 2000 C	Digital process monitor for strain gauge transducers	AN 2000 C /X/X/XX/XX/X

*Due to the continual development of our products, we reserve the right to modify specifications without forewarning.*



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