

Integrated force sensor for **hpower** actuators

Force sensor with signal amplifier

Concept:

With the integrated force sensor for **hpower** actuators piezosystem jena offers the possibility to directly detect the forces acting on the actuators. The sensor element is fully integrated into the actuator's casing. The compact amplifier box provides a voltage signal proportional to the present force level. With this, the customer has access to yet another metrological quantity additional to the actuator's travel range.

Specials:

The integrated force sensor for **hpower** actuators is available for the series VS25, VS35 and VS45. The measurement system is individually calibrated to the desired force range. The maximum measurement range lies between 0 and +5kN (compression). The force detected by the sensor element is then converted to an analog output voltage (0... +10V) by the separate signal amplifier. Both static and dynamic forces can be detected by the sensor. The integration of the sensor directly into the actuator's casing can make the acquisition of an external force sensor obsolete. By this, both additional space and mechanical links can be avoided.

Signal amplifier:

The amplifier electronics are integrated in a robust metal casing with compact dimensions. All connectors are easily accessible at the front side. The device comes with a 12V power supply.



image: **hpower** actuator with integrated force sensor and signal amplifier

Product Highlights:

- integrated force sensor element
- separate signal amplifier
- measurement range: 0 kN to +5 kN
- compact design
- robust metal casing
- 12V_{DC} power supply
- output voltage: 0 ... +10 V

Application:

- material testing
- vibration control
- mechanical engineering
- modal analysis

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Technical data:

	unit	Integrated force sensor for hpower actuators		
part no.:	-	H-FS25	H-FS35	H-FS45
corresponding actuator series	-	PSt 1000/16/... VS25	PSt 1000/25/... VS35	PSt 1000/35/... VS45
max.measurement range	kN		0 ... +5	
nonlinearity*	%		3	
output voltage	V		0 ... +10	
output noise*	mV		2.7 (@30Hz...300kHz)	
Bandwidth (-3dB)	kHz		3.2	
connector output voltage	-		BNC	
sensor connector	-		LEMO 0S.304	
power supply	-		12 V _{DC}	
dimensions (l x h x w)	mm		120 x 24 x 55	
weight	g		130	

*typical values

Specifications subject to change without notice!