VPG force sensors
Celtron • Revere • Sensortronics • Tedea-Huntleigh

Load Pin

FEATURES

- Load ranges: 25–60 kN
- Rugged design with zinc-plated, hardened alloy steel construction
- Ratio metric voltage output converter embedded

APPLICATIONS

- Agriculture equipment
- Force measurement devices
- Off-road vehicles

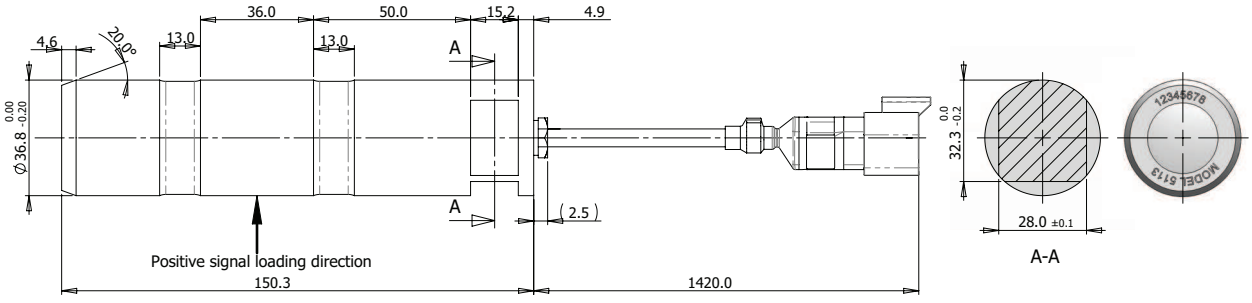
DESCRIPTION

The Model 5113 load pin is designed to provide force measurement on an applied load across it. It uses VPG's own internally manufactured, state-of-the-art foil-based strain gages, bonded onto a robust zinc-plated, hardened alloy steel body, making it an ideal sensor for any demanding environment application.

This compact, rugged 38 mm load pin is available in three capacities up to 60 kN and, with a safe overload capability of up to 250 kN, delivers excellent long term stability and reliable operation, even under severe load conditions. These features make the Model 5113 able to perform repeatable measurements in any given control or safety system.

The Model 5113 load pin is an ideal partner for a wide variety of applications, such as those found in tractor hitch systems, plowing vehicles, cranes or tensioning systems that employ rope, chain or brake anchors. This load pin may be used in lieu of hydraulic pressure or draft pin sensors.

OUTLINE DIMENSIONS in millimeters



Drawing showing standard connector DT04-3P.

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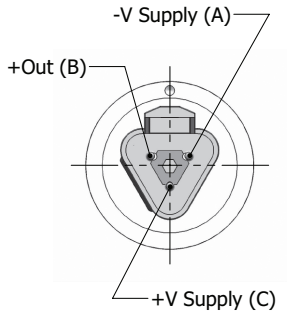
Load Pin

SPECIFICATIONS				
PARAMETER	**VALUE**			**UNIT**
Rated load	±25	±40	±60	kN
Safe overload	±250			kN
Excitation for built-in amplifying circuit	8.0 (recommended)			VDC
Allowed supply voltage	6 ÷ 12			VDC
Maximum current, all conditions	50			mA
Output at zero load (20°C)	4.000 ±0.090			VDC
Output at rated tensile load (20°C)	6.000 ±0.18			VDC
Output at rated compressive load (20°C)	2.000 ±0.18			VDC
Linearity, max. deviation	50			±mV
Hysteresis, max. deviation	50			±mV
Operating temperature range	–30 to +70			°C
Output at zero load	4.000 ±0.1			VDC
Output at rated tensile load	6.000 ±0.26			VDC
Output at rated compressive load	2.000 ±0.19			VDC
EMC, effect at 20°C (per EEG-011)	50			±mV
Environmental protection	IP66			—
Vibration protection, 0 to 2000 Hz	5			g
Endurance test at ±30,000 lb.	1,000,000			Cycles
Storage temperature range	–40 to +85			°C
Cable length	1.42 ±0.02			m
Construction	Hardened alloy steel, zinc plated			—

All specifications are subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Connector Pin Assignment		
Pin	**Color**	**Function**
A	Black	– Excitation
B	White	+ Signal
C	Red	+ Excitation

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