

- Full Scale Range from 0-10 kN to 0-2000 kN
- Tension and Compression
- Simple to use
- High coefficient of security
- Optional: Watertight
- Bidirectional versions available
- High Level Output Model with Integrated Amplifier

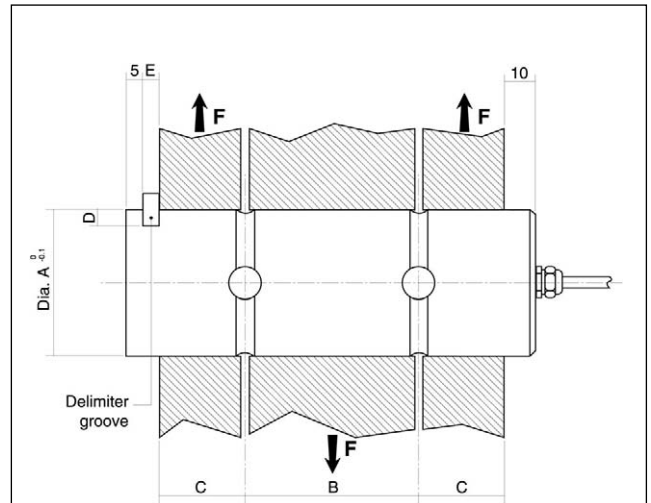
FGP Sensors' load pins, model FN1010, are designed to fit in the place of the regular mounting unit. The implantation is facilitated by the possibility of modifying a certain number of dimensions. The FN1010 is suitable for numerous applications on lifting motors and handling equipment. The load pins can be used to measure forces on rotating components (pulleys, sheaves, etc.) and can be directly mounted on shackles.

The FN1010 is available in standard ranges from 0-10 to 0-2 000 kN. The sensing element is fitted with thin film strain gauges in a Wheatstone bridge circuit. All FN 1010 load pins incorporate a keyed anti-rotation slot.

Optionally, the load pins may be made watertight for certain applications while resting insensitive to hydrostatic pressure effects. Additionally, the FN1010 is available with an integrated high-level analogue output.

### Dimensions in mm

F.S. in kN	A			B			C			D	E
	Min.	Nominal	Max.	Min.	Nominal	Max.	Min.	Nominal	Max.		
10	22	25	30	25	30	35	10	15	20	3	5
20	27	30	35	25	30	35	10	15	20	3	5
50	30	35	40	30	40	50	15	20	25	4	5
100	42	45	50	40	50	65	20	25	30	5	10
200	54	60	65	50	70	90	25	30	35	5	10
500	82	90	100	65	90	115	30	40	50	5	10
1000	110	120	130	80	110	140	40	55	70	5	15
2000	150	160	170	120	160	200	60	80	100	5	15



All dimensions correspond to a standard. They can be modified, if necessary, for mounting. Please consult us for details.

In order to simplify the use of load pins and limit the mechanical modifications associated with their implantation, all dimensions are given between two limits within which performances and characteristics can be maintained without increasing financial cost to the user.

**Note:** The delimiter groove can be placed on the output cable side.

With many years of experience as a designer and manufacturer of sensors, FGP Sensors has the expertise to customize and/or design sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. Our conditioning electronics can power the sensor, amplify the electronic signal, and display the data digitally. A turnkey measurement system arrives with matched components, formatted, calibrated and ready for your immediate use.

# Technical Specifications

## Range (F.S.)

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0-10, 0-20, 0-50, 0-100, 0-200, 0-500, 0-1000, 0-2000 kN

## Over-range

Without Damage : 1.5 x F.S.  
Without Destruction : 5 x F.S.

## Accuracy

Combined Non Linearity & Hysteresis :  $\pm 1\%$  F.S.

## Temperature Range

Operating Temperature Range (OTR) : -20 to 80 °C  
Compensated Temperature Range (CTR) : 0 to 60 °C  
Zero Shift in CTR :  $< 0.5\%$  F.S. / 60 °C  
Sensitivity Shift in CTR :  $< 2.10^{-4}$  / °C of reading

## Electrical Characteristics

Model	FN1010	FN1010-A1	FN1010-A2	FN1010-A3 (2 wires)
Supply Voltage	10 Vdc	10 to 30 Vdc	$\pm 15$ Vdc ( $\pm 12$ to $\pm 18$ Vdc)	12 to 36 Vdc
F.S. Output	1.5 mV/V	0.5 to 4.5 V	$\pm 5$ V	4-20 mA (4-12-20)
Zero Offset	$< \pm 5\%$ F.S.	2.5 V $\pm 5\%$ F.S.	0 V $\pm 5\%$ F.S.	4 (or 12 mA)
Input Impedance/Consumption	350 to 700 $\Omega$	$< 50$ mA	$< 50$ mA	-
Output Impedance	350 to 700 $\Omega$	$< 10$ $\Omega$	$< 10$ $\Omega$	-
Insulation under 50 Vdc	$\geq 100$ M $\Omega$	$\geq 100$ M $\Omega$	$\geq 100$ M $\Omega$	$\geq 100$ M $\Omega$

## Electrical Termination

Shielded cable, standard length 2 m

## Mechanical Characteristics

Material : Body in stainless steel

### Product References

#### Low Level Output Sensor

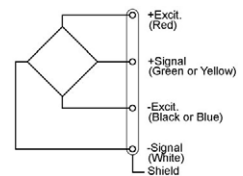
Model	Full Scale Range (F.S.) In kN	Ø A In mm	Size B In mm	Size C In mm
FN1010	20	A27	B30	C15

#### High Level Output Sensor

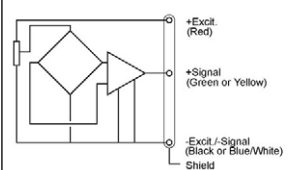
Model	Power Supply Reference A1 : Unipolar-tension A2 : Bipolar-tension A3 : Current output	Full Scale Range (F.S.) In kN	Ø A In mm	Size B In mm	Size C In mm
FN1010	A1	20	A27	B30	C15

### Wiring Schematic

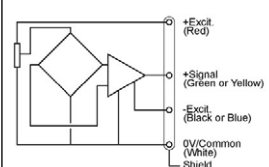
#### FN1010



#### FN1010-A1



#### FN1010-A2



All specifications are nominal. They are subject to change without notice and assume correct loading of the device. Current specifications see web-site. 19/01/2005