

# FN1010 Load Pin



- Load Pin Design
- Range from 10 to 2000 kN (2 to 400 klbf)
- Other Ranges on Request
- Voltage or Current Output

## DESCRIPTION

Measurement-Specialties' 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 sensing element is fitted with thin film strain gauges in a Wheatstone bridge circuit. All FN1010 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.

With many years of experience as a designer and manufacturer of sensors, Measurement-Specialties often works with customers to design or customize sensors for specific uses and testing environments.

To meet your needs we also offer complete turnkey systems. The matched components (sensor, power, amplifier and digital display) are formatted, calibrated and ready for immediate use.

## FEATURES

- Full Scale Range : from 0-10 to 0-2000 kN (0-2 to 0-400 klbf)
- Tension and Compression
- Optional: Watertight
- High Coefficient of Security
- Optional: Watertight
- Bidirectional Versions Available
- Level Output Model with Integrated Amplifier

## APPLICATIONS

- Crane Monitoring
- Building Machine Monitoring
- Load-Limited Device
- Offshore

## STANDARD RANGES

<b>Ranges in N</b>	10k	20k	50k	100k	200k	500k	1 000k	2 000k
<b>Ranges in lbf</b>	2k	4k	10k	20k	40k	100k	200k	400k

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## PERFORMANCE SPECIFICATIONS

**Ambient Temperature: 20±1° C (unless otherwise specified)**

PARAMETERS	
Operating Temperature Range (OTR)	-20 to 80° C [-4 to 176° F]
Compensated Temperature Range (CTR)	0 to 60° C [32 to 140° F]
Zero Shift in CTR	<0.5% F.S. / 50° C [100° F]
Sensitivity Shift in CTR	<1% of reading / 50° C [100° F]
Range (F.S.)	0-10 to 0-2000 kN [0-2 to 0-400 klb <sub>f</sub> ]
Over-Range	
Without Damage	1.5 x F.S.
Without Destruction	5 x F.S.
Accuracy	
Combined Non-Linearity & Hysteresis	±1% F.S.

### Electrical Characteristics

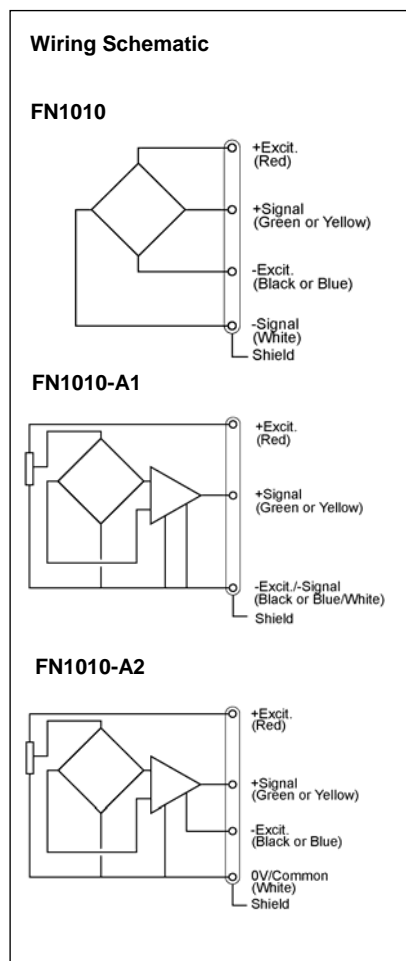
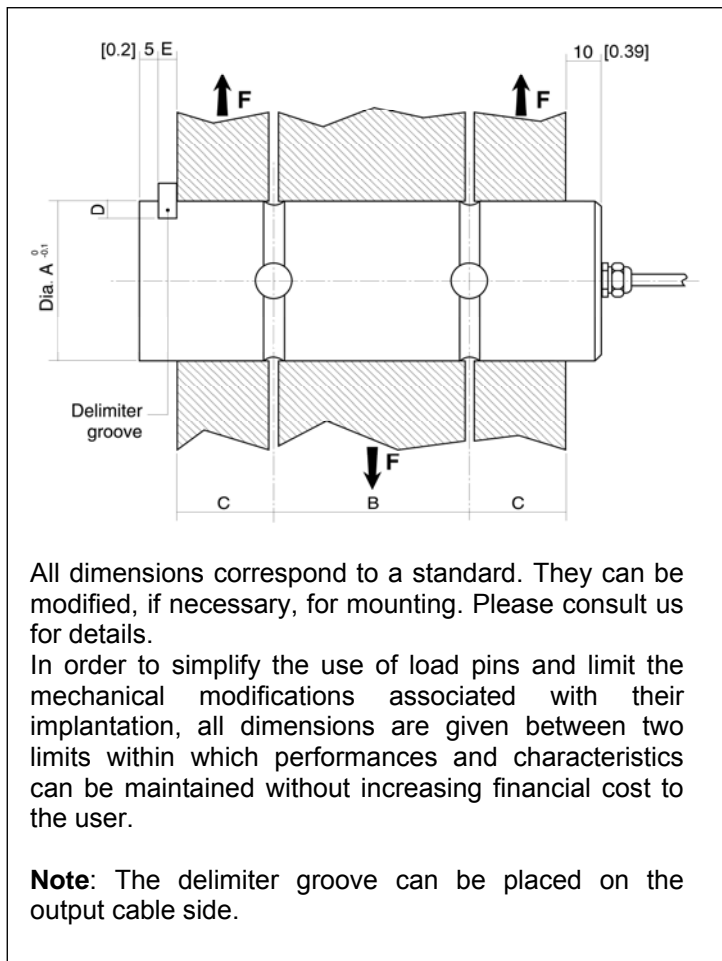
Model	FN1010	FN1010-A1	FN1010-A2	FN1010-A3 (2 wires)
Supply Outage	10Vdc	10–30Vdc	±15Vdc (±12 to ±18Vdc)	12-36Vdc
F.S. Output	±1.5mV/V	±2V ±5% F.S.	±5V ±5% F.S.	4–20mA (4-12-20)
Zero Offset	<±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.	4 (or 12mA)
Input Impedance/Consumption	350 to 700Ω	<50mA	<50mA	-
Output Impedance	350 to 700Ω	<10Ω	<10Ω	-
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ	≥100MΩ

### Notes

1. Electrical Termination: Shielded cable; standard length 2m [6.5ft]
2. Materials: Body in stainless steel

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## DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



Dimensions in mm [inch]

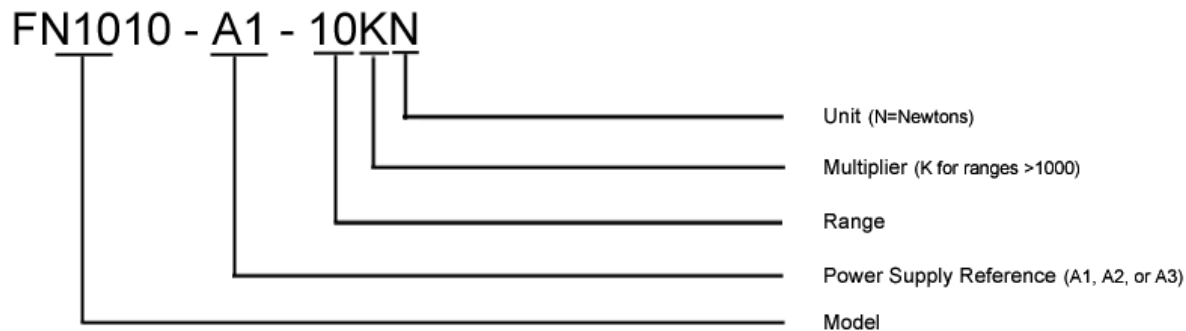
F.S. Ranges in N [Lbf]		10k [2k]		20k [4k]		50k [10k]		100k [20k]		200k [40k]		500k [100k]		1000k [200k]		2000k [400k]	
A	Min.	22	[0.87]	27	[1.06]	30	[1.18]	42	[1.65]	54	[2.13]	82	[3.23]	110	[4.33]	150	[5.91]
	Nominal	25	[0.98]	30	[1.18]	35	[1.38]	45	[1.77]	60	[2.36]	90	[3.54]	120	[4.72]	160	[6.30]
	Max	30	[1.18]	35	[1.38]	40	[1.57]	50	[1.97]	65	[2.56]	100	[3.94]	130	[5.12]	170	[6.69]
B	Min.	25	[0.98]	25	[0.98]	30	[1.18]	40	[1.57]	50	[1.97]	65	[2.56]	80	[3.15]	120	[4.72]
	Nominal	30	[1.18]	30	[1.18]	40	[1.57]	50	[1.97]	70	[2.76]	90	[3.54]	110	[4.33]	160	[6.30]
	Max.	35	[1.38]	35	[1.38]	50	[1.97]	65	[2.56]	90	[3.54]	115	[4.53]	140	[5.51]	200	[7.87]
C	Min.	10	[0.39]	10	[0.39]	15	[0.59]	20	[0.79]	25	[0.98]	30	[1.18]	40	[1.57]	60	[2.36]
	Nominal	15	[0.59]	15	[0.59]	20	[0.79]	25	[0.98]	30	[1.18]	40	[1.57]	55	[2.17]	80	[3.15]
	Max.	20	[0.79]	20	[0.79]	25	[0.98]	30	[1.18]	35	[1.38]	50	[1.97]	70	[2.76]	100	[3.94]
D	D	3	[0.12]	3	[0.12]	4	[0.16]	5	[0.20]	5	[0.20]	5	[0.20]	5	[0.20]	5	[0.20]
E	E	5	[0.20]	5	[0.20]	5	[0.20]	10	[0.39]	10	[0.39]	10	[0.39]	15	[0.59]	15	[0.59]

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## OPTIONS

A1 : Unipolar Tension
A2 : Bipolar Tension
1. A3 : Current output (2 wires)

## ORDERING INFO



### NORTH AMERICA

Measurement Specialties Inc.  
1000 Lucas Way  
Hampton, VA 23666  
USA  
Tel: 1-757-766-1500  
Fax: 1-757-766-4297  
Sales: pvg.cs.amer@meas-spec.com

### EUROPE

Measurement Specialties  
(Europe), Ltd.  
26 Rue des Dames  
78340 Les Clayes-Sous-Bois,  
France  
Tel: +33 (0) 130 79 33 00  
Fax: +33 (0) 134 81 03 59  
Sales: pfg.cs.emea@meas-spec.com

### ASIA

Measurement Specialties  
(China), Ltd.  
No. 26 Langshan Road  
Shenzhen High-Tech Park (North)  
Nanshan District, Shenzhen  
518107  
China  
Tel: +86 755 3330 5088  
Fax: +86 755 3330 5099  
Sales: pfg.cs.asia@meas-spec.com

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