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, Inc.'s 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, Inc. 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

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

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PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1°C

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 klbf]
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 Voltage	10Vdc	10–30Vdc	±15Vdc (±12 to ±18Vdc)	12-36Vdc
F.S. Output [3]	±1.5mV/V	±2V ±5% F.S.	±5V ±5% F.S.	4–20mA (4-12-20)
Zero Offset [3]	<±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	1 kΩ [4]	1 kΩ [4]	-
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Electrical Termination: Shielded cable; standard length 2m [6.5ft]
2. Materials: Body in stainless steel
3. Other output signal on request
4. Output impedance < 100 Ω on request
5. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

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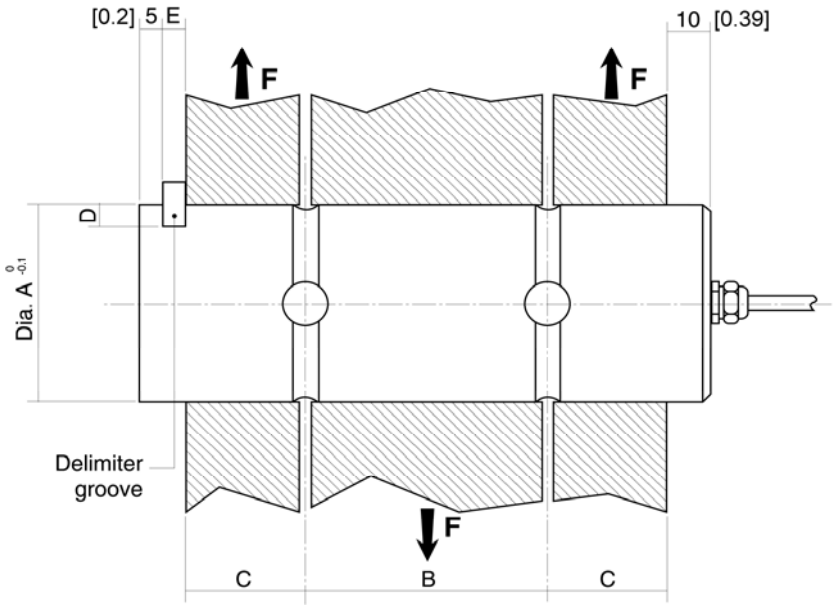
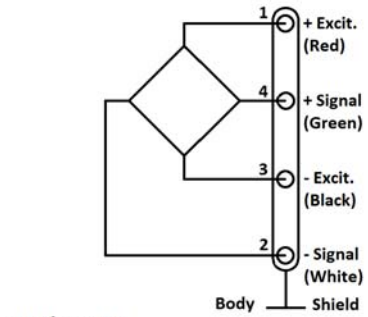
DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)



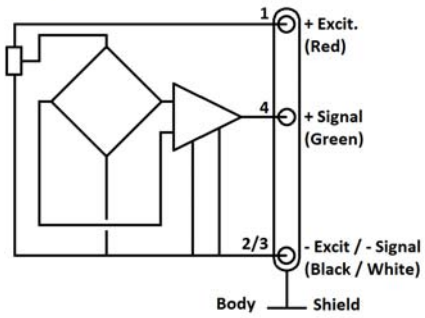
All dimensions correspond to a standard. They can be modified, if necessary, for mounting. Please consult us for details.
In order to simplify the use of load pins and limit the mechanical modifications associated with their implantation, all dimensions are given between two limits within which performances and characteristics can be maintained without increasing financial cost to the user.

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

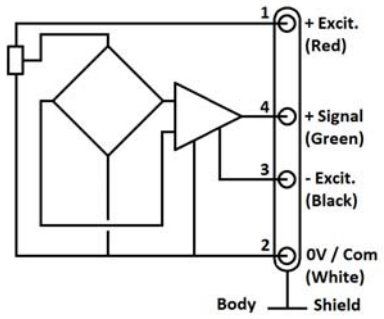
Wiring Schematic



Version -A1



Version -A2



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 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
A3 : Current output (2 wires)

ORDERING INFO

FN1010 - A1 - A00/B00/C00 - 100N - /SC

- **Options (L00M, ..)**
- **Range in Newton**
- **Dimensions (see drawings)**
- **Amplified version (none, A1 or A2)**
- **Model**

NORTH AMERICA

Measurement Specialties, Inc.
Vibration Design Center
32 Journey - Suite 150
Aliso Viejo, CA 92656
United States USA
Tel: 1-949-716-0877
Fax: 1-949-916-5677
t&m@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
cs.lcsb@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen
518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
pfg.cs.asia@meas-spec.com