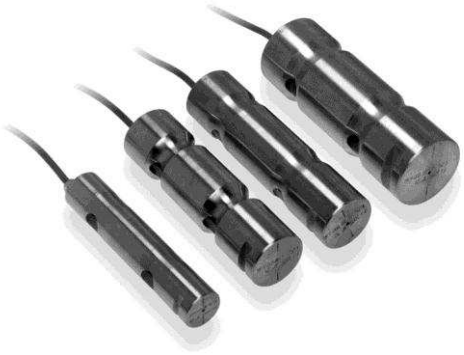
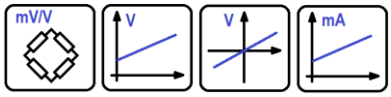
FN1010

Load Pin



SPECIFICATIONS

- **Range from 10 kN to 2000 kN (2 klbf to 400 klbf)**
- **Standard and custom load in designs**
- **Tension and compression uses**
- **Other Ranges on Request**
- **Bidirectional versions available**



FEATURES

- Accuracy 1% FS
- High Coefficient of Security
- Watertight optional
- Level Output Model with Integrated Amplifier

APPLICATIONS

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

TE CONNECTIVITY'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 gages 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 a long standing experience as a designer and manufacturer of sensors, TE CONNECTIVITY often works with customers to design or customize sensors for specific uses and testing environments.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

STANDARD RANGES

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

PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)

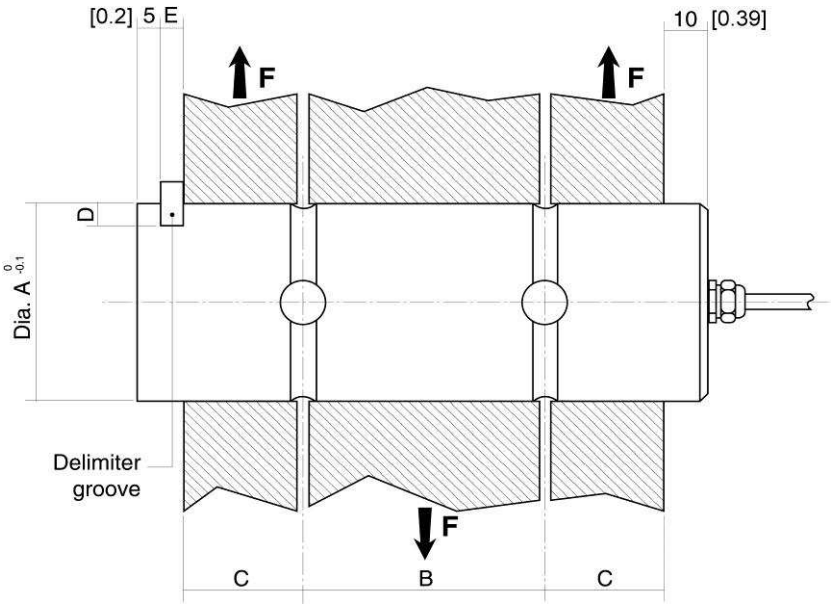
PARAMETERS	
Operating Temperature Range (OTR)	-20 to 80° C [-4 to 176° F]
Compensated Temperature Range (CTR)	0 to 60° C [32 to 140° F]
Thermal Zero Shift in CTR	<0.5% F.S. / 50° C [/100° F]
Thermal Sensitivity Shift in CTR	<1% of reading / 50° C [/100° F]
Over-Range	
Without Damage	1.5 x F.S.
Without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

Electrical Characteristics

Model	**FN1010** [1]	**FN1010-A1**	**FN1010-A2**	**FN1010-A3 (2 wires)**
Supply Voltage	1 to 10 Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)	12-36Vdc
Sensitivity "FSO" [4]	±1.5mV/V	±2V ±0.2V	±5V ±0.2V	16 (or ±8) ±0.4mA [5]
Zero Offset [4]	<±1mV	2.5V ±0.2V	0V ±0.2V	4 (or 12) ±0.4 mA [5]
Input Impedance/Consumption	350 to 700Ω	<50mA	<50mA	-
Output Impedance	350 to 700Ω	1 kΩ [6]	1 kΩ [6]	-
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ	≥100MΩ

Notes
1. Sensors are calibrated with 10Vdc power supply as standard.
2. Electrical Termination: Shielded cable; standard length 2m [6.5ft]
3. Materials: Body in stainless steel
4. Other output signal on request
5. Signal is 4-20mA. Depending of application calibration it could be
   Tensiont & compression: 12mA at 0N and ±8mA for ±FS
   Compression or tension only: 4mA at 0N and 20mA at FS
6. Output impedance < 100 Ω on request
7. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

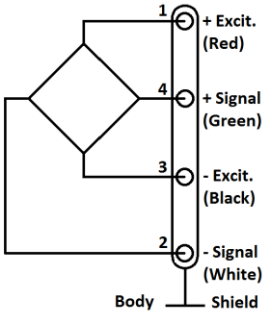


All dimensions correspond to a standard. They can be modified, if necessary, for mounting. Please consult us for details.

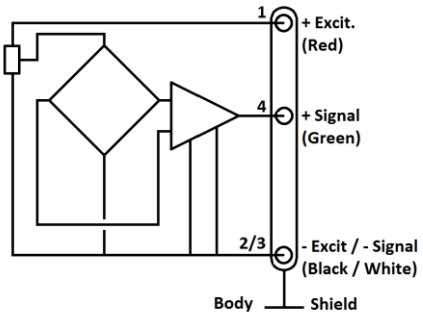
In order to simplify the use of load pins and limit the mechanical modifications associated with their implantation, all dimensions are given between two limits within which performances and characteristics can be maintained without increasing financial cost to the user.

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

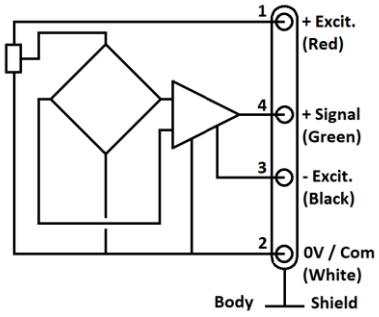
Wiring Schematic



Version -A1



Version -A2



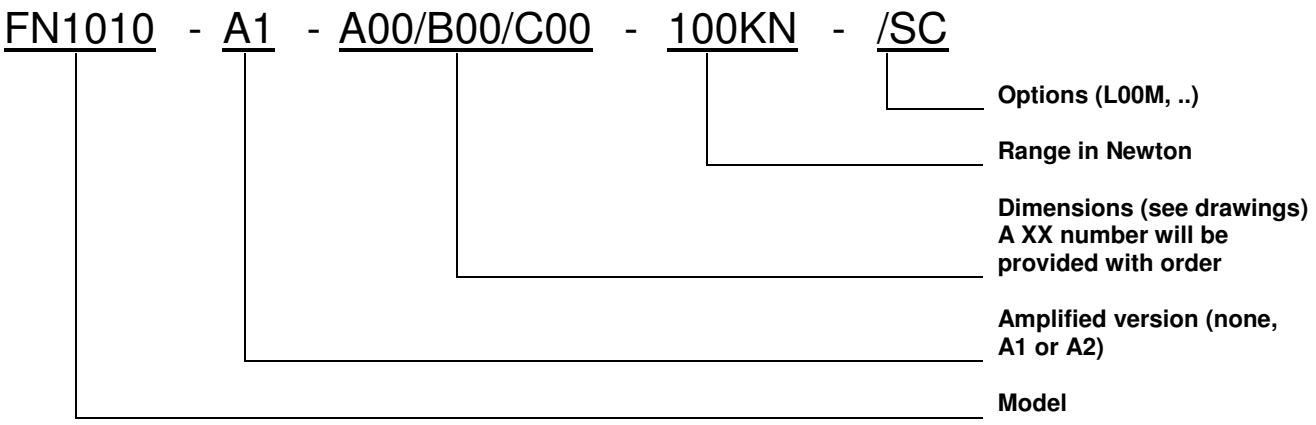
Dimensions in mm [inch]

Ranges in N In [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]

OPTIONS

A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
A3 : Current output (2 wires)
V00 : Non-standard power supply calibration, replace “00” with value in Volt (standard 10Vdc)
L00M : special cable length, replace “00” with total length in meters

ORDERING INFORMATION



株式会社 クローネ

■カタログに掲載してある製品の色は印刷インキの関係上、実際とは異なる場合があります。
■製品のデザイン、仕様等などは、予告なく変更する場合があります。

本　社：〒124-0023 東京都葛飾区東新小岩3丁目9番6号 TEL: (03) 3695-5431 / FAX: (03) 3695-5698
大阪支店：〒530-0054 大阪市北区南森町2-2-9(南森町八千代ビル7F) TEL: (06) 6361-4831 / FAX: (06) 6361-9360
e-mail: sales-tokyo@krone.co.jp URL: https://www.krone.co.jp

TE.com/sensorsolutions