

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

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

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.

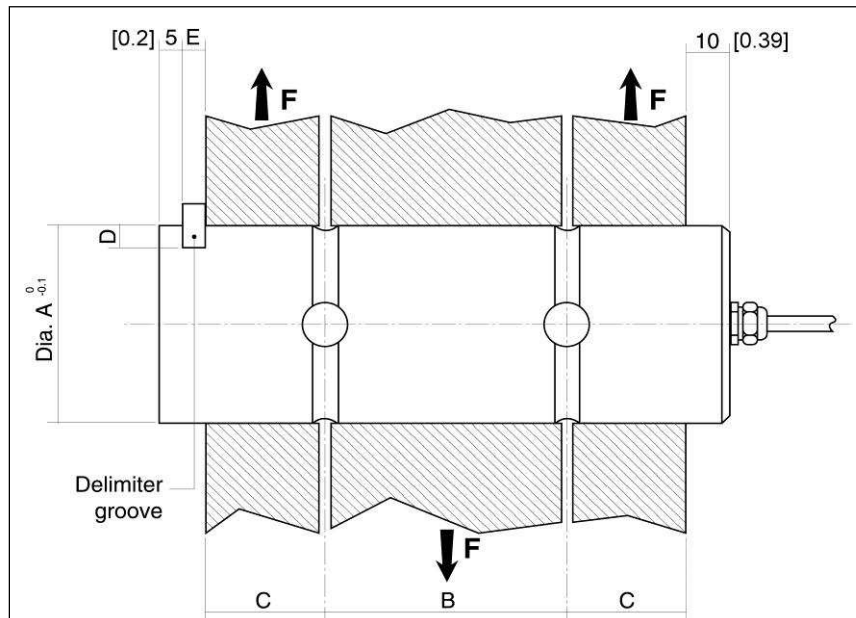
Electrical Characteristics

Model	FN1010¹	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

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

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

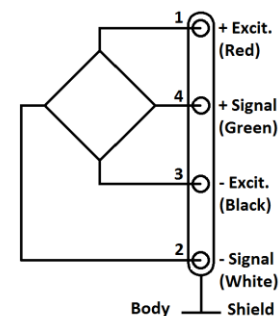


All dimensions correspond to a standard. They can be modified, if necessary, for mounting. Please consult us for details.

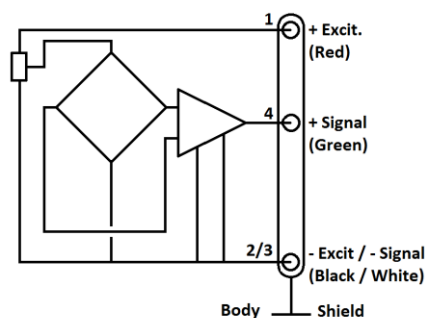
In order to simplify the use of load pins and limit the mechanical modifications associated with their implantation, all dimensions are given between two limits within which performances and characteristics can be maintained without increasing financial cost to the user.

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

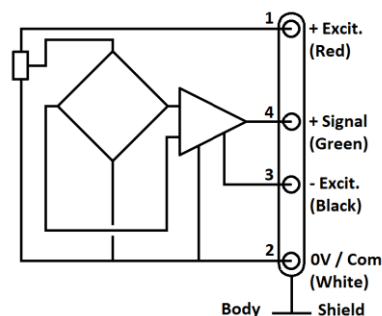
Wiring Schematic



Version -A1



Version -A2



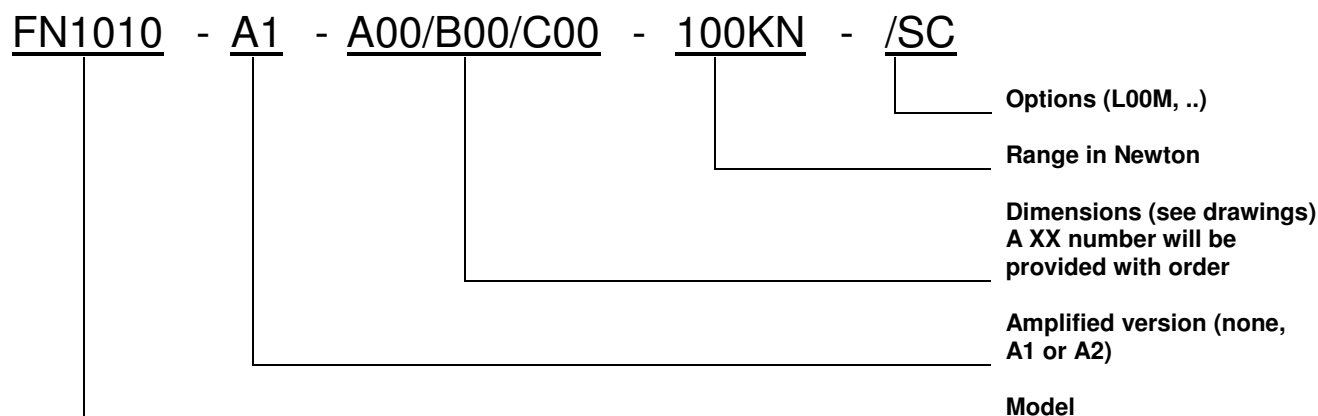
Dimensions in mm [inch]

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



神州融安科技（北京）有限公司

电话：010-62127688、82057633

地址：北京市海淀区花园路2号牡丹科技楼B座三层B308室

网址：www.ronganchi na. cn

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
Phone: +1 800 522 6752
Email: customercare.frm@te.com

EUROPE

Measurement Specialties (Europe), Ltd.
a TE Connectivity Company
Phone: +31 73 624 6999
Email: customercare.lcsb@te.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Phone +86 400 820 6015
Email: customercare.shzn@te.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.