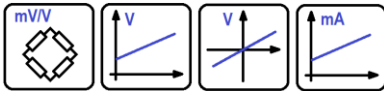


CE



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. |

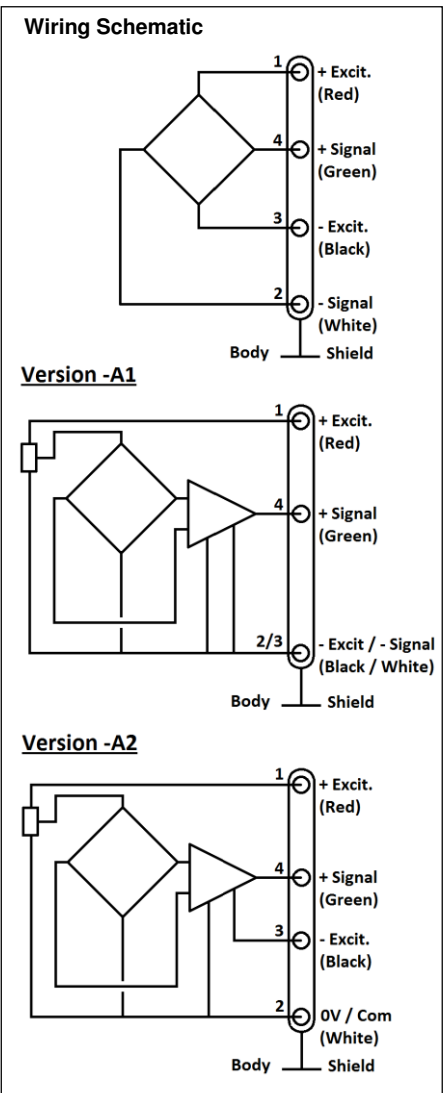
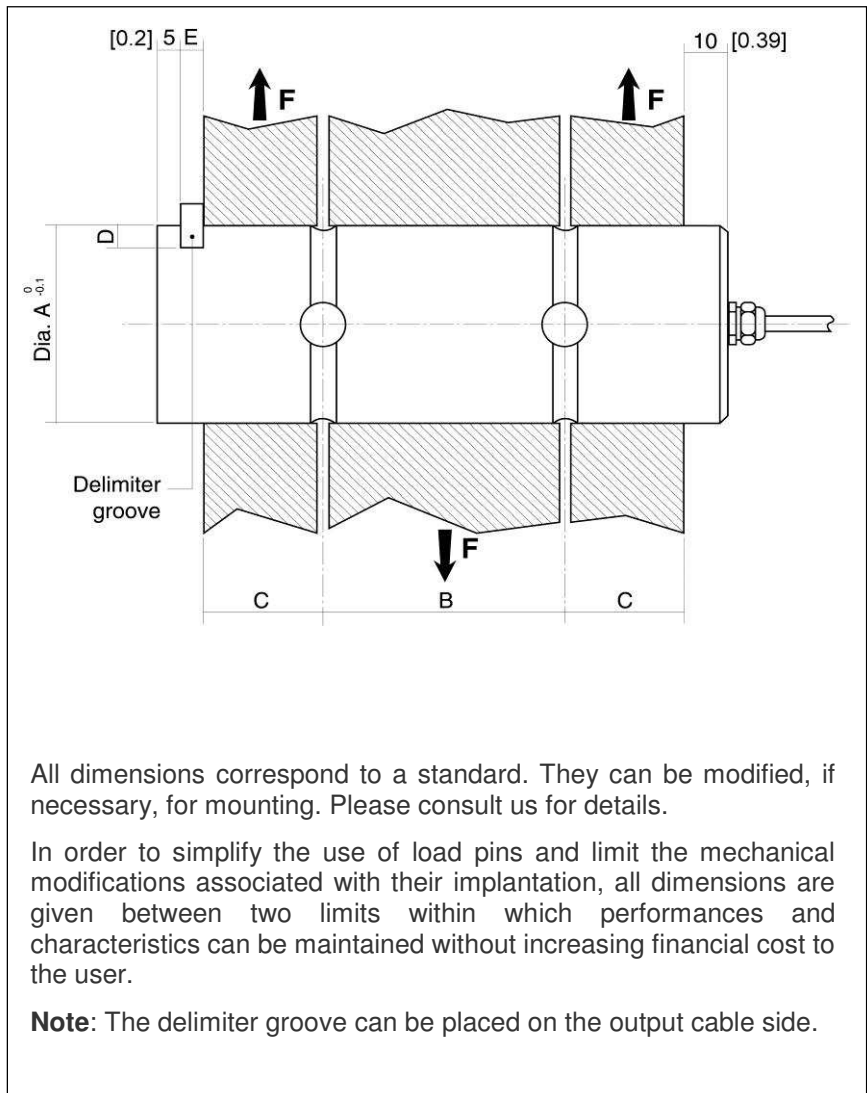
Electrical Characteristics

| 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)

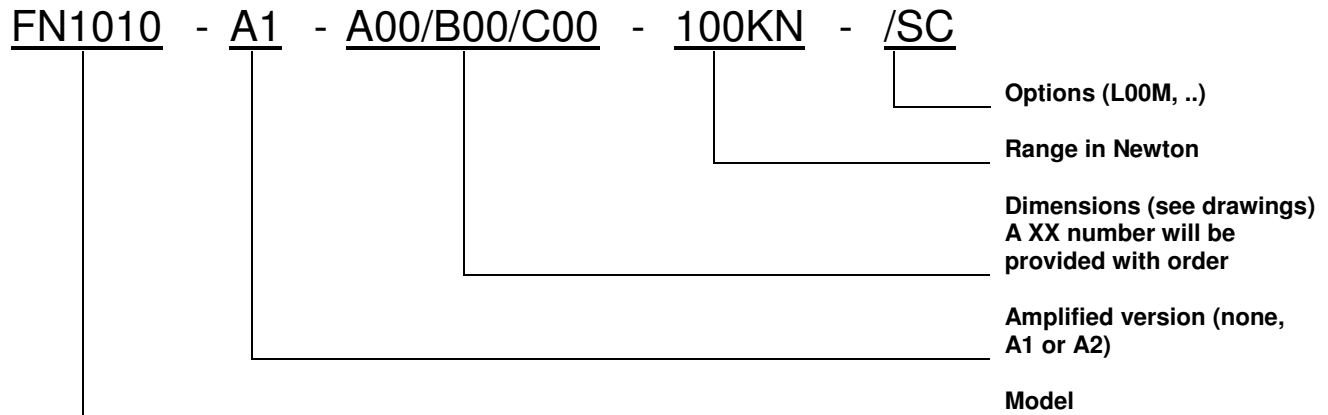


Dimensions in mm [inch]

| 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

TE.com/sensorsolutions

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