

## FN7080

### Multi-components Gear Stick Load Cell

#### SPECIFICATIONS

- ♦ Ranges 200 to 500 N (40 to 100 lbf)
- ♦ Multi-components, up to 3 Force channels
- ♦ Aluminum body
- ♦ High adaptability to rod by cylindrical interfaces.

Designed for automotive comfort testing, the **FN7080** is installed in place of the original gear knob on the gear stick and measures the force required to change gear. Force is measured either in two or three directions. An adapter coupled with an interface collar allows a simple and rapid fitting of the **FN7080** to the majority of vehicles.

The ease of mounting enables the **FN7080** to be used on a vehicle or on a test bench. An optional version provides direct high level output and makes the **FN7080** a favorite among European car builders.

TE CONNECTIVITY has many years of experience as a designer and manufacturer of sensing solutions to the automotive industry and can supply standard or custom 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.

#### FEATURES

- ♦ 2 and 3 axes measurements
- ♦ Fits most gear sticks
- ♦ Compact and ergonomic design
- ♦ Integrated amplifier optional
- ♦ Exists in many optional designs

#### APPLICATIONS

- ♦ On-board vehicle equipment
- ♦ Test bench equipment
- ♦ Robotics and Effectors
- ♦ Laboratory and Research

**STANDARD RANGES**

|                           |     |     |     |
|---------------------------|-----|-----|-----|
| <b>Ranges in N (FS)</b>   | 200 | 300 | 500 |
| <b>Ranges in lbf (FS)</b> | 40  | 60  | 100 |

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

| <b>Parameters</b>                   |                                   |
|-------------------------------------|-----------------------------------|
| 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] |
| Ranges (F.S.)                       | 200 to 500 N [40 to 100 lbf]      |
| <b>Over-Range</b>                   |                                   |
| Without Damage                      | 1.2 x F.S.                        |
| <b>Accuracy</b>                     |                                   |
| Combined non-linearity & hysteresis | ↑±0.3% F.S.                       |
| Cross effect                        | ↑3% F.S.                          |

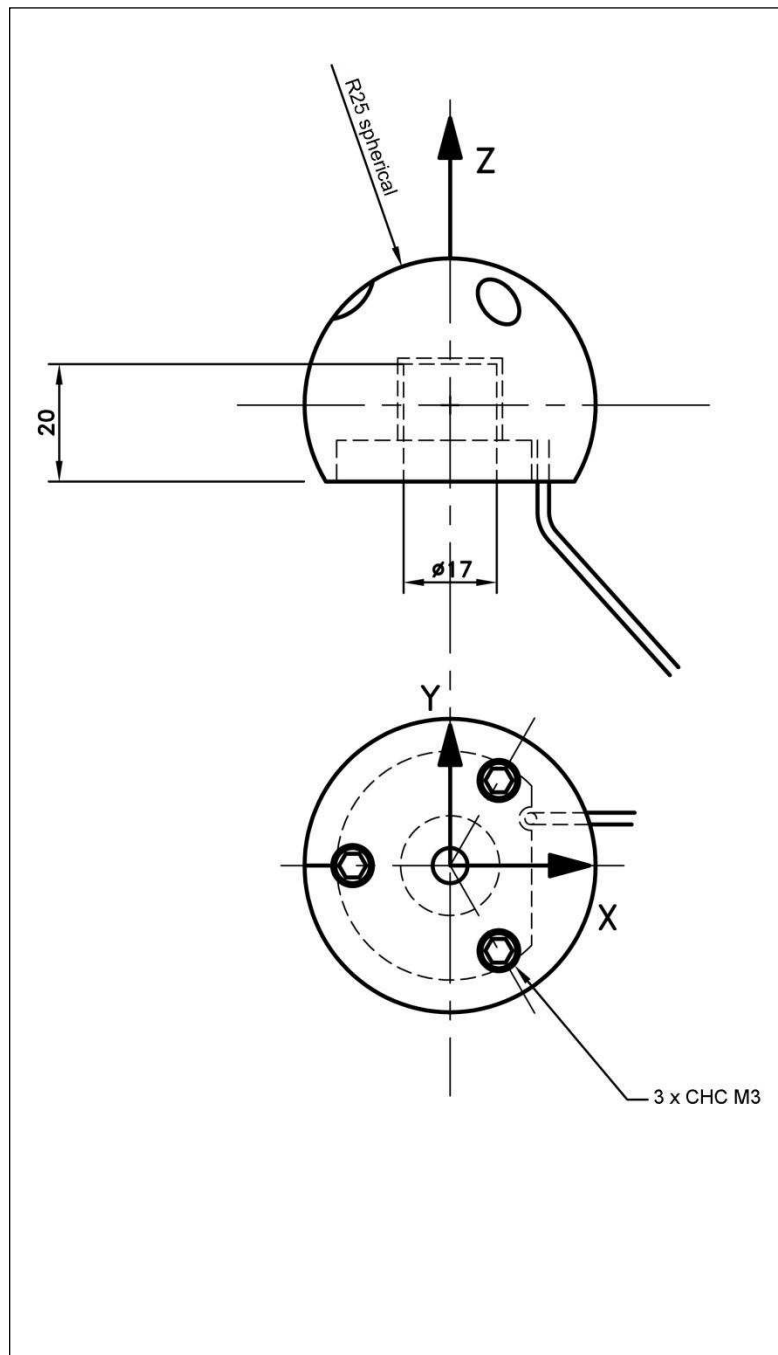
**Electrical Characteristics**

| <b>Model</b>                   | <b>FN7080</b> | <b>FN7080-A1</b>  | <b>FN7080-A2</b>       |
|--------------------------------|---------------|-------------------|------------------------|
| Supply Voltage                 | 5Vdc          | 10 to 30Vdc       | ±15Vdc (±12 to ±18Vdc) |
| Sensitivity "FSO" <sup>4</sup> | ±2mV/V        | ±2V ±0.2V         | ±5V ±0.2V              |
| Zero Offset <sup>4</sup>       | ±5% F.S.      | 2.5V ±0.2V        | 0V ±0.2V               |
| Input Impedance/Consumption    | 350 to 700Ω   | <50mA             | 50mA                   |
| Output Impedance               | 350 to 700Ω   | 1 kΩ <sup>5</sup> | 1 kΩ <sup>5</sup>      |
| Insulation under 50Vdc         | ≥100MΩ        | ≥100MΩ            | ≥100MΩ                 |

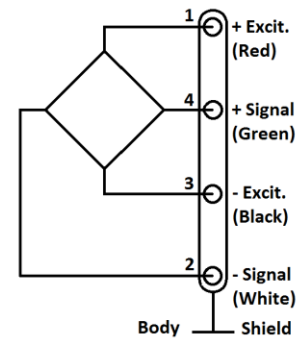
**Notes**

1. Electrical Termination: three Shielded Cable length 2m
2. Materials body in aluminum, casing in anodized aluminum
3. Protection Index: IP50
4. Other custom output signals available on request.
5. Output impedance standard, available <100Ω on request.
6. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

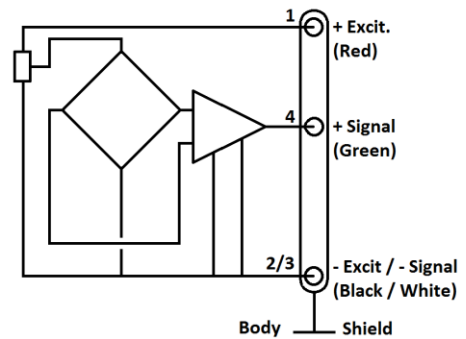
## DIMENSIONS & WIRING SCHEMATIC (IN METRIC)



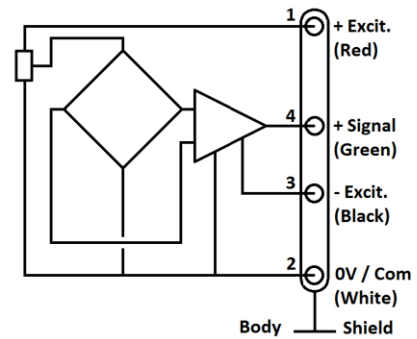
### Wiring Schematic (each cable)



#### Version -A1



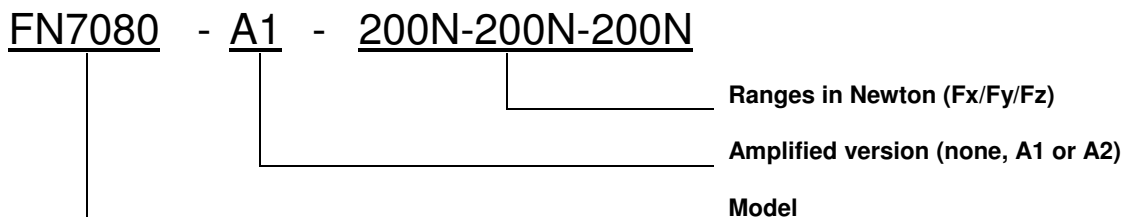
#### Version -A2



## OPTIONS

|                                                                              |
|------------------------------------------------------------------------------|
| <b>A1</b> : Amplified Tension output with unipolar power supply              |
| <b>A2</b> : Amplified Tension output with bipolar power supply               |
| <b>L00M</b> : special cable length, replace "00" with total length in meters |

## ORDERING INFORMATION



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