

# FN7080 Gear Stick Load Cell



- Multi-components, 3 channels Force sensor
- Ranges 50 to 500 N (10 to 100 lbf)
- Aluminum body
- High adaptability to rod
- Optional built-in amplifier version

## DESCRIPTION

The FN7080 is installed in place of the original gear knob on the gear stick of a vehicle and will measure 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 sensor's geometry and size mean that it is as ergonomic as the original gear knob. 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.

Measurement Specialties, Inc. have 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.

Consult Measurement Specialties, Inc. Engineering Department for a custom solution to your application.

## FEATURES

- 2 and 3 axes measurements
- Fits most gear sticks
- Compact and ergonomic design
- Optional high level output
- 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</b>	50	100	200	300	500
<b>Ranges in lbf</b>	10	20	40	60	100

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## PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1° 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.)	50 to 500 N [10 to 100 lbf]
<b>Over-Range</b>	
Without Damage	1.5 x F.S.
Without Destruction	3 x F.S.
<b>Accuracy</b>	
Combined non-linearity & hysteresis	≤±3% F.S.
Cross effect	≤3% F.S.

### Electrical Characteristics

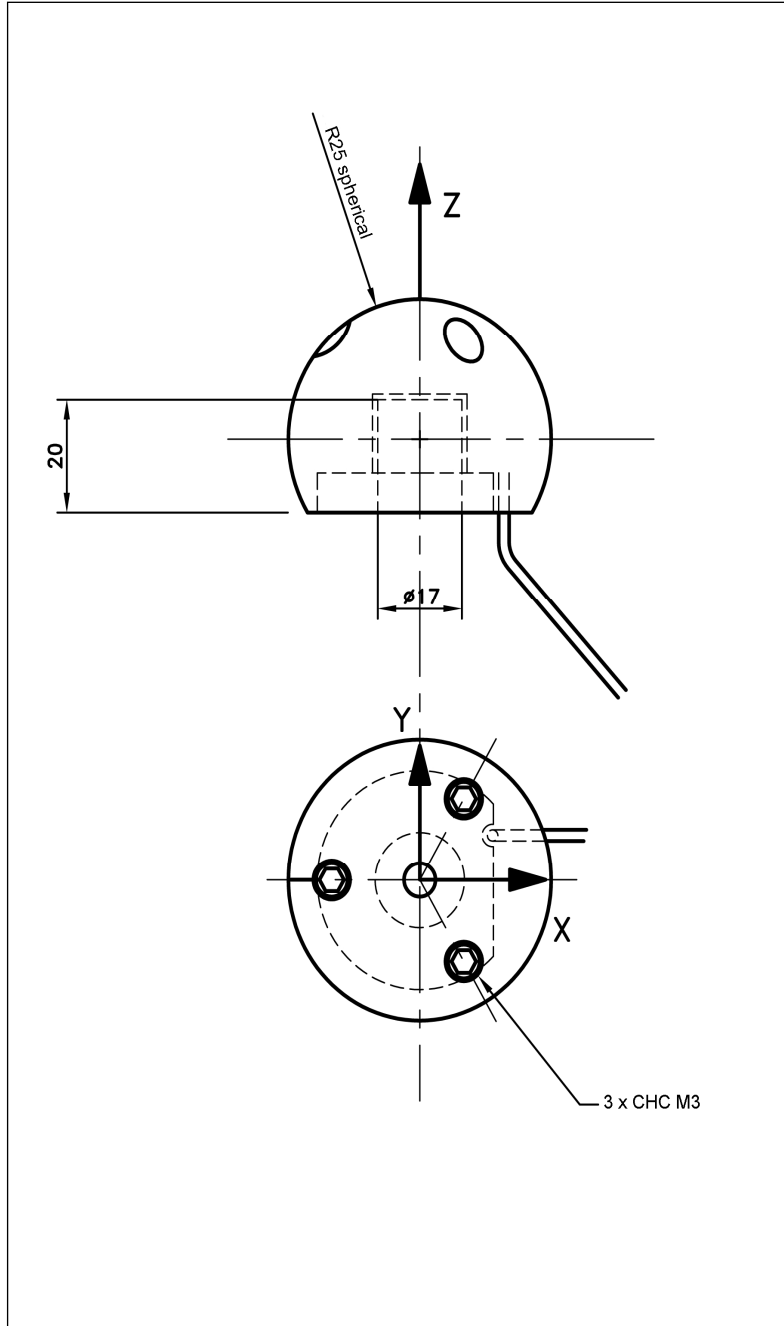
Model	FN7080	FN7080-A1	FN7080-A2
Supply Outage	5Vdc	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
F.S. Output	±2mV/V	±2V ±5% F.S.	±5V ±5% F.S.
Zero Offset	±5% F.S.	2.5V ±5% F.S.	0V ±5% F.S.
Input Impedance/Consumption	350 to 700Ω	<50mA	50mA
Output Impedance	350 to 700Ω	<10Ω	<10Ω
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

### Notes

1. Electrical Termination: three Shielded Cable length 2m
2. Materials body in aluminium, casing in anodized aluminum
3. Protection Index: IP50

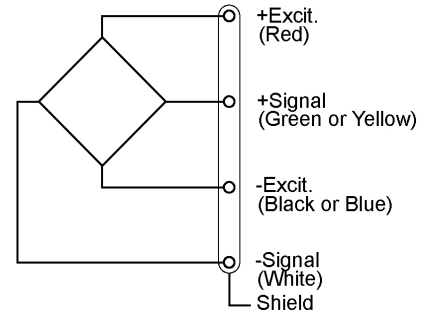
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## DIMENSIONS & WIRING SCHEMATIC (IN METRIC)

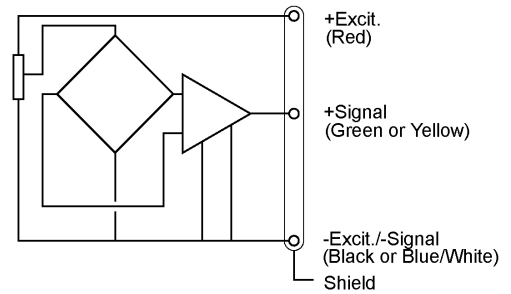


### Wiring Schematic (each cable)

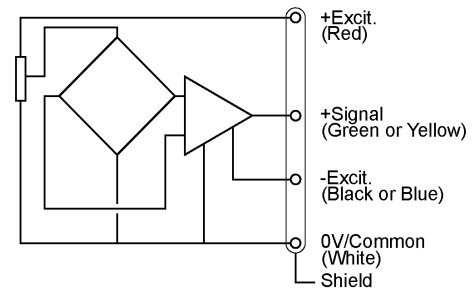
#### FN7080



#### FN7080-A1



#### FN7080-A2

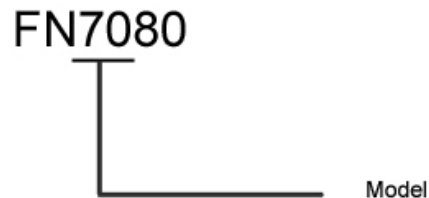


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## OPTIONS

<b>A1</b> : Amplified Tension output with unipolar power supply
<b>A2</b> : Amplified Tension output with bipolar power supply
<b>ET1</b> : CTR -20 to 100° C OTR = CTR
<b>ET2</b> : CTR -40 to 120° C OTR = CTR
<b>L00M</b> : special cable length, replace "00" with total length in meters

## ORDERING INFO



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