

# FN7180-3 Friction Load Cell



- Measures force in two directions  
 $F_x = F_z = 100 \text{ N}$
- Accuracy to <1% on each channel
- Integrated amplifier on request
- Rugged construction

## DESCRIPTION

The **FN7180-3** is designed specifically to measure friction between two elements. Used mainly for automotive application, the sensor controls the efficiency of windshield soaps, elastomeric surfaces, oils and fluids under several conditions.

The sensor has small cross effects. Its high resolution and global accuracy allowed finest customer tests. The **FN7180** series can also be adjusted in a specific temperature range, and then monitor evolution of the criteria at different temperature steps.

With many years of experience as a designer and a manufacturer of sensors, Measurement Specialties, Inc. often works with customers to design or customize sensors for specific uses and testing environments.

## FEATURES

- Measures  $F_x$ ,  $F_z$  simultaneously
- High accuracy CN L&H < 1% FS
- Custom designs and interfaces available
- Optional integrated amplifier
- Minimal Cross Effects

## APPLICATIONS

- Quality control test benches
- Windshield elements research
- Heavy slipping systems
- Automotive elastomeric components

## STANDARD RANGES

Model	FN7180-3	
	X axis	Z axis
Range in N	100	100
Range in lbf	20	20

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## PERFORMANCE SPECIFICATIONS

All values are typical at temperature 20±1°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)
Zero Shift in CTR	<2% F.S. / 50° C [100° F]
Sensitivity Shift in CTR	< 3% of reading / 50° C [100° F]
Ranges (F.S.)	See table
Over-Range	
Without Damage	1.5 x F.S.
Accuracy	
Combined non-linearity and hysteresis	±1% F.S.

### Electrical Characteristics

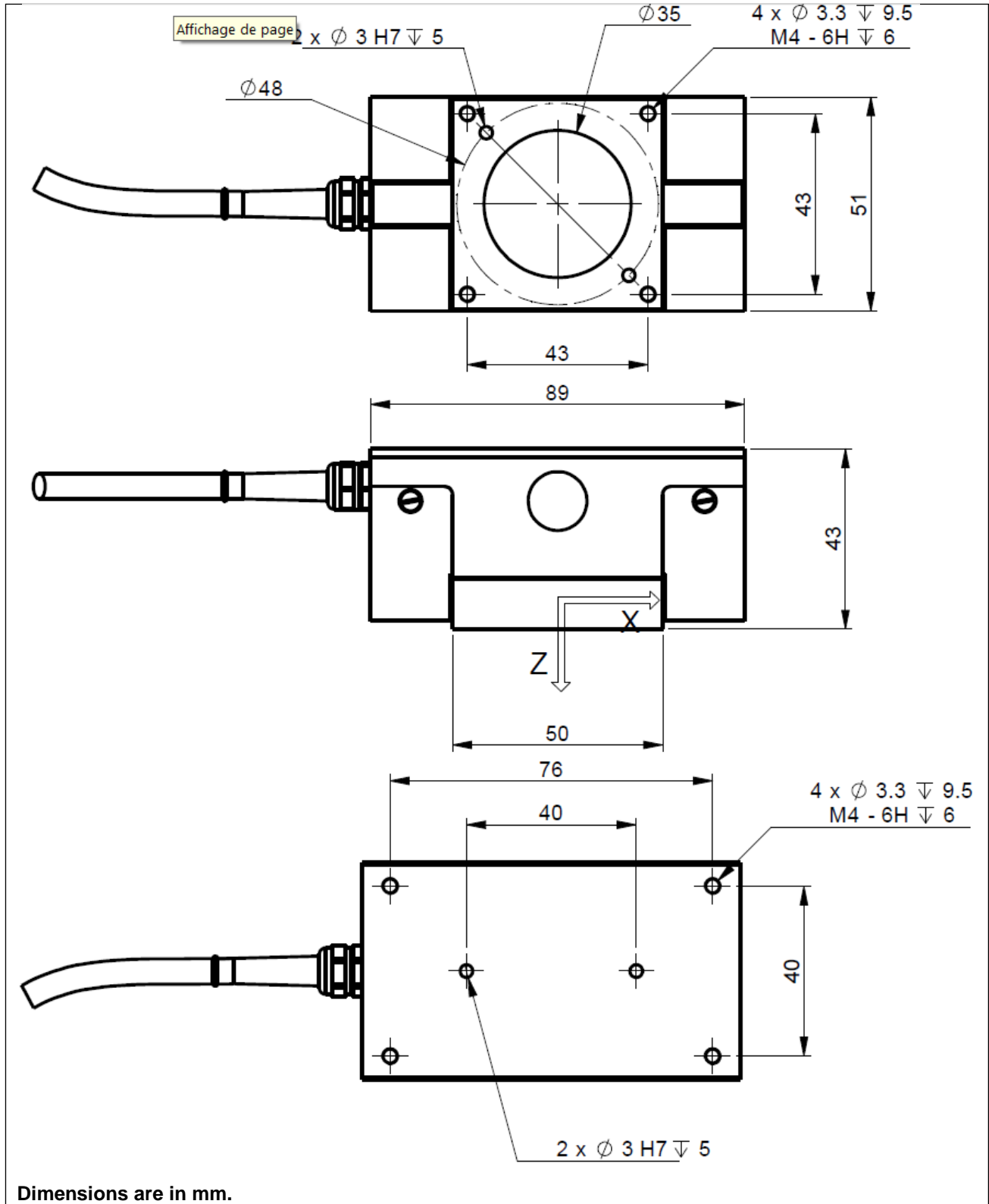
<b>Model</b>	<b>FN7180-3</b>
Supply Outage	10 Vdc
F.S. Output channels Fx & Fz	± 20 mV/V
Zero Offset	±5% F.S.
Insulation under 50Vdc	≥100MΩ

### Notes

1. Electrical Termination: cable gland with 2m shielded cable or plug
2. Materials: Body and cover in aluminium alloy
3. Protection index: IP50
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

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## DIMENSIONS & WIRING SCHEMATIC (IN METRIC)



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## OPTIONS

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**L00M:** Special Cable Length, replace "00" with total length in meter

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## ORDERING INFORMATION

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