Crash Test Dummy Load Cells

BioRID

TECHNICAL DATA SHEETS

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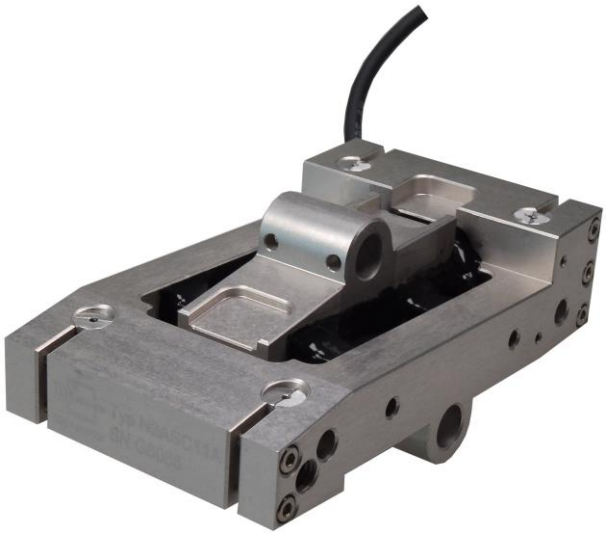
MG-SENSOR
A HUMANETICS COMPANY

Technical Data Sheet

N3ASC11A

Load Cell, 3-axial

Location: Thoracic Spine



Force direction
F_x, F_z, M_y

Application
BioRID

Equivalent types
Denton: 8420

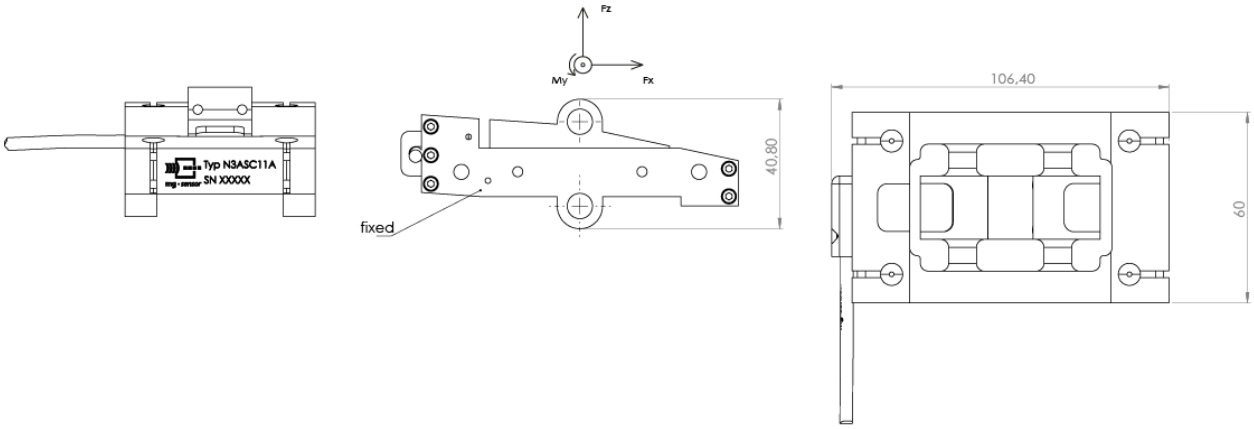
Measurement specification
Resistive
Strain gauges

Options
ID-Module integrated in sensor
Polarity according to SAE J211

Technical description

The applied force causes compression or strain of the base body. The deformation is measured using strain gauges. The wiring of multiple strain gauges for a full bridge circuit compensates for the temperature influence on the zero signal and the cross-influence from other force and torque application.

Dimensions



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Technical Data Sheet

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Technical specification

	Unit	Value		
		F_x	F_z	M_y
Measuring range	kN Nm	5.0	5.0	 200
Sensitivity[1)]	µV/V/kN µV/V/Nm	220	220	 6.8
Output signal[1), 2)]	mV/V	1.1	1.1	1.4
Bridge resistance	Ω	700	1400	700
Zero signal[1)]	mV/V	≤ 0.05		
Amplitude non-linearity[3)]	%	≤ 1.0		
Hysteresis[3)]	%	≤ 1.0		
Channel cross talk[3)]	%	≤ 5.0		
Supply voltage	V	2–15		
Ultimate load	%	150		
Insulation resistance	MΩ	> 100		
Temperature range	°C	-30…+70		
Weight (approximate)	g	260		

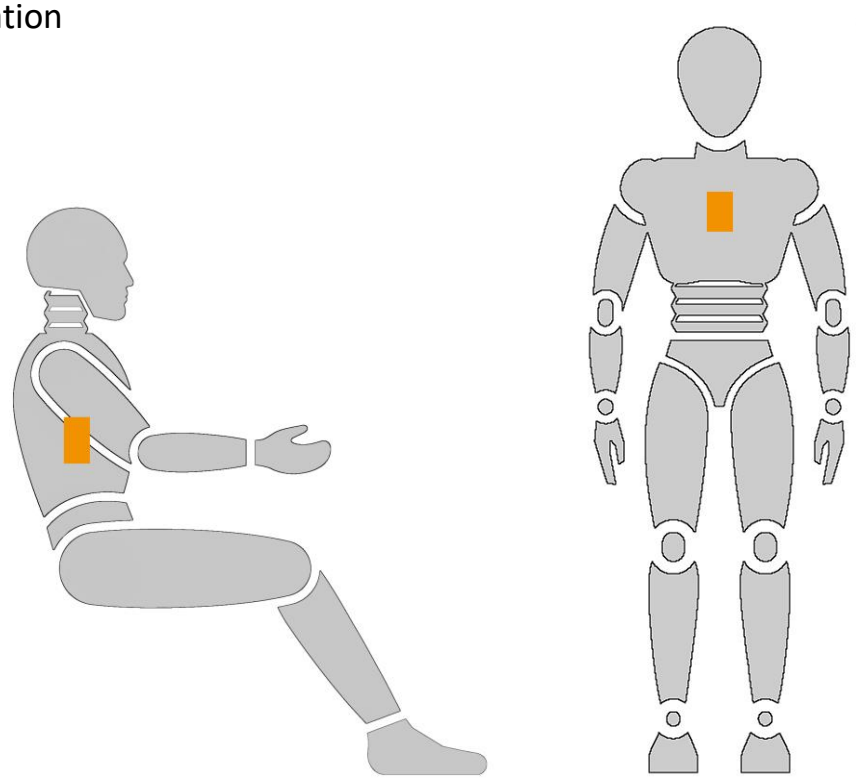
All values measured at 10 V sensor supply voltage and at 23 °C.

[1)] Typical value

[2)] At nominal load

[3)] Relative nominal range

Dummy Application



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Technical Data Sheet

N6ALA11A

Load Cell, 6-axial

Location: Neck, Upper

Force direction

F_x, F_y, F_z, M_x, M_y, M_z

Application

BioRID

Equivalent types

Denton: 4949

Measurement specification

Resistive

Strain gauges

Options

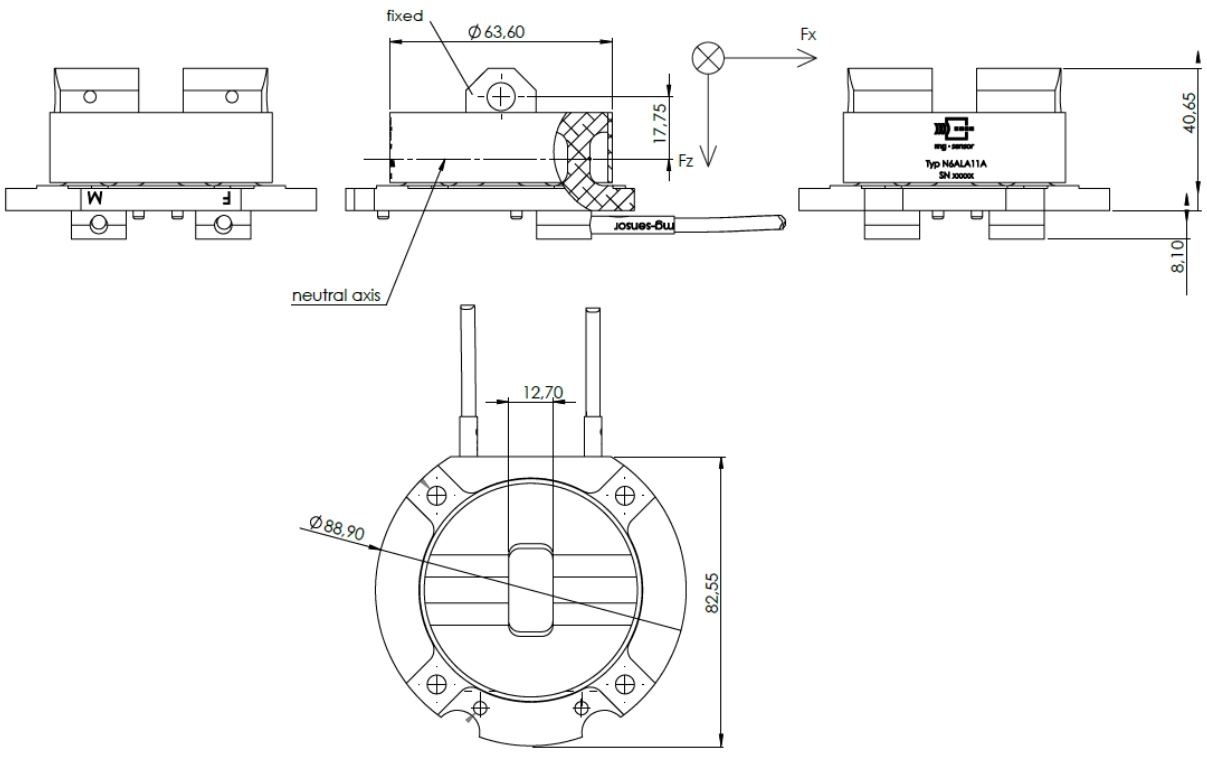
ID-Module integrated in sensor

Polarity according to SAE J211

Technical description

The applied force causes compression or strain of the base body. The deformation is measured using strain gauges. The wiring of multiple strain gauges for a full bridge circuit compensates for the temperature influence on the zero signal and the cross-influence from other force and torque application.

Dimensions



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Technical Data Sheet

N6ALA11A

Technical specification

	Unit	Value					
		F_x	F_y	F_z	M_x	M_y	M_z
Measuring range	kN Nm	1.4	0.9	4.5	 57	 113	 34
Sensitivity[1)]	µV/V/kN µV/V/Nm	643	667	222	 14	 13	 23.5
Output signal[1), 2)]	mV/V	0.9	0.6	1.0	0.8	1.5	0.8
Bridge resistance	Ω	350	350	700	350	350	700
Zero signal[1)]	mV/V	≤ 0.05					
Amplitude non-linearity[3)]	%	≤ 1.0					
Hysteresis[3)]	%	≤ 1.0					
Channel crosstalk[3)]	%	≤ 5.0					
Supply voltage	V	2–15					
Ultimate load	%	150					
Insulation resistance	MΩ	> 100					
Temperature range	°C	-30…+70					
Weight (approximate)	g	–					

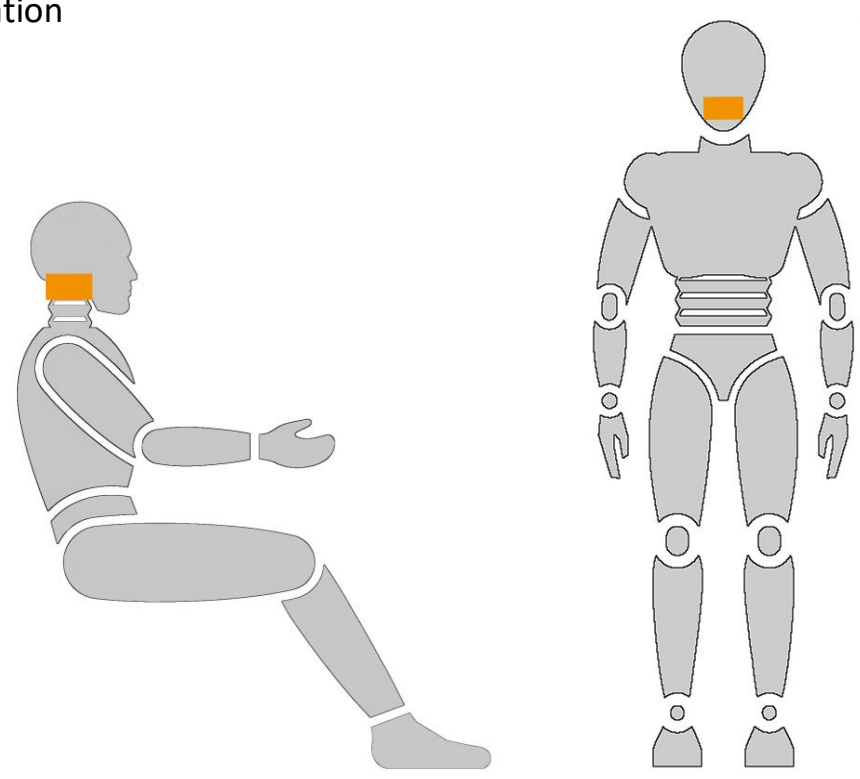
All values measured at 10 V sensor supply voltage and at 23 °C.

[1)] Typical value

[2)] At nominal load

[3)] Relative nominal range

Dummy application



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