

Lower Neck Load Cell

Type M561A6A...

Six-axial, Adjustable

Type M561A6A... is used in the crash test dummies HIII-50 %, FAA-HIII-50 %, HIII-95 % and BioSID to measure forces and moments in the lower neck.

- Six-axial (F_x , F_y , F_z , M_x , M_y , M_z)
- ID module available
- Low linearity errors and hysteresis
- Adjustable in 1,8° steps
- Kistler system cabling
- Polarities according to SAE J211/1

Description

The load cell is made of elements on which forces are transmitted. The mechanical deformation element, applied with strain gage, serves for mechanical electrical deformation.

Line-up of equivalent adjustable lower neck load cells:

	Type
Kistler	M561A6A...
FTSS	IF-219
Denton	2992



In order to avoid linearity errors, the deformation paths are constructively held small (high stiffness). Thus a proportional behavior is realized. The force and moment proportional resistance variations are measured by a Wheatstone-type bridge circuit. The load cell is available with ID modules, either a UPS module (Universal Parameter Memory) or a Dallas module can be chosen for this functionality. These modules are integrated in an external housing in the wiring or in the connector. Customized cable lengths and connectors with specific pin assignments are optionally available.

Technical Data

Axial Data		F_x	F_y	F_z	M_x	M_y	M_z
Measuring range	kN	6,67	6,67	8,9			
	N·m				340	340	225
Bridge output voltage	mV/V	2,09	2,09	0,56	1,36	1,36	1,53
Sensitivity	$\mu\text{V}/\text{V}/\text{kN}$	314	314	63			
	$\mu\text{V}/\text{V}/\text{N}\cdot\text{m}$				4,0	4,0	6,8
Bridge resistance	Ω	350	350	350	700	700	350
Ultimate load	%	150	150	150	150	150	150

General Data

Supply voltage		
without ID modules	VDC	5 ... 15
with ID modules	VDC	9 ... 12
Power consumption ¹⁾	mA/channel	30
Insulation resistance ²⁾	M Ω	>90
Operating temperature range ³⁾	°C	-20 ... 80
Storage temperature range ³⁾	°C	-30 ... 90
Amplitude non-linearity	%	<1
Hysteresis	%	<1
Cross sensitivity	%	<5
Weight, without cable and plug	grams	1 250

All specifications are typical at 25 °C and rated at 10 V sensor supply voltage, unless otherwise specified.

¹⁾ 40 mA/channel at module operation

²⁾ All wires to screen (GND), measured with 10 VDC

³⁾ Without dew

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Application

Type M561A6A... is used in the crash test dummies HIII-50 %, FAA-HIII-50 %, HIII-95 % and BioSID to measure forces and moments in the lower neck. The inclination of the neck to the upper part of the body is adjustable in 1,8° steps.

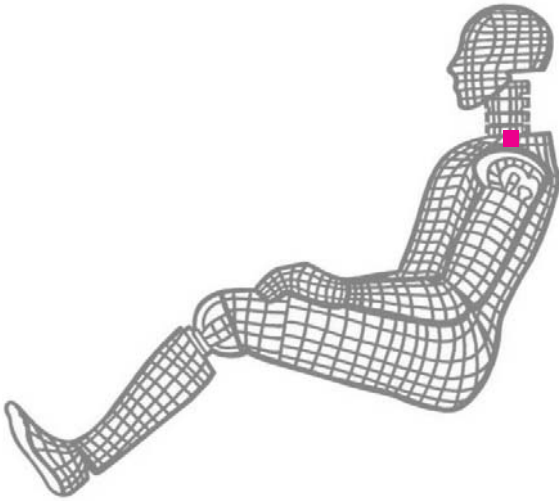


Fig. 1: Dummy application, location lower neck

Included Accessories

- None

Optional Accessories

- Add. label with serial number, plug side
- ID module
- Add. label with ID number at sensor
- Add. shunt

Type No.

M015KABID
on request
M015KABID
on request

Ordering Key

Type M561A6A

Design

Standard	GM
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Cable Length before Electronics

0 cm	00
<10 cm (digit x 1 cm)	C#
10 cm ... 9,9 m (digit x 10 cm)	##
10 m ... 90 m (digit x 10 m)	D#

Additional Electronics

Sensor detail, as per type declaration force-moment TP-650-2	#
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Cable Length after Electronics

0 cm	00
<10 cm (digit x 1 cm)	C#
10 cm ... 9,9 m (digit x 10 cm)	##
10 m ... 90 m (digit x 10 m)	D#

Connector

Conn. type, as per TP-600	#-
Conn. assignment, as per TP-600	-#

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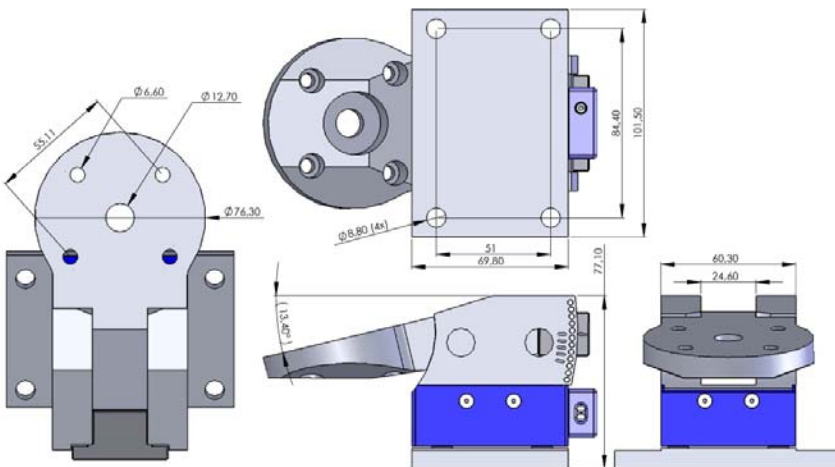


Fig. 2: Dimensions