

Iliac Wing Load Cell

Type M57611A...

Uniaxial

Type M57611A... is designed to measure sideward forces in the pelvis iliac wing of the crash test dummy SidIIIs.

- Measuring range 13,5 kN
- ID module available
- Low linearity and hysteresis
- Kistler system cabling
- Polarities according to SAE J211/1



Description

The load cell is made of elements which are affected by forces and moments. The strain gage-applied deformation body serves the transformation of mechanical impacts to electric signals.

The load cell's operation mode is comparable to the principle of a spiral spring. The force or the moment to be measured generates mechanical strains and compressions inside the gaging member.

Line-up of equivalent load cells:

	Type
Kistler	M57611A...
FTSS	IF-507
Denton	3228

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

Measuring range	kN	13,5
Bridge output voltage (typ.)	mV/V	2
Sensitivity (typ.)	$\mu\text{V}/\text{V}/\text{kN}$	150
Bridge resistance	Ω	350
Ultimate load, static	%	150
Supply voltage		
without ID module	VDC	5 ... 15
with ID module	VDC	9 ... 12
Insulation resistance ¹⁾	M Ω	>90
Operating temperature range	$^{\circ}\text{C}$	-20 ... 80
Storage temperature range	$^{\circ}\text{C}$	-30 ... 90
Amplitude non-linearity (typ.)	%	<1
Hysteresis (typ.)	%	<1
Channel cross talk	%	<5
Bridge zero output (typ./max.)	mV/V	0,01/0,03
Weight (without cable)	grams	295

All specifications are typical at 25 $^{\circ}\text{C}$ and rated at 10 V sensor supply voltage, unless otherwise specified.

¹⁾ All wires to screen (GND), measured with 10 VDC

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Application

Type M57611A... is designed to measure sideward forces in the pelvis iliac wing of the crash test dummy Sidlls.

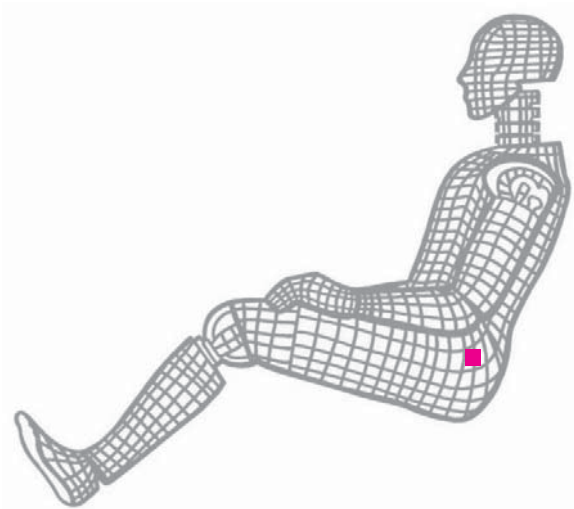


Fig. 1: Dummy application, location iliac wing

Ordering Key

Type M57611A

Design

Standard	TM
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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	-#

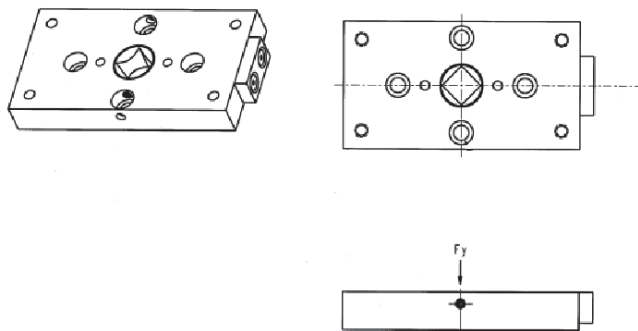


Fig. 2: Sketch

Included Accessories

- Calibration adapter

Type No.

on request

Optional Accessories

- Add. label, customized
- ID module

Type No.

M015KABID
on request

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