KISTLER
measure. analyze. innovate.

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 SID-IIs (S2).

- Uniaxial (F_y)
- UPS 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.

In order to avoid linearity errors, the deformation paths are constructively held small (high rigidity). 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 UPS module which is integrated in an external housing in the wiring or in the connector. Customized cable lengths and connectors with specific pin assignments are optionally available.

Application

The load cell is directly assembled at the designated location in the dummy and provides important information about the loads on the human body occurring during a crash test.

Technical data

Measuring range	kN	13,5
Bridge output voltage (typ.)	mV/V	2
Sensitivity (typ.)	µV/V/kN	150
Bridge resistance	Ω	700
Ultimate load, static	%	150
Supply voltage[1)]	VDC	2,5 ... 15
Insulation resistance[2)]	GΩ	>10
Operating temperature range	°C	–20 ... 80
Storage temperature range	°C	–30 ... 90
Amplitude non-linearity (typ.)	%	<1
Hysteresis (typ.)	%	<1
Bridge zero output (typ. / max.)	mV/V	0,01 / 0,03
Weight (without cable)	grams	251

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

1) With UPS module 9 ... 12 VDC
2) All wires to load cell housing, measured with 500 VDC

M57611A_000-794e-09.19

KISTLER
measure. analyze. innovate.

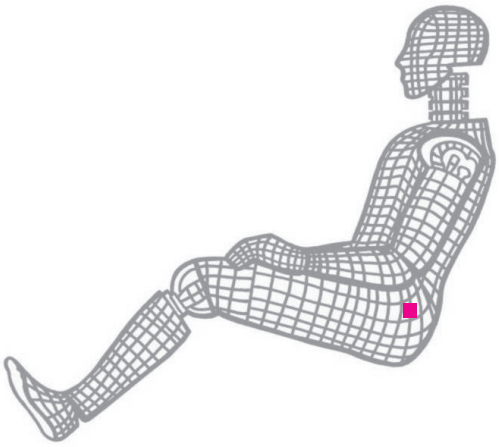


Fig. 1: Dummy application, location iliac wing

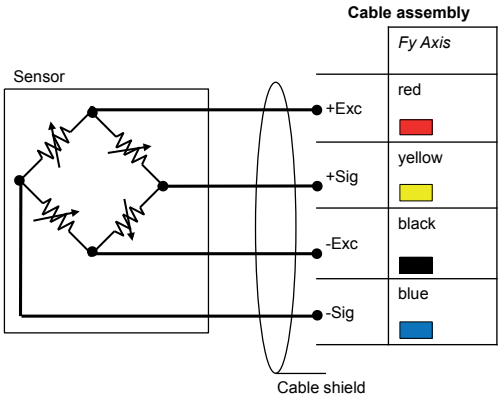


Fig. 2: Cable assembly

Included accessories	Type No.
• Calibration adapter	on request

Optional accessories	Type No.
• Add. label, customized	M015KABID
• Add. shunt	on request
• UPS module	on request

Ordering key

Type M57611A ☐☐☐☐☐

Design

Standard	**TM**

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

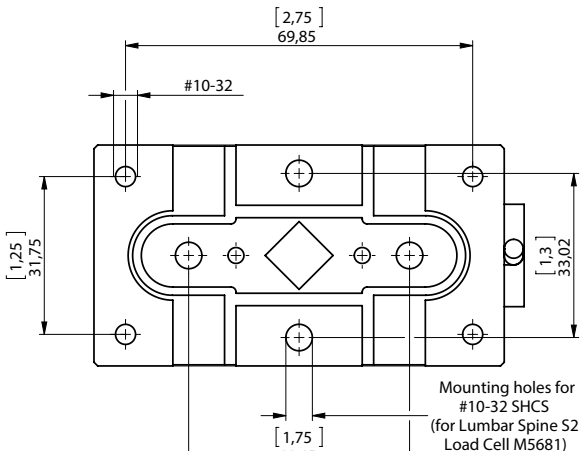
Sensor detail, as per type declaration force-moment TP-650-2	**#**

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	**-#**



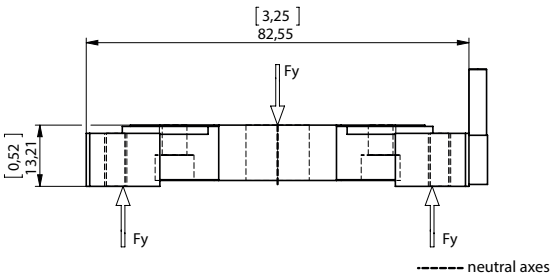


Fig. 3: Dimensions in mm

M57611A_000-794e-09.19