KISTLER
measure. analyze. innovate.

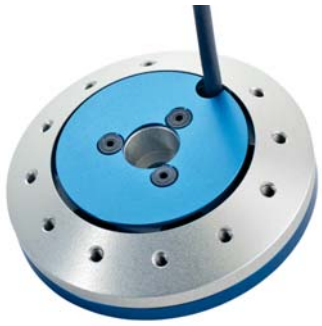
Acetabulum Load Cell

Type M52811A...

Uniaxial

Type M52811A... is designed to measure the force in the acetabulum of the crash test dummy SidIIs.

- Measuring range 8,9 kN
- ID module integrable
- Low linearity errors and hysteresis errors
- Kistler system cabling
- Polarities according to SAE J211/1



Description

The load cell is based on the principle of a tensile/compression bar. In order to reduce cross impacts, the tensile bar is devided into four bars with equivalent cross section.

The induced force creates a mechanical stretching respectively buckling in the body. The resistance changes, which are proportional to the force, are measured by means of strain gage, designed as full bridge circuit.

Line-up of equivalent load cells:

	Type
Kistler	M52811A...
FTSS	IF-520
Denton	3249

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	8,9
Current consumption, at 10 V	mA/ch.	20
Sensitivity	µV/V/kN	108
Bridge resistance	Ω	540
Zero measurand output (ZMO) typ./max.	mV/V	0,01/0,03
Supply voltage		
without ID module	VDC	5 ... 15
with ID module	VDC	9 ... 12
Insulation resistance[1)]	MΩ	>90
Operating temperature range	°C	–20 ... 80
Storage temperature range	°C	–30 ... 90
Amplitude non-linearity	%	<1
Hysteresis	%	<1
Weight (without cable)	grams	140

All specifications are typical at 25 °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

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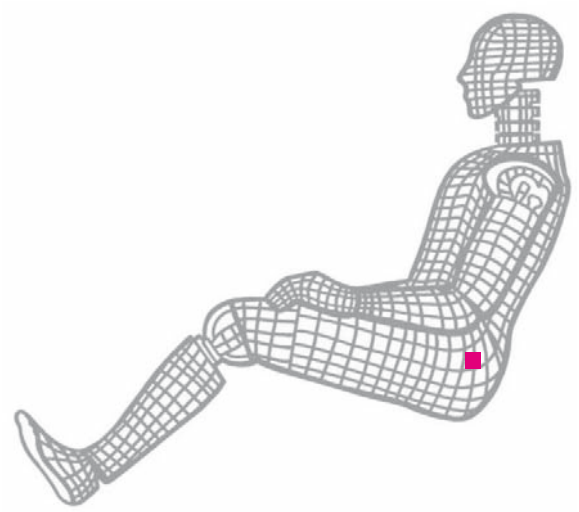

Fig. 1: Dummy application, location acetabulum

Included Accessories

- None

Optional Accessories	Type No.
• Add. label with serial number, plug side	M015KABID
• ID module	on request
• Add. label with ID number at sensor	M015KABID

Ordering Key

Type M52811A □ □ □ □ □

Design

Standard	**EM**

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	**-#**

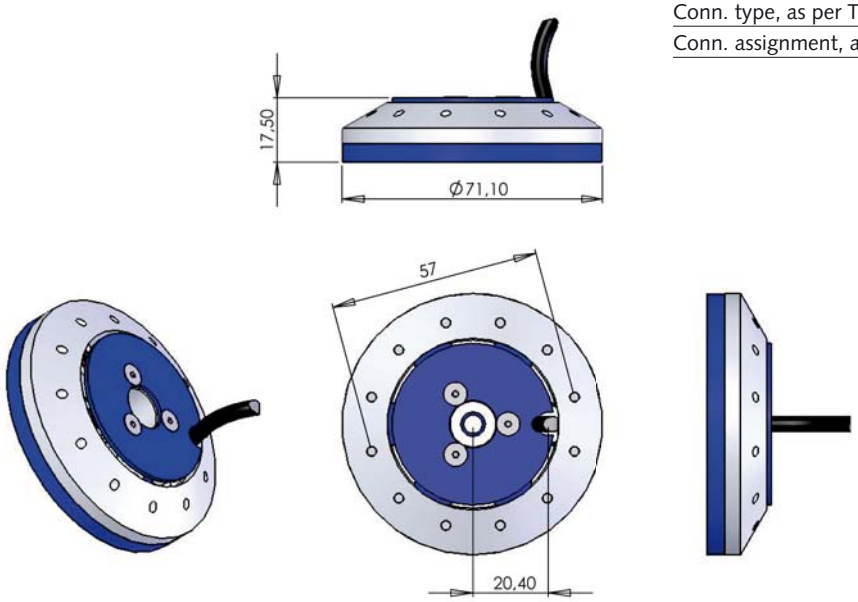

Fig. 2: Dimensions

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