

Abdomen Load Cell

Type M530A1B...

Uniaxial

Type M530A1B... is designed to measure forces in the abdomen of the crash test dummies E1 and E2.

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



Description

The sensor is built in a threesome in the left and/or right abdomen. Because of weight and balance reasons, the particular not instrumented side is assembled with the adequate replacement of the dummy kit.

Line-up of equivalent load cells:

	Type
Kistler	M530A1B...
FTSS	IF-600
Denton	2631

This load cell is based on the principle of a double-sided fixed beam arrangement. The induced force creates a mechanical stretching respectively buckling in the carrier. By means of strain gage, arranged as full bridge circuit, the resistance changes, which are proportional to the affected force, are measured and evaluated.

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	5
Sensitivity (typ.)	mV/V/kN	0,6
Bridge resistance ¹⁾	Ω	700
Ultimate load, static	%	150
Supply voltage		
without ID module	VDC	5 ... 15
with ID module	VDC	9 ... 12
Insulation resistance (min) ²⁾	MΩ	>90
Operating temperature range	°C	-20 ... 80
Storage temperature range	°C	-30 ... 90
Amplitude non-linearity (typ.)	%	±1
Hysteresis (typ.)	%	±1
ZMO (typ./max.)	mV	±1/±3
ID modules	unit	1
Weight	grams	204
Material		steel
Dimensions	mm	124x20x12,8

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

¹⁾ According to customer wish

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

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Application

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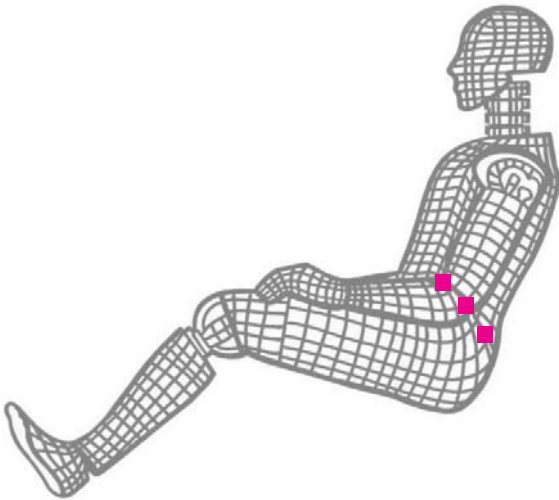


Fig. 1: Dummy application, location "Abdomen"

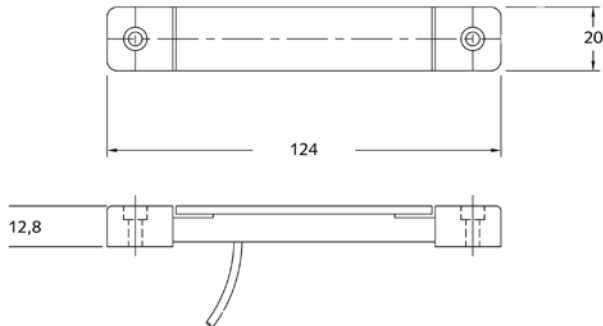


Fig. 2: Dimensions in mm

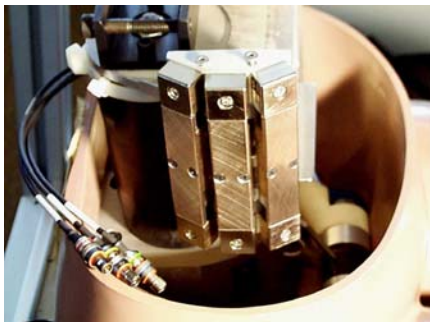


Fig. 3: Application sample

Included Accessories

- None

Optional Accessories

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

Art. No.

M015KABID
on request
M015KABID
on request

Ordering Key

Type M530A1B

Design

Standard	LM
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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. type assignment, as per TP-600	-#

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This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

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