

# KISTLER

measure. analyze. innovate.



## Crash & Safety

Measurement system solutions for crash testing.



### **Absolute attention for tomorrow's world**

Kistler develops measurement solutions consisting of sensors, electronics, systems and services. In the physical border area between emissions reduction, quality control, mobility and vehicle safety, we deliver excellence for a future-oriented world and create ideal conditions for Industry 4.0. We thereby facilitate innovation and growth for – and with – our customers.



Kistler stands for progress in motor monitoring, vehicle safety and vehicle dynamics and provides valuable data for the development of the efficient vehicles of tomorrow.



Kistler measurement technology ensures top performance in sport diagnostics, traffic data acquisition, cutting force analysis and other applications where absolute measurement accuracy is required.



Kistler systems support all steps of networked, digitalized production and ensure maximum process efficiency and profitability in the smart factories of the next generation.

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Automobile manufacturers carry out extensive crash tests to improve road traffic safety.

## Kistler crash test measurement technology – a firm foundation for developing vehicle safety systems

With more automobiles on the roads and increasingly complex traffic conditions, the requirements for vehicle safety are becoming stricter as time goes on. Automobile manufacturers carry out extensive crash tests to bring them nearer to Vision Zero and improve road traffic safety.

These tests supply them with information about the energy absorption behavior of a vehicle and its components, as well as showing how the occupants would be affected by an impact. This makes it all the more important for manufacturers to have reliable and flexible measurement systems with suitable data acquisition and recording equipment to deliver precise results.

### **The overriding goal: maximum vehicle safety**

Kistler, one of the world's leading system providers, supplies solutions based on measurement technology for vehicle safety tests. Kistler's range includes high-precision sensors, reliable data acquisition systems, customized services and comprehensive application software for complex measurements in the automotive sector. Drawing on our expertise in measurement technology, we offer complete measurement systems for vehicle and component crash tests as well as specific solutions for customers in this segment.

### **One cable for everything:**

#### **DTI technology from Kistler paves the way to the future**

Vehicles are constantly becoming more complex and the level of digitization in automobiles is on the increase – so onboard and in-dummy measuring channels have to meet ever higher requirements. For automobile manufacturers and suppliers to the automotive industry, Kistler's DTI technology opens up a new dimension of process efficiency. What makes this possible: an intelligent bus concept for digital data transmission whereby each bus line supports up to 12 measurement channels per connection port. All the signals from a wide range of different sources are converted into a digital output signal by digitization modules, or DiMods for short. Bundled sensor data is then fed to a central Kistler DTI data recorder in the dummy, from where it is transmitted via Ethernet to the data interface unit. This device connects all the in-vehicle DTI systems to the central network. The special feature: just one single cable to synchronize data, trigger tests and supply power runs from the dummy to the onboard data acquisition unit.



For each type of dummy, Kistler offers the right sensor technology to perform highly dynamic measurements, backed up by reliable integrated data acquisition solutions. Kistler's Crash-Designer software makes preparation and performance of crash tests fast and convenient.

**Your benefits**

- No volume needs to be added to the dummy
- Sensors can be fully integrated if desired (in-dummy)
- Over 25 000 channels with in-dummy data acquisition on the market
- Autonomous data acquisition with just one system connector cable

**Sturdy helpers: crash measurement systems from Kistler**

As well as crash test dummies, instrumented crash barriers provide automobile manufacturers with important insights into the forces that act on a vehicle during an impact. Kistler offers cutting-edge vehicle sensor technology and high-precision force measurement systems for frontal, side and rear impact tests, developed to comply with legal requirements and applicable regulations. Our systems are complemented by individual highly-integrated data acquisition units and comprehensive software.

**Your benefits**

- Pre-crash, crash and post-crash-systems
- Reliable high-resolution data acquisition
- Sensor technology for highly dynamic measurements
- Autonomous, integrated data acquisition
- Instrumented crash barriers for frontal impact tests

All our solutions are compliant with legal requirements and applicable regulations, and our products always focus on one goal: to make a major contribution towards improving vehicle safety. Our product offering is flanked by comprehensive service, available all over the world.

**How to achieve the goal: precise measurement data from Kistler**

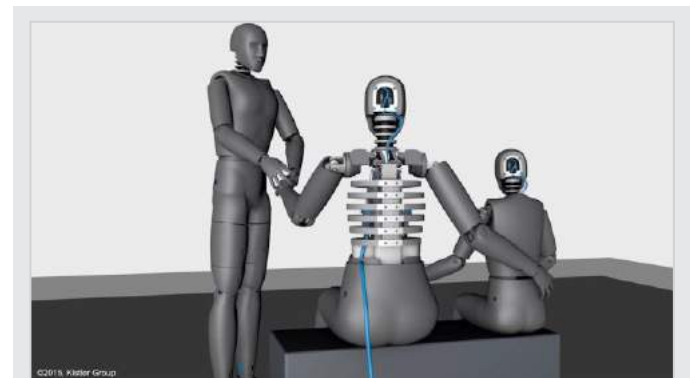
Kistler's measurement technology plays a key part in preparing, performing and post-processing crash tests. Our measurement systems feature simple installation and intuitive operation. Automated setups save time and money, with fast results guaranteed. With precise measurement data as the basis, Kistler's innovative systems supply valuable knowledge for developers of vehicle safety systems.

**Your benefits**

- Complete system solutions
- End-to-end documentation
- 100 % quality
- Flexible modification

**Silent helpers: crash test dummy systems from Kistler**

Customers in the automotive sector use crash test dummies to simulate the acceleration, forces and moments that act on human beings during a traffic accident. These dummies – or ATDs (Anthropomorphic Test Devices) – are equipped with numerous sensors to measure the forces that occur before, during and after the test.



**Experience now online: Kistler's crash test dummy systems**

Crash test dummies are used to measure acceleration, moments and forces that act on human beings subjected to accidents and explosions. Kistler offers high-precision sensor technology and cutting-edge integrated data acquisition solutions for all types of dummies:

<http://www.kistler.com/dummy-systems>



# In-dummy measurement instrumentation – load cells

## Face load cell



Type M55991A...

Technical data	Type	M55991A...
Measuring range	kN	4,45
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55991A_003-287

## Skull spring load cell



Type M55191A...

Technical data	Type	M55191A...
Measuring range	kN	4,45
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55191A_003-211

## Six-axis upper neck load cell



Type M555A6...

Technical data	Type	M555A6...
Measuring range		
$F_x / F_y / F_z$	kN	9,00/9,00/13,00
$M_x / M_y / M_z$	N·m	280,00/280,00/280,00
Dummy types		HIII-5 % (HF), HIII-10 % (YA), HIII-50 % (H3), HIII-95 % (HM), HIII-6 year old (Y7), SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M555A6A_000-790

## Six-axis upper neck load cell



Type M55516A...

Technical data	Type	M55516A...
Measuring range		
$F_x / F_y / F_z$	kN	1,30/0,90/4,40
$M_x / M_y / M_z$	N·m	56,50/113,00/33,90
Dummy types		BioRID (BR)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55516A_000-778

## Six-axis upper neck load cell



Type M55526A...

Technical data	Type	M55526A...
Measuring range		
$F_x / F_y / F_z$	kN	10,00/10,00/15,00
$M_x / M_y / M_z$	N·m	280,00/280,00/280,00
Dummy types		EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55526A_000-950

# In-dummy measurement instrumentation – load cells

## Six-axial upper neck load cell



Type M55596A...

Technical data	Type	M55596A...
Measuring range		
$F_x / F_y / F_z$	kN	8,90/8,90/13,30
$M_x / M_y / M_z$	N-m	284,00/284,00/284,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55596A_003-226

## Six-axial upper neck load cell



Type M585A6A...

Technical data	Type	M585A6A...
Measuring range		
$F_x / F_y / F_z$	kN	0,90/0,90/2,00
$M_x / M_y / M_z$	N-m	56,00/56,00/34,00
Dummy types		P1 1/2 year old (P2), Crabi
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M585A6A_000-854

## Six-axial lower neck load cell



Type M557A6A...

Technical data	Type	M557A6A...
Measuring range		
$F_x / F_y / F_z$	kN	14,20/14,20/14,20
$M_x / M_y / M_z$	N-m	450,00/450,00/450,00
Dummy types		HIII-50 % (H3), HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M557A6A_000-779

## Six-axial lower neck load cell



Type M56016...

Technical data	Type	M56016...
Measuring range		
$F_x / F_y / F_z$	kN	4,45/4,45/7,10
$M_x / M_y / M_z$	N-m	225,00/225,00/140,00
Dummy types		HIII-6 year old (Y7)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56016_003-158

## Six-axial adjustable lower neck load cell



Type M56116A...

Technical data	Type	M56116A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/13,30
$M_x / M_y / M_z$	N-m	339,00/339,00/180,00
Dummy types		HIII-5 % (HF)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56116A_003-159

# In-dummy measurement instrumentation – load cells

## Six-axial adjustable lower neck load cell



Type M561A6A...

Technical data	Type	M561A6A...
Measuring range		
$F_x / F_y / F_z$	kN	6,67/6,67/8,90
$M_x / M_y / M_z$	N·m	340,00/340,00/225,00
Dummy types		HIII-50 % (H3), HIII-95 % (HM), FAA-HIII-50 %
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M561A6A_000-938

## Six-axial lower neck load cell



Type M55696A...

Technical data	Type	M55696A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/13,30
$M_x / M_y / M_z$	N·m	452,00/452,00/226,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55696A_003-223

## Six-axial lower neck load cell



Type M55616A...

Technical data	Type	M55616A...
Measuring range		
$F_x / F_y / F_z$	kN	11,00/11,00/11,00
$M_x / M_y / M_z$	N·m	340,00/340,00/225,00
Dummy types		SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55616A_000-982

## Six-axial universal neck load cell



Type M55556A...

Technical data	Type	M55556A...
Measuring range		
$F_x / F_y / F_z$	kN	10,00/10,00/12,00
$M_x / M_y / M_z$	N·m	300,00/300,00/200,00
Dummy types		WorldSID-5 % (W5), WorldSID-50 % (W5)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55556A_000-963

## Six-axial universal neck load cell



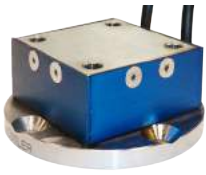
Type M55636A...

Technical data	Type	M55636A...
Measuring range		
$F_x / F_y / F_z$	kN	5,00/5,00/6,00
$M_x / M_y / M_z$	N·m	150,00/150,00/80,00
Dummy types		Q0 ... Q6
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55636A_000-796



# In-dummy measurement instrumentation – load cells

## Six-axis universal neck load cell



Type M55646A...

Technical data	Type	M55646A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/17,80
$M_x / M_y / M_z$	N-m	450,00/450,00/240,00
Dummy types		Q10 (QA)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55646A_003-118

## Four-axial clavicle load cell



Type M53894A...

Technical data	Type	M53894A...
Measuring range		
$F_x (M) / F_z (M) / F_x (L) / F_z (L)$	kN	2,00/2,00/2,00/2,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53894A_003-214

## Triaxial shoulder load cell



Type M536A3A...

Technical data	Type	M536A3A...
Measuring range		
$F_x / F_y / F_z$	kN	4,00/8,00/4,00
Dummy types		EuroSID-1 (E1), EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M536A3A_000-785

## Triaxial shoulder load cell



Type M53633A...

Technical data	Type	M53633A...
Measuring range		
$F_x / F_y / F_z$	kN	4,50/4,50/4,50
Dummy types		SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53633A_000-791

## Triaxial shoulder load cell



Type M53643A...

Technical data	Type	M53643A...
Measuring range		
$F_x / F_y / F_z$	kN	5,00/10,00/5,00
Dummy types		WorldSID-50 % (WS)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53643A_000-964

# In-dummy measurement instrumentation – load cells

## Triaxial shoulder load cell



Type M53653A...

Technical data	Type	M53653A...	
Measuring range			
$F_x / F_y / F_z$	kN	4,00/5,00/4,00	
Dummy types		WorldSID-5 % (W5)	
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53653A_003-078	

## Triaxial shoulder load cell



Type M53663A...

Technical data	Type	M53663A...	M53673A...
Measuring range			
$F_x / F_y / F_z$	kN	2,00/4,00/2,00	2,00/4,00/2,00
Dummy types		Q 10 year old (QA)	Q 10 year old (QA)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M536x3A_003-206	M536x3A_003-206

## Six-axis arm load cell



Type M56516A...

Technical data	Type	M56516A...	
Measuring range			
$F_x / F_y / F_z$	kN	9,00/9,00/13,50	
$M_x / M_y / M_z$	N·m	225,00/225,00/170,00	
Dummy types		WorldSID-50 % (WS), Thor (TH)	
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56516A_003-094	

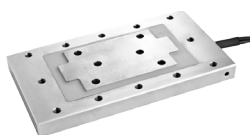
## Four-axial back plate load cell



Type M540A4A...

Technical data	Type	M540A4A...	
Measuring range			
$F_x / F_y$	kN	3,00/3,00	
$M_y / M_z$	N·m	160,00/160,00	
Dummy types		EuroSID-2 (E2)	
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M540A4A_000-777	

## Four-axial back plate load cell



Type M54014A...

Technical data	Type	M54014A...	
Measuring range			
$F_x / F_y$	kN	3,00/3,00	
$M_y / M_z$	N·m	160,00/160,00	
Dummy types		EuroSID-2 with Rib Extension (ER)	
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M54014A_000-780	

# In-dummy measurement instrumentation – load cells

## Five-axial thoracic spine load cell



Type M564A5A...

Technical data	Type	M564A5A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/17,80
$M_x / M_y$	N-m	680,00/900,00
Dummy types		HIII-50 % (H3), HIII-95 % (HM), Polar
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M564A5A_000-984

## Five-axial thoracic spine load cell



Type M56495A...

Technical data	Type	M56495A...
Measuring range		
$F_x / F_y / F_z$	kN	13,35/13,35/17,80
$M_x / M_y$	N-m	680,00/900,00
Dummy types		Thor-M (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56495A_003-210

## Four-axial T12 load cell



Type M53764A...

Technical data	Type	M53764A...
Measuring range		
$F_y / F_z$	kN	14,00/14,00
$M_x / M_y$	N-m	1 000/1 000
Dummy types		EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53764A_000-786

## Uniaxial abdomen load cell



Type M530A1B...

Technical data	Type	M530A1B...
Measuring range		
	kN	5,00
Dummy types		EuroSID-1 (E1), EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M530A1B_000-968

## Triaxial lumbar spine load cell



Type M537A3A...

Technical data	Type	M537A3A...
Measuring range		
$F_y / F_z$	kN	13,50/13,50
$M_x$	N-m	550,00
Dummy types		EuroSID-1 (E1), EuroSID-2 (E2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M537A3A_000-949

# In-dummy measurement instrumentation – load cells

## Triaxial lumbar spine load cell



Type M562A3A...

Technical data	Type	M562A3A...
Measuring range		
$F_x / F_z$	kN	13,35/13,35
$M_y$	N-m	565,00
Dummy types		HIII-50 % (H3), HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M562A3A_003-164

## Six-axis lumbar spine load cell



Type M56216A...

Technical data	Type	M56216A...
Measuring range		
$F_x / F_y / F_z$	kN	15,00/15,00/20,00
$M_x / M_y / M_z$	N-m	600,00/600,00/350,00
Dummy types		HIII-50 % (H3) and HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56216A_000-837

## Triaxial lumbar spine load cell



Type M573A3A...

Technical data	Type	M573A3A...
Measuring range		
$F_x / F_z$	kN	13,30/17,80
$M_y$	N-m	680,00
Dummy types		HIII-5 % (HF)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M573AxA_003-161

## Five-axis / six-axis lumbar spine load cell



Type M573A5A...

Technical data	Type	M573A5A...	M573A6A...
Measuring range			
$F_x / F_y / F_z$	kN	13,30/13,30/17,80	13,30/13,30/17,80
$M_x / M_y / M_z^{(1)}$	N-m	680,00/680,00	680,00/680,00/600,00
Dummy types		HIII-5 % (HF)	HIII-5 % (HF)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M573AxA_003-161	M573AxA_003-161

## Six-axis lumbar spine load cell



Type M563A6A...

Technical data	Type	M563A6A...
Measuring range		
$F_x / F_y / F_z$	kN	4,45/4,45/6,70
$M_x / M_y / M_z$	N-m	170,00/170,00/113,00
Dummy types		HIII-3 year old (Y6)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M563A6A_003-160

# In-dummy measurement instrumentation – load cells

## Six-axial lumbar spine load cell



Type M568A6A...

Technical data	Type	M568A6A...
Measuring range		
$F_x / F_y / F_z$	kN	4,45/4,45/7,10
$M_x / M_y / M_z$	N·m	240,00/240,00/150,00
Dummy types		HIII-6 year old (Y7)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M568A6A_000-939

## Six-axial lumbar spine load cell



Type M56816A...

Technical data	Type	M56816A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/13,30
$M_x / M_y / M_z$	N·m	450,00/450,00/225,00
Dummy types		SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56816A_000-983

## Six-axial lumbar spine load cell



Type M56826A...

Technical data	Type	M56826A...
Measuring range		
$F_x / F_y / F_z$	kN	10,00/10,00/12,00
$M_x / M_y / M_z$	N·m	300,00/300,00/200,00
Dummy types		WorldSID-5 % (W5), WorldSID-50 % (WS)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56826A_000-975

## Six-axial lumbar spine load cell



Type M585A6A...

Technical data	Type	M585A6A...
Measuring range		
$F_x / F_y / F_z$	kN	0,90/0,90/2,00
$M_x / M_y / M_z$	N·m	56,00/56,00/34,00
Dummy types		P1 1/2 year old (P2), Crabi
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M585A6A_000-854

## Six-axial lumbar spine load cell

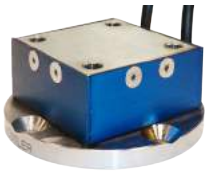


Type M55636A...

Technical data	Type	M55636A...
Measuring range		
$F_x / F_y / F_z$	kN	5,00/5,00/6,00
$M_x / M_y / M_z$	N·m	150,00/150,00/80,00
Dummy types		Q1 ... Q6
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55636A_000-796

# In-dummy measurement instrumentation – load cells

## Six-axis lumbar spine load cell



Type M55646A...

Technical data	Type	M55646A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/17,80
$M_x / M_y / M_z$	N-m	450,00/450,00/240,00
Dummy types		Q10 (QA)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55646A_003-118

## Twelve-axis sacroiliac load cell



Type M5670BA...

Technical data	Type	M5670BA...
Measuring range		
$F_x / F_y / F_z$ (left and right each)	kN	6,00/12,00/6,00
$M_x / M_y / M_z$ (left and right each)	N-m	800,00/400,00/400,00
Dummy types		WorldSID-5 % (W5), WorldSID-50 % (WS)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M5670BA_000-965

## Biaxial iliac wing load cell



Type M52202B...

Technical data	Type	M52202B...	M52212B
Measuring range			
$F_x$	kN	8,90	8,90
$M_y$	N-m	255,00	225,00
Dummy types		HIII-5 % (HF)	HIII-5 % (HF)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M522x2B_003-185	M522x2B_003-185

## Biaxial ASIS iliac wing load cell



Type M52242A...

Technical data	Type	M52242A...	M52212B
Measuring range			
$F_{x1} / F_{x2}$	kN	18,00/18,00	18,00/18,00
Dummy types		HIII-95 % (HM)	HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M522x2A_003-242	M522x2A_003-242

## Biaxial iliac wing load cell



Type M52292A...

Technical data	Type	M52292A...
Measuring range		
$F_x$	kN	13,00
$M_y$	N-m	320,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M52292A_003-215

# In-dummy measurement instrumentation – load cells

## Uniaxial iliac wing load cell



Type M57611A...

Technical data	Type	M57611A...
Measuring range	kN	13,50
Dummy types		SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M57611A_000-794

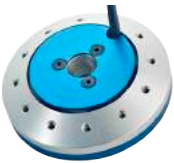
## Biaxial iliac wing load cell



Type M576x2A...

Technical data	Type	M576R2A...	M576L2A...
Measuring range			
$F_{y1}/F_{y2}$	kN	6,75	6,75
Dummy types		SID-IIs (S2)	SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M576x2A_003-275	M576x2A_003-275

## Uniaxial acetabulum load cell



Type M52811A...

Technical data	Type	M52811A...
Measuring range	kN	8,90
Dummy types		SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M52811A_000-792

## Triaxial acetabulum load cell



Type M52893A...

Technical data	Type	M52893A...	M52993A...
Measuring range			
$F_x / F_y / F_z$	kN	22,24/13,34/13,34	22,24/13,34/13,34
Dummy types		Thor (TH)	Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M52x93A_003-224	M52x93A_003-224

## Uniaxial pubic load cell



Type M50241A...

Technical data	Type	M50241A...
Measuring range	kN	12,00
Dummy types		WorldSID-5 % (W5), WorldSID-50 % (WS), Q10 (QA)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M50241A_000-974

# In-dummy measurement instrumentation – load cells

## Uniaxial iliac wing load cell



Type M531A1A...

Technical data	Type	M531A1A...
Measuring range	kN	20,00
Dummy types		EuroSID-1 (E1), EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M531A1A_000-784

## Uniaxial pubic load cell



Type M53111A...

Technical data	Type	M53111A...
Measuring range	kN	8,90
Dummy types		SID-ILs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53111A_000-793

## Triaxial femoral neck load cell



Type M53903A...

Technical data	Type	M53903A...
Measuring range		
$F_x / F_y / F_z$	kN	10,00/25,00/10,00
Dummy types		WorldSID-50 % (WS)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53903A_000-976

## Triaxial femoral neck load cell



Type M53923A...

Technical data	Type	M53923A...
Measuring range		
$F_x / F_y / F_z$	kN	10,00/25,00/10,00
Dummy types		WorldSID-5 % (W5)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M53923A_003-079

## Six-axial femur load cell



Type M56506A...

Technical data	Type	M56506A...
Measuring range		
$F_x / F_y / F_z$	kN	15,00/15,00/15,00
$M_x / M_y / M_z$	N·m	350,00/350,00/200,00
Dummy types		WorldSID-50 % (WS), Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56506A_000-977



# In-dummy measurement instrumentation – load cells

## Six-axial femur load cell



Type M56516A...

Technical data	Type	M56516A...
Measuring range		
$F_x / F_y / F_z$	kN	9,00/9,00/13,50
$M_x / M_y / M_z$	N-m	225,00/225,00/170,00
Dummy types		WorldSID-5 % (W5)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M56516A_003-094

## Uniaxial femur load cell



Type M501A1A...

Technical data	Type	M501A1A...
Measuring range	kN	6,70
Dummy types		HIII-6 year old (Y7)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M501A1A_003-150

## Six-axial femur load cell



Type M50626A...

Technical data	Type	M50626A...
Measuring range		
$F_x / F_y / F_z$	kN	3,35/3,35/6,70
$M_x / M_y / M_z$	N-m	112,00/112,00/56,00
Dummy types		HIII-6 year old (Y7)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M50626A_003-112

## Uniaxial femur load cell



Type M505A1A...

Technical data	Type	M505A1A...
Measuring range	kN	13,50
Dummy types		HIII-5 % (HF), HIII-50 % (H3), HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M505A1A_000-781

## Six-axial femur load cell



Type M506A6A...

Technical data	Type	M506A6A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/22,20
$M_x / M_y / M_z$	N-m	340,00/340,00/340,00
Dummy types		HIII-5 % (HF), HIII-50 % (H3), HIII-95 % (HM), SID-II <sub>s</sub> (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M506A6A_000-795

# In-dummy measurement instrumentation – load cells

## Six-axial femur load cell



Type M50616A...

Technical data	Type	M50616A...
Measuring range		
$F_x / F_y / F_z$	kN	13,30/13,30/22,20
$M_x / M_y / M_z$	N-m	340,00/340,00/340,00
Dummy types		EuroSID-1 (E1) and EuroSID-2 (E2, ER)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M50616A_000-782

## Six-axial femur load cell



Type M50636A...

Technical data	Type	M50636A...
Measuring range		
$F_x / F_y / F_z$	kN	3,35/3,35/6,70
$M_x / M_y / M_z$	N-m	112,00/112,00/56,00
Dummy types		Q 10 year old (QA)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M50636A_003-212

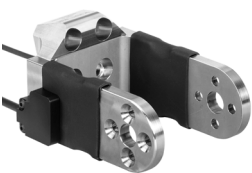
## Uniaxial knee contact load cell



Type M55141A...

Technical data	Type	M55141A...
Measuring range	kN	20,00
Dummy types		WorldSID-50 % (WS), WorldSID-5 % (W5)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55141A_003-176

## Biaxial knee clevis load cell



Type M55102A...

Technical data	Type	M55102A...
Measuring range (2x $F_z$ )	kN	2x6,80
Dummy types		HIII-5 % (HF)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M551x2A_003-137

## Biaxial knee clevis load cell



Type M55112A...

Technical data	Type	M55112A...
Measuring range (2x $F_z$ )	kN	2x8,90
Dummy types		HIII-50 % (H3)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M551x2A_003-137

# In-dummy measurement instrumentation – load cells

## Biaxial knee clevis load cell



Type M55122A...

Technical data	Type	M55122A...
Measuring range (2x $F_z$ )	kN	2x8,90
Dummy types		HIII-95 % (HM)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M551x2A_003-137

## Four-axial / five-axial upper tibia load cell



Type M55214A...

Technical data	Type	M55214x...	M55215x
Measuring range			
$F_x / F_y^{1)} / F_z$	kN	11,00/11,00	11,00/11,00/11,00
$M_x / M_y / M_z$	N·m	400,00/400,00	400,00/400,00
Dummy types		HIII-5 % (HF), HIII-50 % (H3), HIII-95 % (HM), SID-IIs (S2)	HIII-5 % (HF), HIII-50 % (H3), HIII-95 % (HM), SID-IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55214A_000-789	M55214A_000-789

<sup>1)</sup> Only five-axial version

## Five-axial upper tibia load cell



Type M55235A...

Technical data	Type	M55235A...
Measuring range		
$F_x / F_y / F_z$	kN	11,00/11,00/11,00
$M_x / M_y / M_z$	N·m	400,00/400,00
Dummy types		Thor-LX
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55235A_000-967

## Five-axial upper tibia load cell



Type M55295A...

Technical data	Type	M55295A...
Measuring range		
$F_x / F_y / F_z$	kN	11,00/11,00/11,00
$M_x / M_y / M_z$	N·m	400,00/400,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55295A_003-208

## Five-axial lower tibia load cell



Type M55155A...

Technical data	Type	M55155A...
Measuring range		
$F_x / F_y / F_z$	kN	11,00/11,00/11,00
$M_x / M_y$	N·m	400,00/400,00
Dummy types		MIL-LX lower legs
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55155A_000-966

# In-dummy measurement instrumentation – load cells

## Four-axial / five-axial lower tibia load cell



Type M55204A...

Technical data	Type	M55204x...	M55205x
Measuring range			
$F_x / F_y / F_z$	kN	11,00/11,00	11,00/11,00/11,00
$M_x / M_y$	N·m	400,00/400,00	400,00/400,00
Dummy types		HIII-5 % (HF), HIII-50 % H3),HIII-95 % (HM), SID IIs (S2)	HIII-5 % (HF), HIII-50 % H3),HIII-95 % (HM), SID IIs (S2)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55204A_000-788	M55204A_000-788

## Five-axial lower tibia load cell



Type M55395A...

Technical data	Type	M55395A...
Measuring range		
$F_x / F_y / F_z$	kN	11,00/11,00/11,00
$M_x / M_y$	N·m	400,00/400,00
Dummy types		Thor (TH)
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55395A_003-209

## Six-axial tibia load cell



Type M55266A...

Technical data	Type	M55266A...
Measuring range		
$F_x / F_y / F_z$	kN	20,00/20,00/30,00
$M_x / M_y / M_z$	N·m	450,00/450,00/385,00
Dummy types		WIAMan
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55266A_003-252

## Uniaxial achilles tendon load cell



Type M55491A...

Technical data	Type	M55491A...	
Measuring range		kN	4,45
Dummy types		Thor (TH)	
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55491A_003-225	

## Triaxial calcaneus load cell



Type M55163A...

Technical data	Type	M55163A...	M55263A...
Measuring range			
$F_x / F_y / F_z$	kN	6,00/6,00/12,00	6,00/6,00/12,00
Dummy types		WIAMan	WIAMan
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M55x63A_003-251	M55x63A_003-251

# In-dummy measurement instrumentation – accelerometers

## Uniaxial, piezoresistive accelerometer, damped



Type M0040A00-2000

Technical data	Type	M0040A00-2000
Measuring range	g	±2 000
Sensitivity @ 10 VDC excitation	mV/g	0,075
Natural frequency	Hz	>10 000
Damping ratio, typ.		0,7
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0040A_003-095</b>

**Description** Used in safety crash testing (auto, truck, recreational vehicles, shock testing).

## Uniaxial, piezoresistive accelerometer



Type M0064B00-2000

Technical data	Type	M0064B00-2000
Measuring range	g	±2 000
Sensitivity	mV/g	0,15
Resonant frequency	Hz	26 000
Damping ratio, typ.		0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0064B_003-099</b>

**Description** Used in safety crash testing (auto, truck, recreational vehicles, shock testing).

## Uniaxial, piezoresistive accelerometer



Type M0064C00-2000

Technical data	Type	M0064C00-2000
Measuring range	g	±2 000
Sensitivity	mV/g	0,15
Resonant frequency	Hz	26 000
Damping ratio, typ.		0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0064C_003-100</b>

**Description** Used in safety crash testing (auto, truck, recreational vehicles, shock testing).

## Triaxial accelerometer



Type M0068C00-2000

Technical data	Type	M0068C00-2000
Measuring range	g	±2 000
Sensitivity	mV/g	0,15
Resonant frequency	Hz	26 000
Damping ratio, typ.		0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0068C_003-101</b>

**Description** Used in automotive crash testing, impact testing, off-road testing, road testing, dummy instrumentation.

# On-board measurement instrumentation – accelerometers

## Uniaxial, piezoresistive accelerometer



Type M0052F00-2000

Technical data	Type	M0052F00-0500	M0052F00-2000
Measuring range	g	±500	±2 000
Sensitivity	mV/g	0,4	0,15
Natural frequency	Hz	15 000	26 000
Damping ratio, typ.		0,05	0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0052F_003-096</b>	<b>M0052F_003-096</b>

**Description** Used in safety crash testing, high impact research, biomechanical studies, blast testing.

## Uniaxial, piezoresistive accelerometer



Type M0052M30-2000

Technical data	Type	M0052M30-0500	M0052M30-2000
Measuring range	g	±500	±2 000
Sensitivity	mV/g	0,4	0,15
Natural frequency	Hz	15 000	26 000
Damping ratio, typ.		0,05	0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0052M30_003-097</b>	<b>M0052M30_003-097</b>

**Description** Used in safety crash testing, high impact research, biomechanical studies, shock testing.

## Triaxial, piezoresistive accelerometer



Type M0053A00-2000

Technical data	Type	M0053A00-0500	M0053A00-2000
Measuring range	g	±500	±2 000
Sensitivity	mV/g	0,4	0,15
Natural frequency	Hz	15 000	26 000
Damping ratio, typ.		0,3	0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0053A00_003-098</b>	<b>M0053A00_003-098</b>

**Description** Used in safety crash testing, impact testing, off road testing, vehicle testing.

## Triaxial, piezoresistive accelerometer



Type M0301A00-2000

Technical data	Type	M0301A00-1000	M0301A00-2000
Measuring range	g	±1 000	±2 000
Sensitivity	mV/g	0,15	0,13
Natural frequency	Hz	20 000	23 000
Damping ratio, typ.		0,05	0,05
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0301A00_003-186</b>	<b>M0301A00_003-186</b>

**Description** Used in safety crash testing, impact testing, off road testing, vehicle testing.

# On-board measurement instrumentation – accelerometers

## Uniaxial, piezoresistive accelerometer



Type M1200M30-1000

Technical data	Type	M1200M30-0500	M1200M30-1000
Measuring range	g	±500	±1 000
Sensitivity	mV/g	0,40	0,15
Natural frequency	Hz	6 000	7 000
Damping ratio, typ.		0,3	0,1
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M1200M30_003-102</b>	<b>M1200M30_003-102</b>

### Description

Used in crash testing, impact testing, off-road testing, transportation testing.

## Uniaxial, piezoresistive accelerometer



Type M1201F-1000

Technical data	Type	M1201F-0500	M1201F-1000
Measuring range	g	±500	±1 000
Sensitivity	mV/g	0,40	0,15
Natural frequency	Hz	6 000	7 000
Damping ratio, typ.		0,3	0,1
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M1201F_003-103</b>	<b>M1201F_003-103</b>

### Description

Used in crash testing, crush zone testing, impact testing, off-road testing, transportation testing.

## Triaxial, piezoresistive accelerometer



Type M1203A00-1000

Technical data	Type	M1203A00-0500	M1203A00-1000
Measuring range	g	±500	±1 000
Sensitivity	mV/g	0,40	0,15
Natural frequency	Hz	6 000	7 000
Damping ratio, typ.		0,3	0,1
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M1203A_003-104</b>	<b>M1203A_003-104</b>

### Description

Used in crash testing, vehicle testing, impact testing, off-road testing, transportation testing.

## Uniaxial, piezoresistive accelerometer



Type M0101A00

Technical data	Type	M0101A00
Measuring range	g	±1 000
Sensitivity	mV/g	0,12
Natural frequency	Hz	6 000
Damping ratio, typ.		0,15
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M0101A_003-114</b>

### Description

Used in crash testing, impact testing, off-road testing and transportation testing.

# On-board measurement instrumentation – current sensors

## Current and current pulse sensor



Type M703A...

Technical data	Type	M703A...	M703B...
Measuring range (typ.)			
Overload 30 A (Type ...SI2)	A	±15	±15
Overload 50 A (Type ...SI3)	A	±30	±30
Overload 80 A (Type ...SI5)	A	±50	±50
Overload 200 A (Type ...SI1)	A	±100	±100
Sensitivity (typ. / min. / max.)			
at 10 V	mV/A	37 / 20 / 50	
at 15 V	mV/A		18 / 10 / 30
Wire diameter	mm	2,7 ... 3	2,7 ... 3
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M703_000-833</b>	<b>M703_000-833</b>

### Description

Chronological detection of trigger occurrences in component or crash tests as well as controlling the amperage in the cables in case of a crash.

## Current and current pulse sensor



Type M705A...

Technical data	Type	M705A...
Measuring range (typ.)		
Overload 30 A (Type ...SI2)	A	±15
Overload 50 A (Type ...SI3)	A	±30
Overload 80 A (Type ...SI5)	A	±50
Overload 200 A (Type ...SI1)	A	±100
Sensitivity (typ. / min. / max.)		
at 10 V	mV/A	37 / 20 / 50
Wire diameter	mm	4,5 ... 5
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M705_000-834</b>

### Description

Chronological detection of trigger occurrences in component or crash tests as well as controlling the amperage in the cables in case of a crash.

## Current and current pulse sensor



Type M715A...

Technical data	Type	M715A...
Measuring range (typ.)		
Overload 400 A	A	±300
Sensitivity (typ. / min. / max.)		
at 10 V	mV/A	12 / 8 / 15
Wire diameter	mm	13,5 ... 15
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>M715_000-896</b>

### Description

Chronological detection of trigger occurrences in component or crash tests as well as controlling the amperage in the cables in case of a crash.



# On-board measurement instrumentation – other sensors

## Uniaxial, resistive webbing load cell



Type M51111A

Technical data	Type	M51111A	M51111B
Measuring range	kN	16	16
Sensitivity	$\mu\text{V}/\text{V}/\text{kN}$	130	130
Insulation resistance	G $\Omega$	>10	>10
Weight	grams	76	70
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	M51111_000-759	M51111_000-759

### Description

Measures seat belt forces during a crash test.

# Off-board measurement instrumentation – multicomponent force systems

## Small overlap barrier



Type 9661B40

Technical data	Type	9661B40
<b>Measuring range, force meas. element</b>		
$F_x$	kN	0 ... 500
$F_y, F_z$	kN	-100 ... 100
<b>Calibrated range, force meas. element</b>		
$F_x$	kN	0 ... 500
$F_y / F_z$	kN	0 ... -50 <sup>1)</sup> / 0 ... 50 <sup>1)</sup>
Calibrated partial range, $F_x$	kN	0 ... 200 <sup>1)</sup>
Linearity (FSO), force meas. element	%	≤±1,0
<b>Measuring range, corner element</b>		
$F_x$	kN	0 ... 300
$F_y, F_z$	kN	-100 ... 100
<b>Calibrated range, corner element</b>		
$F_x$	kN	0 ... 250
$F_y / F_z$	kN	0 ... -50 <sup>1)</sup> / 0 ... 50 <sup>1)</sup>
Calibrated partial range, $F_x$	kN	0 ... 100 <sup>1)</sup>
Linearity (FSO), corner element	%	≤±1,0
Operating temperature range	°C	0 ... 40
<b>Natural frequency of crash force element alone</b>		
$F_x$	Hz	≈4 000
$F_y, F_z$	Hz	≈1 700
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>		<b>on request</b>

### Description

A SmartCrash® overlap segment (650x1 000 mm) consists of 32 SmartCrash standard elements Type 9350B1 (125x125 mm) and of 8 SmartCrash corner elements Type 9359B1 (125x125 mm x R150). Its dimensions and the number of crash force elements can be tailored to the customer's technical requirements. With integrated DTI DAS.

# Off-board measurement instrumentation – multicomponent force systems

## Modular triaxial SmartCrash® barrier



Type 9655AQ...

Technical data	Type	9655AQ...
Measuring range		
$F_x$	kN	0 ... 500
$F_y / F_z$	kN	-100 ... 100
Dimensions (LxWxH) <sup>1)</sup>	m	2x1x1,205
Rental possibilities		on request
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>		9655A_000-522

### Description

SmartCrash barrier with triaxial piezoelectric crash elements, each with integrated DTI DAS.

<sup>1)</sup>Other sizes on request

## Triaxial force plate for RCAR bumper instrumentation



Type Z20616

Technical data	Type	Z20616
Measuring range		
$F_x$	kN	0 ... 500
$F_y / F_z$	kN	±200
Dimensions (LxWxH) <sup>)</sup>	m	1,5x0,248x0,171
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>		on request

### Description

Triaxial RCAR bumper instrumentation with integrated charge amplifier and summing data output of  $F_x$ ,  $F_y$  and  $F_z$ . Can be easily mounted between front and rear structure element of the standard RCAR bumper. Integrated DTI DAS optional.

## Triaxial force plate for RCAR/AZT crash shield for movable crash barriers



Type 9657A2Q

Technical data	Type	9657A2Q
Measuring range		
$F_x$	kN	0 ... 500
$F_y / F_z$	kN	±100
Dimensions (LxWxH)	m	1x0,5x0,188
Side corner radius r	mm	150
Top corner radius r	mm	50
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>		on request

### Description

Triaxial RCAR/AZT crash shield to instrument movable crash barriers (trolleys) with integrated charge amplifier and summing data output of  $F_x$ ,  $F_y$  and  $F_z$ . Integrated DTI DAS optional.

# In-dummy data acquisition systems – DAQ modules

## DTI DiMod digitization module



Type DTI307.1

Technical data	Type	DTI307.1
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	0,7
Dimensions (LxWxH)	mm	11x9x6
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI307_003-081</b>

**Description** For integration into standard dummy sensors and load cells.

## DTI DiMod digitization module



Type DTI307.1S

Technical data	Type	DTI307.1S
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	0,7
Dimensions (LxWxH)	mm	22x8
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI307_003-081</b>

**Description** For integration into standard dummy sensors and load cells.

## DTI DiMod digitization module



Type DTI307.11

Technical data	Type	DTI307.11
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	0,7
Dimensions (LxWxH)	mm	22x8
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>on request</b>

**Description** For integration into standard dummy sensors and load cells.

# In-dummy data acquisition systems – DAQ modules

## DTI DiMod digitization module



Type DTI307.3

Technical data	Type	DTI307.3
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	1,4
Dimensions (LxWxH)	mm	10x10x10
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI307_003-081</b>

**Description** For integration into standard dummy sensors and load cells.

## DTI DiMod digitization module



Type DTI307.3S

Technical data	Type	DTI307.3S
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	1,4
Dimensions (LxWxH)	mm	24,8x18,8
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI307_003-081</b>

**Description** For integration into standard dummy sensors and load cells.

## DTI DiMod digitization module with memory for free flight objects



Type DTI323.01

Technical data	Type	DTI323.01
Supply voltage	V	5,2 ... 6
Sensor supply	V	5 + 0,075/-0,125
Sensor input		instr. amplifier
Weight	grams	11
Dimensions (LxWxH)	mm	21x19x18
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>on request</b>

**Description** For free flight objects.

# In-dummy data acquisition systems – DAQ modules

## 48-channel in-dummy data recording module



Type DTI304.04

Technical data	Type	DTI304.04
DTI pins		4
Measuring channels		48
Weight	grams	100
Dimensions (LxWxH)	mm	56x43x36
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-063</b>

**Description** Used in safety crash testing (direct assembling in crash test dummies together with the UPS power supply).

## 96-channel in-dummy data recording module



Type DTI304.08

Technical data	Type	DTI304.08
DTI pins		8
Measuring channels		96
Weight	grams	145
Dimensions (LxWxH)	mm	56x43x36
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-063</b>

**Description** Used in safety crash testing (direct assembling in crash test dummies together with the UPS power supply).

## 144-channel in-dummy data recording module



Type DTI304.12

Technical data	Type	DTI304.12
DTI pins		12
Measuring channels		144
Weight	grams	140
Dimensions (LxWxH)	mm	78x50x25
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-063</b>

**Description** Used in safety crash testing (direct assembling in crash test dummies together with the UPS power supply).

# In-dummy data acquisition systems – DAQ modules

## UPS power supply for DTI304.04



Type DTI304.04

Technical data	Type	DTI304.01
Supply voltage	V	36 ... 70
Accumulator		
Voltage	V	7
Capacity	mAh	360
Power	W	15
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-064</b>

**Description** Safety crash testing (direct assembling in crash test dummies together with data recorders).

## UPS power supply for DTI304.08



Type DTI304.02

Technical data	Type	DTI304.02
Supply voltage	V	36 ... 70
Accumulator		
Voltage	V	7
Capacity	mAh	740
Power	W	30
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-064</b>

**Description** Safety crash testing (direct assembling in crash test dummies together with data recorders).

## UPS power supply for DTI304.12



Type DTI304V.02

Technical data	Type	DTI304V.02
Supply voltage	V	36 ... 70
Accumulator		
Voltage	V	7
Capacity	mAh	740
Power	W	25
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI304_003-064</b>

**Description** Safety crash testing (direct assembling in crash test dummies together with data recorders).

# In-dummy data acquisition systems – DAQ modules

## 48-channel in-dummy data recording module for Flex PLI with integrated UPS



Type DTI327.04

Technical data	Type	DTI327.04
DTI pins		4
Measuring channels		48
Weight	grams	120
Dimensions (LxWxH)	mm	84x42x19
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI327_003-068</b>

**Description** Records data during freeflight phase and the following impact at the vehicle.

## 48-channel in-dummy data recording module for child dummies with integrated UPS



Type DTI327V.04

Technical data	Type	DTI327V.04
DTI pins		4
Measuring channels		48
Weight	grams	120
Dimensions (LxWxH)	mm	84x42x21
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI327V_003-163</b>

**Description** Records data during freeflight phase and the following impact at the vehicle.

## 288-channel in-dummy data recording module for Thor (TH) with integrated UPS



Type DTI375.TH

Technical data	Type	DTI375.TH
DTI ports		24
Measuring channels		288
Weight	grams	714
Dimensions (LxWxH)	mm	97x63x134
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>DTI375_003-286</b>

**Description** Especially designed for recording measurement data in the Thor (TH) dummy.

## nxt32 data acquisition module



Type K3870A

Technical data	Type	K3870A
Input voltage range	V	±2,5
Programmable gain		1 ... 10 000
Weight	grams	200
Dimensions (LxWxH)	mm	25x54x85
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3870A_003-012</b>

**Description** Acquisition module for simultaneous data recording in crash testing applications.



# On-board systems – KiDAU, KiHUB and KiTimer systems

## KiDAU Advanced on-board DAQ



Type K3880C...

Technical data	Type	K3880C...
Input voltage, relating to –EXC	V	18/–5
Programmable gain		0,5 ... 10 000
Weight	kg	2,2
Dimensions (LxWxH)	mm	231x64x90
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3880C_003-117</b>

**Description** Modular designed on-board DAQ for crash tests.

## KiDAU Classic / Basic on-board DAQ



Similar product image

Technical data	Type	K3881C...	K3882C...
Input voltage, relating to –EXC	V	18/–5	5/–2,5
Programmable gain		0,5 ... 10 000	1 ... 10 000
Weight	kg	2,2	1,26
Dimensions (LxWxH)	mm	231x64x90	210x64x65,5
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3881C_003-115</b>	<b>K3882C_003-116</b>

**Description** Modular designed on-board DAQ for crash tests.

## KiHUB on-board adapter



Type K3879A...

Technical data	Type	K3879A...
Power consumption	W	18
Weight	kg	1,2
Dimensions (LxWxH)	mm	231x64x70,5
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K387x_003-082</b>

**Description** Modular designed on-board adapter for crash tests.

## KiHUB on-board adapter



Type K3879BQ0x

Technical data	Type	K3879BQ0x
Power supply	VDC	20 ... 60
Power consumption	W	20
Weight	kg	1,3
Dimensions (LxWxH)	mm	231x64x77,2
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3879BQ0x_003-303</b>

**Description** Modular designed on-board adapter for crash tests.

# On-board systems – KiDAU, KiHUB and KiTimer systems

## Digital event box



Type K3875A01

Technical data	Type	K3875A01	K3875A02
Connectors		Lemo	BNC
Operating temperature range	°C	0 ... 40	0 ... 40
Weight	kg	1,1	1,1
Dimensions (LxWxH)	mm	231x64x70,51	231x64x79
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>on request</b>	<b>on request</b>

**Description** Provides Lemo resp. BNC connectors for digital event signals.

## Airbag timer KiTimer



Type K3889A

Technical data	Type	K3889A
Number of channels		16
Ignition power	A	2,0 (±0,15)
Ignition delay	ms	2,7 (±0,20)
Dimensions (LxWxH)	mm	231x138x97,5
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3889A_003-149</b>

**Description** Triggers airbag events in vehicle and sled crash tests.

## Accessories

Accessories		
Trailing cable	Type	on request
WLAN platform	Type	on request
Quick modus KiDAU	Type	on request

# Off-board equipment

## Trigger star point



Type K3981B

Technical data	Type	K3981B
Number of channels		10 / 20
Input voltage range	V	85 ... 264
Input frequency	Hz	47 ... 63
Dimensions (LxWxH)	cm	31x48,3x13,3
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3981B_003-260</b>

### Description

Non-ruggedized central trigger distribution hub for incoming and outgoing Start of Record (SR) and T-Zero (TO) signals.

## Wall box



Type K3980B

Technical data	Type	K3980B
Input voltage range	V	85 ... 264
Input frequency	Hz	47 ... 63
Dimensions (LxWxH)	cm	23x30x40
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>K3980B_003-257</b>

### Description

Non-ruggedized wall mounted off-board box to connect the on-board measurement systems via trailing cable with the off-board part.

## Airbag timer



Type TNA3889RA

Technical data	Type	TNA3889RA	TNA3889SA
Number of fire channels		4	4
Current recording resolution	mA	2,5	2,5
Voltage recording resolution	mV	25	25
Pulse timing delay	s	0 ... 100	0 ... 100
<b>Data sheet see <a href="http://www.kistler.com">www.kistler.com</a></b>	<b>No.</b>	<b>TNA3889RA_003-217</b>	<b>TNA3889SA_003-218</b>

### Description

Stationary device developed specifically for airbag and pre-tensioning applications.

# Crash test software

## CrashDesigner and CrashDesigner Lite



		CrashDesigner	CrashDesigner Lite
Technical data	Type	KKT-CDE...	KKT-CDL
Supported database		Oracle, MySQL, SQL Server, Hypersonic, ...	no database required
Supported hardware		nxt32 in-dummy DAS systems; KiDAU Basic, Classic and Advanced and KiTimer systems; DTI in-dummy DAS systems; DTI Free Motion Heads; MINIDAU® Classic and MINIDAU® Advanced; Type K3789/K3789R Airbag timer 8 or 12 channels (with and without recorder module); TNA3889 stationary airbag timer 4 channels with recorder module; MICRODAU® based nxt in-dummy DAS systems; Kistler Trigger Star Points; Kistler Smart Barriers; 3rd party hardware (optional interface)	nxt32 in-dummy DAS systems; KiDAU Basic, Classic and Advanced and KiTimer systems; DTI in-dummy DAS systems; DTI Free Motion Heads; MINIDAU® Classic and MINIDAU® Advanced; Type K3789/K3789R Airbag timer 8 or 12 channels (with and without recorder module); TNA3889 stationary airbag timer 4 channels with recorder module; MICRODAU® based nxt in-dummy DAS systems; Kistler Trigger Star Points; Kistler Smart Barriers; 3rd party hardware (optional interface)
Licensing		via USB hardlock key or license file	via license file
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	KKT-CDE_003-004	KKT-CDL_003-151
Description		Crash test control software.	

## DeviceMaintenanceTool



		KKT-DMT
Technical data	Type	KKT-DMT
Features		Locate equipment in network, manage network settings of equipment, perform software updates, manage device internal battery
Supported hardware		nxt32 in-dummy DAS system, KiDAU Basic, KiDAU Classic, KiDAU Advanced and KiTimer systems, DTI in-dummy DAS systems (recorders Types DTI304, DTI327 and 20 kHz DiMods Type DTI307; DTI Bordinterface Type DTI335.30; DTI Airbag Timer Type DTI328.16); DTI Free Motion Heads Type DTI323xx), DTI375 products, MICRODAU® based nxt in-dummy DAS systems, Kistler smart barriers
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	on request
Description		Device maintenance software.

# Crash test software

## DTImaps



Technical data	Type	DTIMAPS
Features		Check and modify TEDS of recorder and DiMods, live measurement data, measure & compare, check polarity
Supported hardware		DTI recorders (e.g. DTI304, DTI327, DTI375, DTI Crash Barriers), DTI DiMods, analog: 1-wire DS2431, ID module ENDEVCO standard
Licensing		via license file
Data sheet see <a href="http://www.kistler.com">www.kistler.com</a>	No.	on request

**Description** DTI device configuration software.



As a system provider, Kistler supplies customers with complete solutions that accomplish their measurement tasks with optimum results.

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**Good service is the critical factor in day-to-day customer relations. But for Kistler, good just isn't good enough. That's why we offer you something more: all-round service tailored precisely to your needs and requirements.**

### **Commissioning by service technicians**

Kistler's services certainly don't stop once you've purchased our sensors. Our experienced service technicians will come to your premises to ensure that your new Kistler system is optimally installed in your plant, connected and configured. After a short familiarization course, you can get started on your first measuring task!

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Thanks to our calibration service, you can rest assured that Kistler sensors and systems are – and will remain – fully functional throughout their entire service lifetime: the basis for precise and reliable measurement results. What's more, each calibration is fully documented. On request, our measurement technology experts will also be glad to come and calibrate your equipment on your premises. With our calibration laboratories located in China, the USA, Japan and Germany (for Europe), we can offer a fast and straightforward recalibration service on site.

### **Engineering: custom solutions**

As a system provider, Kistler supplies you with complete solutions that accomplish your measurement tasks with optimum results. Our specialists will be glad to work with you to develop new custom solutions that will deliver added performance in your test environment.

#### **Kistler's services at a glance**

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- Repairs
- Engineering / resident engineering
- Technical setup
- Onsite support
- Advisory and training

# At our customers' service across the globe

Thanks to Kistler's global sales and service network, we are always close to our customers. Approximately 1700 employees at 58 locations are dedicated to the development of new measurement solutions and offer customized on-site support of individual applications.



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**NEWS**

**Kistler presents new measurement technologies at the Automotive Testing Expo 2017** 02.05.

Kistler presents innovative measurement equipment for demanding vehicle testing applications

**Kistler showcases practical sensor integration for injection molds** 25.04.

At Moulding Expo 2017, we will show how easy it is to install the measurement



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