

# TORQUE SENSORS

Our torque sensors use advanced strain gage technology to satisfy the most demanding requirements for static and dynamic applications. We offer solutions for measuring reaction torque and rotating torque. Our torque meters complete with integral mechanical stops increase overload capacity and provide additional protection during mounting and operation. We offer a variety of small capacity sensors for dynamic and reaction torque measurements. Our combination sensors simultaneously measure reaction torques and forces with a single device. They can also detect angle position and provide velocity measurement. We can customize a wide range of available models to meet your specific needs.



## TORQUE METERS

Reaction and Rotary



**MEAS CS1060**

Package	Square male coupling
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> <li>• Optional high level output</li> <li>• Static measurements</li> </ul>
Ranges Nm(Lbf-ft)	±5 to ±7K (±4 to ±5.6K)
Max. Over-range	1.5X FS
Output / Span	±20 mV (4 V; ±5 V optional)
Combined Non-linearity & Hysteresis	< ±0.25% FS
Optional Operating Temp.	-20°C to 100°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research



**MEAS CS1120**

Package	Keyed shaft connections
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> <li>• Optional high level output</li> <li>• Excellent temperature stability</li> </ul>
Ranges Nm(Lbf-ft)	±5 to ±2.5K (±4 to ±2K)
Max. Over-range	1.5X FS
Output / Span	±20 mV (4 V; ±5 V optional)
Combined Non-linearity & Hysteresis	< ±0.25% FS
Optional Operating Temp.	-20°C to 100°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research



**MEAS CS1210**

Package	Collar mechanical fittings
Operating Mode	Reaction
Unique Features	<ul style="list-style-type: none"> <li>• High stiffness</li> <li>• Optional high level output</li> </ul>
Ranges Nm(Lbf-ft)	±160 to ±10K (±128 to ±8K)
Max. Over-range	1.5X FS
Output / Span	±20 mV (4 V; ±5 V optional)
Combined Non-linearity & Hysteresis	< ±0.25% FS
Optional Operating Temp.	-40°C to 150°C
Dimensions (mm)	Application dependent
Typical Applications	Non-rotating parts torque measurement, robotics and effectors, laboratory and research



**MEAS CD1050**

Package	Square male couplings
Operating Mode	Dynamic rotary
Unique Features	<ul style="list-style-type: none"> <li>• Optional high level output</li> <li>• Rugged</li> </ul>
Ranges Nm(Lbf-ft)	±5 to ±7K (±4 to ±5.6K)
Max. Over-range	1.5X FS
Output / Span	±20 mV (4 V; ±5 V optional)
Combined Non-linearity & Hysteresis	< ±0.25% FS
Optional Operating Temp.	-20°C to 80°C
Dimensions (mm)	Application dependent
Typical Applications	Engine efficiency, robotics and effectors, laboratory and research



**MEAS CD1140**

Package	Keyed shaft couplings
Operating Mode	Contactless
Unique Features	<ul style="list-style-type: none"> <li>• High accuracy</li> <li>• Built-in amplifier</li> <li>• Speed and angle detection</li> </ul>
Ranges Nm(Lbf-ft)	±0.05 to ±20,000 Nm (±0.04 to ±16,000 lbf-ft)
Max. Over-range	2X FS
Output / Span	±10 V (Pulses / Rev. 6.0 / 360)
Non-linearity	±0.1% FS
Hysteresis	±0.1% FS
Optional Operating Temp.	0°C to 60°C
Dimensions (mm)	Application dependent
Typical Applications	Process control equipment, robotics and effectors, test and measurement



**MEAS CD1095**

Package	Keyed shaft couplings
Operating Mode	Dynamic rotary
Unique Features	<ul style="list-style-type: none"> <li>• High accuracy</li> <li>• Built-in amplifier</li> </ul>
Ranges Nm(Lbf-ft)	±5 to ±2,500 Nm (±4 to 2,000 lbf-ft)
Max. Over-range	1.5X FS
Output / Span	±20 mV (4 V; ±5 V optional)
Non-linearity	< ±0.25% FS
Hysteresis	Combined with linearity
Optional Operating Temp.	-20°C to 80°C
Dimensions (mm)	Application dependent
Typical Applications	Process control equipment, robotics and effectors, test and measurement



**MEAS FCA7300**

Package	Steering wheel adaptable
Operating Mode	Multi-sensing
Unique Features	<ul style="list-style-type: none"> <li>• Dual torque / angle range</li> <li>• Steering velocity measurement</li> <li>• Fits all road vehicles</li> </ul>
Ranges N (Lbf)	10 to 200 Nm (7 lbf-ft to 150 lbf-ft)
Max. Over-range	10X FS
Output / Span	±10 V
Non-linearity	±0.1% FS
Hysteresis	±0.1% FS
Optional Operating Temp.	-20°C to 80°C
Dimensions (mm)	Ø195 x 50
Typical Applications	On-car road test, truck and buses steering test, armored vehicles steering test

## AUTOMOTIVE DESIGN AND TEST SENSORS