Monad Electronics

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Introduction

Winner of National Award for year 2009-2010 in R&D

Monad Electronics is An ISO 9001:2015 certified company, which has been involved for over 20 year in the business of designing, manufacturing and export of Electronic Industrial products, Testing equipments , sensors and related indicating and controlling devices and allied products related to Data logging & Acquisition.

Monad is specialized in providing high end and high accuracy customized Force Transducers, Multi-Axial Force Transducers and Torque Sensors. Monad is an expert in providing import substitutes of high end Load Cells, Safe Load Indicators, etc

We are supplying to leading industries and government institutions and are also exporting our products to USA, Germany, Belgium, Turkey, Australia, U.A.E., Singapore, Spain, Brazil, New Zealand, Philippines, UK, Croatia and to the African countries.

STEERING EFFORT SENSOR

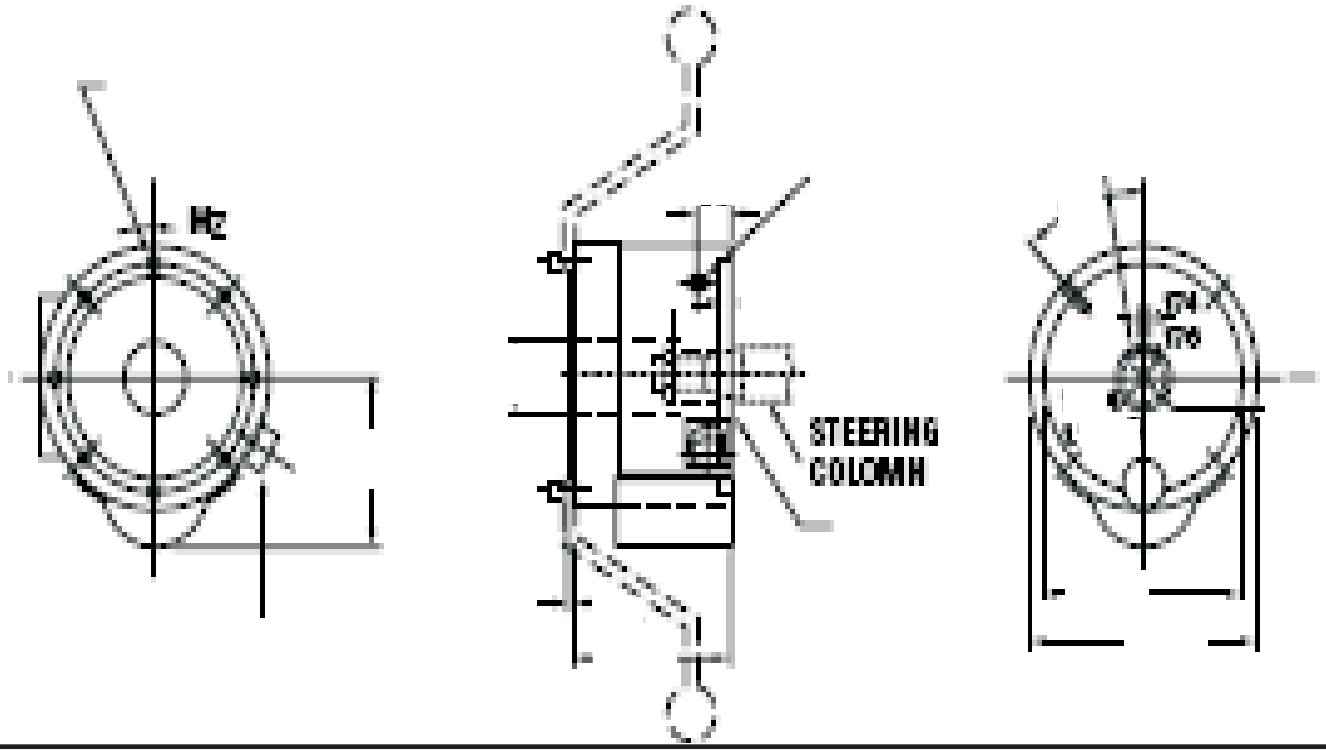
FEATURES:

Direct to steering column attachment

True steering torque-feedback for automobiles,Cars, trucks, buses and material handling equipment.

Custom designs & other versions are also available as per your requirement

STEERING EFFORT SENSOR



STEERING EFFORT SENSOR

MODEL NUMBER	CAPACITY Nm	PROTECTED FOR OVERLOADS TO Nm
ST 1	70	115
ST 2	150	225
ST 3	300	450

TELEMETRY STEERING EFFORT SENSOR

Monad offers Digital telemetry Steering Effort sensors, which provides continuous, non-contact torque data from very low torque to a wide range, rotating steering sensor to a stationary receiver. This system provides a portable, state of the-art steering effort sensor. It can be used in the field, laboratory, or on the test track to measure steering torque and angle requirements.

FEATURES

Light Weight System

No drag from bearings or slip rings

Digital telemetry to eliminate signal interference

Chargeable and Replaceable batteries.

Airbag compatibility

Quick and easy installation

PC interface to collect data

TELEMETRY STEERING EFFORT SENSOR

SPECIFICATIONS

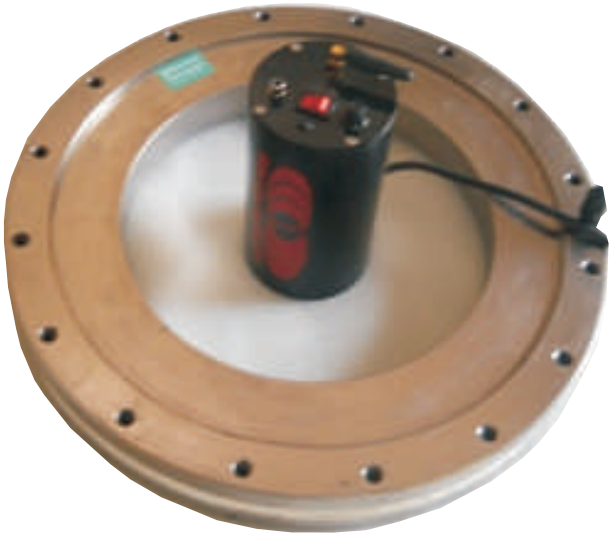
Capacity		100, 250, 500, 1000, 2000 N.m
Rated Output		24 Bit Digital
Non linearity		±0.1% of RO
Non repeatability		±0.1% of RO
Hysteresis		±0.1% of RO
Safe overload		150% or Rated capacity
Power supply		9 V DC (Rechargeable Battery)
Sampling Rate		10 Samples/ Sec
Temperature shift Zero		±0.01% of RO/C
Temperature shift Span		±0.02% of Load/C
Compensated Temperature		0°C to 50°C
Operating Temperature		-20°C to + 55°C
Maximum Rotation		Unlimited (Non contact digital Sensor)
Insulation resistance		2000MΩ
Battery		12 V / 9V
Construction material	Sensor	Alloy steel
	Body	Aluminum
Maximum RPM		1200
Sensor Sealing		IP67

WHEEL TORQUE SENSOR

The Automobile Wheel Torque Sensor is designed to be bolted to the brake drum or spindle of a car or truck in place of the regular wheel. The wheel is then bolted to the torque sensor. This moves the wheel outward approximately 11/2 inches from its original location. A slip ring or rotary transformer assembly is provided to connect the torque sensor to an instrument in the vehicle.

Most torque sensors can be supplied with two sets of bolt holes so that it can fit two different bolt circle diameters, each with the same number of holes. The sensor is normally furnished with one adapter plate for one given stud pattern. Some of the wheel torque sensors are designed to be used with special wheels which bring the tire rim back to its original location, thus maintaining the original tire track.
Also, on some models, a DC tachometer or 60-tooth gear and magnetic pickup generator can be supplied which provides a signal proportional to wheel speed.

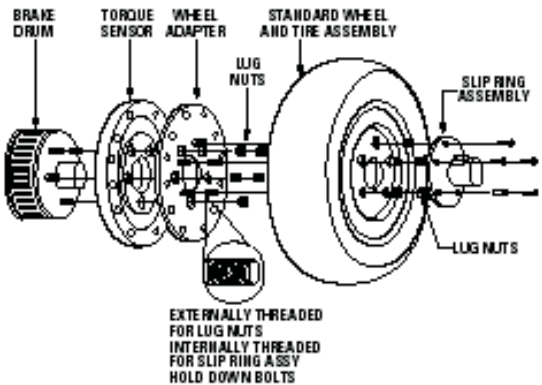
WHEEL TORQUE SENSOR



WHEEL TORQUE SENSOR

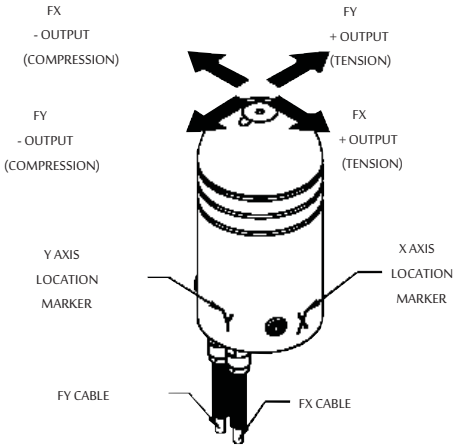
FEATURES:

- "At the source" torque measurement
- Large selection of capacities available
- Wheel centerline offset correction available for cornering testing
- Special application versions available



GEAR EFFORT SENSOR

MONAD manufactures Stick / Gear shift effort sensor , to measure force required during the operation.



GEAR EFFORT SENSOR

SPECIFICATIONS

Rated Output	2 mV/V nom.
Safe Overload	150% of R.O.
Zero balance	±1% of R.O.
Excitation(VDC or VAC)	10 Max.
Bridge Resistance	350 ohm nom.
Non linearity	± 0.25% of R.O.
Non repeability	± 0.25% of R.O.
Temp. Shift Zero	± 0.02% of R.O.
Temp. Shift Span	± 0.02% of Load
Compensated Temp.	15°C to 70° C
Operating Temperature	- 40°C to 70° C

PEDAL FORCE TRANSDUCER

Pedal force transducers are used for measurement of force exerted on the brake, clutch AND acceleration pedal

The MONAD Pedal force transducer mounts quickly and easily . The sensor can be used with brake/clutch/acceleration test or directly during normal driving. Pedal force transducer are independent of the angle of the activation force.

CAPABILITIES:

Determine force exerted on the pedal during tests.
Record the pedal force independent of the angle of activation.
Applicable for use with standard test stands and for normal driving.

PEDAL FORCE TRANSDUCER

TECHNICAL SPECIFICATIONS:

Measurement Range:	0 - 1500 N
Measurement Accuracy:	3% Average, 7% maximum
Linearity:	0.1%, 0.7% with integrated signal option
Analog Output:	2 mV/V

Telemetry Torque Sensor For PTO Application

Monad's Wireless Torque Sensors are utilized in applications where conventional torque transducers are not practical due to high shaft speeds, vibration, and harsh environments. These factors plays major problems for conventional foot-mounted rotary torque transducers with bearings and slip rings.

The use of RF telemetry to transfer data makes our wireless torque sensor highly reliable and durable. Batteries are used to provide energy to the rotating sensor and transmitter. These technologies permit a great deal of movement between the rotating sensor and stationary loop antenna with no affect on the signal quality. Minimal alignment between the stationary and rotating components is required.

Telemetry Torque Sensor For PTO Application

Telemetry Torque Sensor For PTO Application

Special Features:-

Contact less Transmission of the measurement signal

Measurement on Rotating & Stationary Parts

Cylindrical Shaft ends For Non Play Friction Joints

Integrated measuring system for speed and angle of rotation

RS 232/USB/Telemetry Data Capture

Telemetry Torque Sensor For PTO Application

SPECIFICATIONS:-

Rated Output	2mv/V
Rated Output	24 Bit Digital
Zero Balance	± 0.05% of RO
Excitation Voltage	10 V DC Max.
Non linearity	±0.25% of RO
Non repeatability	±0.251% of RO
Hysteresis	±0.25% of RO
Safe overload	150% or Rated capacity
Power supply	In built Rechargeable Battery 7.2V/2.2 Ah(Lithium-Ion)
Sampling Rate	10 Samples/ Sec
Temperature shift Zero	±0.25% of RO/C
Temperature shift Span	±0.02% of Load/C
Compensated Temperature	15 to 70°C
Operating Temperature	00 to 70 °C
Battery Backup	> 12 Hours, when fully charged
RF link carrier frequency	2.4 GHz
RPM Sensor*	Hall effect / Optical
RPM sensor accuracy*	±1RPM

Telemetry Torque Sensor For PTO Application

Construction material		
	Sensor	Alloy steel (Electroless Nickel Plated) / Stainless Steel
Maximum RPM		5000 (RPM Class A) 10000 (RPM Class B) 30000 (RPM Class C)
RPM Least Count		1 RPM
Coupling		PTO Torque Sensor comes with flange type coupling on one end and Female Spline at other end. This will be with male-female PTO spline set with Universal joints as per customers requirement.
Sensor Sealing		IP65

Torque & Power Measurement Accuracy:-

Direct Measurement of PTO Torque. Highly accurate as no variation in angle due to Propeller shaft.

Transmitter

Digital RF encoded Transmission, 433 Mhz ultra low power consumption system for long battery life

Telemetry Torque Sensor For PTO Application

Display	Two Line alpha Numeric Display LCD Display with back light
Display Parameters	Torque/Peak Torque, RPM & Power
Measuring Units	N.m, Kg.m, N.cm, Kg.cm, Lbf.Ft
Key Pad	Soft Touch Key Pad
Relay O/P	Two Programmable set point with Relay O/P
Digital O/P	RS232, with 2-10 Samples per Sec.
Communication Port	RS232/RS485 O/P to transfer Torque and RPM Data
Calibration	Software Calibration For Torque and RPM
Peak Reading	Peak Reading display option selectable by switch
Analog O/P	0-10V or 4-20mA Corresponding to Torque and RPM
Data Logging	In Built data Logging facility with user selectable sampling rate
Power Supply	24V DC/ 12V DC/ 220V AC
Dimension	96X192X150

Receiver

Bandwidth (Sampling Rate) 5-10 Samples per Second

Software:-

System comes with our Specialized Data logging software to log Torque data in MS excel format in real time with time, date and Graphs plotting facility.