

WIRELESS TORQUE

Data Sheet

PATENTED

WIRELESS TORQUE

The wireless torque meter can measure the static and dynamic torque on a rotating system.

Autec wireless torque meter uses a patented proprietary technology for energy and data transmission. The system is made up of two parts: a moving part attached to the rotating shaft with a strain gauge bridge, and a fixed part attached to the frame of the machine. The two parts are placed at short distance from each other. There are no wires connecting them. No batteries or radio equipment are mounted on the moving part. The fixed part is connected to a circuit board which provides the torque value both in analogue and digital form.

Operating principle: the fixed part powers the moving part which reads the state of the strain gauge bridge and sends the torque value back to the fixed part in Nm or Kgm at prescribed intervals. The data are then sent to a data acquisition system or to an electronic control apparatus. The torque meter can be used both when the shaft is rotating and when it is not (0 rpm). The rotation speed doesn't have any effect on the accuracy of the meter. The data can thus be used in real time to carry out load/strain tests, to report a warning and gather useful data for preventive maintenance.



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MEASURING PART – SENSOR CONNECTION SIDE

Strain gauge bridge reading electronics	Attached to the rotating part, fully wireless-powered
Data transmission characteristics	Both with rotating and static shaft
Sampling frequency	up to 2000 Hz
ADC converter resolution	16 bit (65536 steps)
Amplification thermal stability	10 ppm / °C
Fieldbus	RS232, RS485, Modbus RTU and TCP, CANopen
Working temperature	-10 ÷ 80 °C ~ Optional Tmax 125°C

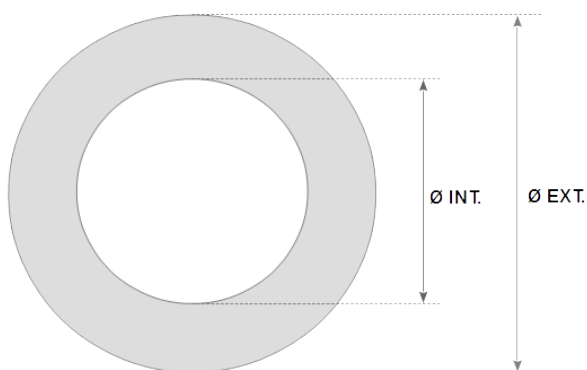
ACQUISITION PART – POWER SUPPLY AND DATA OUTPUT SIDE

Power supply	12 ÷ 24 VDC
Current analogue output	4 ÷ 20mA - 16 Bit resolution
Tension analogue output	0 ÷ 5VDC / 0 ÷ 10VDC - 16 Bit resolution
Digital output	RS485 - Modbus RTU - CANopen
Analogue output thermal stability	10 ppm / °C
Working temperature	-10 ÷ 80 °C ~ Optional Tmax 125°C

AVAILABLE OPTION

4 digits torque reading display.

DIMENSIONS



Ø INT.	Ø EXT.
40 mm	56 mm
59 mm	79 mm
*	*

* The torque meter ring dimensions can be customized according to the customer's shaft dimensions.



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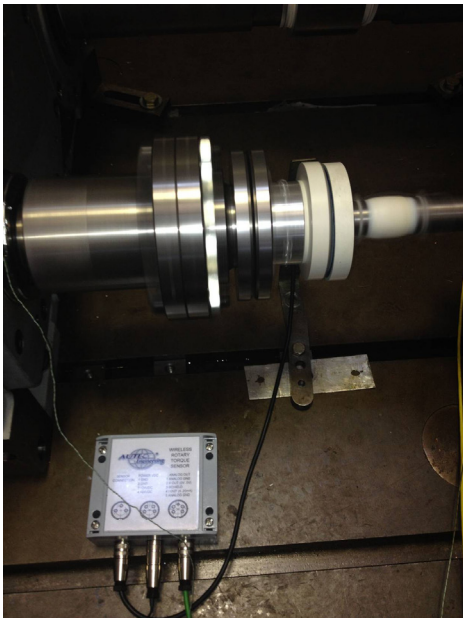
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APPLICATIONS

The Wireless Torque Meter can have several applications. A typical application is monitoring the load applied to a drive shaft, to a reducer or to any mechanical part under strain. What makes the difference is that the rotating part doesn't need to be battery-powered as in many other torque meters.

INDUSTRIAL APPLICATION

Monitoring the load applied to a reducer.
Rotation $0 \div 1800$ RPM – Torque ± 3000 Nm



AUTOMOTIVE APPLICATION

Torque monitoring on a drive shaft

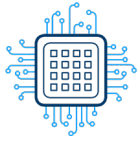


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ABOUT US

Autec S.r.l has been designing electronic equipment for industrial automation, automotive and sensors industry since 1993.



HOW WE WORK

Our way of working starts with the project specifications provided by our customers. Then, with the support of our technical staff, we turn those ideas into the final product.



Requirement analysis

Both hardware and software designs are entirely carried out by Autec through a constant search for technologically advanced solutions and with the aim of keeping reliability at the top of our order of priority.



Design and Development

The experience we gained over the years has allowed us to successfully design electronic equipment capable of enduring the hardest working conditions.



Realization

All Autec circuit boards and electronic equipment, including prototypes, are internally tested in conformity with the specifications required by the Customer.

WHERE WE ARE



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