datum electronics

Industrial Brochure

KVALITEST INDUSTRIAL

PRECISION. DATA. INNOVATION.

About Datum Electronics

Datum Electronics develops, produces and sells innovative torque & shaft power measurement solutions such as; shaft torque sensors, torque transducers, torque meters, marine shaft power meters, bolt-on strain gauge sensors, amplifiers, power take off (PTO) shaft sensors and wind turbine monitoring systems.

Headquartered in the UK, we have a long-established presence worldwide, through our extensive network of re-sellers and distributors in more than 30 countries, and have been trusted for over 30 years.

Whether you need a standard torque measurement device, a custom engineered OEM product, or mid to high volume torque sensors, our business is based upon our customer's.

We can work with you to develop a cost-effective, high-quality torque measurement solution, which integrates into your product line and within your existing machinery.

Research and development is a core part of our business and we continue to strive to remain at the forefront of torque and strain measurement technology.

We cover a number of markets including marine, automotive, renewables, aerospace/defence, civil engineering, mixers, government projects.

Get in touch to find out more.

We're proud to work with

LAND ROVER · SIEMENS · Rolls-Royce · rotork · CATERPILLAR · GE · University of Strathclyde Glasgow · BAE SYSTEMS · JOHN DEERE

Made in the UK

We are located on the **Isle of Wight**, the home of the foil strain gauge. We maintain this heritage as a strain gauge torque sensor power measurement company.

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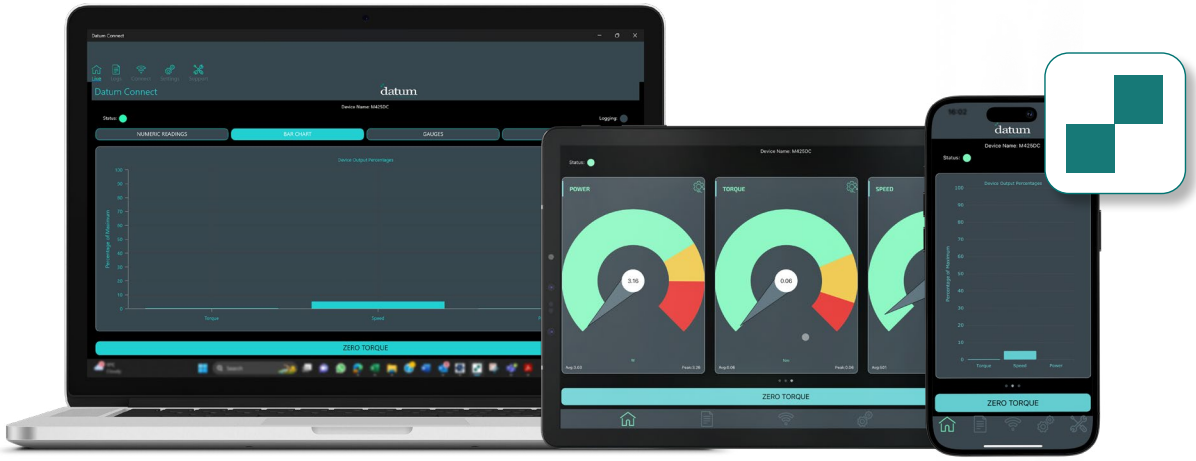

datum connect

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The Datum Connect (DC) Series Torque Transducers are the latest offering from Datum Electronics range of cutting-edge non-contact torque monitoring solutions.

The DC Torque Transducers are Wi-Fi enabled to communicate with the Datum Connect app (available on both Android and IOS) and have been designed to fit with most applications and solutions requiring rotary torque measurement.

425 SERIES

Integrated with datum connect

M425 Torque Transducer

The Datum Connect (DC) Series Torque Transducers are the latest offering from Datum Electronics range of cutting-edge contactless torque monitoring solutions.

The DC Torque Transducers are Wi-Fi enabled to communicate with the Datum Connect and have been designed to fit with most applications and solutions requiring rotary torque measurement.

The high-tech contactless communication system provides data directly proportional to torque, offering a comprehensive range of available digital and analogue outputs.

Scan the QR to code learn more

Features

- Accuracy: 0.1%
- Non-Linearity: 0.1%
- Repeatability: 0.05%
- Digital Sample Rate: As standard from 100 samples per second
- Digital outputs of Data through RS485 and Wi-Fi with Datum Connect App, including USB PC test software.
- Selectable Analogue Outputs of Torque, Speed & Power: 0-10V, +/-10V, 4-20mA, 12+/-8mA
- Environmental Protection: IP54
- Power Supply: 10-24Vdc 250mA
- Standard range available from 10Nm-30,000Nm

425 SERIES

Integrated with datum connect

RS425 Rotary Torque Transducer

These contactless Torque Transducers are not limited by operational speeds, can fit any shaft and capable of measuring torque from 3Nm, providing highly accurate and reliable torque measurement in many applications.

The Datum Electronics Series RS425 contactless torque transducer has been designed to fit easily in line with any drive-train or test rig, using either a spline or key-way shaft. This type of torque sensor has many advantages over other torque measurement systems, including zero bearing friction, high speed and high torque applications.

The Series RS425 transmits calibrated digital data as this is a cleaner and more defined method of transmitting data. The on-shaft signal from the strain gauge is converted to a digital signal and amplified on shaft.

Features

- Accuracy: 0.1%
- Non-Linearity: 0.1%
- Repeatability: 0.05%
- Digital Sample Rate: As standard from 100 samples per second
- Digital outputs of Data through RS485 and Wi-Fi with Datum Connect App, including USB PC test software.
- Standard range available from 3Nm-30,000N
- Selectable Analogue Outputs of Torque, Speed & Power: 0-10V, +/-10V, 4-20mA, 12+/-8mA
- IP rating enhancements
- Long-term operation reduced maintenance
- Bespoke mechanical connections
- Ideal for high-speed applications

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425 SERIES

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FF425 Non-Contact Flange Torque Sensor

Contactless Torque Transducers with flange couplings at either end with measuring ranges from 0-100Nm up to 30kNm as standard (bespoke sensors up to 16MNm) for a variety of in line static and rotary torque measurement applications.

The Datum Electronics Series FF425 non contact flange torque sensor and FF410 torque sensors have been designed to fit easily inline with any drive train or test rig using standard DIN size couplings. With Flange couplings at either end of the torque transducer, it has many advantages over other torque measurement systems on the market.

Scan the QR to code learn more

Features

- Accuracy: 0.1%
- Non-Linearity: 0.1%
- Repeatability: 0.05%
- Digital Sample Rate: As standard from 100 samples per second
- Digital outputs of Data through RS485 and Wi-Fi with Datum Connect App, including USB PC test software.
- Selectable Analogue Outputs of Torque, Speed & Power: 0-10V, +/-10V, 4-20mA, 12+/-8mA
- Ranges from 0-100Nm up to 30kNm as standard
- High Accuracy
- High Torque Resolution
- Fully Non-Contact Transmission and Hardware
- The customisable flange and PCD option available to customers
- Torque measurement greater than 40kNm please see Datum LTS system

425 SERIES

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Tractor PTO Shaft Monitoring System

Datum Electronics Series 425 Connect Tractor PTO Drive Shaft Torque and Power Monitoring System will monitor and log the torque, shaft speed and transmitted power accurately when testing new systems driven from all standard PTO (Power Take Off) Shafts.

Efficient measurement and monitoring of this power can be a useful tool in research and analysis into the performance of a tractor transmission. It highlights efficiency, savings, measurement and control.

Features

- Accuracy: 0.1%
- Range of shaft and spline configurations available as standard
- Digital Sample Rate: As standard from 100 samples per second
- Digital outputs of Data through RS485 and Wi-Fi with Datum Connect App, including USB PC test software.
- Selectable Analogue Outputs of Torque, Speed & Power: 0-10V, +/-10V, 4-20mA, 12+/-8mA
- Robust Design for In Field Applications
- IP 65 rated
- Easy Installation

Scan the QR to code learn more

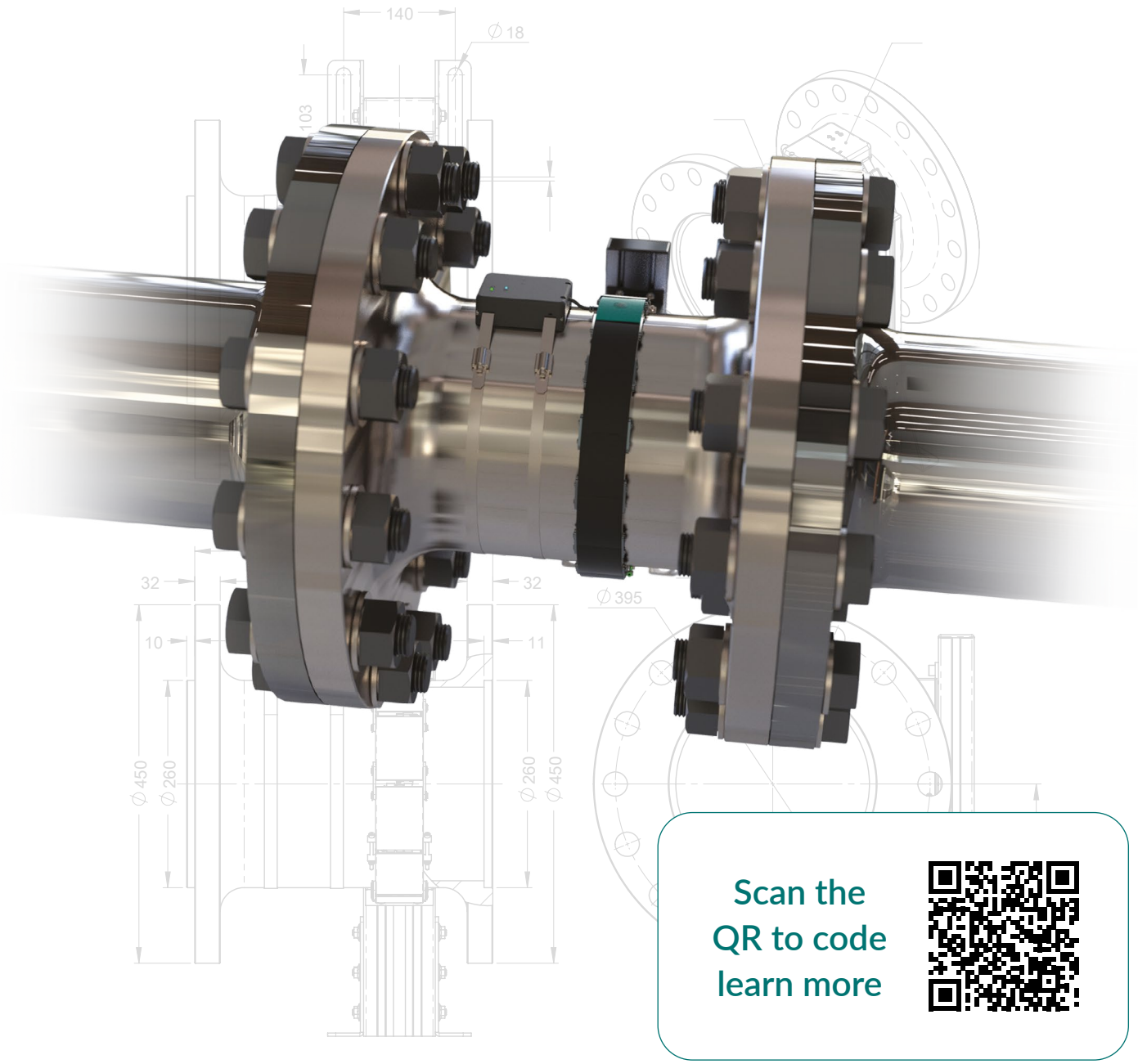
Large Torque Sensor

Datum Electronics Ltd are the manufacturer of some of the largest inline torque measurements systems (LTS) in the World, where we accurately measure torques of up to 84MNm. Our LTS systems have been sold to some of our valued customers including GE and Siemens.

Based on our expertise for these systems, Datum Electronics are introducing the LTS range to our customers requiring to accurately measure Torques from 40kNm up to 500kNm. The LTS (Large Torque Sensor) systems are designed using flanged coupling spacers to allow for simple and efficient inline installation. Datum Electronics have designed a standard range for the LTS systems to allow customers to easily plan and integrate the LTS range into their own test stands.

The LTS systems offers our customers precise on-shaft torque measurement solutions, with a wide range of outputs including digital, selectable analogues and a display included as standard.

For those customers who have specific requirements such as higher sample rates for dynamic torque data for analysis and/or any specific integration requirements, such as customer PCD's etc. please talk with our sales team who are happy to discuss making the LTS the right solution to your torque measurement needs.



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Features

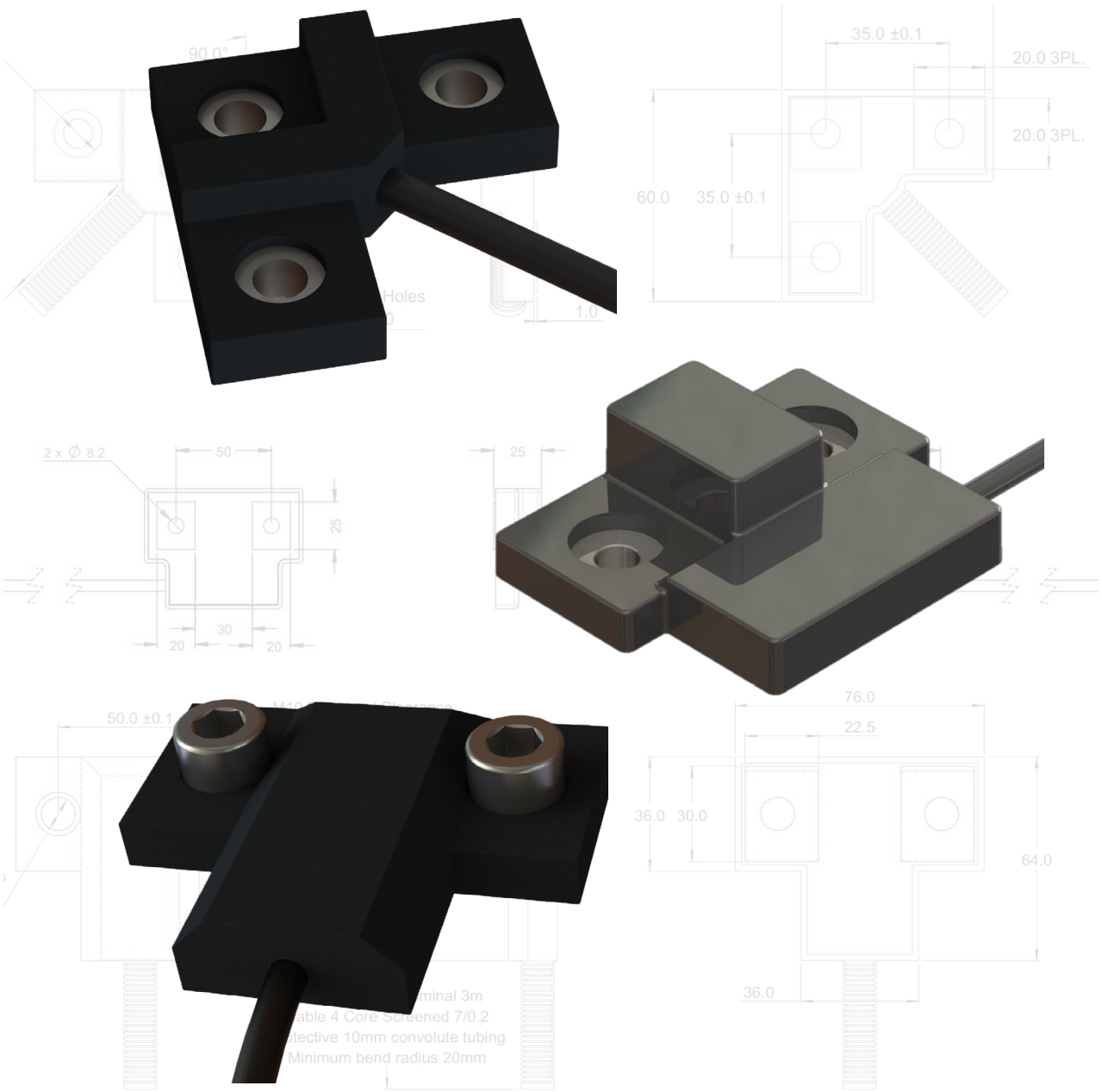
- Electronics Accuracy 0.1%
- Digital Sample Rates 100sps as standard [upgradeable to 1,000sps]
- Simple Design for integration
- IP65 rated
- Features a Touch Screen Controller that shows Torque, Speed & Power
- Digital Outputs as RS485 & Modbus with digital repeater function
- Selectable Analogue Outputs for Torque, Speed & Power: 0-10V, +/-10V, 4-20mA, 12+/-8mA
- Customisable Design work for drivetrain integration

BOLT-ONS

460 & OEM Bolt-On Strain Sensors

Datum Electronics has developed many OEM, as well as standard “off the shelf” strain sensors for weighing and load application, where quick, simple and repeatable installation is key (both on site or on a production line).

Designed to be robust and extremely reliable, our strain sensors & solutions remove the need for highly skilled strain gauge installation, or expertise. They can also be implemented in the harshest environments, including underwater applications.



Features

- Simple Design
- Easy Installation
- High Accuracy, Repeatability & Reliability
- Temperature Compensated Options
- No Physical Alterations to Structure Required
- Cost-Effective
- Multiple Strain Gauge Output Options For OEM Customers
- Amplifiers With Signal Conditioning Can Be Integrated for OEM Customers

Scan the QR to code learn more

Silo Weighing System

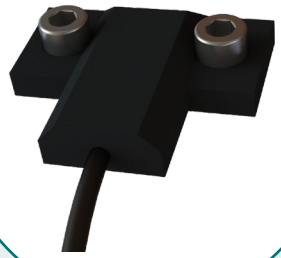
Datum Electronics has a successful history of helping customers to get the data for multiple silo monitoring through our Silo Hawk Program built from one of the companies first products our bolt on strain gauge. Now we are looking to add in our modular design concept to the Silo Weighing marketplace with our Silo Monitoring Systems starting from independent silo monitoring to multiple silos.

Using Bolt-On Strain gauges for load monitoring is a simple and effective option which gives our customer a quick and simple route to retrofit measurement by adding our sensors to structural supports. The success of this option is in the simplicity of fitting these to an existing structure requiring minimal interruption to silo use with fitment completed in hours.

Features

- Highly accurate bolt-on strain gauges
- Simple installation process for new and retrofit
- Non-intrusive installation process
- User friendly controller
- Robust design
- Modular and Expandable system for future expansion

Local Controller



Bolt-on Sensor

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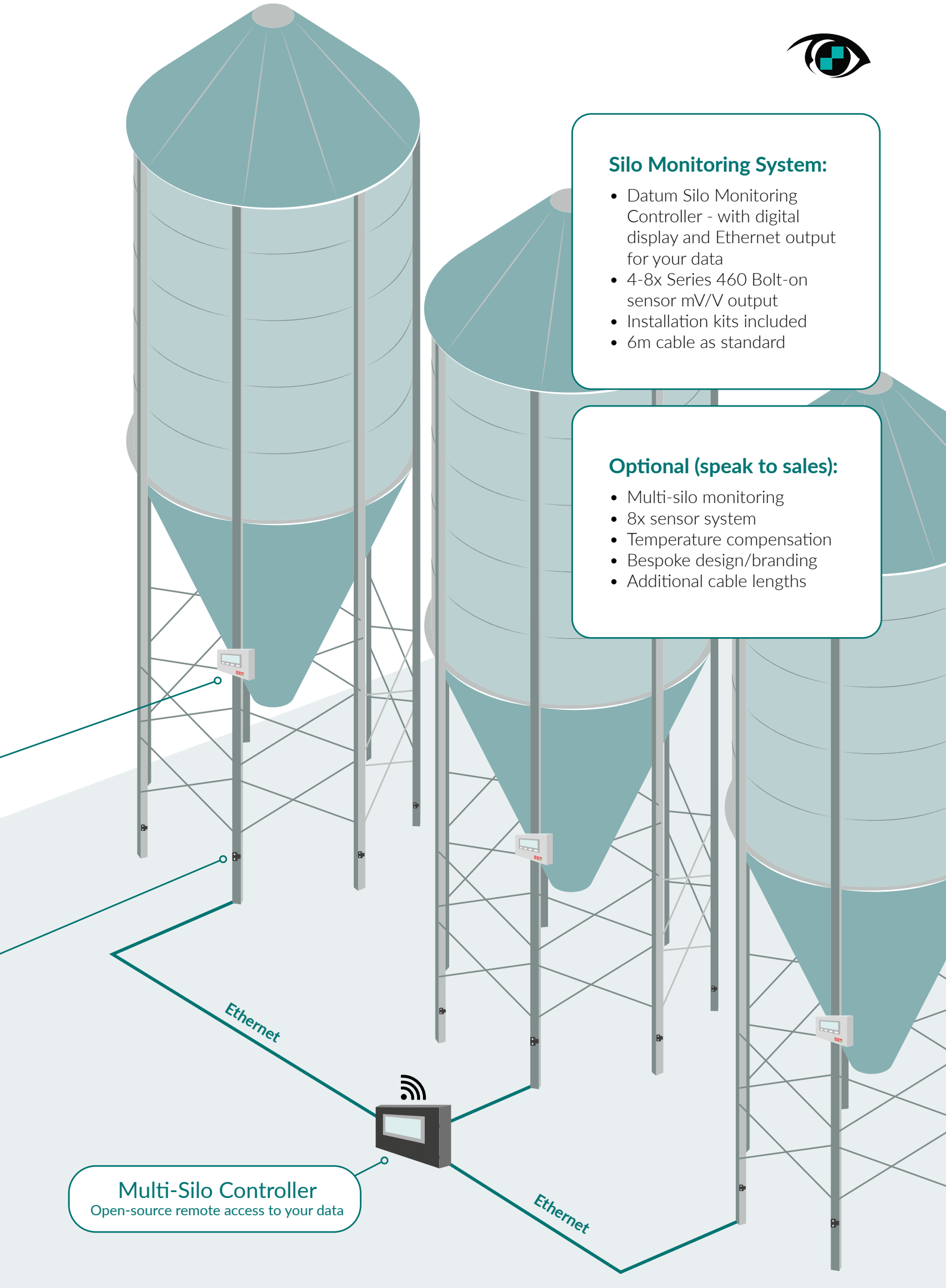


Silo Monitoring System:

- Datum Silo Monitoring Controller - with digital display and Ethernet output for your data
- 4-8x Series 460 Bolt-on sensor mV/V output
- Installation kits included
- 6m cable as standard

Optional (speak to sales):

- Multi-silo monitoring
- 8x sensor system
- Temperature compensation
- Bespoke design/branding
- Additional cable lengths

AUGER HAWK

Auger Hawk - Helical Screw Pile Torque Measurement System

The Auger Hawk helical screw pile torque, thrust, angle rpm measurement system is a wireless completely contactless highly accurate torque sensor for those who need to confidently measure and verify heavy duty torque for insertion of helical screw piles.

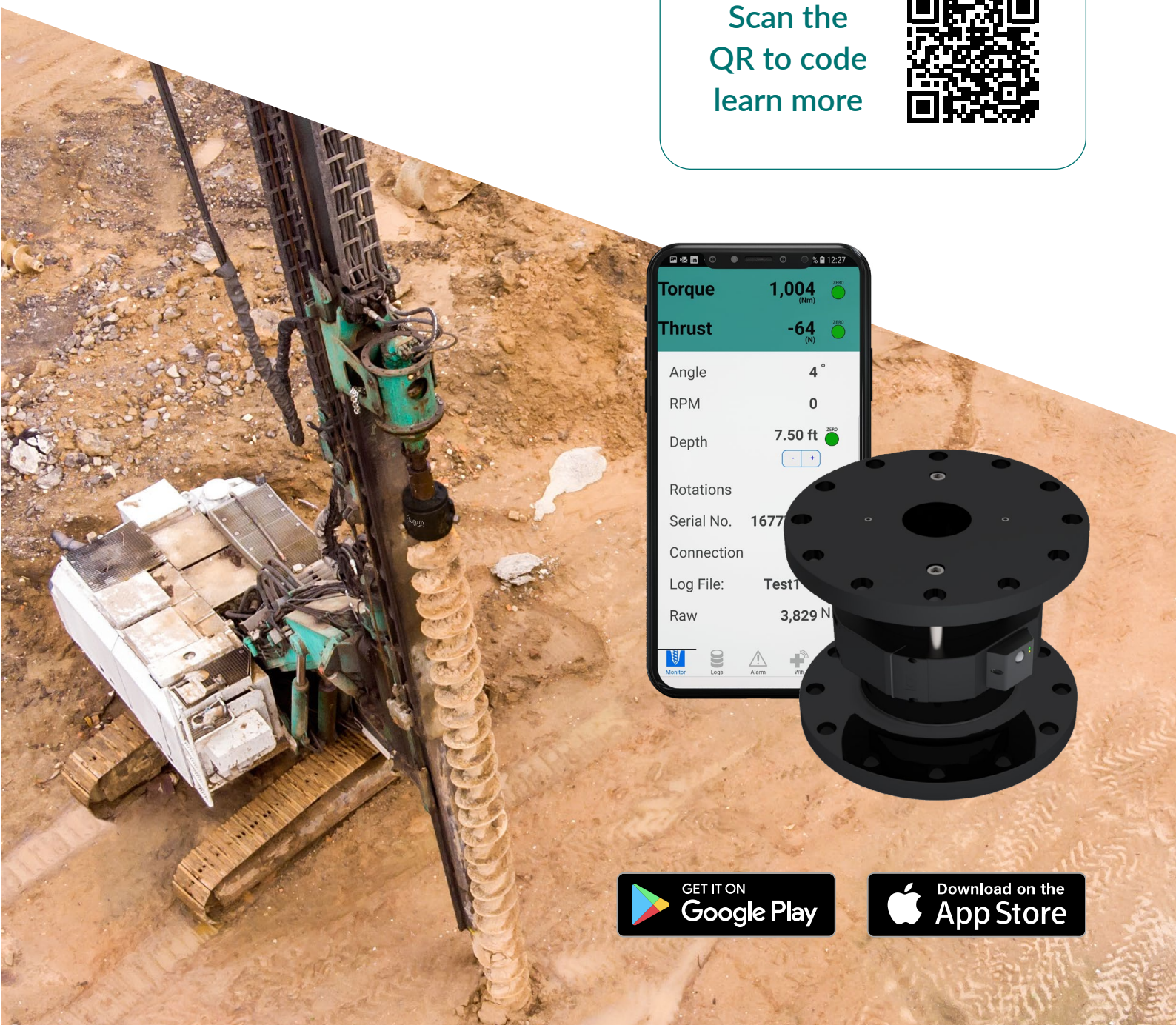
For over 10 years, Auger Hawk has became established as the industry standard for the Helical (Screw) Pile foundation insertion industry, where torque monitoring relating to pile insertion is of paramount importance.

Features

Our revolutionary design allows the operator and engineers to be able to show highly accurate data in real time:

- Torque
- RPM
- Rotations
- Highly accurate angle if insertion
- Thrust
- Insertion depth values
- Pile geographical unique location through GPS technology through the Mobile/Tablet application

Scan the QR to code learn more



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Other Solutions

Pump, Valve, Motor & Engine

Datum Electronics range of standard solutions have long been used for the testing of torque and power, where we offer both inline and directly installable solutions. Our transducers measure torque both statically and dynamically and our different solutions mean we can connect a variety of motors and loads.

Aerospace & Defence

Datum Electronics have taken their standard torque and power measurement solutions and applied them successfully to the higher standards required for both Military and Aerospace Applications.

The Datum Electronics Naval Torsion Meter is the only system which is designed and tested to both UK Defstan's (Def Stan 08-123, Def Stan 59-41, Def Stan 61-5), MIL SPEC's (MIL167, MIL901D), the marine shaft power meter system has now been in service on naval vessel worldwide for 10 years.

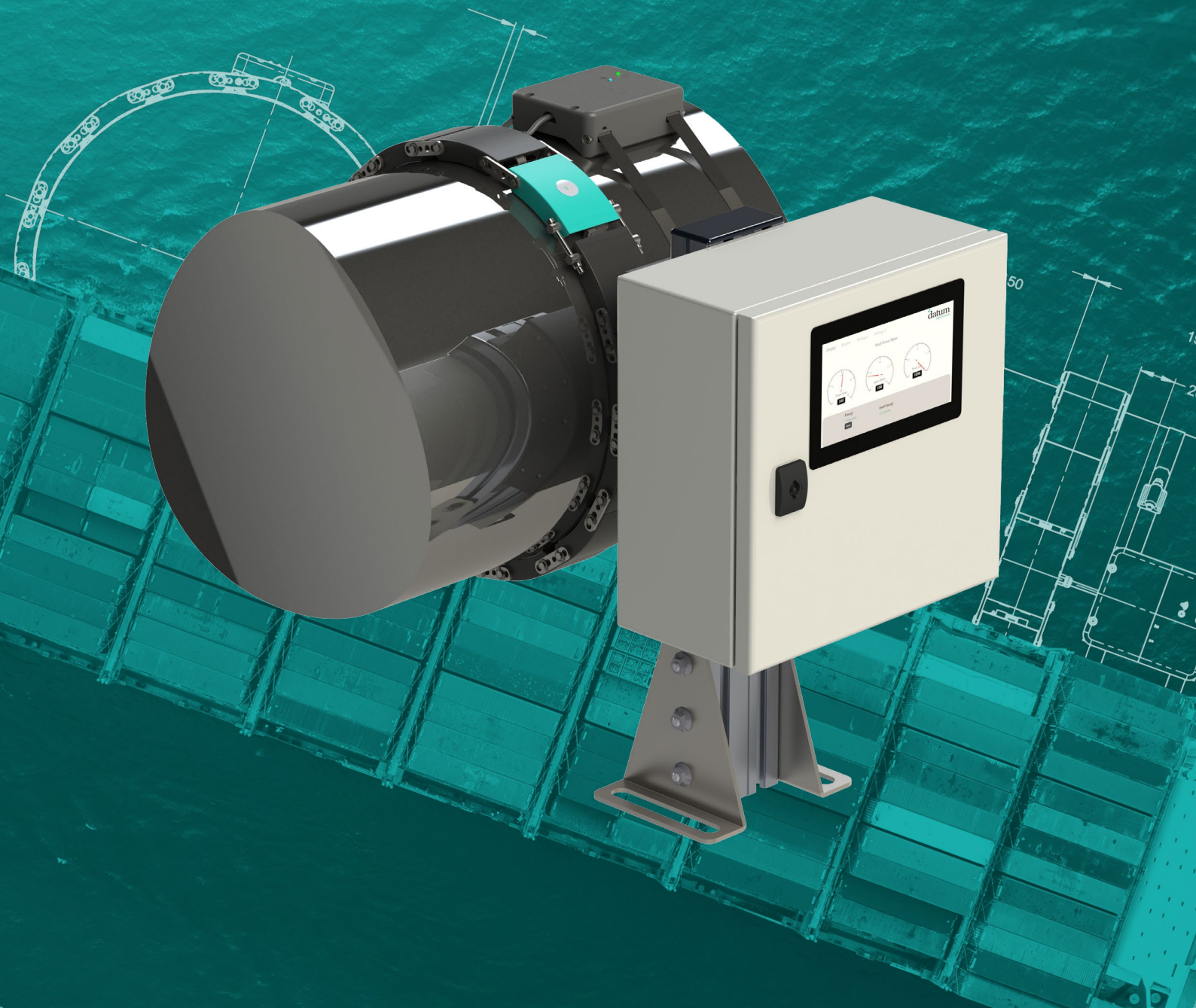
Made in the UK

Maritime

Datum Electronics supplies both permanant and temporary Shaft Power Measurment solutions to the maritime industry. These systems are typically installed directly onto vessels without the need to modify or change shafting arrangements.

Datum's Marine Shaft Power Meter Systems (SPMs) are developed to provide real time and ongoing power monitoring data on propulsion shafts, thrusters and diesel generators.

Shaft Power Meter solutions can also be installed outside the maritime sector where a direct installable solution is required for torque or shaft power monitoring.



Custom Design/OEM Solutions

Custom Design

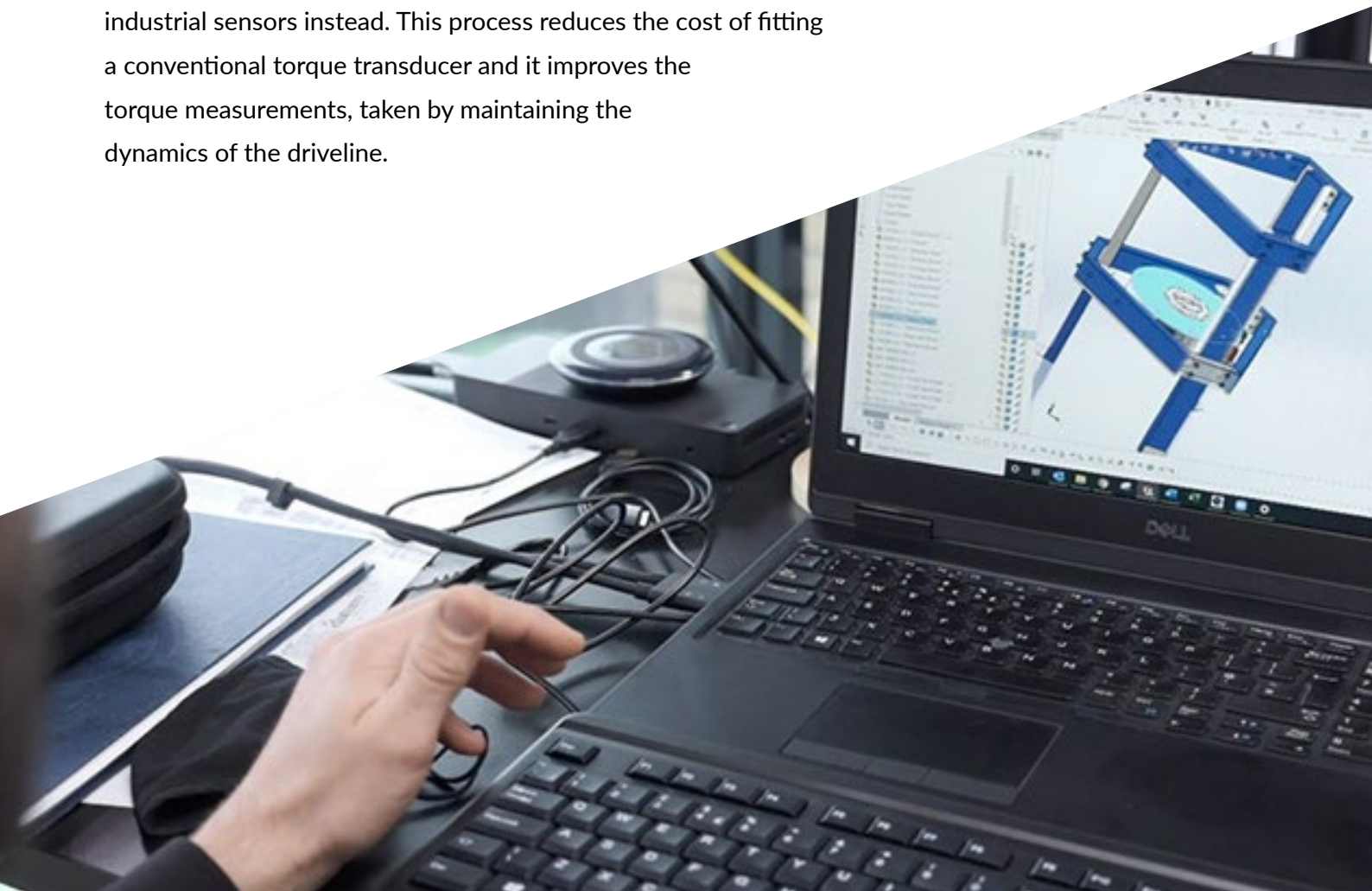
Datum Electronics can offer custom solutions to solve your torque and shaft power measurement problems. Our bespoke services include:

- CAD Design
- Ground up design
- High volume manufacturing
- One-off or full development / turnkey solutions

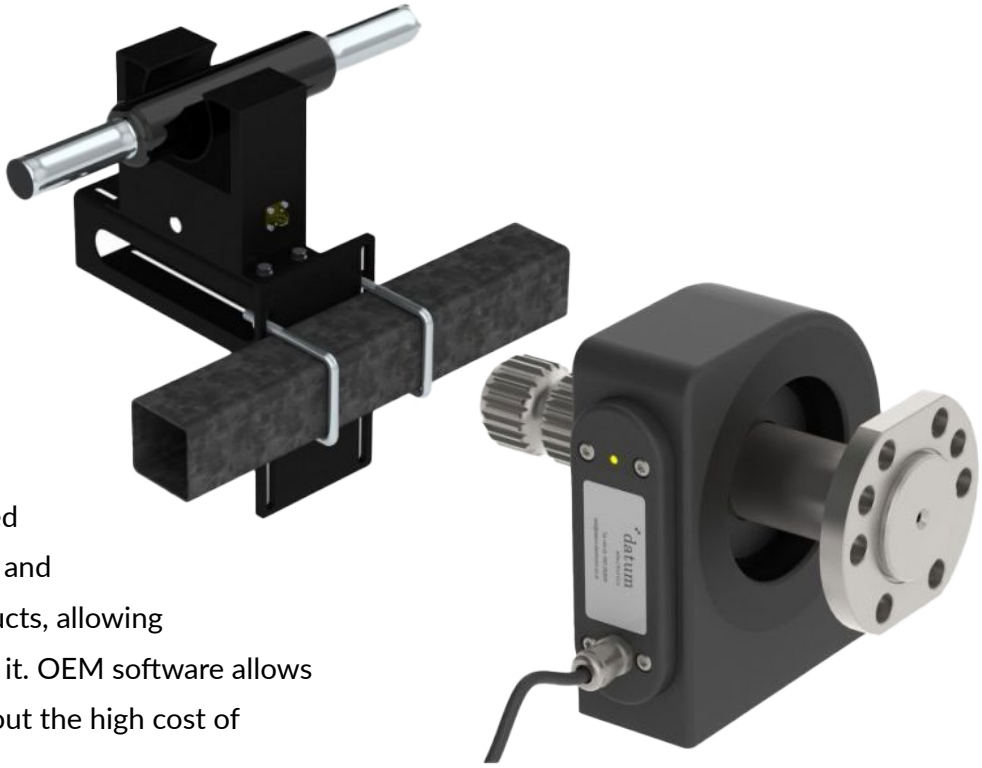
Custom Industrial Torque Sensors

Datum Electronics are able to provide both modular and custom designed torque and rotary strain measurement solutions, which can be complete as one-off or as fully integrated OEM solutions.

In many cases, it is better to use an existing shaft or test rig and use custom industrial sensors instead. This process reduces the cost of fitting a conventional torque transducer and it improves the torque measurements, taken by maintaining the dynamics of the driveline.



Custom OEM Solutions



Original equipment manufacturer (OEM) software is designed by the original manufacturer to be white-labeled — customised for the same look and feel of a particular brand's products, allowing them to put their own stamp on it. OEM software allows you to introduce solutions without the high cost of software development.

Benefits

Datum Electronics are able to provide both modular and custom industrial sensors, as well as reaction and rotary strain measurement solutions. The solutions range from an installation on a specific shaft or coupling on a test rig to the full design of an integrated system for a drive system. Engineered solutions can be complete as a one-off torque sensor or as fully integrated OEM solutions.

We have also designed and built the world's largest torque transducer of 12 MNm.

With over 30 years of experience, Datum Electronics have completed over 1,000 such designs and will probably have something approximately close to your requirements in our library. If you would like to discuss an application, where you believe a custom torque sensor design would be of benefit, please call our technical sales team or email us a drawing or sketch of the shaft and its location, including as much information as possible.

We also provide production sensors in high volume for our OEM customers.

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Contact Us

Rev. B

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