

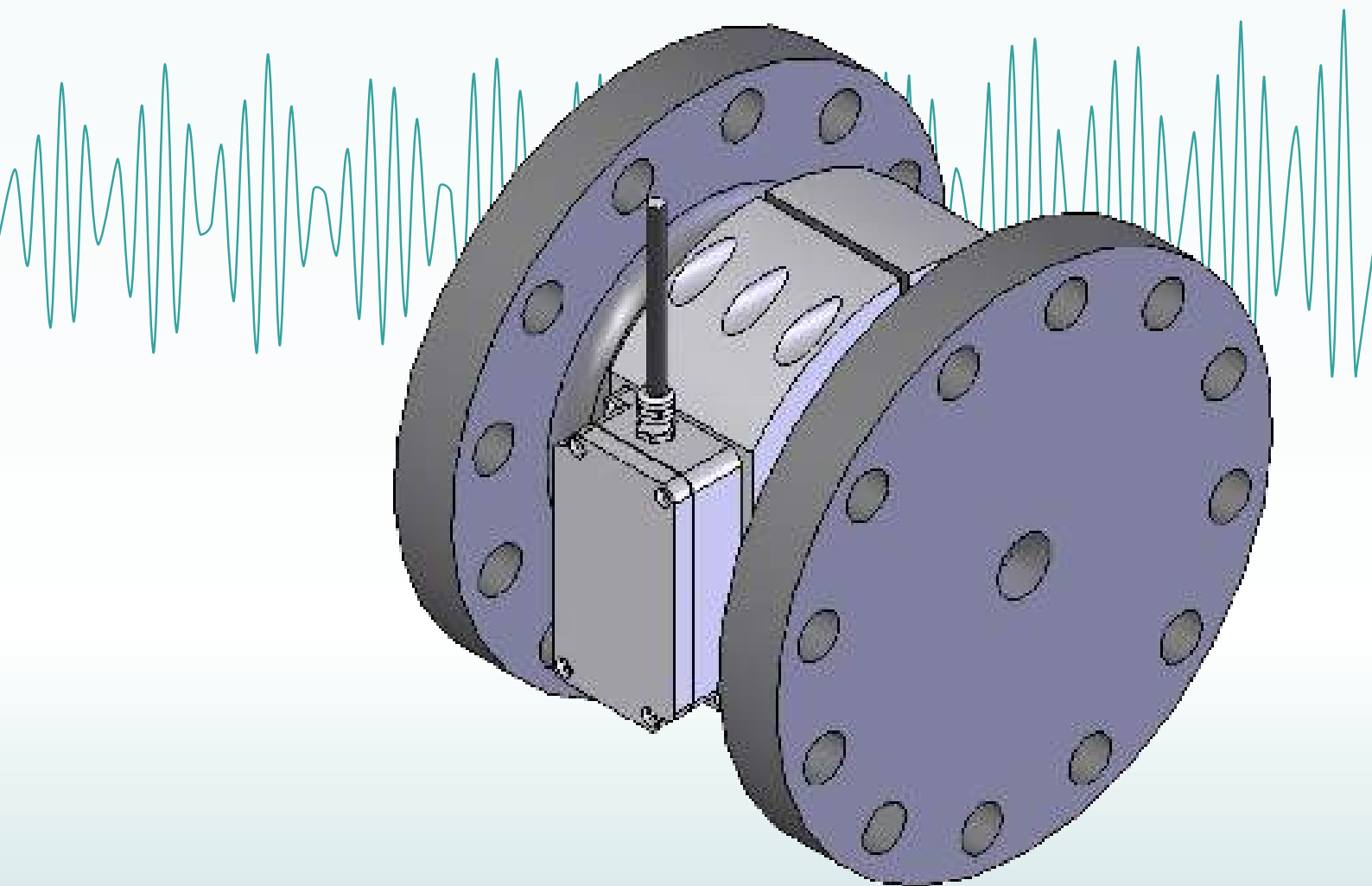
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## DATUM ELECTRONICS

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# FF110 STATIC TORQUE TRANSDUCER DATASHEET

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## THE DATUM FF410 STATIC TORQUE TRANSDUCER

The Datum Electronics Series 410 Static Torque sensor was developed following demand from our customers for an effective and competitively priced product. Developed from our FF410 rotary torque transducers, the same technology and design principles have been applied to our FF410 reaction transducer range, providing a competitive option, which is simple and effective.

## SPECIFICATIONS

The Series FF410 Reaction Torque Transducer design utilises full bridge strain gauge principles. Using the same principles and knowledge gained in the rotary market, the reaction torque range transducer provides the following specifications, with an optional high torsional stiffness model.

- Accurate On Shaft Torque Measurement
- Flexible Rig/Drivetrain fittings (DIN Size Flange)
- Modular System Assembly
- Proven Technology
- Low Maintenance
- Simple Linear Calibration included as standard
- Engineered to Fit Most Drive Components
- Static Torque Measurement
- Full Bridge Strain Gauge Output
- Researched, Designed and Built in the UK

## FEATURES

Flange Mounted Static Transducer

Flange Torque Transducer to Match Standard DIN Flanges

Ideal Design for Easy Fitting To Test Rigs and Drive Systems

No Bearings for Lightweight Applications

Unique Design Offers High Torsional Stiffness Model

Standard FF410 Reaction Torque Sensor Range Available from 250 Nm to 10,000 Nm

Full Bridge Strain Gauge Output Compatible with Datum Type 310, Type 324, Type 300 Indicators

## EASY FIT INTO RIG

The FF410 Static Sensor easily fits into your existing test rig or drive train. Using standard DIN flanges, fitting and coupling, the static FF410 torque transducer is a more efficient than other manufacturing options. The minimum operating envelope of the Series 410 reaction torque transducer starts from as little as 100mm and can increase depending on torque measurement requirements.

## TORQUE RATINGS

The Series 410 Reaction Torque Transducers have been designed with nominal rated torque levels in Nm. We can modify the torque range to include lb/ft, in/lbs or similar, based upon your requirements.

Nominally rated torque levels include:

### TORQUE RATINGS

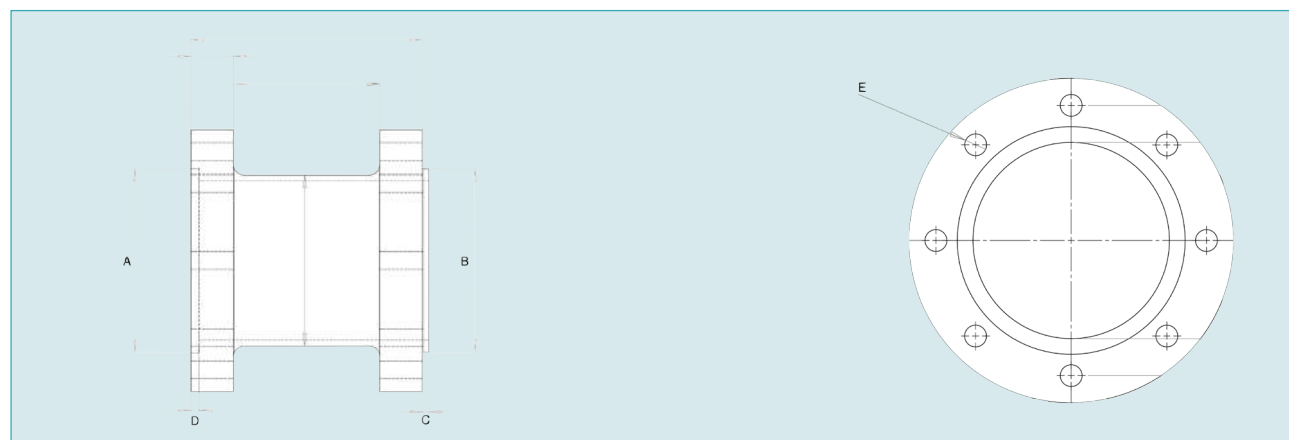
250 Nm
500 Nm
1,000 Nm
2,000 Nm
5,000 Nm
10,000 Nm

## FF410 SPECIFICATIONS & DIMENSIONS

TORQUE	A Flange, mm	B Male/Female Flange Coupling, mm	C Male/Female Flange Coupling Extrusion/Depth, mm	D Flange Thickness, mm	No. of holes	E (+0.2 mm), mm	E (PCD), mm
250 Nm	100	57	2.5	8.0	6	8.25	84
500 Nm	100	57	2.5	8.0	6	8.25	84
700 Nm	100	57	2.5	8.0	6	8.25	84
1,000 Nm	120	75	2.5	8.0	8	10.25	101.5
1,600 Nm	120	75	2.5	8.0	8	10.25	101.5
1,900 Nm	120	75	2.5	8.0	8	10.25	101.5
2,900 Nm	150	90	3.0	10.00	8	12.1	130
4,400 Nm	150	90	3.0	10.00	8	12.1	130
5,100 Nm	180	110	3.0	12.00	8	14.1	155.5
7,300 Nm	180	110	3.0	15.00	10	16.1	155.5
13,000 Nm	225	140	4.4	20.00	8	16.1	196

## TECHNICAL DATA

Operating Temperature	0 to +70°C (+32 to +158°F)
Storage Temperature	-40 to +85°C (-40 to +185°F)
Temperature Effect on Span	0.001% per °C (0.001% per °F)
Temperature Effect on Zero	0.002% per °C (0.002% per °F)
Calibration Temperature	22°C (71.6 0.002% per °F)
Environmental Protection	IP54 (IP65 to order if required)
Cable Length	4 metres as standard (13.12ft), longer if required
Combined Error	0.2% of FSD
Sensitivity	1.8mV/V (nominal)
Hysteresis / Repeatability	0.15% of FSD
Excitation Voltage	5-15 VDC
Max Overload Capacity	150% of full load
Bridge Resistance	700 ohms (nominal)





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