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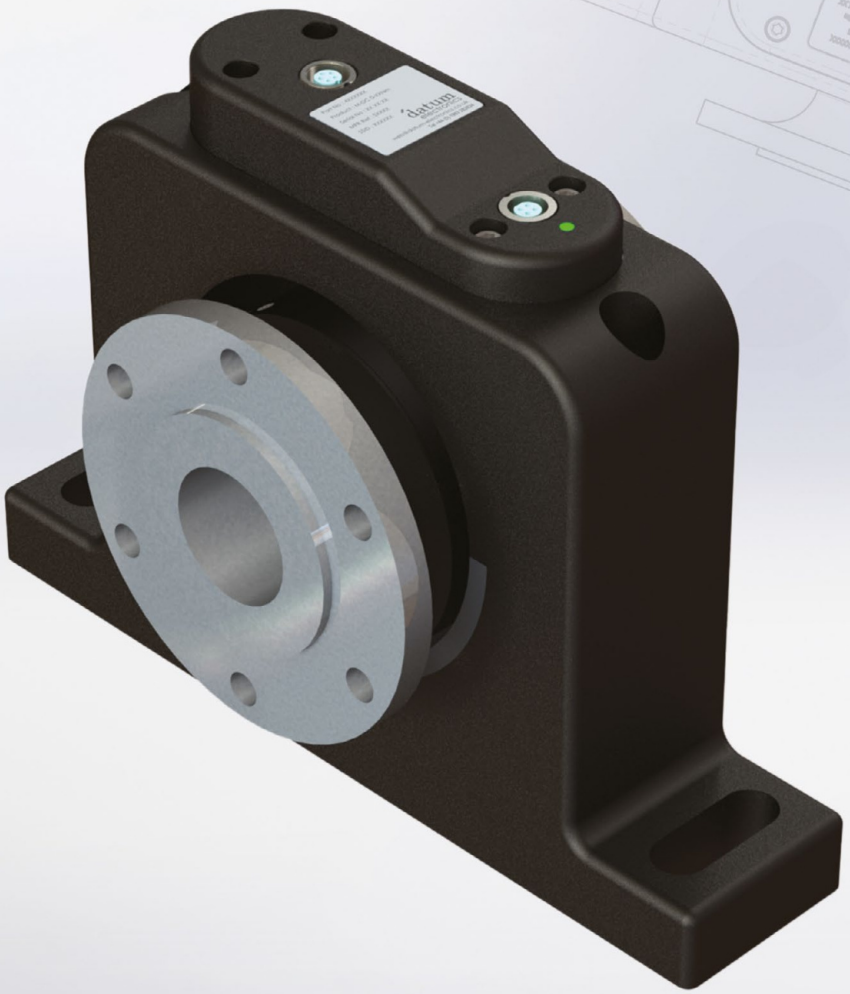


425 SERIES

FF425 Flanged Torque Transducer

PRODUCT OVERVIEW

Made in the UK

PRECISION. DATA. INNOVATION.

425 SERIES

FF425 Flanged Torque Transducer

The FF425 Flanged Torque Transducer by Datum Electronics, is a precision flanged torque sensor designed for inline installation in drivetrains and test rigs. With standard DIN flange couplings and available in a variety of sizes and torque ranges from 100 N·m to 30,000 N·m, the Datum FF425 is a versatile choice for both OEMs and retrofit applications across a wide range of industries.

The Datum FF425 combines highly-accurate strain-gauge technology, robust construction quality, and a high-tech contactless communication system to deliver high resolution torque, RPM, and shaft power data across a comprehensive range of available digital and analogue outputs. As part of the 425 Series, it is also is fully compatible with **Datum Link**, our latest app for iOS, Android, and Windows.

Features and Benefits

- Accuracy Class: 0.1
- Torque ranges from 0-100 N·m to 30,000 N·m
- Fully non-contact transmission and hardware
- Standard DIN flange dimensions for easy integration
- Custom flanges and PCD options available
- Selectable analogue outputs of torque, speed & power
- Digital sample rates from 100 SPS
- Digital data outputs via RS-485 and Wi-Fi
- Compatible with Datum Link app for iOS, Android, & Windows
- IP54 Rating as standard
- RPM ranges from 1-10,000

Performance

Non-Linearity	±0.1% FSD
Repeatability	±0.05% FSD
Hysteresis	±0.05% FSD
Noise-free Resolution	20 bit to 13.5 bit (dependent on sample rate)
Digital Sample Rate	Standard 100 SPS
Analogue Sample Rate	Up to 100 SPS, standard 20 SPS
Output Baud Rate	3 Mbaud as standard
RPM Measurement	
Included as	1 pulse per rev
Transducer Output Interfaces:	
Serial data via RS-485	
Wi-Fi 2.4 GHz transmission	
Transducer Output Data:	
Torque	Shaft RPM*

*Output of RPM based on 1 pulse per revolution as standard.

*Speak to sales for higher sample rates.

Power Supply

12-24Vdc	Via Datum Connect Interface

Environment

Thermal Stability of Gain per 10˚C	0.02%
Thermal Stability of Zero per 10˚C	0.02%
Normal Specification Range	10˚C to 60˚C
Operating Range	-10˚C to +70˚C
Storage Range	-35˚C to +75˚C
Environmental Protection	IP54
Electromagnetic Compatibility	EN61326-1:2006 (IEC61000-4), IEC60945)

The Datum FF425 is supplied with the Datum Connect Interface [DCI] to give traditional digital and analogue outputs to customers.

Digital outputs include RS-485, USB, and **Datum Link**, our free app for iOS, Android, and Windows devices.
Learn more at datum-electronics.com/datum-link.

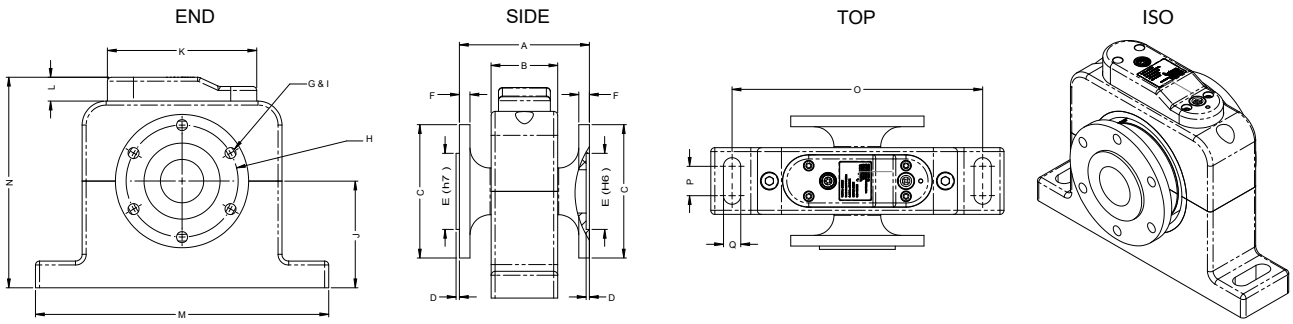
Individual analogue outputs for Torque, Speed & Power available which are scalable and selectable including: 0-10V, +/-10V, 4-20mA & 12+/-8mA.

For more information please discuss with sales.

Performance Characteristics

FF425 model	Rated load (N·m)	Rated load (lbf·ft)	Standard RPM Range	Body mass (kg)	Rotor mass (kg)
S1-100Nm	100	73.8	1-10,000	1.057	0.560
S2-200Nm	250	184.4	1-10,000	1.057	1.201
S2-500Nm	500	368.8	1-10,000	1.057	1.276
S3-1kNm	1,000	737.6	1-10,000	1.057	1.668
S3-2kNm	2,000	1,475.1	1-10,000	1.057	2.149
S4-5kNm	5,000	3,687.8	1-8,000	1.152	6.112
S4-10kNm	10,000	7,375.6	1-8,000	1.152	12.162
S5-15kNm	15,000	11,063.4	1-6,000	2.138	20.499
S5-20kNm	20,000	14,751.2	1-6,000	2.138	22.318
S5-25kNm	25,000	18,439.1	1-6,000	2.138	34.608
S5-30kNm	30,000	22,127.9	1-6,000	2.138	40.969

Alphabet Key for FF425 Model Sizes 1 to 5



3D models and STEP files are available from Datum Electronics to assist project planning.
Please contact Datum Electronics for more information.

Tech Specifications

FF425 model	Shaft length face to face (mm)	Body width (mm)	Flange Ø (mm)	Male/Female flange coupling extrusion / depth (mm)	Male/Female flange coupling Ø H7/h6 TOL (mm) (ISO 286)	Flange thickness (mm)	Number of holes	PCD (mm)	Hole Specification (ISO 4017 / DIN 933 / ISO 273)
	A	B	C	D	E	F	G	H	I
S1-100Nm	97.5	50	100	2.5	57	8	6	84	M8
S2-200Nm	97.5	50	100	2.5	57	8	6	84	M8
S2-500Nm	97.5	50	100	2.5	57	8	6	84	M8
S3-1kNm	97.5	50	120	2.5	75	8	8	101.5	M10
S3-2kNm	107.5	50	120	2.5	75	8	8	101.5	M10
S4-5kNm	137	50	180	3	110	12	8	155.5	M14
S4-10kNm	157	60	185	3	110	15	8	155.5	M14
S5-15kNm	216	60	250	5.5	140	20	8	217	M16
S5-20kNm	216	60	250	5.5	140	20	8	217	M16
S5-25kNm	216	60	285	6	175	20	8	247	M18
S5-30kNm	216	60	315	6	190	22	8	275	M20

FF425 model	Base to shaft centre (mm)	Output module length (mm)	Output module length (mm)	Base length (mm)	Overall height (mm)	Base fixing slot centre to centre (mm)	Fixing slot length (mm)	Slot width (mm)
	J	K	L	M	N	O	P	Q
S1-100Nm	80	112	8.5	220	143.5	188	22	13
S2-200Nm	80	112	8.5	220	143.5	188	22	13
S2-500Nm	80	112	8.5	220	143.5	188	22	13
S3-1kNm	80	112	8.5	220	143.5	188	22	13
S3-2kNm	80	112	8.5	220	143.5	188	22	13
S4-5kNm	100	112	8.5	220	172.5	188	22	13
S4-10kNm	100	112	8.5	220	172.5	188	22	13
S5-15kNm	100	112	8.5	300	212.5	266	22	13
S5-20kNm	100	112	8.5	300	212.5	266	22	13
S5-25kNm	100	112	8.5	300	212.5	266	22	13
S5-30kNm	100	112	8.5	300	212.5	266	22	13

For more information, or to discuss how we can tailor a solution to your exact requirements, speak with our team.

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Contact Us

Rev. B

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