



FF425 Connect Flanged Torque Transducer

Datasheet
V1.0

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Using the latest technology manufactured and designed by Datum Electronics the Series FF425 Connect rotary Flanged Torque Transducers fit directly as replacement drive line spacers and couplings. The transducer utilises the Datum 425 Series state of the art electronics, offering very high accuracy, operational stability, high signal resolution and a wide range of signal output options.

The Torque Transducer can either be supplied from our standard range with DIN flanges up to 30KNm or as custom units up to any size with the flange and length dimension designed to fit an existing coupling spacer design. With the custom option drive lines can have a torque transducer integrated with a minimum of cost and disruption or need to find additional space.

The FF425 is a true non-contact torque transducer, the rotor runs inside the stator with a 2 to 5mm air gap. This ensures no longterm wear of bearings or frictional loads on the rotating drive shaft.

The FF425 Torque Transducers are ideal for test rigs and permanent machinery applications. With Datum Connect Electronics this allows your smart phone/device to act as both display and data logger and with our Datum Connect Interface [DCI].

Performance and Benefits:

Ranges 0-30,000Nm
High resolution torque sampling
High data sample
Cutting edge wireless output of torque speed and power
Contactless data transmission
Static and rotary torque measurement
Simple to integrate
Robust construction
Low power consumption
Datum Connect app available on iOS, Android and Windows
RS485 output
Calibrated analogue data for torque speed and power

Performance			
Non-Linearity	+/-0.1% FSD		
Non-Repeatability	+/-0.05% FSD		
Noise-free Resolution	20 bit to 13.5 bit (dependent on sample rate)		
Digital Sample Rate	Standard 100sps Up to 4000 please enquire		
Analogue Sample Rate	Up to 100sps, standard 20sps		
Output Baud Rate	3MB as standard		
Transducer Output:			
Serial Data via RS485 Wifi 2.4 Ghz transmission			
Transducer Output Data:			
Torque	Shaft RPM*	Shaft Temp.	Diagnostics
*Output of RPM based on 1 input pulse per revolution as standard			

Power Supply	
12-24Vdc - 400	Via Datum Connect

Environment	
Thermal Stability of Gain per 10°C	0.02%
Thermal Stability of Zero per 10°C	0.02%
Normal Specification Range	10 to 60°C
Operating Range	-10 to +70°C
Storage Range	-35 to +75°C
Environmental Protection	IP54 (Upgradeable to IP67/68 please discuss requirement with sales)
Electromagnetic Compatibility	EN61326-1:2006 (IEC61000-4), IEC60945)

Contact our technical sales team or sales team to discuss:
web@datum-electronics.co.uk / +44(0)1983 282834

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

Digital outputs include RS485 and USB, supplied with our free of charge software to view and log Torque, Speed and Power Data, log files are a .CSV file to allow for simple analysis.

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 Size	Rated load (Nm)	Rated load (Lbft)	Standard Rotational speed (RPM)	Body mass (Kgs)	Rotor mass (Kgs)
Size 1	0-100	73.8	10,000	1.057	0.560
Size 2 - A	0-250	184	10,000	1.057	1.201
Size 2 - B	0-500	369	10,000	1.057	1.276
Size 3 - A	0-1000	738	10,000	1.057	1.668
Size 3 - B	0-2000	1475.1	10,000	1.057	2.149
Size 4 - A	0-5000	3687.9	8000	1.152	6.112
Size 4 - B	0-10,000	7375.7	8000	1.152	12.162
Size 5 - A	0-15,000	11064	6000	2.138	20.499
Size 5 - B	0-20,000	14751	6000	2.138	22.318
Size 5 - C	0-25,000	18439	6000	2.138	34.608
Size 5 - D	0-30,000	22127	6000	2.138	40.969

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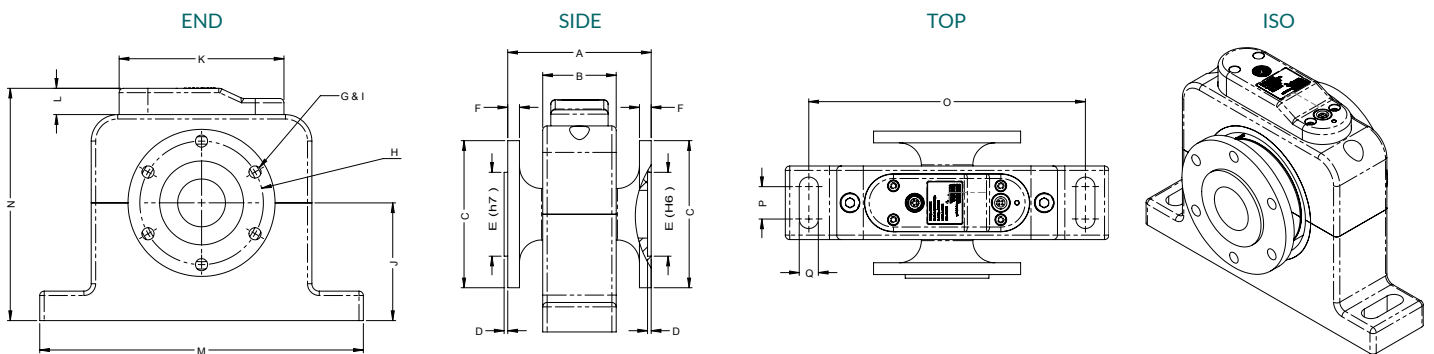
Datasheet



FF425 Tech Specifications

FF425 Model Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Size 1	97.5	50	100	2.5	57	8	6	84	M8	80	112	8.5	220	143.5	188	22	13
Size 2 - A	97.5	50	100	2.5	57	8	6	84	M8	80	112	8.5	220	143.5	188	22	13
Size 2 - B	97.5	50	100	2.5	57	8	6	84	M8	80	112	8.5	220	143.5	188	22	13
Size 3 - A	97.5	50	120	2.5	75	8	8	101.5	M10	80	112	8.5	220	143.5	188	22	13
Size 3 - B	107.5	50	120	2.5	75	8	8	101.5	M10	80	112	8.5	220	143.5	188	22	13
Size 4 - A	137	50	180	3	110	12	8	155.5	M14	100	112	8.5	220	172.5	188	22	13
Size 4 - B	157	60	185	3	110	15	8	155.5	M14	100	112	8.5	220	172.5	188	22	13
Size 5 - A	216	60	250	5.5	140	20	8	217	M16	100	112	8.5	300	212.5	266	22	13
Size 5 - B	216	60	250	5.5	140	20	8	217	M16	100	112	8.5	300	212.5	266	22	13
Size 5 - C	216	60	285	6	175	20	8	247	M18	100	112	8.5	300	212.5	266	22	13
Size 5 - D	216	60	315	6	190	22	8	275	M20	100	112	8.5	300	212.5	266	22	13

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.

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