



THE LANRIN L425 TORQUE TRANSDUCER

The latest technology Lanrin Measurement Series L425 non-contact rotary Torque Transducers have been designed to fit with most applications and solutions requiring rotary torque measurement. The Torque Transducer fits in line with the drive train or test bed, using standard keyway shafts.

A non-contact transmission system provides data directly proportional to torque. In this variant it is supplied as a complete transducer with bearings to support the stator unit on the rotating shaft. It is suitable for most general test rig applications.

The L425 Torque Transducer utilises a strain gauged shaft for accurate and reliable torque measurement and a set of rotating on-shaft conditioning electronics. The digital signals are transmitted to the non-rotating part of the system or stator providing a reliable and highly accurate torque measurement solution.

The L425 has a torque measuring element design with an optimum length to maximise overall accuracy and give a high degree of tolerance to mounting offset.

The L425 also has a legacy mode so that it can be used as a direct replacement for the previous L420 Transducer.

L425 SYSTEM PERFORMANCE AND BENEFITS:

Ranges 0-10Nm up to 0-60,000Nm
High resolution torque sampling
High data rate
Accuracy and resolution options
Non-contact data transmission
Static and rotary torque measurement
Operational stability
Magnetic speed sensor - not effected by dirt
Simple to integrate
Robust construction
Sample rate selection 1-4000 samples per second
Low power consumption

SPECIFICATIONS

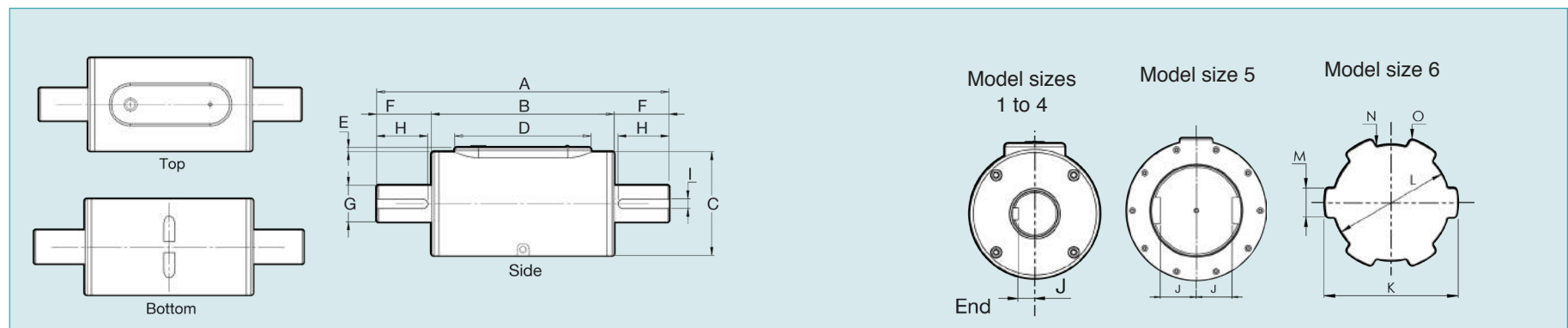
L425 PERFORMANCE INFORMATION

PERFORMANCE			
Non-Linearity		+/-0.1% FSD	
Non-Repeatability		+/-0.05% FSD	
Noise-free Resolution		20 bit to 13.5 bit (dependent on sample rate)	
Sample Rate		1 to 4000 samples per second	
Output Baud Rate		9600 to 3Mbaud	
RPM:			
Size 1 to 6		30 pulses per rev	
Transducer output interfaces:			
Serial data via RS485			
RS232 (option)			
Transducer output data:			
Torque	Shaft RPM	Shaft Temp.	Diagnostics
POWER SUPPLY			
Transducer		10-24Vdc 250mA	
Transducer and Interface		15-24Vdc 400mA	
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 (see RS425 for IP67/68 options)	
Electromagnetic Compatibility		EN61326-1:2006 (IEC61000-4), IEC60945)	

For signal output options including Ethernet, MODBUS, USB, RS485/232 and 4 analogue channels configured 4-20mA (4-12-20mA); +/-10Vdc, +/-5Vdc, 0-10Vdc or 0-5Vdc,

SPECIFICATIONS

						A	B	C	D	E	F	G		H	I	J
L425 model size	Rated load (Nm)	Rated load (lb ft)	Rotational speed (RPM)	Body mass Kgs	Total mass Kgs	Overall length	Body length	Body dia.	Output module length	Output module height	Exposed shaft length	Shaft dia. g6 fit	Numer of keyways	Keyway length (BS 4235-1: 1972)	Keyway width (BS 4235-1: 1972)	Keyway depth off centre
Size 1 - A	0-10	7.4	0-10,000	1.057	1.030	184	130	66	112	3.5	27	15	1 keyway	22.5	5	4.3
Size 1 - B	0-20	14.8	0-10,000	1.057	1.041	184	130	66	112	3.5	27	15	1 keyway	22.5	5	4.3
Size 1 - C	0-50	36.9	0-10,000	1.057	1.058	184	130	66	112	3.5	27	15	1 keyway	22.5	5	4.3
Size 1 - D	0-100	73.8	0-10,000	1.057	1.081	184	130	66	112	3.5	27	15	1 keyway	22.5	5	4.3
Size 2 - A	0-250	184	0-8,000	1.057	2.617	240	150	85	112	3.5	45.5	30	1 keyway	44	8	11
Size 2 - B	0-500	369	0-8,000	1.057	2.721	240	150	85	112	3.5	45.5	30	1 keyway	44	8	11
Size 3 - A	0-1,000	738	0-6,000	1.057	6.729	315	150	112	112	4.5	82.5	50	1 keyway	78.5	12*	20
Size 3 - B	0-2,000	1475.1	0-6,000	1.057	6.930	315	150	112	112	4.5	82.5	50	1 keyway	78.5	12*	20
Size 4 - A	0-5,000	3687.9	0-5,000	1.152	14.702	425	150	137	112	4.5	137.5	75	1 keyway	78.5	20	30
Size 4 - B	0-10,000	7375.7	0-5,000	1.152	15.254	425	150	137	112	4.5	137.5	75	1 keyway	78.5	20	30
Size 5 - A	0-15,000	11064	0-2,000	2.138	28.595	416	168	172	112	3.5	124	110	2 keyway	116	32	44
Size 5 - B	0-20,000	14751	0-2,000	2.138	31.366	416	168	172	112	3.5	124	110	2 keyway	116	32	44
Size 5 - C	0-25,000	18439	0-2,000	2.138	33.875	416	168	172	112	3.5	124	110	2 keyway	116	32	44
Size 5 - D	0-30,000	22127	0-2,000	2.138	35.246	416	168	172	112	3.5	124	110	2 keyway	116	32	44
Model size	Rated load (Nm)	Rated load (lb ft)	Rotation-al speed (RPM)	Total mass Kgs	Rotor mass Kgs	A Overall length	B Body length	C Body dia.	D Output module length	E Output module height	F Exposed shaft length	K Spline outer dia.	Spline no.	L Spline inner dia.	M Spline width	N & O Chamfer and radius
Size 6 - A	0-40,000	29503	0-1,500	62.07	53.43	416	168	228.6	112	3.5	124	152.4	6 spline	137	38	N = 0.5 - 1, O = 1.1- 1.3
Size 6 - B	0-60,000	44254	0-1,500	63.79	55.15	416	168	228.6	112	3.5	124	152.4	6 spline	137	38	N = 0.5 - 1, O = 1.1 - 1.3



*Does not comply with (BS 4235-1: 1972)