UTA CheckStar Rotary - User Instructions

Getting started with your in-line rotary torque transducer.

C E MARKING

Manufacturer: **Crane Electronics Ltd**
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Declares that this product has been assessed and complies with the requirements of the relevant CE Directives when used with Crane Electronics Ltd Readout Devices.

SUMMARY

The CheckStar rotary transducer is designed to measure the torque output of any non-impact assembly tool. The unique construction (patent applied for) gives long brush life with minimal maintenance requirements. The transducer is compatible with the original Crane UTA family and Crane readout devices. A smart chip provides data, when used with a compatible readout, of nominal rating, transducer serial number and recommended re-calibration date (Plug and Play).

An alternative version is available with an angle measurement encoder which allows, with a suitable readout unit, the measurement of the angle rotation in addition to torque.

OPERATION

Select a suitable size of CheckStar appropriate to the maximum torque rating of the tool to be used. This should be secured onto the tool output drive shaft and a socket fitted to the male square drive. It should be secured with a free pin and restraining ring (via the spring loaded pin).

Connect to the readout, select an appropriate operating mode then operate the tool in the normal way. In the interests of accuracy it is essential to maintain the correct alignment between the fastener, CheckStar and power tool. When using CheckStar rotary transducers with a tool and reaction bar the effective radial position of the reaction point should not be less than the figures given in Table 1. Failure to observe this requirement and also the maximum torque rating, may cause irreversible damage to the CheckStar.

The CheckStar rotary transducer with angle encoder may also be used with any tool except impact types. Angle measurements may be made with impulse tools but restriction on the maximum acceptance speed of the readout may limit accuracy. Since the angle encoder measures the angular position of the torsion shaft relative to the transducer body, it is important to hold the body still as the tool is operated.

If the male square detent pin is not required, this may be removed with a stepped (for location purposes) punch of Ø2.3mm for the ¼", Ø3.95mm for the ⅜" or ½" squares and Ø6.3mm for ¾" or 1" square drives.

Approved By:	Neil McDonald.	**Date:** **27/10/06**

SPECIFICATIONS

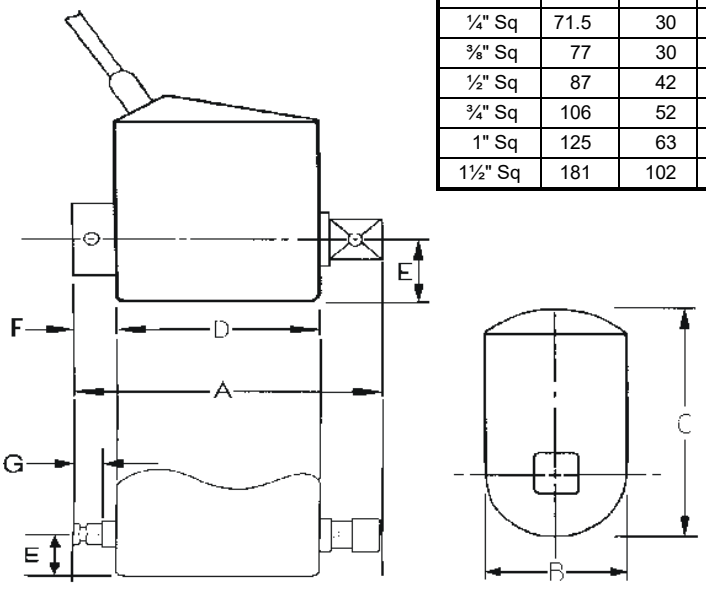
Static accuracy	-	± 0.25% f.s.d
Stability of zero offset with temperature	-	± 0.02% of f.s.d./ºC
Overload Capacity	-	125% f.s.d
Operation to specification over a temperature range of	-	5 to 40ºC
Operation to reduced specification over a temperature range of Humidity 10 to 75% non-condensing	-	-10 to 60ºC
Ingress Protection of the transducer (except connector)		IP40

The male and female square drives are designed to be compatible with drives meeting the specifications of:- ANSI B107-4 - 1982; BS4006 - 1992; DIN 3121 - 1987

Hex & Square Drive Size	Torque Rating (Nm)	Maximum RPM		Min. Radial Position of reaction bar at Max. Torque.	Angle Versions Only	
		Continuous	Intermittent		Resolution Degrees	Max RPM An
¼" Hex	2	5000	11,000	50 mm	0.5	2500
¼" Hex	5	5000	11,000	50 mm	0.5	2500
¼" Hex	10	5000	11,000	50 mm	0.5	2500
¼" Hex	20	5000	11,000	100 mm	0.5	2500
¼" Sq.	10	5000	11,000	50 mm	0.5	2500
¼" Sq.	20	5000	11,000	100 mm	0.5	2500
3/8" Sq.	25	2500	10,000	50 mm	0.5	2500
3/8" Sq.	50	2500	10,000	100 mm	0.5	2500
3/8" Sq.	75	2500	10,000	150 mm	0.5	2500
½" Sq.	180	2500	7,600	180 mm	0.5	2500
¾" Sq.	250	2000	5,000	120 mm	0.5	2000
¾" Sq.	500	2000	5,000	240 mm	0.5	2000
1" Sq.	750	1000	4,400	190 mm	0.5	1000
1" Sq.	1400	1000	4,400	350 mm	0.5	1000
1½" Sq.	3000	1000	4,400	310 mm	0.25	500
1½" Sq.	5000	1000	4,400	520 mm	0.25	500

Continuous duty is defined as 100% duty in either direction and intermittent duty as 10% of that working time. All torque equipment should be re-calibrated every 12 months.

	Dimensions in Millimetres							
Drive	A	B	C	D	E	F	G	Weight (Grams)
¼" Hex	116	30	56	56	13	39	25.5	486
¼" Sq	71.5	30	56	56	13	6	----	497
⅜" Sq	77	30	59.5	56	15	8	----	550
½" Sq	87	42	70	58	21	12	----	725
¾" Sq	106	52	87	60	26	21	----	1050
1" Sq	125	63	91.5	64.5	31.5	29	----	1800
1½" Sq	181	102	136	86.5	51	50	----	6000



For more information about the UTA CheckStar torque transducer, please call +44 (0) 1455 25 14 88 or email us at sales@crane-electronics.com.