

## Key Features



- ✓ In line transducer with optional angle measurement
- ✓ Accuracy +/- 0.25% of full scale
- ✓ Low inertia benefits accurate dynamic measurement
- ✓ Angle measurement option with no size increase (0.5° resolution)
- ✓ Patented design ensures no brush bounce even when used with impulse tools
- ✓ Low friction eliminates wear and supports accuracy
- ✓ Suitable for use with all continuous drive tools, impulse tools and torque wrenches
- ✓ High signal to noise ratio
- ✓ Automatic transducer recognition with Crane readout devices
- ✓ Square and hex drives available
- ✓ Industry Standard (IS) versions available (2mV/V; 1.475mV/V)
- ✓ Compact design

## Product Overview

**Crane's CheckStar sets the standard for dynamic torque and angle measurement of all continuous drive and impulse tools, with proven reliable performance in thousands of applications worldwide.**

CheckStar transducers fit in-line between the assembly tool and the fastener, measuring the actual torques applied and angular rotation of the fastener, under production conditions.

Whatever the vibration and shock loads experienced, CheckStar's patented contact system ensures a connection is always maintained between the readout and the strain gauges. Inferior systems suffer from "brush bounce" that leads to unreliable torque readings.

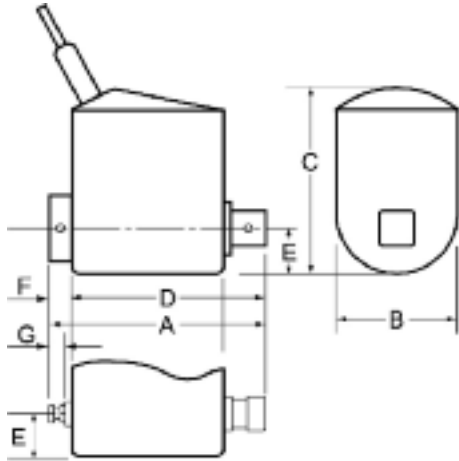
The low inertia design of CheckStar ensures accurate and repeatable measurement of high speed transients, such as the point of shut-off on continuous drive tools and the pulsing of impulse tools.

CheckStar forms an essential part of the Crane UTA torque system. On board intelligence means the UTA CheckStar is automatically recognised by the Crane readout device, eliminating set-up errors and enabling logging of serial number against measurements for complete traceability. An Industry Standard (IS) version is also available where a user needs the advanced features of the CheckStar but already has a readout device from another manufacturer. Both versions can be specified to include an angle encoder with 0.5° resolution.

## CheckStar Technical Specification

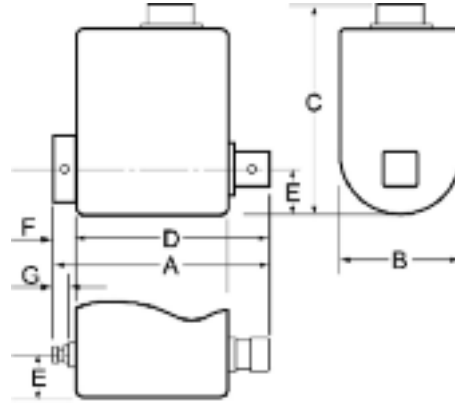
<b>Special features</b>	Patented mechanism for reliable measurement of impulse tools
<b>Tool compatibility</b>	All torque tools, including impulse tools (not impact tools) Joint kit recommended for off-line measurement of continuous drive and impulse tools to represent joint conditions
<b>Physical measurements</b>	Bi-directional torque (clockwise calibration unless otherwise specified) Optional bi-directional angle encoder (also enables RPM measurement on suitable indicator)
<b>Plug &amp; Play transducer</b>	UTA system indicators read the following information from the UTA chip incorporated in the transducer device Torque range, angle encoder data, serial number, calibration due date
<b>Calibration</b>	Issued with calibration certificate traceable to National and International Standards <b>Standard Crane calibration:</b> 10 points; single direction (clockwise unless otherwise requested); 10% to 100% of nominal torque <b>Bi-direction Crane calibration:</b> (optional) 10 points; each direction; from 10% to 100% of nominal torque <b>UKAS calibration:</b> (optional) calibration to BS 7882 Recalibration is recommended every 12 months
<b>Transducer types</b>	UTA: incorporate data chip enabling automatic transducer recognition with compatible Crane indicators IS: 'Industry Standard' version; Bridge resistance: 350 Ohms
<b>Construction</b>	Patented slip ring mechanism eliminating signal losses due to brush bounce and enabling low running friction in either direction (<0.1% rated torque or 0.1Nm, whichever is greater); design is durability tested to >100 million revolutions with no measurable degradation of electrical performance or wear Aluminium housing Stainless steel shaft Overload capacity: 125% rated torque Square drives to ANSI B107-4 – 1982; BS4006 – 1992; DIN 3121 – 1987 Male square drive fitted with detent pin that may be removed if required Female square drive supplied with retaining pin that may be removed if required Female hex drive fitted with ball and spring retainer
<b>Connections</b>	UTA version: 1m integral curly cable with strain relief; 25-pin 'D' port (male) for connection to UTA Crane system readouts IS version: output connector to MIL-C 26482 / BS 9522 FOO 17 Torque only: shell size 8-4P Torque and angle: Shell size 12-10P
<b>Zero stability</b>	< ± 0.1% FSD/°C
<b>Static accuracy</b>	± 0.25% FSD
<b>Operating environment</b>	Temperature: 5 – 40°C (-10 – 60°C with reduced specification) Humidity: 10 – 75% non-condensing Ingress protection rating: IP40
<b>Warranty</b>	12 months parts and labour against faulty workmanship or materials
<b>Patents applicable</b>	Slip-ring design protected by international patents

### Dimensions and Weights – UTA CheckStar



Dimensions in mm								
Drive	A	B	C	D	E	F	G	Weight (Kg)
1/4" Hex	116	30	56	56	13	39	25.5	0.49
1/4" Sq.	71.5	30	56	56	13	6	-	0.50
3/8" Sq.	77	30	59.5	56	15	8	-	0.55
1/2" Sq.	87	42	70	58	21	12	-	0.73
3/4" Sq.	106	52	81	60	26	21	-	1.05
1" Sq.	125	63	91.5	64.5	31.5	29	-	1.80
1 1/2" Sq.	181	102	136	86.5	51	50	-	6.00

### Dimensions and Weights – IS CheckStar



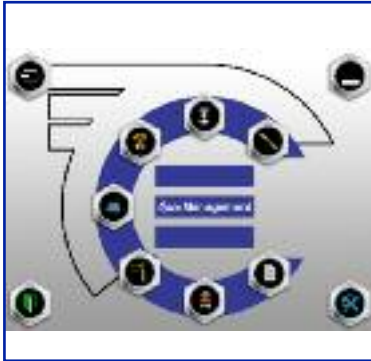
Dimensions in mm								
Drive	A	B	C	D	E	F	G	Weight (Kg)
1/4" Hex	116	30	68	56	13	39	25.5	0.21
1/4" Sq.	71.5	30	71.5	56	13	6	-	0.20
3/8" Sq.	77	30	74	56	15	8	-	0.24
1/2" Sq.	87	42	82.5	58	21	12	-	0.43
3/4" Sq.	106	52	93.5	60	26	21	-	0.76
1" Sq.	125	63	104	64.5	31.5	29	-	1.50
1 1/2" Sq.	181	102	149	86.5	51	50	-	5.7

## Ordering Information

Crane CheckStar transducers are available in the following versions and sizes:

	Version			
	UTA with hex drive	UTA with square drive and spring pin	IS with hex drive	IS with square drive and spring pin
Nm	1	✓		✓
	2	✓		✓
	5	✓	✓	✓
	10	✓	✓	✓
	20	✓	✓	✓
	25		✓	✓
	50		✓	✓
	75		✓	✓
	180		✓	✓
	250		✓	✓
	500		✓	✓
	750		✓	✓
	1400		✓	✓
	3000		✓	✓
	5000		✓	✓

(All of the above are available as torque only or torque and angle)



### OMS

- ✓ Single database to store torque information from all departments
- ✓ All data completely traceable and secure



### tJRS *Opta*

- ✓ A joint simulator using a threaded fastener and nut
- ✓ Fully automatic quick release of fastener



### IQWrench2 *Opta*

- ✓ Point of load insensitive
- ✓ Interchangeable head attachments with auto ID and calibration



### TorqueStar *Opta*

- ✓ Torque or force indicator and data collector
- ✓ Simple readout to comprehensive audit tool



### CheckStar

- ✓ In line transducer with optional angle measurement
- ✓ Accuracy +/- 0.25% of full scale



### Service Centres

- ✓ Centres throughout the world
- ✓ Fully traceable calibration and repair service

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*The force in torque management*



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