



Key Features

- Easy-read display with simultaneous display of all relevant information
- Tailored to your requirements – from simple readout to comprehensive audit tool and more
- Communicates with your PC system
- Plug and Play with Crane UTA transducer system
- Simple Quick Measure and comprehensive audit scheduling features

Product Overview

TorqueStar *Opta* is the equipment of choice for the measurement and collection of torque data in the manufacturing environment.

TorqueStar *Opta*'s range of software features can be individually specified to give a configuration most suited to the requirement, from a simple no-frills readout to a comprehensive audit tool with display of torque curves and specialist measurement routines.

The basic TorqueStar *Opta* performs bi-directional measurement of torque, angle and pulse count in track, peak, 1st peak (click) and pulse measurement modes. For additional information, cycle time duration and tool speed can also be displayed. Time and date stamped readings can be set to print automatically. The easy to read display gives a simultaneous view of all relevant information during the measurement process, while the simple alphanumeric keypad enables fast data entry when required.

Light enough for carrying on a neckstrap, yet robust to withstand the rigours of the factory environment, TorqueStar *Opta* also sports integrated rubber bumpers to protect finished product from accidental damage.

Specifications

Functional Attributes

Special features	Upgradeable via enablement of software modules to add traces (torque vs time or 2 nd parameter; 2 nd parameter vs time), data storage, audit scheduling, and other options. Please refer to separate information sheets. Quick measure enabling measurements to be taken following a single key press Auto return to previous used screen following power-on
Physical measurements	Bi-directional torque; angle*; pulse count; RPM*†; cycle time duration (* when using rotary transducer with angle encoder; † in track mode)
Measurement units	Nm, Ncm, kgfcm, kgfm, kNm, MNm, Nµm, Num, ozfin, lbfin, lbfft
Measurement modes	Track – real time torque Peak – capture of highest torque value during the cycle 1 st peak (click) – capture of instantaneous torque value as torque limiting wrench mechanism operates Pulse – special measurement algorithm for use with impulse tools, incorporating pulse count

Plug & play transducer data	The following information is read from the UTA chip incorporated in the transducer device: Torque range, angle encoder data, serial number, calibration due date
Other transducers	Compatible with industry standard transducers. Up to 9 IS transducers can be pre-set to enable easy selection.
PC compatibility	Via <i>OptaComms</i> PC communication software
Data storage	Not available on basic model – see available upgrades
Statistics	Not available on basic model – see available upgrades
Auto-print	Switchable autoprint to compatible printer
Cycle status indication	Tri-colour LED HI/OK/LO torque status with appropriate upgrade module Audible buzzer
Graphic analysis	Available upgrades – see separate information sheet
Operating language	English; French; German; Italian; Spanish; Swedish Can toggle between languages at virtually all menu points without need to exit operating mode.

Physical Attributes

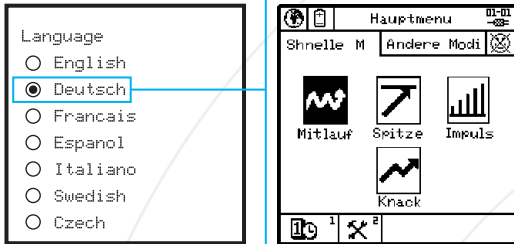
Construction	High strength injection moulding Protective rubberised trim to alleviate secondary damage to products IP rating: IP40	
Display	62 x 62mm backlit graphic LCD display, 160 x 160 pixel resolution, with high quality optical screen protection, 4 digit display of torque value	
Keypad	Easy clean membrane keypad with alphanumeric keys for ease of data entry	
Frequency response (Hz)	A low pass frequency filter is employed for conditioning the transducer signal to eliminate 'noise' from the tool measurement. This is user selectable from the following discrete values: 6144, 3686, 2304, 1676, 1317, 1024, 970, 737, 527, 376, 302, 252, 150, 75.	
Power	Universal 15V charger	
Battery pack	Nickel Metal Hydride	
Useable battery life	8 hours* (standard)	6 hours* (fast charge)
Charge time	16 hours (standard)	3 hours (fast charge)
Power management	User selectable auto power off: Never, 1, 2, 5, 10, 20, 30, 40, 60 minutes or 16 Hours	
Input/output ports	25 pin 'D' type transducer port (female) 9 pin RS232 port (female)	
Processor	Hitachi embedded processor	
Zero stability	< ± 0.1% FSD/°C	
Static accuracy	± 1% FSD of connected transducer	
Operating temperature range	5 – 40°C	
Angle measurement	Quadrature phase to give 0.5°C resolution	
Warranty	12 months parts and labour against faulty workmanship or materials	
Dimensions	225 x 165 x 122mm (8 7/8" x 6 1/2" x 4 7/8")	
Weight	1.355 Kg	
Shipping list	TorqueStar <i>Opta</i> unit with basic operating software Charging unit with appropriate power cable for order code Neckstrap	

* Backlight on, transducer connected, 50% duty cycle

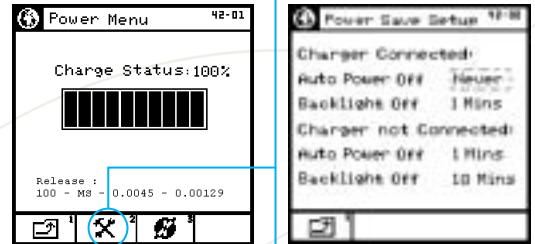
Menu / Screen Examples

Change Language

Accessible from most screens

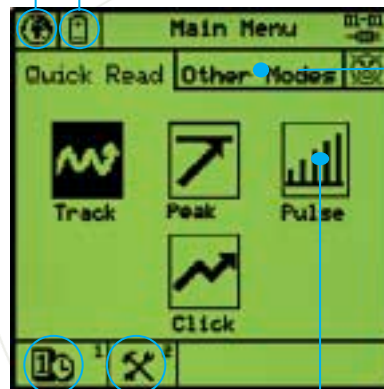


Power Management

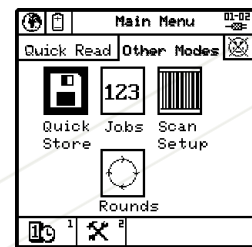


Select items using arrow keys

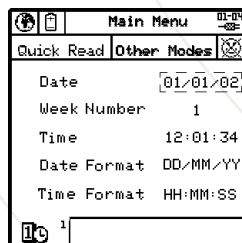
Press Enter (green) to activate



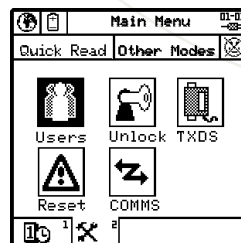
Access other modules.



Change time and date

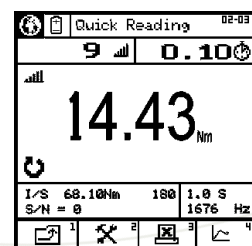


Access tools menu



Quick Measurements

1. Connect transducer
2. Select measurement mode
3. Press Enter to activate
4. Ready to measure!



Comparison Table

Additional functionality offered by 'data storage' upgrade modules

For more information, please refer to the module product information leaflets.

Function	Basic Storage & Statistics module	Advanced Storage & SPC module †
Upper and Lower Specification Limits	●	●
Storage of up to 200 date and time stamped readings	●	● †
Basic statistical analysis – average (mean), range, standard deviation (sigma)	●	●
Audible and visual indication of torque status	●	●
Assign cause and action flags to measurement	●	●
Transducer serial number stored with measurement record	●	● (with subgroup)
Serial printout of stored readings with set-up parameters and transducer serial number	●	●
Predefined jobs with target torque and 2 nd parameter measurement	Single	Multiple
Definable number of subgroups within job		●
Definable number of readings within subgroup		●
Organise jobs into rounds for audit scheduling		●
Detailed statistical analysis per job and subgroup – average (mean), range, standard deviation (sigma); Capability ratios Cp, Cpk, Cm, Cmk		●
Serial printout of subgroup readings with set-up parameters and transducer serial number		●
Job comment – up to 30 characters (with/without prompt)		●
Subgroup comment – up to 30 characters (with/without prompt)		●
Reference comment – up to 30 characters (with/without prompt)		●
Password protection for user and administrator		●
Compatibility with <i>OptaComms</i> for data transfer between PC and <i>Opta</i> unit	●	●

† NOTE: Advanced Storage module also requires Basic Storage module to be enabled. Therefore Advanced Storage includes the Basic Storage module functions.

Order Codes

Description	Order Code
TorqueStar <i>Opta</i> Standard Charge - UK charger	TO-890-01CR-0-UK
- European charger	TO-890-01CR-0-EUR
- US charger	TO-890-01CR-0-US
TorqueStar <i>Opta</i> Fastcharge - UK charger	TO-890-02CR-0-UK
- European charger	TO-890-02CR-0-EUR
- US charger	TO-890-02CR-0-US

Accessories List

Item	Description	Order code
Carrying case*	Instrument case for safe storage of TorqueStar <i>Opta</i>	TO-890-07CR-0-0
TorqueStar <i>Opta</i> to PC cable*	Connection cable to PC for <i>OptaComms</i> connection	CBL-757-0-0-0
TorqueStar <i>Opta</i> to printer cable*	Connection cable to printer for auto-print functions	CBL-758-0-0-0
<i>OptaComms</i>	Enablement of individual <i>Opta</i> unit for PC communication, together with Comms software CD	OM-900-01CR-0-0
<i>Opta</i> upgrade modules	Software modules to enhance product features. Note: return to Crane not required.	See separate details

*Included free of charge if any *Opta* software modules are bought at the same time as the base unit.

System Components

TorqueStar *Opta* may be used in conjunction with the following items:

Item	Description
Stationary transducers	For off-line torque measurement
CheckStar rotary transducers	In-line torque measurement
Joint kits	Used with stationary transducers and CheckStars to simulate production joint conditions
Transducerised wrenches and screwdrivers	For monitoring application, or inspection techniques
3rd party transducers	Connection as industry standard or high output type transducers



TorqueStar *Opta*

Torque indicator and data collector

Notes

TorqueStar *Opta*

Torque indicator and data collector



Notes

Calibration service

Crane Electronics Ltd operates a calibration laboratory accredited by UKAS, the UK Accreditation Service. All Crane products are issued with a calibration certificate traceable to National and International Standards. It is recommended that torque instrumentation is recalibrated at least every 12 months.

Crane Electronics Ltd operates a policy of continuous product development and improvement, and so technical specifications may change without notice. Please clarify with Crane or your distributor that you are referring to the latest technical data sheet.



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The force in torque management

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