

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
- Interchangeable transducer units with vertical or horizontal axis
- Software shared with TorqueStar *Opta*

Product Overview

DTT *Opta* introduces a world of choice, features and flexibility to the tool test environment, with interchangeable transducer modules, built-in printer option, and software features tailored to the application requirement.

These options allow DTT *Opta* to be configured to closely match the user requirements, and a selection of transducer units can be made available to the operator to cover a broad torque range. Different transducer units are available with the transducer axis in either the vertical or horizontal plane.

In common with the *Opta* product family, DTT *Opta*'s range of software features can be individually specified giving variations from a simple no-frills readout to a comprehensive audit tool with display of torque curves and specialist measurement routines. As the software is common throughout the *Opta* product family, users familiar with TorqueStar *Opta* will already know how to use DTT *Opta*, and vice-versa.

The basic DTT *Opta* performs bi-directional measurement of torque in track, peak, 1st peak (click) and pulse measurement modes, when pulse count is also measured. Cycle time duration can also be displayed. Time and date stamped readings can be set to print automatically on the external printer. The easy-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.

Specifications - DTT base unit

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; pulse count; cycle time duration
Measurement units	N m, N cm, kg cm, kg m, kN m, Klb ft, MN m, N µm, N mm, oz in, lb in, lb ft
Measurement modes	Track – real time torque Peak – capture of highest torque value during the cycle Click-dip – 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, serial number, calibration due date
PC compatibility	Via <i>OptaComms</i> PC communication software
Data storage	See comparison table
Statistics	See comparison table
Auto-print	Switchable autoprnt to optional built-in printer or compatible external printer
Cycle status indication	Tri-colour LED HI/OK/LO torque status with appropriate upgrade module Audible buzzer
Graphic analysis	Not available on basic model – see available upgrades
Operating language	Czech; English; French; German; Italian; Polish; Spanish; Swedish Can toggle between languages at virtually all menu points without need to exit operating mode

Physical Attributes

Construction	Rugged aluminium case
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: 4608, 3072, 2304, 1536, 1316, 1024, 921, 768, 542, 384, 307, 256, 151, 75.
Power	Universal 15V charger
Battery pack	Nickel Metal Hydride
Useable battery life	8 hours*
Charge time	16 hours
Power management	User selectable auto power off: Never, 1, 2, 5, 10, 20, 30, 40, 60 minutes or 16 Hours
Input/output ports	9 pin RS232 port (female)
External printer compatibility	Serial 80 column printer, 9600 baud rate
Processor	Hitachi embedded processor
Zero stability	< ± 0.1% FSD/°C
Static accuracy	± 1% FSD
Operating environment	Temperature: 5 – 40°C Humidity: 10 – 75% non-condensing Ingress protection rating: IP40 – Designed for indoor use only
Warranty	12 months parts and labour against faulty workmanship or materials
Dimensions	Complete unit: 255 x 255 x 79mm (10 ³ / ₈ " x 10 ³ / ₈ " x 3 ¹ / ₈ ") Individual transducer unit: 105 x 85 x 79mm (4 ¹ / ₈ " x 3 ³ / ₈ " x 3 ¹ / ₈ ")
Weights	DTT <i>Opta</i> without transducer or printer module: 3.5 Kg Transducer unit: 1.3 Kg Printer unit: 220 gms
Shipping list	DTT <i>Opta</i> unit with basic operating software Basic storage and statistics module Charging unit with appropriate power cable for order code Carrying case

* Backlight on, transducer connected, 50% duty cycle - no printer

Specifications - interchangeable transducer units

Functional Attributes

Special features	Easily interchangeable modules available with transducer axis in vertical or horizontal plane.
Tool compatibility	All torque tools, including impulse tools (not impact tools) Joint kit supplied with vertical axis transducers for use with continuous drive and impulse tools to represent joint conditions
Physical measurements	Bi-directional torque (clockwise calibration unless otherwise specified)
Plug & Play transducer data	The DTT base unit reads the following information from the UTA chip incorporated in the transducer device: Torque range, serial number, calibration due date

Physical Attributes

Calibration	<p>Issued with calibration certificate traceable to National and International Standards. IS transducers are normalised calibration unless indicated in table. Standard Crane calibration: 10 points; single direction (clockwise unless otherwise requested); 10% to 100% of nominal torque. Bi-direction Crane calibration: 10 points; each direction; from 10% to 100% of nominal torque. UKAS calibration: calibration to BS 7882 Recalibration is recommended every 12 months</p>	
Construction	<p>Aluminium housing Overload capacity: 125% rated torque Square drives to ANSI B107-4 – 1982; BS4006 – 1992; DIN 3121 – 1987</p>	
Zero stability	< ± 0.1% FSD/°C	
Static accuracy	± 1% FSD	
Operating environment	<p>Temperature: 5 – 40°C Humidity: 10 – 15% non-condensing Ingress protection rating: IP40 – Designed for indoor use only</p>	
Warranty	12 months parts and labour against faulty workmanship or materials	
Shipping list	<p>Transducer unit Joint kit (vertical axis transducer units only).</p>	

Menu / Screen Examples

Change Language


Accessible from most screens


Language


- English
- Deutsch
- Français
- Español
- Italiano
- Swedish
- Czech


Hauptmenue


Schnelle M | Andere Modi


 Rittlauf


 Spitze


 Impuls



 Klick


 Kraft

Power Management

Power Menu

Change Status: 100%



Release 1
100 - 90 - 2.0000 - 0.0000

Power Save Setup

Charger Connected:

Auto Power Off: Neuen

Backlight Off: 1 Mins

Charger not Connected:


Auto Power Off: 1 Mins

Backlight Off: 10 Mins

Press
Cancel (red)
to cancel


Select items
using arrow
keys


Press Enter
(green) to
activate





Main Menu


Quick Read | Other Modes


 Track


 Peak


 Pulse



 Click


 Force


Access other modules.

Main Menu

Quick Read | Other Modes


 Quick Store

123


 Scan Setup

Rounds

Change time and date

Main Menu

Quick Read | Other Modes

Contrast: ██████████

Date: 01/01/02

Week Number: 1

Time: 12:01:34


Date Format: DD-MM-YY


Time Format: HH-MM-SS


Access tools menu


Main Menu


Quick Read | Other Modes



 Users


 Unlock


 TKDS


 Reset


 Comms


 Misc

Quick Measurements

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

Quick Reading

9 | 0.10

14.43

L/S: 60.10% 100 1.0 S

S/H: 0 1676 Hz

Comparison Table

Data Storage and Statistics functionality available with upgrade module

The basic storage and statistics module is included with the DTT base unit.
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		●
	Included with DTT base unit	

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

Order Codes

Order Code	Description
DO-937-01CR-0-UK	DTT <i>Opta</i> - UK charger
DO-937-01CR-0-EUR	- European charger
DO-937-01CR-0-US	- US charger
DO-938-02CR-0-0	Printer module with paper roll

Order code	Drive	Nominal Torque		Axis orientation	Joint kit
		Nm	Imperial (ftlbf)		
DO-939-01CR-1-0	1/4" Sq	1	8.8 inlbf	Horizontal	
DO-939-02CR-1-0	1/4" Sq	1	8.8 inlbf	Vertical	✓
DO-940-01CR-4-0	1/4" Sq	4	11 inlbf	Horizontal	
DO-940-02CR-4-0	1/4" Sq	4	11 inlbf	Vertical	✓
DO-941-01CR-12-0	1/4" Sq	12	8.8	Horizontal	
DO-941-02CR-12-0	1/4" Sq	12	8.8	Vertical	✓
DO-942-01CR-30-0	3/8" Sq	30	22.1	Horizontal	
DO-942-02CR-30-0	3/8" Sq	30	22.1	Vertical	✓

Accessories List

Item	Description	Order code
DTT <i>Opta</i> to PC cable*	Connection cable to PC for <i>OptaComms</i> connection	CBL-757-0-0-0-0
DTT <i>Opta</i> to printer cable*	Connection cable to printer for auto-print functions	CBL-758-0-0-0-0
<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
Bottle top fixture † (Adjustable component fixture)	Adjustable component fixture for clamp and test of individual items e.g. bottle tops, key locks etc. 3/8" drive 1/4" drive	DO-960-01CR-4-0 DO-960-01CR-30-0
Spare paper roll	Paper roll for printer module	A1 110047
Spare ink ribbon	Ink ribbon for printer	A1 110048
Spare joint kit – 1Nm	Replacement/spare joint kit	W1 220887-01
Spare joint kit – 4Nm	Replacement/spare joint kit	W1 220887-02
Spare joint kit – 12Nm	Replacement/spare joint kit	W1 220887-03
Spare joint kit – 30Nm	Replacement/spare joint kit	W1 220887-04

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

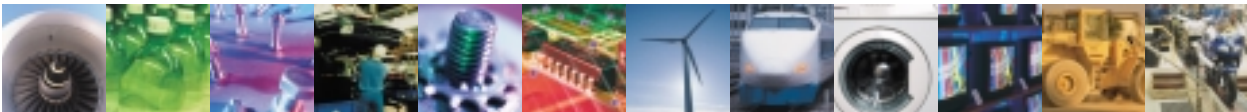
† Can grip items from 10 – 130mm

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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