TRUCHECK[™] 2





This cost-effective torque wrench checker has been redesigned to incorporate improved features whilst maintaining ease of use. The TruCheck[™] 2 aims to cut the cost of purchasing a torque wrench checking system and remove the fears over the complexity of using such equipment.

- Enables torque wrench performance to be monitored as part of your strategy to keep wrenches in peak condition
- LCD display with clear target indication from colour changing display (Plus version only). Visible in poorly lit work areas.
- Two versions, TruCheck[™] 2 and TruCheck[™] 2 Plus available
- 'Basic' version has limited settable options. Ideal for non-expert users with click type torque wrenches
- TruCheck[™] 2 Plus allows a selection of torque units, three modes of operation (Click, Dial and Track), the ability to store up to 15 targets and select from 12 languages
- Plus version allows operator to set a target value and tolerance
- ±1% of reading accuracy (±2% when below 10% of range for the 10 N·m and 1,100 N·m TruCheck™ 2 model)
- Inbuilt Micro USB 2.0 port enables power from any USB power source. Plus version allows for both power and data transfer simultaneously
- Supplied with traceable calibration certificate in clockwise direction. A counter-clockwise calibration is available at additional cost
- Software can be updated remotely, without the need to return the product to Norbar







TruCheck™ 2 Plus display showing above target tolerance



TruCheck™ 2 Plus display showing within target tolerance



TruCheck™ 2 Plus display showing below target tolerance

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TRUCHECK[™] 2 (0.1 - 30 N·m)







TruCheck[™] 2 with Torque Screwdriver (not included)

Model		TruCheck 2/Plus 0.1 - 3.0 N·m 0.5 - 10 N·m	TruCheck 2/Plus 1.5 - 30 N∙m
Part Number		43514, 43515, 43516, 43517	43518, 43519
Range		0.1 - 3.0 N·m 0.5 - 10 N·m	1.5 - 30 N·m
In-Built Transducer Drive Size	Male Hex	1/4"	10 mm
	А	175	175
	В	10	10
	ØC	6.5	6.5
	D	55	55
Dimensions (mm)	E	10	10
	F	64	64
	G	N/A	72
-	н	64	64
	J	72	N/A
Weight (kg)		1.4	1.4



TruCheck™ 2 Plus 3 N·m

4	TRUCHECK 2 (0.1 - 30 N·m)	
43514*	TruCheck 2, 0.1 - 3 N·m	
43515*	TruCheck 2 Plus, 0.1 - 3 N·m	
43516*	TruCheck 2, 0.5 - 10 N·m	
43517*	TruCheck 2 Plus, 0.5 - 10 N·m	
43518+	TruCheck 2, 1.5 - 30 N·m	
43519 ⁺	TruCheck 2 Plus, 1.5 - 30 N·m	
TCACC.CW	UKAS accredited calibration - clockwise	
TCACC. CW+CCW	UKAS accredited calibration - clockwise and counter-clockwise	

* 43514, 43515, 43516 and 43517 supplied with $\frac{1}{4}"$ male hexagon and $\frac{1}{4}"$ female sq. dr. adapter

- NOTE: If you order a UKAS accredited calibration, this certificate will be provided in place of the traceable calibration certificate and over the operating range as indicated on the device.



NOTE: The male hexagon on the 3 N·m and 10 N·m models is vertically aligned. The 30 N·m model male hexagon is horizontally aligned.

TORQUE MEASUREMENT



TRUCHECK[™] 2 (3 - 2,100 N·m)



4	TRUCHECK 2 (3 - 2,100 N·m)
43520*	TruCheck 2, 3 - 65 N·m
43521*	TruCheck 2 Plus, 3 - 65 N·m
43522 ⁺	TruCheck 2, 10 - 260 lbf·ft
43523 ⁺	TruCheck 2 Plus, 10 - 260 lbf·ft
43524 ⁺	TruCheck 2, 10 - 350 N·m
43525+	TruCheck 2 Plus, 10 - 350 N·m
43528 [@]	TruCheck 2, 40 - 800 lbf·ft
43529 [@]	TruCheck 2 Plus, 40 - 800 lbf·ft
43530 [@]	TruCheck 2, 50 - 1,100 N·m
43531 [@]	TruCheck 2 Plus, 50 - 1,100 N·m
43532^	TruCheck 2, 200 - 2,100 N·m
43533^	TruCheck 2 Plus, 200 - 2,100 N·m
TCACC.CW	UKAS accredited calibration - clockwise
TCACC. CW+CCW	UKAS accredited calibration - clockwise and counter-clockwise

* 43520 and 43521 supplied with $3\!\!\!/\!\!\!/_8$ " female square drive

- $^+~$ 43522, 43523, 43524 and 43525 supplied with $\frac{1}{2}''$ female square drive $^{\circledcirc}~$ 43528, 43529, 43530 and 43531 supplied with 27 mm male hexagon plus
- ¾" female sq. dr. adapter
- [^] 43532 and 43533 supplied with 27 mm male hexagon plus 1" female sq. dr. adapter
- NOTE: If you order a UKAS accredited calibration, this certificate will be provided in place of the traceable calibration certificate and over the operating range as indicated on the device.



TruCheck™ 2 Plus 1100 shown with a Power Tool Test Fixture (not included - see page 113) allowing for cost-effective checking of power tools







Model		TruCheck 2/Plus 3 - 65 N·m 10 - 260 lbf·ft 10 - 350 N·m	TruCheck 2/Plus 40 - 800 lbf·ft 50 - 1,100 N·m 200 - 2,100 N·m	
Part Number		43520, 43521, 43522, 43523, 43524, 43525	43528, 43529, 43530, 43531, 43532, 43533	
	А	110	120	
	В	95	105	
	С	40	40	
(u	D	50	60	
um) s	Е	117	133	
sions	F	59	67	
imen	G	138	138	
D	Øн	10.5	10.5	
	J	19	19	
	К	80	95	
	L	19	20	
Weight (kg)		2.6	3.5	

T-BOX™ 2





The T-Box[™] 2 utilises its powerful processor to provide a seamless and complete torque data collection package. This is capable of tool calibrations, data logging, simultaneous transducer connections and archiving to your PC. As standard T-Box[™] 2 is supplied with a UKAS accredited bi-directional calibration certificate recording each input as an independent channel.

- Instrument accuracy of ±0.05% (±0.1% when below 10% of transducer capacity)
- System accuracy with a typical Norbar transducer, $\pm 0.5\%$ from 20% of transducer capacity
- 5 digit resolution when used with any Norbar transducer
- Features a 10.1" multi-touch screen display with on-screen graphic icons for simple and easy tool navigation and selection
- Features hardened and impact resistant glass helping to prevent chips and scratches appearing on the screen's surface
- 2 transducer ports gives you the ability to perform 2 tasks simultaneously e.g. graphing & measuring
- Two task windows allows simultaneous working! Measure against a target while graphing the cycle, take readings from two transducers simultaneously, capture two different graphs at the same time or manage and review readings as they are captured
- The T-Box[™] 2 can capture graphs up to 325 Hz, offering the ability to analyse fast moving transients
- User configurable to allow a selection of torque, torque and angle, rate targets and the ability to set thresholds
- Ability to predefine multiple targets
- 2 USB ports, 1 RS-232 serial port and 2 independantly configurable ancillary ports

61908 TDMS USB Flash Drive

- Includes 6 modes for torque tool measurement: Track, Click, Dial & Electronic, Stall, Screwdriver and Hydraulic
- File browser/manager for internal storage and USB management giving the user greater ease and flexibility in managing multiple files and folders
- Can export readings and graphs to CSV and JSON format allowing for 3rd party software integration
- Ability to network via USB adapter
- Continuous output of up to 100 readings per second via RS-232 or USB virtual serial devices
- Fast CPU frequency up to 2.3 GHz
- Large capacity memory of 120 GB SSD storage
- 4GB RAM allows for smooth and seamless operation
- Bench stand supplied as standard with an adjustable viewing angle
- Rear panel features 100 mm x 100 mm VESA mounting holes, allowing for easy wall mounting or the use of third party stands / arms
- Software can be updated remotely, without the need to return the product to Norbar
- Fully supports the use of a keyboard and mouse (not supplied)

4 T-BOX 2

Turbar

43542 T-Box 2 Instrument with TDMS Software



Displaying 2 transducer readings simultaneously



Storage destination (left) file browser (right)



Home menu for 2 separate windows

T-BOX™ 2

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Norbar's AnB modules are a key differentiator between the T-Box[™] 2 and other torque measuring instruments, including others from Norbar. While they may have the appearance of regular transducer inputs, they are actually distinct computing modules which operate independently and contain their own states and settings. For instance, when we talk about mode settings for T-Box[™] 2, we do so in the context of each AnB module, as it is the module which is set in that mode and uses those settings. The T-Box[™] 2 contains two AnB modules which are displayed separately using a split screen. Where this really comes into its own is when the activity on one AnB needs to be compared, graphed for example, against the activity on the other AnB. A good application for this would be the calibration of hydraulic torque wrenches where one AnB is configured to read a torque transducer and the other is configured to read a pressure transducer, allowing the user to build up a torque versus pressure graph using one instrument.



Software version 1.0.2.x available

- Ability to set up new graph pre-sets and defaults, saving the user time
- New graphing settings allows the user to set a maximum graph duration to stop data capture after a designated time
- Can link targets with the ability to delete previously captured result
- Intelligent target file history memorises the last-used files for individual AnB modules improving convenience when working with two transducers with different sets of targets at once
- Ability to enable or disable implicit AnB selection allowing for greater control when setting or clearing targets in AnB modules
- Users can now toggle serial data output on/off per AnB allowing the ability to suppress output from one AnB and leaving only the data stream from the AnB of interest
- Progressive Reset lets you sweep through a series of Linked Targets for the purpose of rapidly calibrating hydraulic wrenches or gearboxes, (peak-type modes only)

- Broadcast Capture Triggers lets you trigger capture of a reading on the neighbouring AnB when a reading capture is made on the target (peak-type and click modes only; peak-type modes require Progressive Reset to be enabled)
- Combining Progressive Reset and Broadcast Capture Triggers with Linked Targets to capture hydraulic wrench torque at a series of desirable pressure levels for rapid hydraulic wrench calibration. This approach can dramatically reduce calibration times (for instance, from several minutes to under 1 minute)
- Capture large numbers of readings with more fluidity than ever before thanks to performance optimisations in the user interface
- Simplified update procedure allowing for updates within T-Box[™] 2 User Interface without the requirement of a keyboard





T-Box[™] 2 back panel allows for 2 transducers to connect simultaneously, 1 RS-232 serial port and 2 ancilliary ports





Displaying transducer reading alongside target selection



T-Box[™] 2 at the center of a test bench for manual torque wrenches, powered torque tools and hydraulic torque wrenches



Calibration details



TORQUE SCREWDRIVER TESTER (TST)



The Torque Screwdriver Tester (TST) combines simplicity and functionality to provide a high quality instrument for the testing and calibration of low capacity torque tools.

The TST is supplied as standard with a UKAS accredited torque calibration certificate in CW direction for the complete system i.e. Supplied with Instrument certificate and internal transducer system certificate.

Featuring an internal transducer complete with Rundown Fixture, the TST is available in 3 torque ranges, 0.04 to 2 N·m, 0.5 to 10 N·m and 1.25 to 25 N·m. Class 1 system accuracy over its Primary range (\pm 0.5% of reading from 20% to 100% of full scale).

What makes the TST genuinely versatile is the interface for an external transducer. This interface, accessed by a 2 way switch on the TST, allows the connection of any transducer from Norbar's Smart range and most mV/V calibrated transducers from Norbar or other manufacturers.

- Instrument accuracy of ±0.05% (±0.1% when below 10% of transducer capacity)
- System accuracy with internal transducer or a typical external Norbar transducer, ±0.5% from 20% of transducer capacity
- Pictorial display panel for easy mode selection
- Limit detection with low, pass and fail indication. Up to 12 target values can be set
- Digital limit state output for control of external tools
- Operation from fast charge internal battery pack (maximum time of 3 hours 20 minutes for full charge) or a.c. supply (90 to 264 Volts)
- RS-232-C serial data interface for connection to a printer or PC. Continuous RS-232 output when used in Track mode (up to 11 readings per second)
- Pulse count feature in Impulse mode and Clutch Tool mode
- Smart intelligence for transducer recognition
- Memory for calibration details of 20 non-Smart mV/V calibrated transducers
- Analogue output allows the instrument to be used as part of a process control system for performance analysis
- User-selectable frequency response for each mode of operation
- All user-selectable features have password protection. The instrument can be issued to users with only the required modes of operation and units of measure enabled. This feature can virtually eliminate operator induced errors
- $\ensuremath{\,^{\prime\prime}}$ female hex to $\ensuremath{\,^{\prime\prime}}$ female square adaptor comes supplied as standard



Model		Models
Part Number		43212 43213 43214
	А	290
	ØВ	10
	С	40
Dimensions	D	32
(mm)	E	123
	F	160
	G	61
	н	149
Weight (kg)		4.7



Calibration

details

4	TST SERIES 2	
43212	TST 2, 0.04 - 2 N·m	
43213	TST 10, 0.5 - 10 N·m	
43214	TST 25, 1.25 - 25 N·m	
TST.CCW	UKAS-accredited counter-clockwise calibration when ordered with new unit	

Above part numbers exclude Transducer lead for external transducer (see page 107).

TST is supplied complete with a Rundown Fixture for joint simulation. Additional rundowns are available see page 104.





Torque Tool Teste

TORQUE TOOL TESTER (TTT)



Calibration

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The Torque Tool Tester (TTT) shares all of the extensive features of the Torque Screwdriver Tester (TST) except that it has no internal transducer. Instead, the TTT offers not one but three external transducer interfaces allowing any three transducers to be simultaneously connected. Selection between the transducers is made by a rotary switch at the back of the instrument case.

The TTT is supplied as standard with a UKAS accredited calibration certificate in CW direction.

Any transducer from Norbar's Smart range and most mV/V calibrated transducers from Norbar or other manufacturers can be connected to the TTT. The Smart feature means that once a transducer has been connected, the instrument will automatically recognise calibration details such as mV/V output, serial number and capacity.

- Instrument accuracy of ±0.05% (±0.1% when below 10% of transducer capacity)
- System accuracy with a typical Norbar transducer, ±0.5% from 20% of transducer capacity
- Pictorial display panel for easy mode selection
- Limit detection with low, pass and fail indication. Up to 12 target values can be set
- Digital limit state output for control of external tools
- Operation from fast charge internal battery pack (maximum time of 3 hours 20 minutes for full charge) or a.c. supply (90 to 264 Volts)
- RS-232-C serial data interface for connection to a printer or PC. Continuous RS-232 output when used in Track mode (up to 11 readings per second)
- Pulse count feature in Impulse mode and Clutch Tool mode
- Smart intelligence for transducer recognition, now displays transducer capacity, units and Serial Number
- Memory for calibration details of 20 non-Smart mV/V calibrated transducers
- · Analogue output allows the instrument to be used as part of a process control system for performance analysis
- User-selectable frequency response for each mode of operation
- All user-selectable features have password protection. The instrument can be issued to users with only the required modes of operation and units of measure enabled. This feature can virtually eliminate operator induced errors
- Peak memory modes can now be configured to have auto reset (previously only manual reset was possible)
- Series 3 users can set up their own measurement units, making it possible to interface with non-torque transducers, for example load or pressure

4 TTT SERIES 3 43228 TTT Instrument TTT.CCW UKAS-accredited counter-clockwise calibration when ordered with new unit

Above part number excludes Transducer leads (see page 107)











PROFESSIONAL TORQUE TESTER (PRO-TEST)



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ZERO M Constant

Professional Torque Tester

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The Professional Torque Tester (Pro-Test) - Series 2, is an accurate, highly specified and easy to operate instrument for testing and calibrating all types of torque wrench.

The Pro-Test is supplied as standard with a UKAS accredited calibration certificate.

- Pro-Test is priced to make in-house testing a viable proposition even for the smaller industrial and automotive torque wrench user
- Guaranteed classification to BS7882:2017, Class 1 or better over the primary calibration range (20% to 100% of full scale), Class 2 or better over the secondary calibration range (lowest calibrated value to 20% of full scale). Class 1 equates to ±0.5% of reading
- Three essential operating modes allow the Pro-Test to be used with all torque wrench types 'Track' displays the live value, 'Peak Memory' records the highest value and 'First Peak Memory' records the first peak of torque (for click type torque wrenches). Both memory modes can be used with manual or automatic reset
- Large backlit display is easily visible from a distance and in poor light
- Display and transducer are hard-wired together with a 600 mm cable
- All common units of torque measurement are included
- Pictorial mode selection incorporated for ease of use
- User can select the language they wish to work in (most European languages are included)
- Transducer can be mounted for torque wrench operation in the horizontal or vertical plane
- RS-232-C is included for the output of reading to a printer, PC, data capture unit, SPC software etc
- Optional mounting plate gives greater flexibility of mounting options
- All user-settable parameters are menu selectable from the front panel
- Supplied in a robust carry case with a data transfer lead to connect to a PC or printer
- All transducers are supplied as standard with a UKAS accredited calibration certificate in CW direction. For additional counterclockwise direction order: Part No. PROTEST.CCW

4	PRO-TEST SERIES 2
43218	Pro-Test 60, 1.2 - 60 N·m
43219	Pro-Test 400, 8 - 400 N·m
43220	Pro-Test 1500, 30 - 1,500 N·m

4	ANCILLARY PRODUCTS FOR PRO-TEST		
62198.BLK9005	Mounting Bracket		
60253	12v DC Power Supply for Series 2		
29190	1" x 36 mm socket		
29179	³ ⁄4" x 36 mm socket		
29143	½" x 36 mm socket		
29083	³⁄₃" x 36 mm socket		
PROTEST.CCW	Counter-clockwise calibration when ordered with new unit		

Model		Pro-Test 60	Pro-Test 400	Pro-Test 1500
Part Number		43218	43219	43220
Socket(s) provided		¼" to 10 mm Hex ℁" to 10 mm Hex ½" to 10 mm Hex	3‰" to 22 mm Hex 1⁄2" to 22 mm Hex 3⁄4" to 22 mm Hex	¾" to 36 mm Hex
	ØA	12	12	12
	В	55	55	55
	С	183	183	183
Dimensions	D	18	18	18
(mm)	E	70	70	70
	F	185	185	185
	G	233	233	233
	Н	106	106	106
Weight (kg)		6.3	6.4	7.3









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SPARES FOR INSTRUMENTATION PRODUCTS

8	SPARES FOR INSTRUMENTATION PRODUCTS
38876	Rechargeable Battery Pack for Pro-Log, TST & TTT
29610	1/4" Female - 1/2" Male Sleeve Adaptor
29611	1/2" Female - 3/4" Male Sleeve Adaptor
29612	1/2" Female - 1" Male Sleeve Adaptor
29613	³ / ₄ " Female - 1" Male Sleeve Adaptor
29614	3/8" Female - 1/2" Male Sleeve Adaptor

4 SERIAL DATA LEAD KIT

60248 Serial Data Lead Kit

Note: Serial Data Lead Kit is not suitable for use with HE Instrument and TruCheck $^{\rm IM}$ 2

60259 USB to Serial Data Lead (Does not work with USM)

This kit enables Norbar 'CE Marked' instruments (Post January 1996 ETS, TWA and DTS plus all Pro-Test, TST and TTT) to connect to most PCs.

STATIC TRANSDUCER BENCH STANDS

4	BENCH STANDS FOR STATIC TORQUE TRANSDUCERS
50211	Small frame size (10 N·m) ¼" sq.
50212	Small frame size (50 N·m) ⅔" sq.
50213	Small frame size (100/250 N·m) ½" sq.
50220	Large frame size (250/500 N·m) ¾" sq.
50221	Large frame size (1,000/1,500 N·m) 1" sq.
50127.BLK9005*	Extra large size (7,000 N·m) $1\frac{1}{2}$ " sq.
52014	1/4" Insert for Small Bench Stands
52015	3/8" Insert for Small Bench Stands
52016	$\frac{1}{2}$ " Insert for Small Bench Stands
52017	³ ⁄ ₄ " Insert for Large Bench Stands
52018	1" Insert for Large Bench Stands

* Dimensions available on request



Model		Small Frame Size	Large Frame Size
Part Number		50211 50212 50213	50220 50221
Dimensions (mm)	А	50	70
	В	99	120
	С	92	150
Weight (kg)		0.8	2.5



PART NUMBER SUFFIX SYSTEM

Transducers can be ordered for use with Norbar's current range of instruments (TST, TTT, TTL-HE and T-Box[™] 2), and as Industry Standard (mV/V calibrated) for certain display instruments from other manufacturers.

A part number suffix system is used to identify the type of calibration required. For example, a 1,000 N·m Static Transducer for use with a TTT instrument would become part number 50772.LOG.

SUFFIX	USAGE	CERTIFIED IN
.LOG	TST, TTT, TTL-HE & T-Box™ 2	Torque Units
.IND	Instruments of non Norbar manufacture (check with Norbar for suitability) and TST, TTT, TTL-HE & T-Box™ 2	mV/V

Where the transducer suffix .LOG is used, the transducer is calibrated with an instrument, as a system, a calibration certificate is provided in torque units. A full scale mV/V figure is also supplied.

Bench stands ensure the correct mounting of Norbar's Static Torque Transducers up to 7,000 N·m (5,000 lbf·ft).



