# INSIGHTqcT™ Series Calibration Equipment

## Launch Presentation

# INSIGHTqcT™ Series

## OVERVIEW

A family of calibration equipment that is the ideal quality control companion for assembly operations with stringent torque control standards and testing needs.

Now with color screen and traces!

**Validate, Calibrate, and Analyze all the following torque tool types with a single unit:**

| | | |
|---|---|---|
| Manual Click Wrench | Manual Torque Screwdrivers | Transducer Controlled Direct Drive |
| Mechanical Clutch Direct Drive | Current Controlled Direct Drive | Transducer Controlled Pulse |
| Stall Type Direct Drive | Non-Shut Off Pulse | Shut-Off Pulse |

Ingersoll Rand.

# INSIGHTqcT™ Series

## FEATURES

- Monitors bi-directional torque, angle, time, RPM & pulse count
- Supports onboard trace analysis and data export
- Reads in peak, click, pulse, or track mode
- Stores 999 time-stamped readings
- Auto-recognition of Smart transducers
- Selectable filter frequencies
- USB data export for readings and trace data
- Configurable Auto-print function via USB
- Eleven (11) units of measure
- Adjustable power-save settings
- Multi-language support for English, French, German, Italian, and Spanish

**POWER AND HAND TOOL COMPATIBILITY** means only one system is needed to setup and calibrate all of your precision tools

**FULL STATISTICAL CAPABILITIES** Include Count, Range, Mean, MIN, MAX, Standard Deviation, Cm, Cmk, Cp, Cpk

**COMPACT AND LIGHTWEIGHT** with rechargeable Li-Ion battery provides ease of use and portability on the assembly line and space savings on the workbench

**LARGE COLOR SCREEN** shows clear, easy-to-read test results, menus, and traces

**SOFT-TOUCH KEYPAD** and intuitive menus make navigation and test setup quick and simple

**AUDIBLE AND VISIBLE INDICATORS** give High, Low, and Pass cycle status



### TYPICAL SCREEN

- Limits & Targets
- Battery Level Indicator
- Power ON/OFF
- Readings Counter
- Results
- Navigation Keypad
- Transducer Information
- Navigation Menu
- Reading & Battery Indicators
- Audible Feedback

**Ingersoll Rand®**

# INSIGHTqcT™ Series

**2 Available Types:**

## IQCTT TESTER
- Compact bench-mount unit
- Integrated torque transducer in (4) ranges from 1 to 30 Nm
- Large color screen
- Simple programming and navigation
- Full statistical and tightening trace analysis
- Variable rate rundown adapter included
- Rechargeable Li-Ion battery with auto-shutdown feature
- USB port for data export

*Ideal for testing and calibration of lower torque assembly tools in a tool crib, calibration lab, or workstation.*

## IQCTA ANALYZER
- Lightweight portable unit
- Compatible with full range of Industry Standard (IS) and Smart external transducers
- Large color screen
- Simple programming and navigation
- Full statistical and tightening trace analysis
- Rechargeable Li-Ion battery with auto-shutdown feature
- USB port for data export

*Ideal for use with a broad range of external transducers to test output of assembly tools on the application or wherever torque verification is required.*

IQCTA requires external transducers

4

**Ingersoll Rand**

# INSIGHTqcT™ Series

### MODELS



## IQCTA SERIES – INSIGHTqcT™ TORQUE ANALYZER

| Model | Compatible Transducer | Data Transfer | Auto Recognition | Screen Size (mm) |
|---|---|---|---|---|
| IQCTA | TRD<br>TR<br>TRDA<br>TSD<br>TS<br>Industry Standard<br>UTA | USB (csv)<br>Printer | Yes | 85x50 mm |

## IQCTT SERIES – INSIGHTqcT™ TORQUE TESTER

| Model | in-lb Range | Nm Range | Rundown Adaptor* | Service Kit |
|---|---|---|---|---|
| IQCTT-1 | 0.88 - 8.8 | 0.1 - 1 | ETT-RA-1 | ETT-RA-1-KIT |
| IQCTT-4 | 3.50 - 35 | 0.4 - 4 | ETT-RA-4 | ETT-RA-4-KIT |
| IQCTT-12 | 10.6 - 106 | 1.2 - 12 | ETT-RA-12 | ETT-RA-12-KIT |
| IQCTT-30 | 26.5 - 265 | 3.0 - 30 | ETT-RA-30 | ETT-RA-30-KIT |

*IQCTT tester includes rundown adaptor, carrying case, power supply, manuals, and a certificate of calibration. IQCTA analyzer includes carrying case, power supply, manuals, and neck strap.*

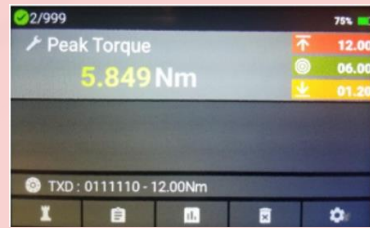Ingersoll Rand®

# INSIGHTqcT™ Series

**MEASUREMENT MODES**
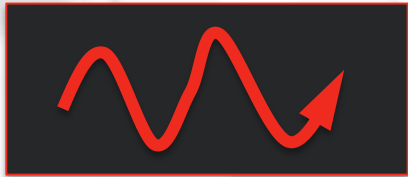
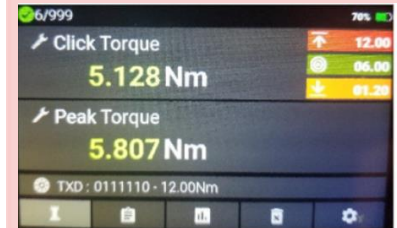| Track | Peak | Pulse | Click |
|-------|------|-------|-------|
| • Real-time readout of torque and angle* | • Capture of the highest torque (peak) encountered by the sensor | • Impulse tool mode that includes the pulse count in addition to torque and angle measurement* | • For manual click wrenches and measures the peak torque just prior the click |
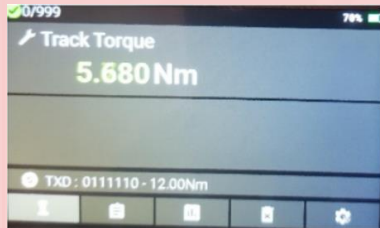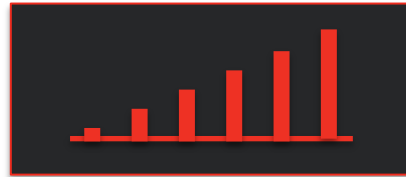
Track Torque 5.680 Nm — TXD: 0111110 - 12.00Nm

Peak Torque 5.849 Nm — TXD: 0111110 - 12.00Nm

Peak Torque 5.952 Nm — Pulses 15 — TXD: 0111110 - 12.00Nm

Click Torque 5.128 Nm — Peak Torque 5.807 Nm — TXD: 0111110 - 12.00Nm

*if sensor used is equipped

6

Ingersoll Rand®

# INSIGHTqcT™ Series

**READINGS**





Export readings data to USB

- A new reading is created for each new tightening
- Includes time/date stamp
- Color coded based on result vs. test limits set
- Readings data data can be exported to USB in CSV format
- Readings data can be printed via USB to PC
- Selecting a specific cycle will show the tightening trace for the cycle
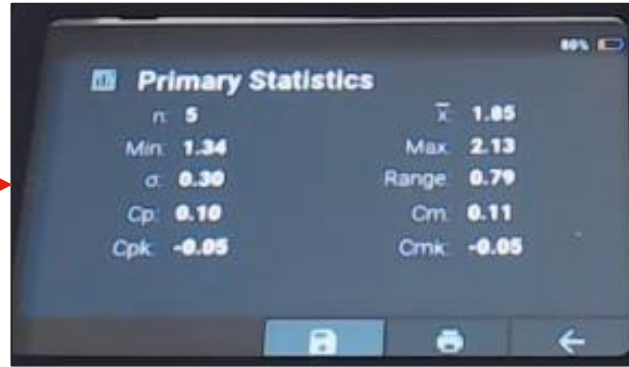- Max storage of 999 readings

| Mode | Direction | Cycle end | Units | S/N | Torque Threshold | Torque LSL | Torque Target | Torque USL |
|------|-----------|-----------|-------|-----|------------------|------------|---------------|------------|
| PEAK | CW | 1.0s | Nm | 111110 | 0.3 | 1.9 | 2 | 2.1 |
| | | | | | | | | |
| Rdg No | Txd S/N | Peak torqu | Date | Time | | | | |
| 1 | 111110 | 2.51 | 11/3/2020 | 8:15:42 | | | | |
| 2 | 111110 | 1.94 | 11/3/2020 | 8:15:45 | | | | |
| 3 | 111110 | 1.91 | 11/3/2020 | 8:15:48 | | | | |
| 4 | 111110 | 1.69 | 11/3/2020 | 8:15:50 | | | | |
| 5 | 111110 | 1.67 | 11/3/2020 | 8:15:53 | | | | |
| 6 | 111110 | 2.2 | 11/3/2020 | 8:15:55 | | | | |
| 7 | 111110 | 1.95 | 11/3/2020 | 8:15:58 | | | | |
| 8 | 111110 | 1.79 | 11/3/2020 | 8:16:14 | | | | |

Sample of readings export to CSV

Ingersoll Rand®

# INSIGHTqcT™ Series

## ONBOARD STATISTICS





- Count
- Range
- Mean
- Min
- Max
- Std Dev
- Cm
- Cmk
- Cp
- Cpk

Sample of statistics export to CSV

# INSIGHTqcT™ Series

## TIGHTENING TRACES



**HOW TO VIEW TRACES**
After completing tightening, go to
READINGS menu and select the cycle of
the trace you want to view.

- Tightening trace stored for every reading, 999 max
- Trace can be navigated (X/Y) on screen using the arrow keys
- Trace can be displayed in Torque / Time or Torque / Angle*
- Zoom In and Zoom Out on screen
- Trace data can be exported to USB in CSV format



*if sensor used is equipped

9

# INSIGHTqcT™ Series

**PHYSICAL MEASUREMENTS TAKEN**

Bi-directional Torque

Angle*

Pulse Count

RPM in Track Mode*

Cycle Time Duration

*if sensor used is equipped

**Ingersoll Rand.**

# INSIGHTqcT™ Series

**SUPPORTED TORQUE MEASUREMENT UNITS**

| Nm | lbft | lbin | MNm |
|----|------|------|-----|
| Ncm | kgcm | kgm | kNm |
| klbft | Nmm | ozin | |

**Ingersoll Rand®**

# INSIGHTqcT™ Series

**DIMENSIONS**
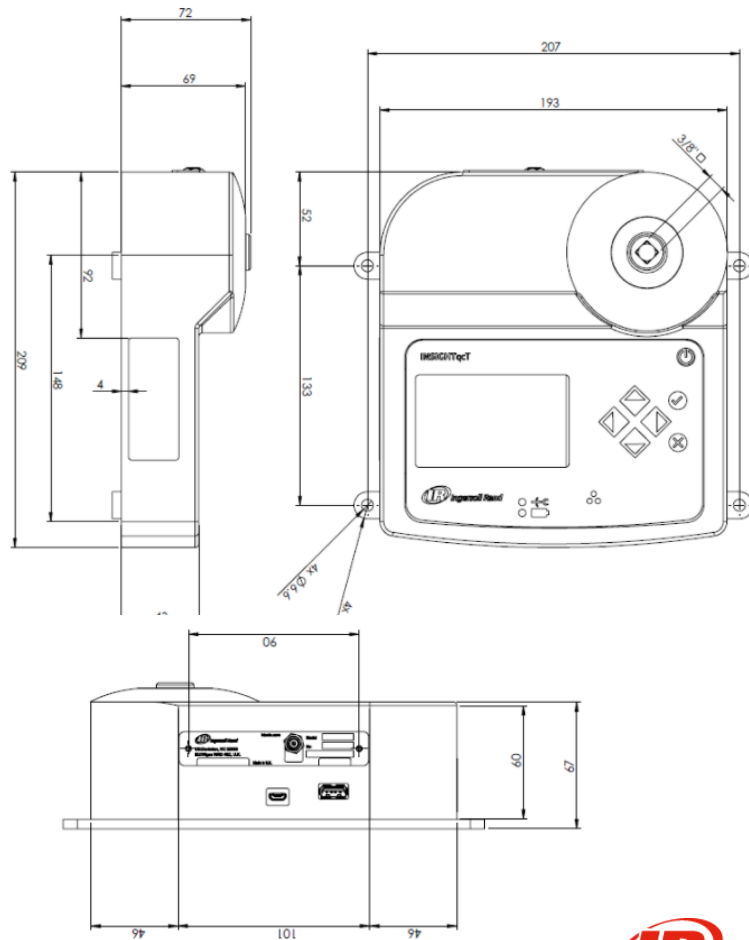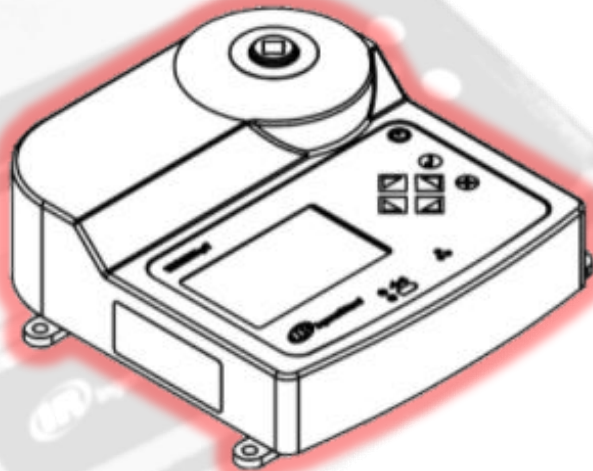
# INSIGHTqcT™ Series

**TECH SPECS**

| Zero Stability | | <0.1% FSD/°C |
|---|---|---|
| Static Accuracy | | +/- 0.25% FSD of connected transducer |
| Operating Environment | Temperature | -20° - +50° C |
| | Humidity | 10 – 70% non-condensing |
| | Ingress Protection | IP45 |
| Torque Measurement | Significant Digits | 15 |
| | Sample Rate | 20 uS |
| Angle Measurement | Input Type | Quadrature Phase |
| | Display Resolution | 0.1 degrees |
| | Sample Rate | 1000 uS |

**IR** Ingersoll Rand®

# INSIGHTqcT™ Series

1. InsightqcT
2. Hardshell, foam lined protective case
2. RA Joint kit with allen key*
3. Calibration Certificate
4. 5V PSU Power Adapter
5. USB-A to USB Micro connection cable
6. USB Flash Drive
7. DOC, Safety and Product Information manuals
8. Quick start guide and web link to manual

*TT models only

Ingersoll Rand®

# INSIGHTqcT™ Series

**COMPATIBLE INPUT DEVICES**

- TRD, TR, and TRDA Rotary Transducers
- TSD and TS Stationary Transducers
- Industry Standard Transducers
- UTA Transducers

**Ingersoll Rand**®

# INSIGHTqcT™ Series

**ACCESSORIES FOR IQCTA**

## TRANSDUCERS

| ROTARY | Industry Standard | Smart Transducers Torque Only | Torque and Angle | (in-lb) ft-lb | Nm | in |
|--------|-------------------|-------------------------------|------------------|---------------|-----|-----|
| | TR2H4 | - | - | (1.0 - 18) | 0.10 - 2 | 1/4 |
| | TR5H4 | TRD5H4 | TRDA5H4 | (2.2 - 44) | 0.25 - 5 | 1/4 |
| | TR20H4 | TRD20H4 | TRDA20H4 | (9.0 - 180) | 1 - 20 | 1/4 |
| | TR20S4 | TRD20S4 | TRDA20S4 | (9.0 - 180) | 1 - 20 | 1/4 |
| | TR75S6 | TRD75S6 | TRDA75S6 | 2.8 - 55 | 3.8 - 75 | 3/8 |
| | TR180S8 | TRD180S8 | TRDA180S8 | 6.7 - 133 | 9 - 180 | 1/2 |
| | TR250S12 | - | - | 9.2 - 185 | 12.5 - 250 | 3/4 |
| | TR500S12 | TRD500S12 | TRDA500S12 | 18.5 - 370 | 25 - 500 | 3/4 |
| STATIONARY | TS30S4 | TSD28S4 | - | 1.1 - 22 | 1.5 - 30 | 1/4 |
| | TS150S6 | TSD135S6 | - | 5.5 - 110 | 7.5 - 150 | 3/8 |
| | TS300S8 | TSD270S8 | - | 11 - 221 | 15 - 300 | 1/2 |
| | TS1000S12 | TSD1000S12 | - | 37 - 738 | 50 - 1000 | 3/4 |

Ingersoll Rand®

# INSIGHTqcT™ Series

**ACCESSORIES FOR IQCTA**

## JOINT SIMULATORS

| | Industry Standard | Includes Transducer | Joint Simulator Bolt Service Kit | ft-lb | Nm | in |
|---|---|---|---|---|---|---|
| **ROTARY** | JKR20 | No | JKS30-BKIT | 0.75 - 15 | 1.0 - 20 | 1/4 |
| | JKR75 | No | JKS150-BKIT | 2.8 - 55 | 3.8 - 75 | 3/8 |
| | JKR180 | No | JKS300-BKIT | 6.7 - 133 | 9.0 - 180 | 1/2 |
| | JKR500 | No | JKS1000-BKIT | 18.5 - 370 | 25.0 - 500 | 3/4 |
| **STATIONARY** | JKS30 | No | JKS30-BKIT | 1.1 - 22 | 1.5 - 30 | 1/4 |
| | JKS150 | No | JKS150-BKIT | 5.5 - 110 | 7.5 - 150 | 3/8 |
| | JKS300 | No | JKS300-BKIT | 11.0 - 221 | 15 - 300 | 1/2 |
| | JKS1000 | No | JKS1000-BKIT | 37.0 - 738 | 50 - 1000 | 3/4 |
| | JKST30 | TS30S4 | JKS30-BKIT | 1.1 - 22 | 1.5 - 30 | 1/4 |
| | JKST150 | TS150S6 | JKS150-BKIT | 5.5 - 110 | 7.5 - 150 | 3/8 |
| | JKST300 | TS300S8 | JKS300-BKIT | 11.0 - 221 | 15 - 300 | 1/2 |
| | JKST1000 | TS1000S12 | JKS1000-BKIT | 37.0 - 738 | 50 - 1000 | 3/4 |

Ingersoll Rand®

# INSIGHTqcT™ Series

## FAQs

| | |
|---|---|
| **What is the function of the microUSB port and cable?** | -The microUSB is used for charging the unit, firmware upgrades, printing of stored readings, and auto-print function after each reading. |
| **Can the unit provide a real-time view of the trace data following each cycle?** | -While traces are stored for every rundown, they are only accessible manually via the readings list after the rundowns are performed. |
| **What is the SAME about the INSIGHTqcT and the previous EXTA units?** | -Same footprint and dimensions<br>-Same accuracy and performance capability<br>-Torque ranges offered<br>-Measurement functions<br>-Compatibility with IR accessories<br>-Compatibility with IS (Industry Standard) transducers |
| **What is the DIFFERENT about the INSIGHTqcT and the previous EXTA units?** | -Color screen with INSIGHT 'look'<br>T-race analysis, recording, and export function.<br>-USB ports and connections for easy data export<br>-Auto-print function over microUSB<br>-Simplified button and screen layout |

| | |
|---|---|
| **Is there any software that accompanies the unit?** | -No, there is no additional software that accompanies the unit. |
| **What format is the data export to USB?** | -The data is exported to the USB stick in CSV format. |
| **How many readings can be stored on the INSIGHTqcT?** | 999 readings |

Ingersoll Rand®

# INSIGHTqcT™ Series

## WEBSITE

https://www.ingersollrand.com/
en-us/power-tools/calibration-
equipment/iqcta-torque-
analyzer

# INSIGHTqcT™ Series

**IRTOOLHELP TECH SUPPORT**



https://irtoolhelp.ingersollrand.com/hc/en-us/sections/360010716754-INSIGHTqcT-Torque-Tester-Analyzer