Ingersoll Rand®

SIMPLE. FLEXIBLE. CAPABLE.

RTS CONNECT with
Responsive Torque Control

RTS RESPONSIVE TIGHTENING SYSTEM

CORDLESS PRECISION FASTENING SYSTEMS

RTS RESPONSIVE TIGHTENING SYSTEM

Transform assembly lines with the RTS Connect, where responsive action meets torque control. Infused with Ingersoll Rand® propietary torque control algorithm, this system is a game changer for reliable tightening. Experience effortless operations with its user-friendly interface, 40 distinct torque levels, 7 flush levels and dual speed non-contact trigger, and a 360° status beam LED ring light.

The **RTS Connect** features reactionless performance, combined with robust wireless connectivity and programmable settings, making it the tool of choice for those who demand perfection at every turn. Ready when you are, the RTS Connect doesn't just perform — it impresses.

SIMPLE

EASY TO USE

- Quick programming and setup
- Ergonomic design
- Full-color LCD display for quick interpretation

FLEXIBLE

QUICKLY ADAPT TO CHANGES

- Programmable for standalone or connected operations
- Multiple programming options for advanced setup features
- Multi-Pset programming reduces tooling Investment

CAPABLE

MEET COMPLEX CUSTOMER NEEDS

- Reactionless performance improves operator ergonomics
- Durable, built-to-last designs
- Multi-tool connection reduces hardware footprint
- Advanced programming options to reduce rework

ICON IDENTIFIERS
Compatibility Reference

USB

Insight Connect app

Wireless

Bluetooth®

Simple

- Multi-function color LCD display for quick setup
- Multi-color 360° status beam LED ring light
- 3 programming methods:
  - Basic setup via tool display
  - Advance setup via INSIGHT™ Connect controllers or mobile app
  - Expert setup via INSIGHTqcx™ MTC Controller

Flexible

- 8 programming configurations
- Compatible with Ingersoll Rand® IQV20™ battery platform and charger
- 4 ways to communicate with INSIGHTqcx™ controller or mobile app:
  - 802.15.4 IEEE
  - 2.4 & 5 GHz Wi-Fi
  - Bluetooth®
  - USB-C

Capable

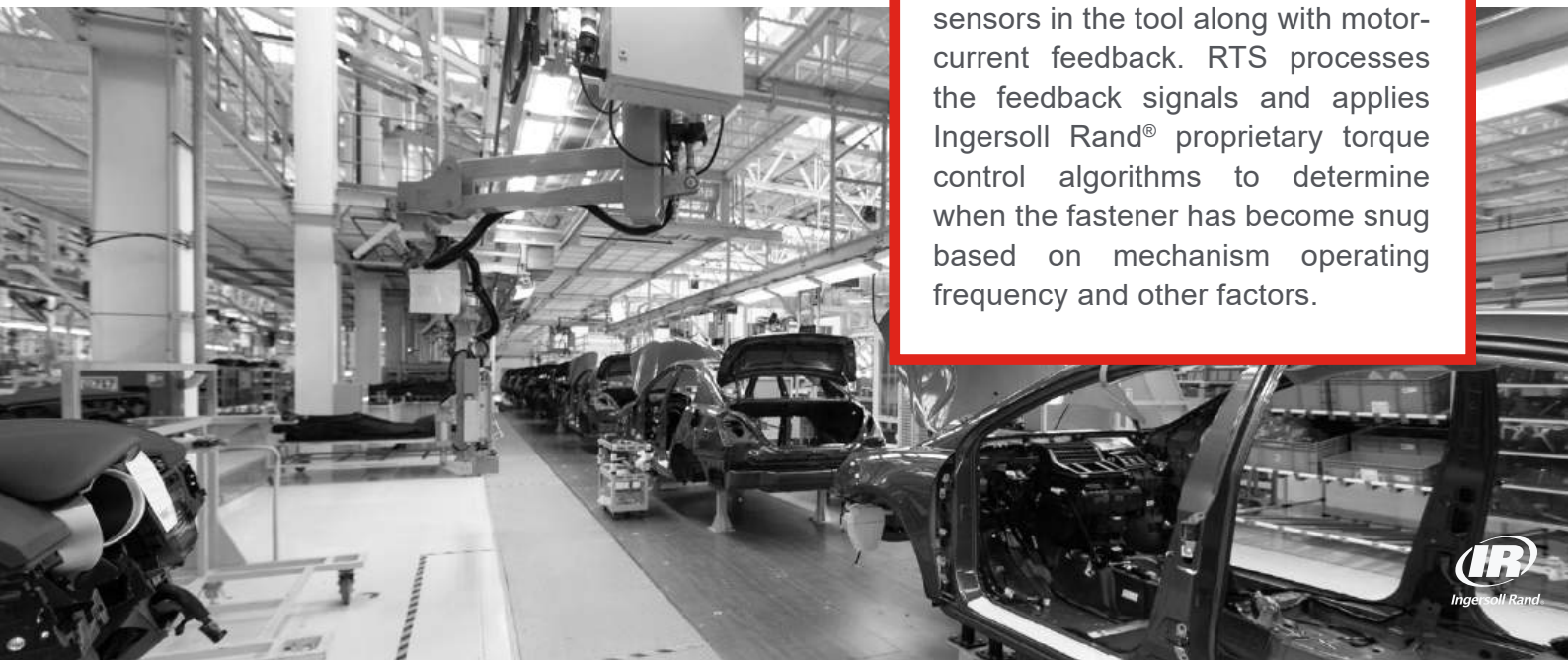
- Proprietary Ingersoll Rand® torque control algorithms
- 40 torque levels
- 7 flush levels to work on multiple joint type
- Wirelessly connect up to 16 RTS tools to the INSIGHTqcx™ MTC controller

Ergonomics

- Eliminates torque reaction
- Best-in-class tool balance and ergonomic grip design
- Lightweight design significantly reduces operator fatigue

RTS RESPONSIVE TIGHTENING SYSTEM

RTS continuously monitors the state of the discrete-energy pulses through sensors in the tool along with motor-current feedback. RTS processes the feedback signals and applies Ingersoll Rand® proprietary torque control algorithms to determine when the fastener has become snug based on mechanism operating frequency and other factors.



RTS CONNECT **FEATURES**

±15%

Configurable LED ring light:
Red- NOK tightening
Green- OK tightening
White- task light

Responsive to **40 torque levels** and **7 flush modes**

Color LCD display and buttons for quick setup and feedback

Brushless DC motor

Programmable advanced settings:
- Soft start
- Rehit detection
- Cross-thread prevention

Ergonomic anvils reduce socket vibrations

Mechanisms tuned to support **torque 8-225 Nm**

Dual-speed, non-contact trigger designed for 1M + cycles

Program **8 Psets** and store up to **1,200 results**

Ingersoll Rand® IQV20™ Series battery and charger platform

Wirelessly connectivity to INSIGHT™ Controller and app

802.15.4

FEATURE **MATRIX**

BASIC SETTINGS

- 8 Psets
- 40 torque levels
- 7 flush levels
- Tightening direction
- Gang count
- Factory reset

ADVANCED SETTINGS

- Soft start
- Flush detection delay
- Rehit detection and prevention
- Reverse disable
- Cross-thread reduction

EXPERT SETTINGS

- Job setup
- Job interlocks
- Accessories
- Out-of-range disable
- MES comm.
- Fieldbus comm.

GENERAL SETTINGS

- Tool passcode
- Keypad lock
- Headlight brightness
- Keep alive
- Buzzer setup

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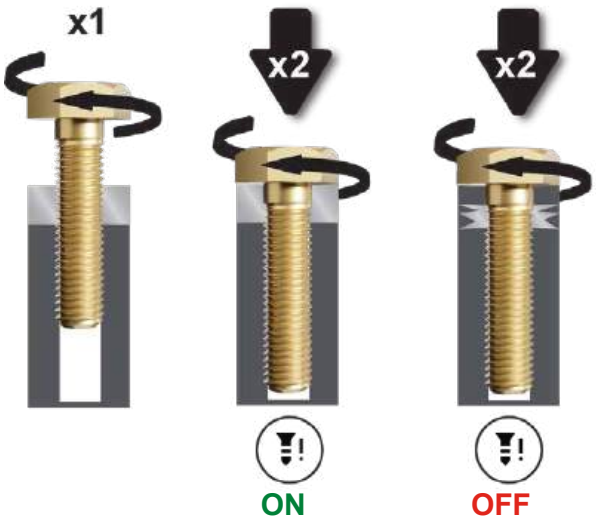
RTS ADVANCED **FEATURES**

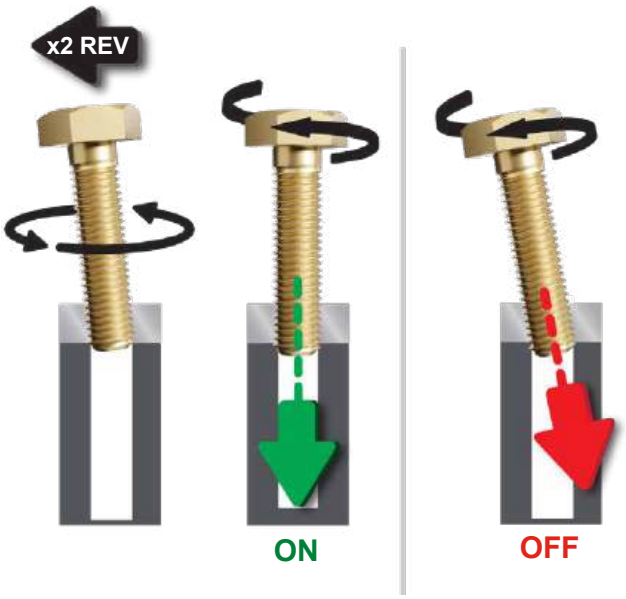
Rehit Detection Mode: When the tool detects a high load on a fastener at startup, Rehit Detection Mode immediately shuts off the tool off displays a cycle-fail indicator, alerting the operator that a fastener was previously tightened or has been cross-threaded.

Benefit: During a common fastening, there is a period of rundown during which the fastener encounters very little resistance. If high resistance is encountered at this stage, the fastener may have been tightened already, or the fastener has been cross-threaded. With Rehit Detection Mode enabled, the tool shuts down when it senses high resistance and will alert the operator that the fastener needs attention.



Cross-Thread Reduction: The RTS Connect turns two revolutions in the loosening direction prior to tightening a fastener to ensure better thread alignment.

Benefit: Running a fastener in the loosening direction before tightening can help reduce the risk of cross-threading by piloting the first threads in the joint and giving the operator the ability to take control over thread alignment.

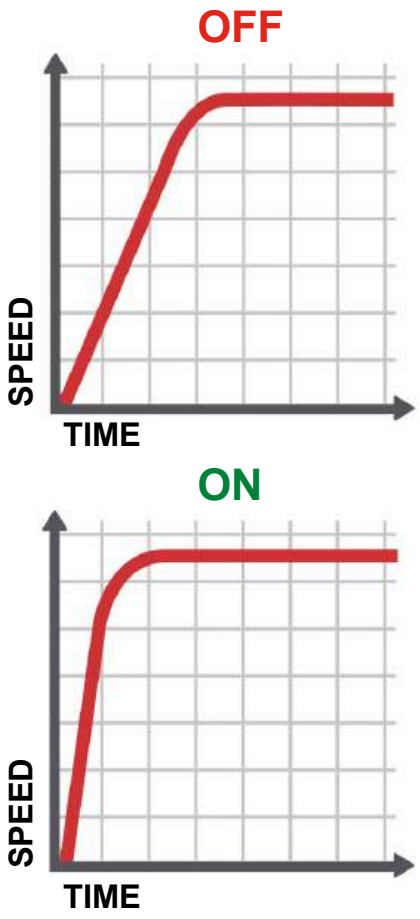


Reverse Disable: The tool only operates in the tightening direction.

Benefit: Maintain control in production when operators are only required to install fasteners. When Reverse Disable is on, the tool will only operate in the tightening direction. Therefore, the tool cannot be used for fastener removal or for rework.

Soft-Start: The tool speed gradually ramps up at the beginning of a cycle.

Benefit: A gradual speed increase during soft start gives the operator more control as they get the fasteners started.



Flush Detection Delay: The tool delays flush detection at the beginning of a cycle for a specified period of time**.**

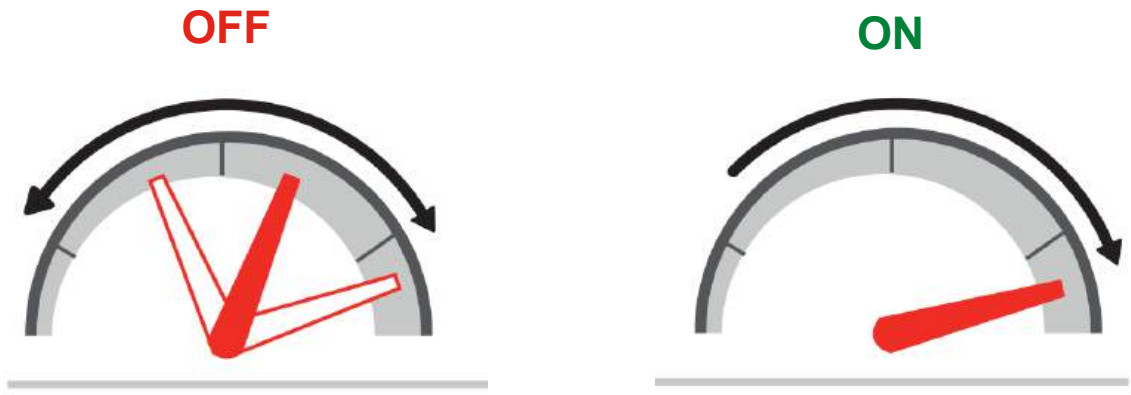
Benefit: If there are loads on a fastener before it's fully seated, the flush detection algorithm may enable prematurely. When it is known that flush detection is not to occur until after a specific period of time, setting the Flush Detection Delay to that time will disable flush detection until the time has elapse.

Rehit Prevention: The tool trigger is disabled for a specified period of time following the completion of each tightening.

Benefit: During the rapid tightening of a series of fasteners, operator-error may occur, such as failure to advance to the next fastener or tighten the same fastener twice. When expected fastening time is known, Rehit Prevention Mode can help prevent a rehit mistake.

One Speed: The tool operates at full-speed only.

Benefit: Operators can maximize repeatability when fasteners are tightened the same way every time. One Speed provides assurance that the tool only operates at full speed, eliminating speed variation when teasing the trigger.



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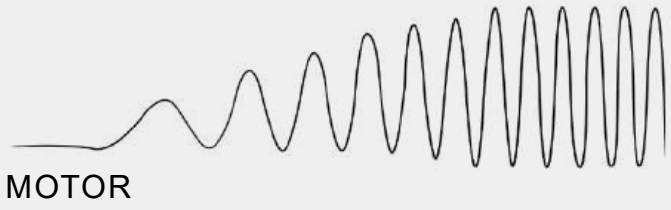
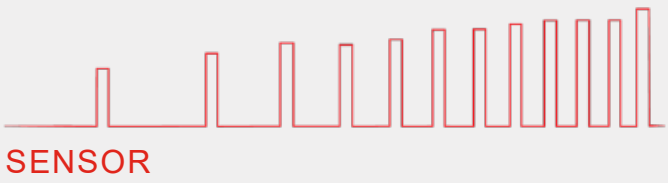
RTS **TECHNOLOGY**

RTS Connect features shutoff modes with programmable settings for flush level detection and torque level. In these modes, the tool runs down a fastener freely and senses when the flush point has been reached based on the Flush Level setting. Then, the tool delivers pulses of torque to the fastener based on the Torque Level setting and automatically shuts off.

The proprietary algorithms of RTS Connect receive amplitude and frequency inputs from the on-board sensor and motor at a rate of 10,000 samples per second. These inputs facilitate accurate tracking of the state of the discrete-energy mechanism and parameter calculations for flush detection and tightening.





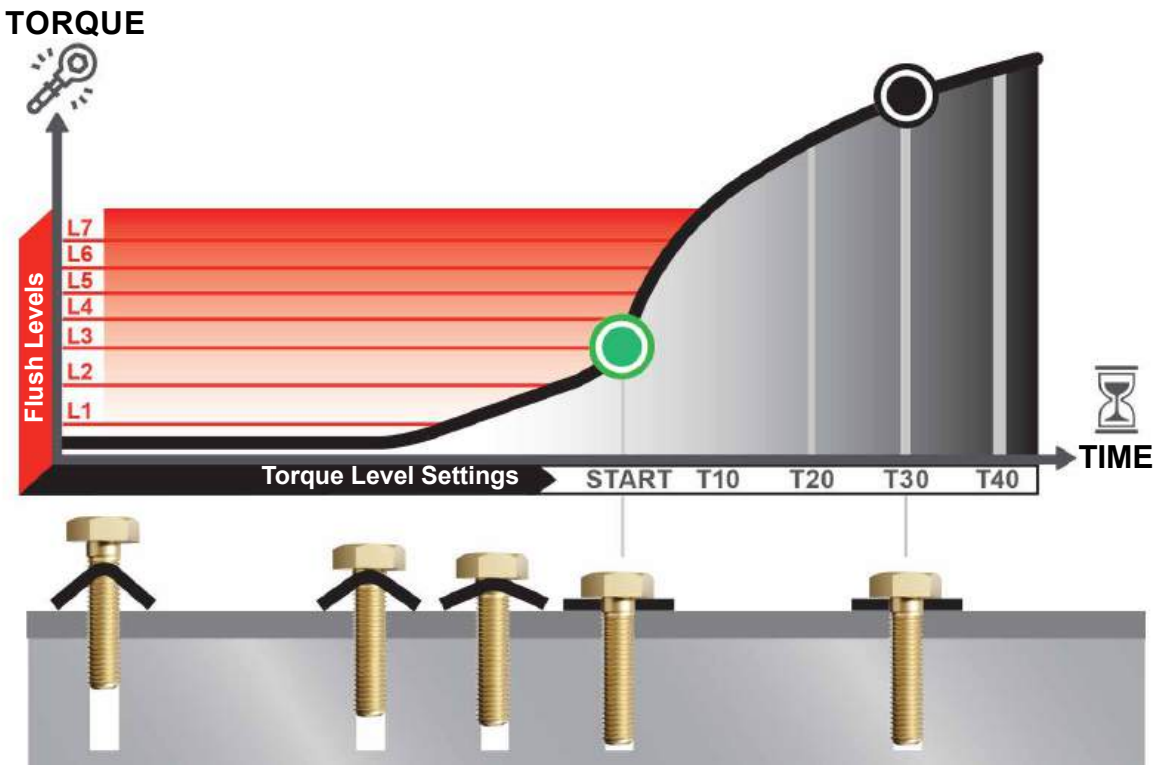
Torque Level Setting (T1 – T40): The setting is the duration after flush point detection when the tool delivers pulses of torque to the fastener before automatically shutting off. With 40 settings, the delivered torque may be best aligned with the actual torque requirement.

Example Shown:
Flush Level Setting L3

Flush Point Detection

Torque Level Setting

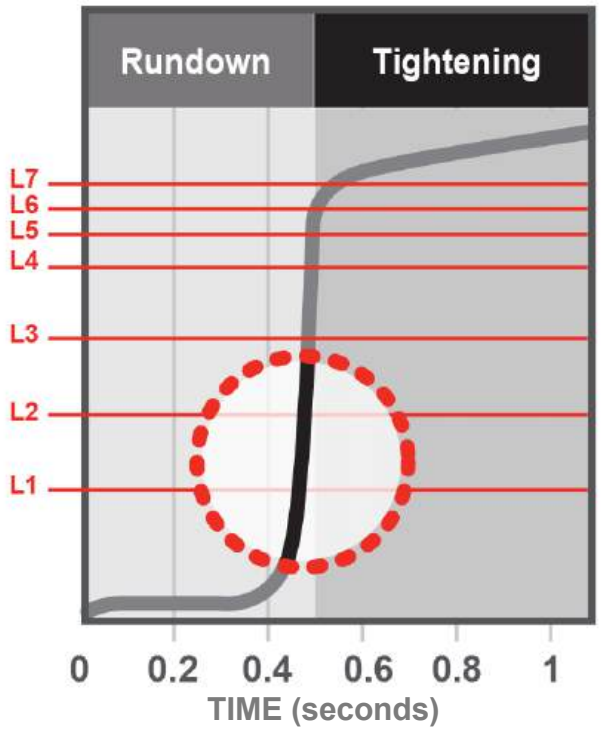
Auto Shut-Off



Flush Level Setting (L1 – L7): This setting determines the required level of sensitivity that indicates the flush point has been reached. With 7 available options, the tool can determine the flush point that best aligns with actual joint behavior.

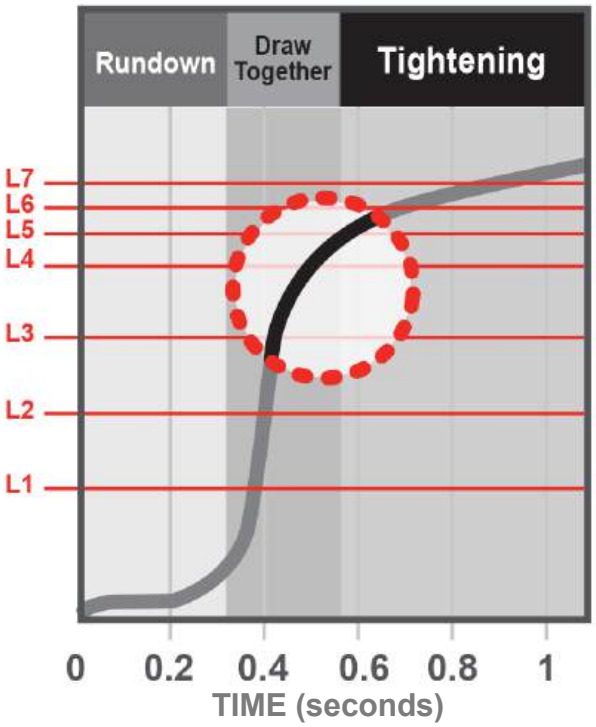
FLUSH LEVEL **SETTINGS**

L1 - L2

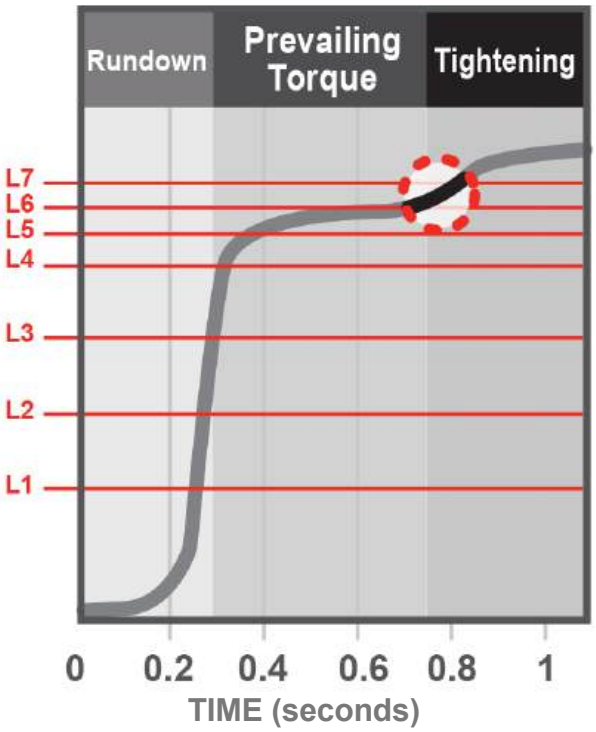


The **highest sensitivity** and least discriminating to reach. Best for hard joints and joints that reach the snug point immediately following rundown completion.

L3 - L5



A medium sensitivity setting that's best for softer joints and joints that involve drawing parts together.



L6 - L7

The lowest sensitivity setting, L6 and L7, are the most discriminating to reach. They are best for joints that must overcome high prevailing torque before reaching the snug point.

CONTROLLER **FEATURES**

Integrated carrying handle

Holds 50,000 results and trace recors

Integrated wall mount

Configure up to 256 jobs & 32 Psets per tool*

7" full-color touch screen

SSD card

System Indicators
- Factory connection
- Wireless connection
- Link status
- Fault detected

Whiteboard & QR code

Ethernet ports 10/100/1000

4 USB 2.0 ports

Fieldbus card slot
- Ethernet IP
- Profinet

SIMPLE

FLEXIBLE

CAPABLE

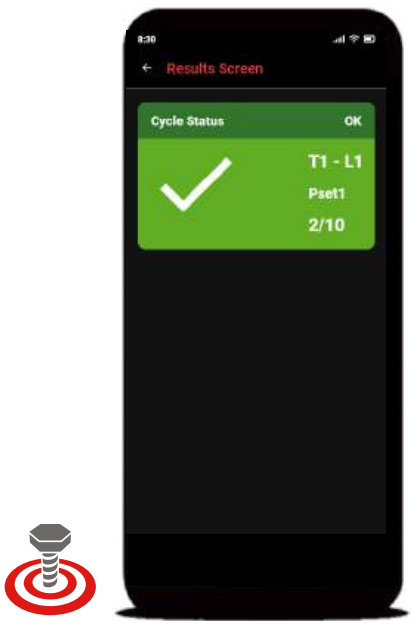
**Depending on tool type*

INSIGHT™ CONNECT APP

The INSIGHT™ Connect app helps you stay productive, mobile, and in control of your fastening processes.

When you use the INSIGHT™ Connect app, you can program any Ingersoll Rand® RTS Connect Series or QX Connect Series™ via smartphone or tablet. This eliminates the need for additional technical training, special software, or plant network permissions. Operators can use the app to quickly program basic or advanced tightening parameters.

Once installed, the INSIGHT™ Connect app can operate offline, making it functional in large facilities or other locations, where Internet connectivity may be unreliable, increasing uptime and maximizing ease of use. The INSIGHT™ Connect app is the perfect companion to the RTS Connect and QX Connect Series™ tools, connecting to each tool wirelessly via Bluetooth®.



Download on the App Store

GET IT ON Google Play

INSIGHTqcx™ CONTROLLER

BY THE NUMBERS

SOFTWARE

256
JOBS

32
PSETs
** Depends on tool type*

obs

Web-Based Programming

Not Required
- PC Software
- PC License

- Logic rules for JOB sequencing
- Barcode function: USB, Serial, Ethernet
- Manual barcode entry option
- Quick programming mode
- Advanced programming mode
- Unrestricted programming from controller or remote
- Embedded, context-specific help
- Email statistics alarms direct from controller
- Multi-language support
- Onboard tool diagnostics
- Trace transfer over open protocol for transducerized tools

ONBOARD DATA STORAGE

- Removable SSD card stores ALL settings and data
- Complete controller settings and data recovery through SSD swap
- Full USB backup and restore function

50k

- Audit Logs
- Event Logs
- System Logs
- Tightening Results

CONNECTIVITY

2
Fieldbus Options

Ethernet IP, ProfiNet

7
MES Protocol Options

Open Protocol, Ford Open Protocol, ToolsNet, Toyota PokeYoke, VW XML, IR Ethernet EOR, & Nissan Serial EOR

HARDWARE

60 sec
Boot Time

2
Tool Familes RTS and QCX

4
USB 2.0 Ports

7"
Full-color Touch Screen

2
Ethernet Ports 10/100, 10/100/1K

COMMUNICATION & CONNECTIVITY

Choose between multiple user-friendly communication options for easy integration.

All models are equipped with 5 communication options:

- 2.4 GHz Wi-Fi
- 5 GHz Wi-Fi
- 802.15.4 Radio
- Bluetooth®
- USB-C

The RTS Connect seamlessly integrates with the INSIGHTqcx™ Controller and the INSIGHT™ Connect mobile app through a variety of communication options. The tools easily adapt to changing customer requirements with multiple communication.

Connectivity • Complete Control • Confidently Secure

Connect up to 16 RTS tools to controller • Security authentication

Dual-band communication • Extended coverage on mesh networks

INSIGHTqcx™ Controller

RTS CONNECT **ACCESSORIES**

Unlock even more flexibility and ease of use with a wide range of accessories that meet your specific application needs. RTS Series Precision Fastening Systems are compatible with a variety of plug-and-play accessories that maximize your manufacturing line's productivity.

ACCESSORIES FOR ANY APPLICATION

- Battery chargers and packs
- Tool display protectors
- Socket selector trays
- Suspension bales
- Spring balancers
- Boots

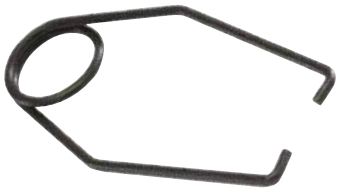
IQV20™ Series 20V
Battery Charger
BC1121-AP3 (JP); BC1121-AP4 (AUS/NZ); BC1121-AP5 (KR); BC1121-AP6 (SG/HK)

IQV20™ Series 20V,
5.0Ahr - Lithium-Ion Battery
BL2022; BL2022-AP5 (KR)

IQV20™ Series 20V,
2.5Ahr- Lithium-Ion Battery
BL2012; BL2012-AP5 (KR)

Tool Display Protector
TP-RTS-144

Boot
TP-RTS-BOOT-RD



Suspension Bale
48382147 (VP1-365)

Spring
Balancer

IQV20™ Series Li-Ion Dual Bay Charger
BC1221-AP3 (JP); BC1221-AP4 (AUS/NZ); BC1221-AP5 (KR); BC1221-AP6 (SG/HK)

TECHNICAL **SPECIFICATIONS**

RTS **MODELS**

Model	Drive	Retainer Type	Fastener Size	Torque Range (Nm)	Torque Range (in-lbs)	Weight w/o Battery lb (kg)	Length w/o Socket in (mm)	Side to Center Distance in (mm)
RTS025PQ4	1/4" Hex	Quick-Change	M6-M8	8-25	70-220	2.3 (1.05)	6.1 (155)	1.2 (30.5)
RTS060PS6	3/8" Square	Pin Detent	M8-M10	12-60	105-530	2.4 (1.07)	6.4 (163)	1.2 (30.5)
RTS060PH6	3/8" Square	Hog Ring/Thru Hole	M8-M10	12-60	105-530	2.4 (1.07)	6.5 (164)	1.2 (30.5)
RTS060PS8	1/2" Square	Pin Detent	M8-M10	12-60	105-530	2.4 (1.09)	6.7 (169)	1.2 (30.5)
RTS060PH8	1/2" Square	Hog Ring/Thru Hole	M8-M10	12-60	105-530	2.4 (1.09)	6.7 (170)	1.2 (30.5)
RTS140PS8	1/2" Square	Pin Detent	M10-M14	30-140	265-1240	2.4 (1.1)	6.7 (169)	1.2 (30.5)
RTS140PH8	1/2" Square	Hog Ring/Thru Hole	M10-M14	30-140	265-1240	2.4 (1.1)	6.7 (170)	1.2 (30.5)
RTS225PS8	1/2" Square	Pin Detent	M12-M18	60-225	530-2000	2.5 (1.12)	6.7 (169)	1.2 (30.5)
RTS225PH8	1/2" Square	Hog Ring/Thru Hole	M12-M18	60-225	530-2000	2.5 (1.12)	6.7 (170)	1.2 (30.5)

MTC **LICENSE**

Model	Description
MTC-SW-BS-1	MTC Activation, 1 Tool Add-on
MTC-SW-BS-2	MTC Activation, 2 Tools Add-on
MTC-SW-BS-4	MTC Activation, 4 Tools Add-on
MTC-SW-BS-9	MTC Activation, 9 Tools Add-on
MTC-SW-BS-15	MTC Activation, 15 Tools Add-on

TOOL SPECS BY JOINT TYPE

	RTS025	RTS060	RTS140	RTS225
Torque range (Nm)				
on Hard Joint (30˚)	13-42	20-100	50-235	100-375
on Medium-Hard Joint (60˚)	8-25	12-60	30-140	60-225
on Medium-Soft Joint (180˚)	6-17	8-40	20-95	40-150
on Soft Joint (>360˚)	3-10	5-25	12-55	24-90