



THE WORLD'S ONLY PATENTED

WIRELESS ROTARY TORQUE TRANSDUCER

ANTI-VIBRATION & SHOCK-PROOF

Detachable on any high-impact torque tool for real torque sensing

Passion for Innovation

Your Problems ~ Our Inspiration

[**www.zipptork.com**](http://www.zipptork.com)



ZIPPTORK Tariff Response Strategy

Helping industries overcome cost pressures with high-performance, cost-effective solutions:

- Reduce dependency on expensive imported tools and systems
- Achieve intelligent automation without relying on costly brands
- Fully compatible with digital transformation and factory automation

ZIPPTORK is your reliable alternative for high-torque bolting control under the trade tariff challenge

Wireless Rotary Torque Transducers

The **ONLY** patented **Anti-vibration design** applicable to impact & pulse torque wrenches

Wireless design in RF or BT , ideal for dynamic operations with power torque tools or impact mechanisms from any manufacturer



TTAS/TTEB/TTES/TTEH/TTEM
Wireless
Rotary-Type Torque Transducer

- Patented anti-vibration design for durability.
- The **only** wireless rotary-type torque transducer applicable to air impact wrenches and Air/DC-driven pulse wrenches.
- Wireless feature for the most excellent maneuverability, especially during bolting.
- For measuring, monitoring, and recording torque before, during, or after assembly.
- Designed for torque testing, provide solutions for most of torque auditing applications in manufacturing and quality department.
- For testing the capability of your power torque tools, verifying the accuracy of your hand tools, monitoring the capability of your fastening process, or auditing the quality of your assembled joints.
- Data logging to peripheral devices or a cloud server for multiple transducers via the Gateway.
- Capacity range from **5Nm** to **2,000Nm**, **3,000Nm** & above can be custom-made upon request.
- Socket drive type-**TTEH** can be custom-made.
- The only durable wireless rotary torque transducer with a **warranty of ONE year or 200,000 times dynamic bolting & 500,000 cycles static bolting.**

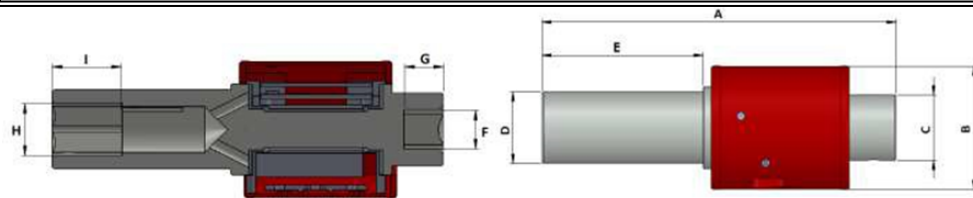
Wireless Rotary-Type Torque Transducers

Key Features

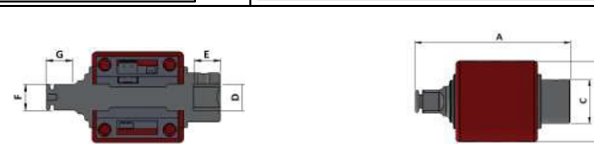
- Static torque calibration accuracy: $\pm 1\%$ CW / $\pm 2\%$ CCW
- Static angle measurement range: $0.5^\circ - 360^\circ$
- Applicable to any power impact or pulse tools regardless of brands and the type of impact mechanism for torque calibration, measurement, control, and verification.
- The type and size of both ends can be custom-made.
- Records the over-limit vibration level, the count of cycles and the over-torque value for the ease of warranty judgement.
- No slip ring design, more durable under shock and vibration for long dynamic service life.
- RF2.4G Hz or BT 5.0 for transmitting torque and angle signal wirelessly within 15M working distance.
- Power: 3.7V, rechargeable battery.

Specifications

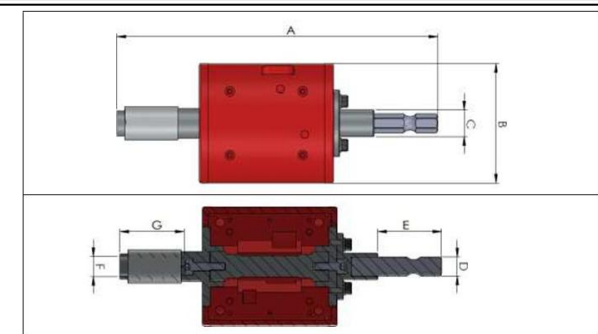
Item	TTES	TTEH	TTEB
T_{nom}	50Nm~2000Nm		5~20Nm
Power	DC 3.7V / 1010mAh		DC3.7V / 650mAh
Measured Torque Range	$10\% T_{nom} \sim T_{nom}$		
Torque Resolution (Nm)	$0.1\% T_{nom}$		
Accuracy (CW)	$\pm 1\%$		
Accuracy (CCW)	$\pm 2\%$		
Static Measured Angle Range	$0^\circ \sim 360^\circ$		
Angle Resolution (Degree)	0.5°		
Maximum Torque (Nm)	$110\% T_{nom}$		
Wireless Communication	RF 2.4 GHz		
Cable	USB、RS232		
Charger	USB-Type C (DC 5V/0.7A)		
Operation Temperature (°C)	$0^\circ\text{C} \sim 50^\circ\text{C}$		
Storage Temperature (°C)	$-10^\circ\text{C} \sim 60^\circ\text{C}$		



Model	Specifications (T_{nom})	Designation									Net Weight	
		A	B	C	D	E	F	G	H	I	Kg	Lb
		mm	mm	mm	mm	mm	mm	mm	mm	mm		
TTE-250-FS4FH18	250 Nm	93.7	45	26.0	27.0	20.0	1/2"	18.0	18.0	13.0	0.28	0.62
TTE-250-FS4FH24	250 Nm	96.7	45	30.0	34.0	23.0	1/2"	18.0	24.0	15.0	0.34	0.75
TTE-250-FS4FH17L	250 Nm	97.7	45	24.0	42.0	25.0	1/2"	18.0	30.2	17.0	0.35	0.77



Model	Specifications (T_{nom})	Designation							Net Weight	
		A	B	C	D	E	F	G	Kg	Lb
		mm	mm	mm	mm	mm	mm	mm		
TTE-50-FS3MS3	50 Nm	82.2	45.0	24.0	3/8"	12.5	3/8"	12.0	0.20	0.44
TTE-100-FS3MS3	100 Nm	82.2	45.0	24.0	3/8"	12.5	3/8"	12.0	0.21	0.46
TTE-180-FS4MS4	180 Nm	96.7	45.0	29.6	1/2"	18.0	1/2"	17.0	0.26	0.57
TTE-250-FS4MS6	250 Nm	103.7	45.0	29.6	1/2"	18.0	1/2"	17.0	0.35	0.77
TTE-500-FS4MS6	500 Nm	105.2	57.0	40.0	1/2"	18.0	3/4"	21.5	0.55	1.21
TTE-1000-FS8MS8	1000 Nm	126.7	57.0	54.0	1"	29	1"	27.3	0.85	1.87
TTE-1500-FS8MS8	1500 Nm	127.4	57.0	54.0	1"	29	1"	31.1	0.95	2.09



Model	Specifications (T_{nom})	Designation							Net Weight	
		A	B	C	D	E	F	G	Kg	Lb
		mm	mm	mm	mm	mm	mm	mm		
TTE-5-MH6FH6	5Nm	121	45	10	6.35	23.5	6.65	23.5	0.15	0.33
TTE-10-MH6FH6	10Nm	121	45	10	6.35	23.5	6.65	23.5	0.15	0.33
TTE-20-MH6FH6	20Nm	121	45	10	6.35	23.5	6.65	23.5	0.15	0.33

Prior to Assembly

For checking the torque tool capability & calibrating the torque setting

During Assembly

For controlling or monitoring while recording the bolting torque being applied to the bolted joint instantly and wirelessly

After Assembly

For effectively verifying the bolted joint residual torque accuracy with Angle/Torque Mode

Features

- Applicable to manual torque wrench, air or cordless impact/pulse wrench, torque multiplier for static or dynamic bolting, and residual torque verification.
- For monitoring the bolting torque of a torque tool with a **clutch or auto-shutoff mechanism** while transmitting relevant data such as operator ID, Job ID, and time of work instantly for data collection and uploading to a Tablet or Notebook and further to peripheral devices or a cloud server.
- Its patented anti-vibration mechanism makes it ideal for static torque and angle measurement or verification, and even applicable to continuous and discontinuous type torque tools.
- A patented algorithm will be used along with a **Torque Multiplier** to measure the residual torque of a high-torque bolted joint at the desired angular movement cost-effectively and efficiently while recording the personnel ID, job ID, and measurement time.

For Bolting

1. **Application 1** ~ Any brand manual torque wrench / Click Wrench + **TTA series of Torque Transducer** + Cellphone/Tablet/Laptop tighten to target torque till warning alert & stop. Display and judge **OK/NOK** while recording and transmitting relevant data to peripheral devices.
Controllable accuracy within $\pm 5\%$. "Make audible clicks visible."
2. **Application 2** ~ Any brand manual torque wrench / **Click Wrench** + **TTA series of Torque Transducer + Torque Multiplier (1~3 stacks)** + Cellphone / Tablet /Laptop tighten to target torque till warning alert & stop. Display and judge **OK/NOK** while recording and transmitting relevant data to peripheral devices. **Controllable accuracy within $\pm 5\%$.** "Make audible clicks visible."
3. **Application 3** ~
 - a. Use any brand air or DC-driven impact wrench to tighten to 80% of the Target Torque , then
 - b. Use any brand manual torque wrench /Click Wrench + **TTA series of Torque Transducer** + Cellphone/Tablet/Laptop, tighten to target torque till warning alert & stop. Display and judge **OK/NOK** while recording and transmitting relevant data to peripheral devices.
"Make audible clicks visible" with **controllable accuracy within $\pm 5\%$.**
4. **Application 4** ~ Attached to any air or DC-driven **clutch type** or **auto-shutoff type torque tool** with the free software provided to monitor the bolting torque in real-time and collect and upload the result along with the operator ID, workpiece code, and operation time.
5. **Application 5** ~ Used with any brand air or DC-driven impact wrench and free software to tighten the bolt to the Target Torque and release the trigger according to the alert from the tablet/laptop. **Controllable accuracy within $\pm 10 \sim \pm 20\%$.**
6. **Application 6** ~ Used along with the patented **Torque Controller** under **Transducer Mode** for any brand air or DC-driven impact wrench/pulse wrench to tighten the bolt to the Target Torque and release the trigger according to the alert from the tablet/laptop.
Controllable accuracy within $\pm 5 \sim \pm 15\%$.
7. **Application 7** ~ Free application software provided for verifying the residual torque of bolted joints, measuring the residual torque value at any angular displacement, and recording the code of the inspector, the object, and the inspection time.

ZIPPTORK Wireless Rotary Torque Transducer Applications

ZIPPTORK
Bolting Technology
www.zipptork.com

Patented anti-vibration and wireless design

Applicable to any power torque tools with **clutch or auto-shutoff mechanism** for torque monitoring and data collection



DR-RF Dongle



TTES/TTEB
Wireless Torque Transducer

Cordless Clutch Type Tool/ Auto Shutoff Type Pulse Wrench



Air Clutch Type Tool / Auto Shutoff Type Pulse Wrench



Applicable to any brand power torque tools with impact or pulse mechanism for torque control and data collection under various control modes while use the **Torque Controller** designed with **patented control algorithm and device**

Air Oil Pulse Wrench

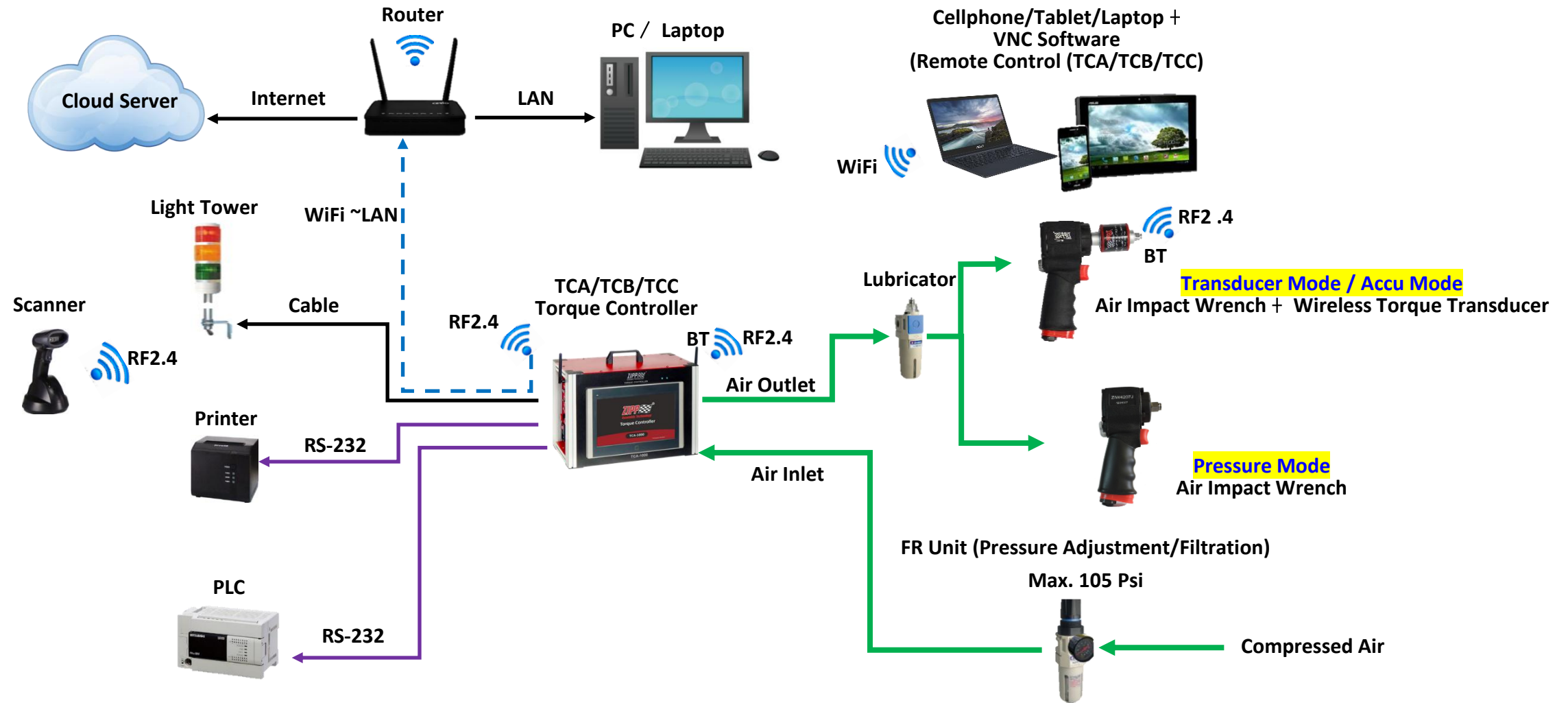


Air Impact /Hammerhead-Angle Impact Wrench



TCA / TCB / TCC Torque Controller

Application System Architecture



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Bolting Technology
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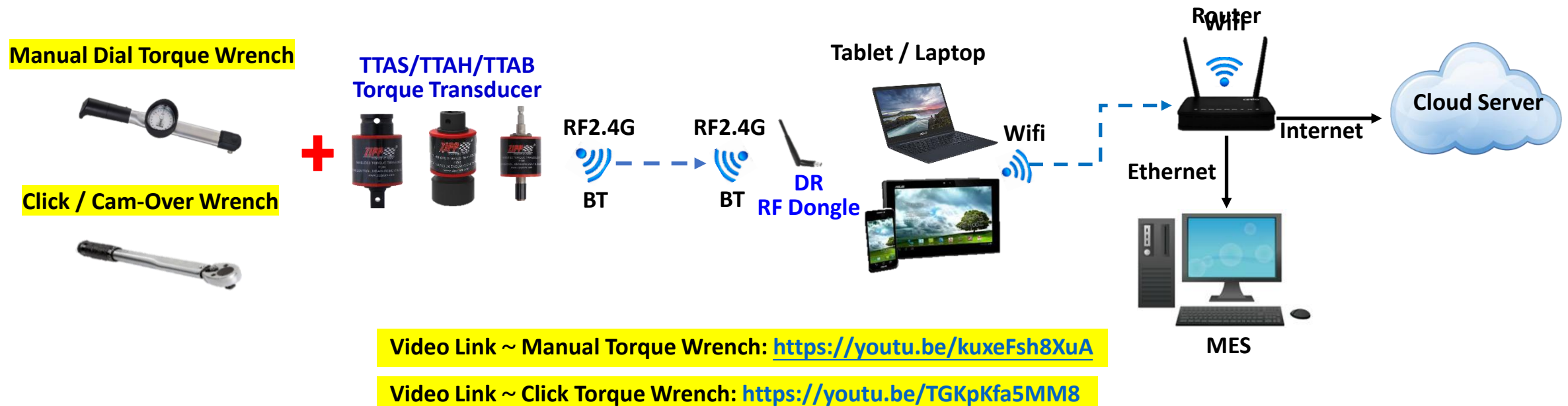


Data Collection for Manual Torque Wrenches

Manual Torque Wrench / Click Wrench / Cam-Over Wrench + **TTAS/TTAB wireless Rotary Type Torque Transducer**
→ RF2.4G / BT

→ **DR-RF Dongle** (RF only) + Tablet / Laptop (**APP**~Android/Windows) → WiFi → peripheral devices or Cloud Server
Torque control accuracy within $\pm 5\%$ or less, depending on the quality and stability of the tool used and the grip of the tool during operation

Application System Architecture



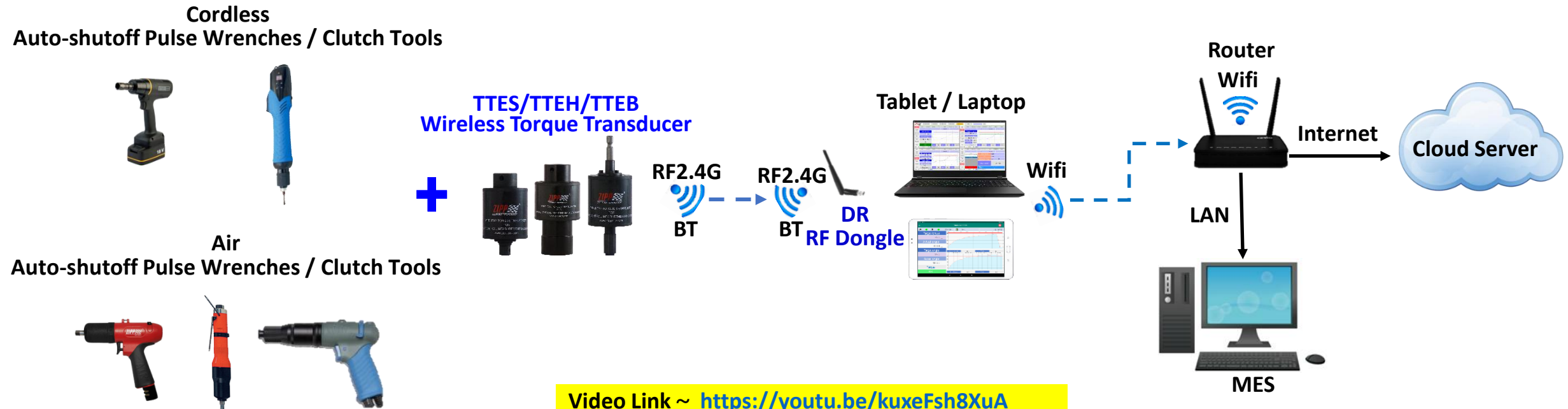
Bolting Torque Control Application Embodiments

Monitoring bolting torque of clutch or Auto-shutoff Type Tool

Any Air or DC driven torque tool with the **clutch or auto-shutoff mechanism** + **TTES/TTEB wireless Rotary Torque Transducer**
→ RF2.4G/BT → **DR- RF Dongle (RF only)** + Tablet/Laptop (**Android APP/Windows software**) →
WiFi → Peripheral Devices or cloud server

Torque control accuracy within $\pm 5\%$ or less, depending on the quality and stability of the tool used and the grip of the device during operation

Application System Architecture



Video Link ~ <https://youtu.be/kuxeFsh8XuA>

Video Link ~ <https://youtu.be/oZ5SyGbxnbl>

Bolting Torque Control of Air Impact Wrench & Pulse Wrenches

Air Impact Wrenches or Pulse Wrenches + TCB/TCC Torque Controller + TTES wireless Torque Transducer + Laptop,
under **Transducer Mode** → WiFi → peripheral devices or cloud server

Application System Architecture

Video Link ~ <https://youtu.be/z8u67jIDkRA>

±5% ~ 10%
/+ 10%

Transducer Mode

TTES / TTEB
Wireless Torque Transducer



Video Link ~ <https://youtu.be/ZcE4XDcLGqE>

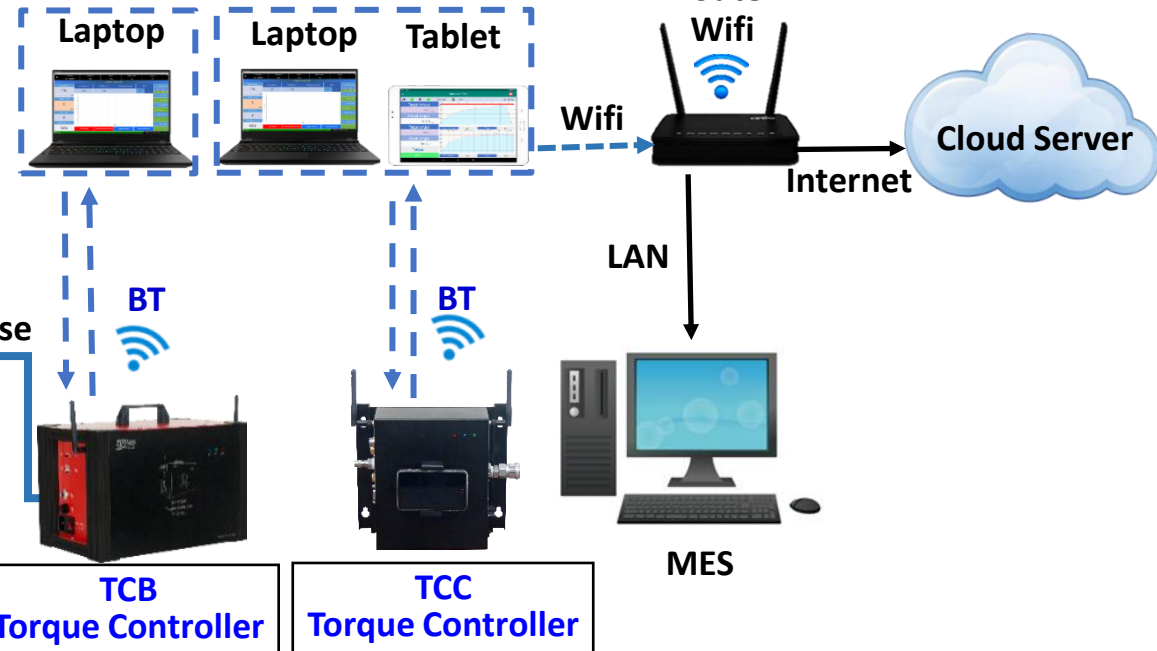
±10% ~ 15%
/+ 15%

Transducer Mode

Air Pulse Wrenches



Air Impact Wrenches

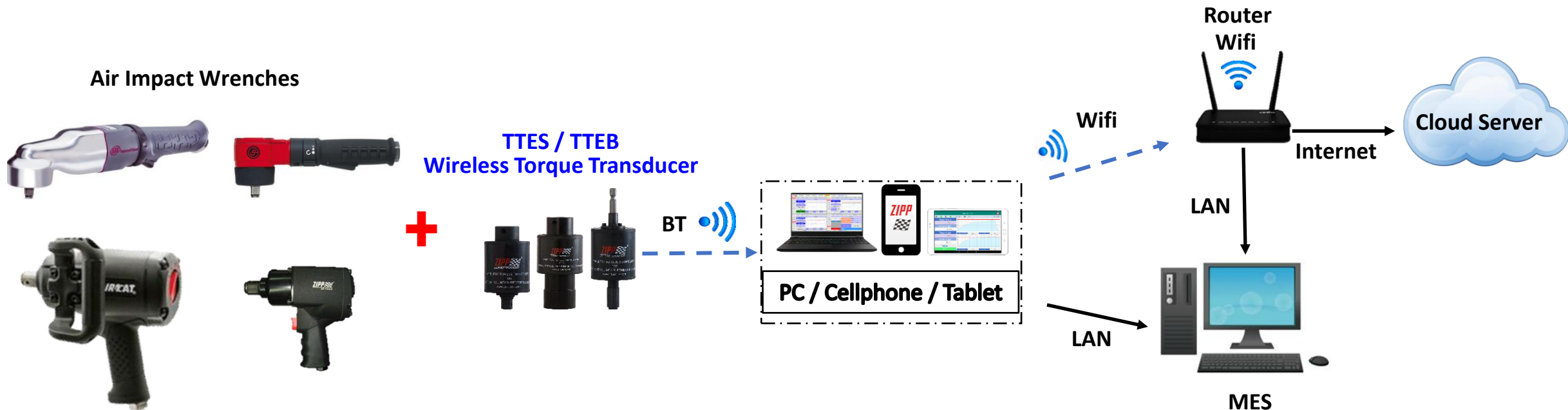


Bolting Torque Control of Air Impact Wrenches

Air Impact Wrenches + **TTES wireless Torque Transducer** + **TMS APP** + Laptop, under **Timer Mode** →
Wi-Fi → peripheral devices or cloud server

Torque control accuracy within $\pm 10\% \sim \pm 20\%$ / + 15%

Application System Architecture



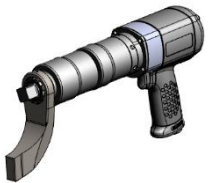
Video Link ~
<https://www.youtube.com/watch?v=bAj6y32qpqE>

Bolting Torque Control of Torque Multiplier

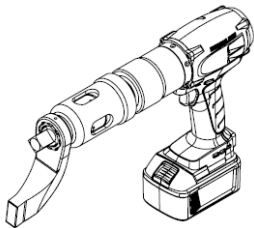
Torque Multiplier + **TTEM wireless Torque Transducer** + **TMS APP** + Laptop, → under **Transducer Mode** →
Wi-Fi → peripheral devices or cloud server
Torque control accuracy within $\pm 3\%$

Application System Architecture

Air Torque Multiplier



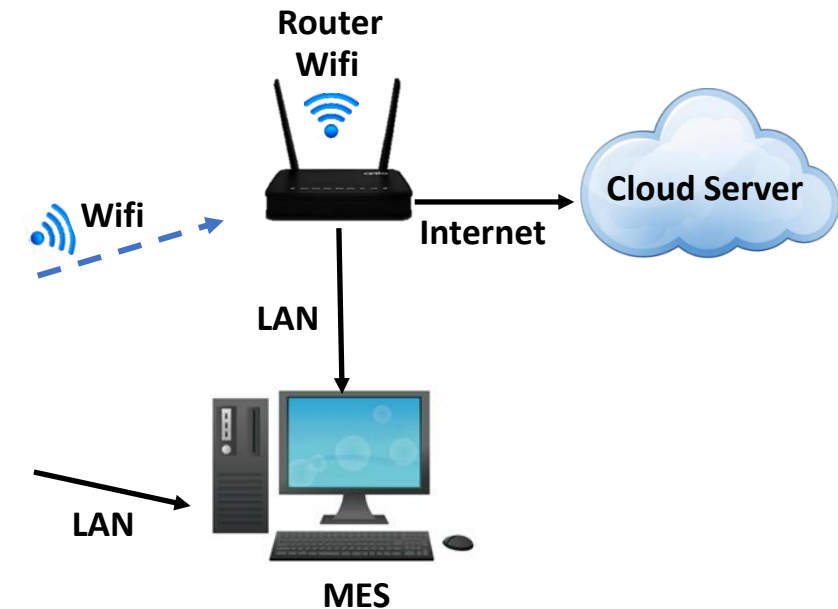
DC Torque Multiplier








TTEM
Wireless Torque Transducer



Video Link ~ To be available



Competitive Products of wireless Rotary Torque Transducers

<p>ATLAS COPCO</p> <p>https://www.atlascopco.com/en-tw/itba/products/assembly-solutions/quality-assurance-in-tightening-and-fastening/transducers/irtt-b</p> 	<p>ZIPPTORK</p> <p>https://www.zipptork.com/wireless-torque-transducer/</p> 	<p>INGERSOLL RAND</p> <p>https://powertools.ingersollrand.com/en-us/calibration-equipment/transducers</p> 
<p>DESOUTTER</p> <p>http://www.desouttertools.com/</p> 	<p>Mountz Inc</p> <p>https://www.mountztorque.com/</p> 	<p>AIMCO</p> <p>https://www.aimco-global.com/subcat2?subcatky2=978114</p> 
<p>TOHNICHI</p> <p>https://www.tohnichi.com/products/spintork-ST3-C.htm</p> 	<p>NORBAR</p> <p>https://www.norbar.com/products/view/ncategory/categoryname/torque-transducers/category_multid/78</p> 	<p>RAD</p> <p>https://www.radtorque.com/productcat/torque-audit-equipment/</p> 



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