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Picture 1: Wireless handheld digital control “ADS Smart Control” manages all relevant application data for one or more ITH Battery Nut Runners type ADS Digital. Pictured above, axle connection bolts of an agricultural machine are precisely tightened to 1.000 Nm (738 ft*lbs).

World’s first battery torque wrench up to 4,000 Nm with external electronic data control

“ADS Smart Control” wirelessly configures battery Nut Runner settings

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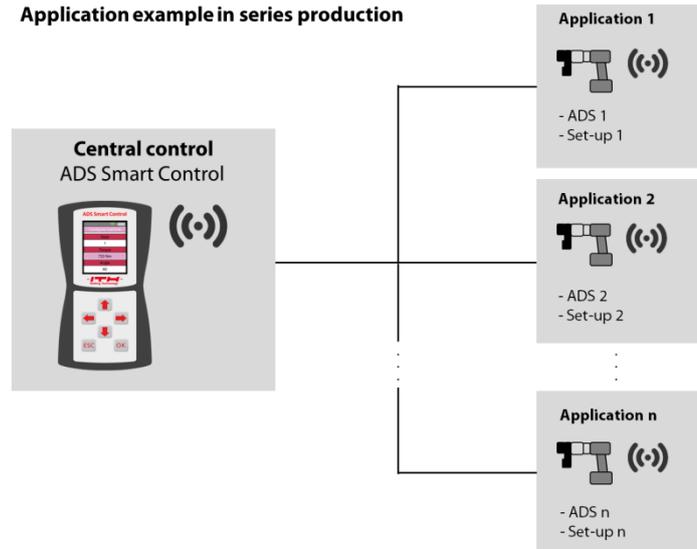
Lightweight battery-powered torque wrenches “ITH Nut Runner type ADS” have the best power-to-weight ratio of their class up to 4,000 Nm (2,950 ft*lbs). The ADS Series now includes a new version of “ADS Digital”, where the handheld digital “ADS Smart Control” connects to the battery torque tool by wireless, bidirectional transmission. All relevant application data like target torque, torque-angle, and more can be set-up easily. This data can also be viewed directly on the tool’s own small display.

1. Robust battery torque wrench and wireless digital control

“The advantage is to have a strict separation between electronic controls and the tool”, explains Frank Hohmann, ITH General Manager who runs the leading system supplier of bolting technology ITH together with his brother Jörg Hohmann. “Bolting tools can be subjected to high stresses during use – especially when used in the field. By separating electronics and torque tools, the risk of damage to the electronics is nearly eliminated.”

Another benefit is that a single “ADS Smart Control” can be used to configure multiple tools. “In the case of bolting applications within serial-production lines, it is possible that only one person – a supervisor for example – can individually manage the settings of multiple tools across multiple applications”, Frank Hohmann explains. “After configuring the target values with the ADS Smart Control, these values cannot be modified at the tool by the user. This leads to more consistent bolting procedures and reliable bolted connections.”

Application example in series production



Picture 2: Patent-protected ITH ADS Smart Control offers control over several different tools and bolting applications from one device.

2. Flexible and fine-tuned torque adjustment

New advanced ITH configuration software allows flexible torque adjustment in as little as 5 Nm increments for power classes up to 750 Nm, and 10 Nm or 20 Nm increments for higher power classes up to 4,000 Nm.

Optional torque-angle values can be adjusted in 1° increments. This setting enables the ITH Nut Runner type ADS Digital to perform the torque-angle bolting method which is used for high-load bolted joints. These types of bolted joints occur in industrial sectors such as large motor assembly, railway vehicles, and steel construction.

The target torque and torque-angle values set by the ADS Smart Control are saved to the ADS Digital and displayed directly on the tool.

Smart ITH configuration software automatically detects if the Nut Runner gearbox is set to gear 1 or gear 2. This eliminates the risk of user error.



Picture 3: M20 bolt connections of a shock absorber on a railway vehicle are precisely tightened with an ITH ADS 75 Digital to 450 Nm (331 ft*lbs). An ITH Side-drive is used to provide an optimal reaction point.



Picture 4: Patent-protected “ADS Smart Control” wirelessly transmits all configuration data to the ITH Battery Nut Runner type ADS Digital.

The tool’s display reflects the configuration data of the ADS Smart Control, in this case the target values are 1,380 Nm and 20°.

3. Control during bolting

During the bolting process the patent-protected “ADS Smart Control” displays live data and the current status of the process. Once the set values have been reached, the ITH Nut Runner type ADS automatically initiates “free-run”, this function relieves torsional binding at the reaction point for easy and safe removal of the tool after each bolting cycle.

Another built-in feature of the software is the battery management system. This system monitors the battery status of the tool and adapts to maintain consistent output throughout the charge of the battery. This system monitors the battery status of the tool and actively uses this and other information to maintain consistent output despite the charge of the battery. This guarantees a high degree of repeatability of torque values of $\pm 4\%$.

Battery torque wrench Type ADS with best power-to-weight ratio

ITH Battery Nut Runners type ADS are the smallest and lightest battery-powered torque tools for torque values up to 4,000 Nm (2,950 ft*lbs). The ADS provide class-leading power-to-weight ratio (Nm/kg) for optimal handling with a high-capacity 5.2 Ah battery. The ADS series also includes version “ADS Standard” with an analogue torque adjustment wheel, and version “ADS Basic” which comes with one pre-determined torque setting from the factory. All versions in the ADS Series are equipped with a wear-free, brushless motor.

Battery Nut Runners type ADS can be used for service jobs on all bolt connections bigger than M16 (5/8”), for example:

- Wind turbines (especially useful for offshore)
- Construction sites: cranes, construction and earth-moving machines of all types, HV-standard bolt connections of common steel constructions (I-beams)
- Common machine engineering bolt connections

Further pictures to be used:



Picture 5: Patent-protected wireless control “ADS Smart Control” can be attached to the user’s clothing with the robust clip mechanism. By separating electronics from the Nut Runner, the risk of damage to the electronics is nearly eliminated.



Picture 6: When torqued, high-load bolts are often tightened using the torque-angle method. The connecting rod bolts of a large diesel engine in this picture are subjected to high dynamic loads and are precisely tightened by an ITH Nut Runner type ADS.



Picture 7: With a custom reaction arm, these M30 hexagon bolts are tightened by an ITH Battery Nut Runner type ADS Digital.



Picture 8: The newly developed reaction arm is stronger and lighter with easy positioning in 360°. This comes standard with all ITH Nut Runners.