

HIGH POWER Nutrunning Equipment

Cableless, Transducerized A1 Smart Tools

For Industrial Fastening

An Assembly Innovation



Cableless, Transducerized Smart Tools

Ergonomic, capability, lightweight

Ergonomics, capability, and torque repeatability are demands of the automotive industry and their suppliers. The portable, rechargeable tools from AMT satisfy your requirements and so much more. Using a new-generation, high-dynamic motor, it is possible to increase nutrunner power by up to 30 percent. The results are faster and **more cost-efficient fastening** operations.

The appealing design was developed in consideration of trend-setting ergonomic factors:

- Ergonomically formed hand grip for added operator comfort
- Newly designed bi-directional ring for clockwise / counterclockwise operation with additional user-programmable switch function. These features offer increased functionality as well as comfort.
- Status display indicates direction of rotation via LEDs and additional LED for enhanced display functions (e.g. NOK acknowledgement, release)
- Ergonomically arranged START key of electro polished stainless steel which adds comfort and quality.
- 1-part, ergonomically formed angle head (can be rotated 4 x 90°) which allows for the highest level of durability and dependability.

The optimized ergonomic design and lightweight configuration reduce operator strain. This leads to an **increase in individual productivity** and, as a result, a **reduction in running production costs**.

Robust design

Rechargeable tools from AMT are designed for rugged industrial applications. The polyamide hand grip has a high proportion of fiberglass and the motor cover is made from high-strength polyurethane. Both motor and gearbox are configured for long-life operation. This robust design leads to an **increase in lifetime** and, as a result, a **minimum in maintenance costs**.

Integrated data chip

Rechargeable tools also feature an integrated data chip that stores all relevant spindle data. This data can be automatically read on any AMT control, as soon as a new tool is connected to the control. Time consuming and tedious parameter definitions become a thing of the past. The data chip also stores the number of executed fastening cycles. This allows for the development of individualized service intervals, in line with preventive maintenance.



Safeguarding the fastening process

All rechargeable tools have reaction torque sensors, in addition to gathering rotation angle data from the Hall sensors. As a result, fastening processes are performed with maximum precision and consistent quality. While recording the rotation angle, the control monitors whether or not the specified torque is actually being applied to the fastened assembly. In addition, the current consumption, equivalent to the torque, is used as a redundant control variable in all rechargeable tools. By doing this, all requirements for safe, reliable, and high quality fastened assemblies are met.

Integrated barcode reader

Prior to fastening, part ID is frequently checked with a barcode reader. Based on the part number, the correct fastening program is then retrieved from the nutrunner control. Upon successful completion, the part number and fastening data can then be stored in a quality database. The use of a separate barcode reader to scan a barcode is, however, a time-consuming process. AMT, therefore, integrated the barcode reader into the spindle. As a result, scanning and fastening can take place in one step. The resulting reduction in cycle time leads to a reduction in assembly cost.

Wireless Data Transfer

Data is transferred between the tool and control via a WLAN module. This data is encoded to ensure a safe and reliable transfer.

Cableless, Transducerized Smart Tools

Technical Data:

General

- Reaction torque sensor
- Angle registration
- Redundant motor voltage control
- Fastening counter
- Standby function
- Battery charge indicator
- Data interface on tool

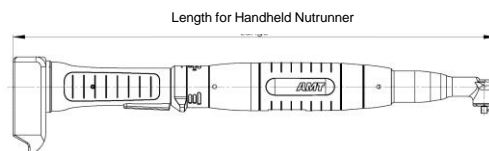
Options

- Fastener location lighting (B)
- Display (D)
- Barcode reader (S)
- Ubisense Tag (UT)
- Adapter for flat gears
- Hold & Drive

Designation Code: **HCXBW1039WV38**

HCX= Handheld tool, brushless driving motor
 B = Operation with rechargeable battery
 W = Wlan transfer module

1 = Size 1
 039 = Capacity of the tool in Nm
 W = Angle design
 V = Square drive
 38 = Square drive with cylindrical spring pin
 Z = Centric drive
 F = Drive with spring travel (50mm)
 1/4", 3/8"



Angle Nutrunner HCXBW

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm*	ft lbs*			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14	587	490	19	23	0.90	1/4"	1.6	3.5	7900246
	25	19	HCXBW1025WV38	366	493	19	28	1.09	3/8"	1.7	3.7	7900249
	39	29	HCXBW1039WV38	242	497	20	33	1.29	3/8"	1.7	3.7	7900250
	50	37	HCXBW1050WV38	186	519	20	38	1.48	3/8"	1.9	4.2	7900280
	64	47	HCXBW1064WV38	138	519	20	38	1.48	3/8"	1.9	4.2	7900279

Angle Nutrunner HCXBW with Fastener location lighting (B)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14B	587	490	19	23	0.90	1/4"	1.6	3.5	70054913
	25	19	HCXBW1025WV38B	366	493	19	28	1.09	3/8"	1.7	3.7	70054914
	39	29	HCXBW1039WV38B	242	497	20	33	1.29	3/8"	1.7	3.7	70054915
	50	37	HCXBW1050WV38B	186	519	20	38	1.48	3/8"	1.9	4.2	70054916
	64	47	HCXBW1064WV38B	138	519	20	38	1.48	3/8"	1.9	4.2	70054917

Angle Nutrunner HCXBW with Display (D)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14D	587	490	19	23	0.90	1/4"	1.6	3.5	70054918
	25	19	HCXBW1025WV38D	366	493	19	28	1.09	3/8"	1.7	3.7	70054919
	39	29	HCXBW1039WV38D	242	497	20	33	1.29	3/8"	1.7	3.7	70054920
	50	37	HCXBW1050WV38D	186	519	20	38	1.48	3/8"	1.9	4.2	70054921
	64	47	HCXBW1064WV38D	138	519	20	38	1.48	3/8"	1.9	4.2	70054922

* Weight and length without rechargeable battery and options. Weight of 18V lithium ion rechargeable battery = 0,6kg

Cableless, Transducerized Smart Tools

Technical Data:

General

- Reaction torque sensor
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- Fastening counter
- Standby function
- Battery charge indicator
- Data interface on tool

Options

- Fastener location lighting (B)
- Display (D)
- Barcode reader (S)
- Ubisense Tag (UT)
- Adapter for flat gears
- Hold & Drive

Angle Nutrunner HCXBW with Display (D) and Scanner (S)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14DS	587	490	19	23	0.90	1/4"	1.6	3.5	70054923
	25	19	HCXBW1025WV38DS	366	493	19	28	1.09	3/8"	1.7	3.7	70054924
	39	29	HCXBW1039WV38DS	242	497	20	33	1.29	3/8"	1.7	3.7	70054925
	50	37	HCXBW1050WV38DS	186	519	20	38	1.48	3/8"	1.9	4.2	70054926
	64	47	HCXBW1064WV38DS	138	519	20	38	1.48	3/8"	1.9	4.2	70054927

Angle Nutrunner HCXBW with Ubisense Tag (UT)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14UT	587	490	19	23	0.90	1/4"	1.6	3.5	70054994
	25	19	HCXBW1025WV38UT	366	493	19	28	1.09	3/8"	1.7	3.7	70054995
	39	29	HCXBW1039WV38UT	242	497	20	33	1.29	3/8"	1.7	3.7	70054996
	50	37	HCXBW1050WV38UT	186	519	20	38	1.48	3/8"	1.9	4.2	70054997
	64	47	HCXBW1064WV38UT	138	519	20	38	1.48	3/8"	1.9	4.2	70054998

Angle Nutrunner HCXBW with Fastener location lighting (B) and Display (D)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14BD	587	490	19	23	0.90	1/4"	1.6	3.5	70055008
	25	19	HCXBW1025WV38BD	366	493	19	28	1.09	3/8"	1.7	3.7	70055009
	39	29	HCXBW1039WV38BD	242	497	20	33	1.29	3/8"	1.7	3.7	70055010
	50	37	HCXBW1050WV38BD	186	519	20	38	1.48	3/8"	1.9	4.2	70055011
	64	47	HCXBW1064WV38BD	138	519	20	38	1.48	3/8"	1.9	4.2	70055012

Angle Nutrunner HCXBW with Fastener location lighting (B), Display (D) and Scanner (S)

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Angle Head		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in	Ø mm	Ø in		kg	lbs	
Size 1	15	11	HCXBW1015WV14BDS	587	490	19	23	0.90	1/4"	1.6	3.5	70055013
	25	19	HCXBW1025WV38BDS	366	493	19	28	1.09	3/8"	1.7	3.7	70055014
	39	29	HCXBW1039WV38BDS	242	497	20	33	1.29	3/8"	1.7	3.7	70055015
	50	37	HCXBW1050WV38BDS	186	519	20	38	1.48	3/8"	1.9	4.2	70055016
	64	47	HCXBW1064WV38BDS	138	519	20	38	1.48	3/8"	1.9	4.2	70055017

* Weight and length without rechargeable battery and options. Weight of 18V lithium ion rechargeable battery = 0,6kg

Cableless, Transducerized Smart Tools

Technical Data:

General

- Reaction torque sensor
- Angle registration
- Redundant motor voltage control
- Fastening counter
- Standby function
- Battery charge indicator
- Data interface on tool

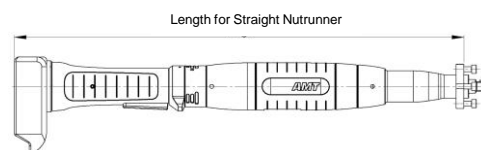
Options

- Fastener location lighting (B)
- Display (D)
- Barcode reader (S)
- Ubisense Tag (UT)
- Adapter for flat gears
- Hold & Drive

Designation Code: **HCXBW1039ZV38**

HCX= Handheld tool, brushless driving motor
 B = Operation with rechargeable battery
 W = Wlan transfer module

1 = Size 1
 039 = Capacity of the tool in Nm
 W = Angle design
 V = Square drive
 38 = Square drive with cylindrical spring pin
 Z = Centric drive
 F = Drive with spring travel (50mm)
 1/4", 3/8"



Straight Nutrunner HCXBW with Square Drive

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in		kg	lbs	
Size, 1	11	8	HCXBW1011ZV38	913	466	18	3/8"	1.6	3.5	7900257
	27	20	HCXBW1027ZV38	364	466	18	3/8"	1.6	3.5	7900258

Straight Nutrunner HCXBW with Spring Travel

	Max. Torque Cap.		Type	Free Speed rpm	Length*		Spring Travel mm	Weight*		Order-No.
	Nm	ft lbs			mm	in		kg	lbs	
Size, 1	11	8	HCXBW1011ZF50	913	466	18	50	1.7	3.7	7900259
	27	20	HCXBW1027ZF50	364	466	18	50	1.7	3.7	7900260

* Weight and length without rechargeable battery and options. Weight of 18V lithium ion rechargeable battery = 0,6kg



Cableless, Transducerized Smart Tools

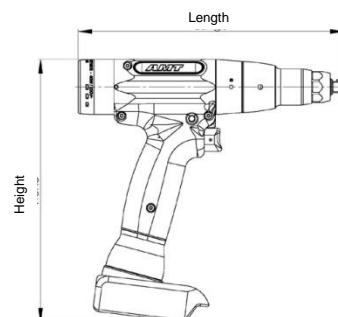
Technical Data:

General

- Reaction torque sensor
- Angle registration
- Redundant motor voltage control
- Fastening counter
- Standby function
- Battery charge indicator
- Data interface on tool
- Fastener location lighting

Options

- Display (D)
- Barcode reader (S)
- Ubisense Tag (UT)



Designation Code : **PCXBW1011ZV38**

PCX = Handheld tool, brushless driving motor
 B = Operation with rechargeable battery
 W = Wlan transfer module

1 = Size 1
 015 = Capacity of the tool in Nm
 Z = Centric design
 V = Square drive
 H = Hexagon socket
 38 = Square drive with cylindrical spring pin
 1/4", 3/8"

Pistol-Grip Nutrunner PCXBW

	Max. Torque Nm	Capacity ft lbs	Type	Free Speed rpm	Length*		Drive	Weight*		Order-No.
					mm	in		kg	lbs	
Size 1	11	8	PCXBW1011ZV38	913	227	8.9	3/8"	1,3	2.9	7900265
	11	8	PCXBW1011ZH14	913	240	9.4	1/4"	1,3	2.9	7900267
	21	16	PCXBW1021ZV38	476	227	8.9	3/8"	1,3	2.9	7900266
	30	22	PCXBW1030ZV38	316	245	9.6	3/8"	1,4	3.1	on request
	40	30	PCXBW1040ZV38	235	245	9.6	3/8"	1,4	3.1	on request

Pistol-Grip Nutrunner PCXBW with Display (D)

	Max. Torque Nm	Capacity ft lbs	Type	Free Speed rpm	Length*		Drive	Weight*		Order-No.
					mm	in		kg	lbs	
Size 1	11	8	PCXBW1011ZV38D	913	227	8.9	3/8"	1,3	2.9	70055002
	11	8	PCXBW1011ZH14D	913	240	9.4	1/4"	1,3	2.9	70055004
	21	16	PCXBW1021ZV38D	476	227	8.9	3/8"	1,3	2.9	70055003
	30	22	PCXBW1030ZV38D	316	245	9.6	3/8"	1,4	3.1	on request
	40	30	PCXBW1040ZV38D	235	245	9.6	3/8"	1,4	3.1	on request

* Weight and length without rechargeable battery and options. Weight of 18V lithium ion rechargeable battery = 0,4kg

Cableless, Transducerized Smart Tools

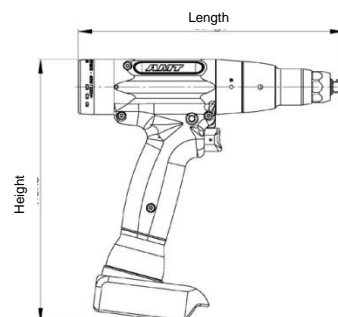
Technical Data:

General

- Reaction torque sensor
- Angle registration
- Redundant motor voltage control
- Fastening counter
- Standby function
- Battery charge indicator
- Data interface on tool
- Fastener location lighting

Options

- Display (D)
- Barcode reader (S)
- Ubisense Tag (UT)



Designation Code : **PCXBW1011ZV38**

PCX = Handheld tool, brushless driving motor
 B = Operation with rechargeable battery
 W = Wlan transfer module

1 = Size 1
 015 = Capacity of the tool in Nm
 Z = Centric design
 V = Square drive
 38 = Square drive with cylindrical spring pin
 H = Hexagon socket
 1/4", 3/8"

Pistol-Grip Nutrunner PCXBW with Display (D) and Scanner (S)

	Max. Torque	Capacity	Type	Free Speed	Length*		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in		kg	lbs	
Size 1	11	8	PCXBW1011ZV38DS	913	227	8.9	3/8"	1,3	2.9	70054999
	11	8	PCXBW1011ZH14DS	913	240	9.4	1/4"	1,3	2.9	70055001
	21	16	PCXBW1021ZV38DS	476	227	8.9	3/8"	1,3	2.9	70055000
	30	22	PCXBW1030ZV38DS	316	245	9.6	3/8"	1,4	3.1	on request
	40	30	PCXBW1040ZV38DS	235	245	9.6	3/8"	1,4	3.1	on request

Pistol-Grip Nutrunner PCXBW with Ubisense Tag (UT)

	Max. Torque	Capacity	Type	Free Speed	Length*		Drive	Weight*		Order-No.
	Nm	ft lbs			mm	in		kg	lbs	
Size 1	11	8	PCXBW1011ZV38UT	913	227	8.9	3/8"	1,3	2.9	70055005
	11	8	PCXBW1011ZH14UT	913	240	9.4	1/4"	1,3	2.9	70055007
	21	16	PCXBW1021ZV38UT	476	227	8.9	3/8"	1,3	2.9	70055006
	30	22	PCXBW1030ZV38UT	316	245	9.6	3/8"	1,4	3.1	on request
	40	30	PCXBW1040ZV38UT	235	245	9.6	3/8"	1,4	3.1	on request

* Weight and length without rechargeable battery and options. Weight of 18V lithium ion rechargeable battery = 0,4kg

Accessories

Display

Type	Order-No.
Display	700 00160



Support Handle

Type	Order-No.
Support Handle	on Request



Display with Barcode Reader

Type	Order-No.
Display with barcode reader	700 00153



Tool Suspension

Type	Order-No.
Tool Suspension for PCXBW	700 00139



Adaption - Display

Type	Order-No.
Adaption for PCXBW	700 00140
Adaption for HCXBW	700 34286
Adaption for HCXBW & Lighting	700 00191



Tool Storage for PCXBW

Type	Order-No.
Tool Storage PCXBW	700 05177



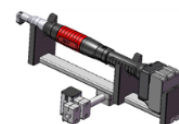
Fastener Location Lighting

Type	Order-No.
Fastener Location Lighting	700 00190



Tool Storage for HCXBW

Type	Order-No.
Tool Storage HCXBW	700 16570



Scratch Guard for HCXBW

For Type	Order-No.
HCXBW1015WV14	701 7743
HCXBW1025WV38	701 7744
HCXBW1039WV38	701 7746
HCXBW1050WV38	701 7769
HCXBW1064WV38	701 7769



Tool Balancer

Type	Order-No.
Tool Balancer for PCXBW	700 05181



Rechargeable Battery

Type	Weight		Order-No.
	kg	lbs	
18V, 1,5 Ah Li-Ion	0,40	0,9	700 11450
18V, 3,0 Ah Li-Ion	0,60	1,3	700 11451
18V, 4,0 Ah Li-Ion	0,60	1,3	70097190



4-Bay Charger

Type	Order-No.
4-Bay Charger 9,6V - 25,2V	700 11455



1-Bay Charger

Type	Order-No.
1-Bay Charger 9,6- 28V 230V	700 11452
1-Bay ChargerUS 9,6- 28V 110V	700 70477



8-Point Charging Device

Type	Order-No.
8-Bay Charger 9,6V - 25,2V	700 11458



Control SMX BT

Control SMX BT

Possibilities

Battery tools can be connected to a nutrunner control system together with cable-based tools, torque wrenches and battery riveters. The nutrunner control system communicates with the customer controls, manages the commands, communicates with the individual tools and transmits the results to the customer data base.

These possibilities ensure an optimum design of the nutrunning system related to your work station. This reduces room and hardware requirements and also reduces time and expenditure for commissioning and maintenance due to shared hard- and software.

This saves you money, reduces your operating costs while increasing your productivity at the same time.



Operation and display

Operation and administration of the nutrunner software is completely done directly at the nutrunner control system. All necessary programming and parameterization steps can be set via the 10.4" touch screen. A hierarchic password management prevents unwanted changes in the settings.

You won't need a keyboard or a mouse. We will provide all the items you require directly on location. This has the added advantage of providing you with more flexibility in your daily work. Use the possibilities of a user-oriented, menu-guided „touch display user surface“.

Thanks to the low depth of the enclosure of just 205 mm, the control system is ideally suited to be installed directly at the assembly line. This provides you with direct contact to the control system, allowing you to access all information comfortably and quickly. All these advantages combined with the mobility (No Cables) of the tools contribute to an increased productivity, improved quality and reduced production costs.



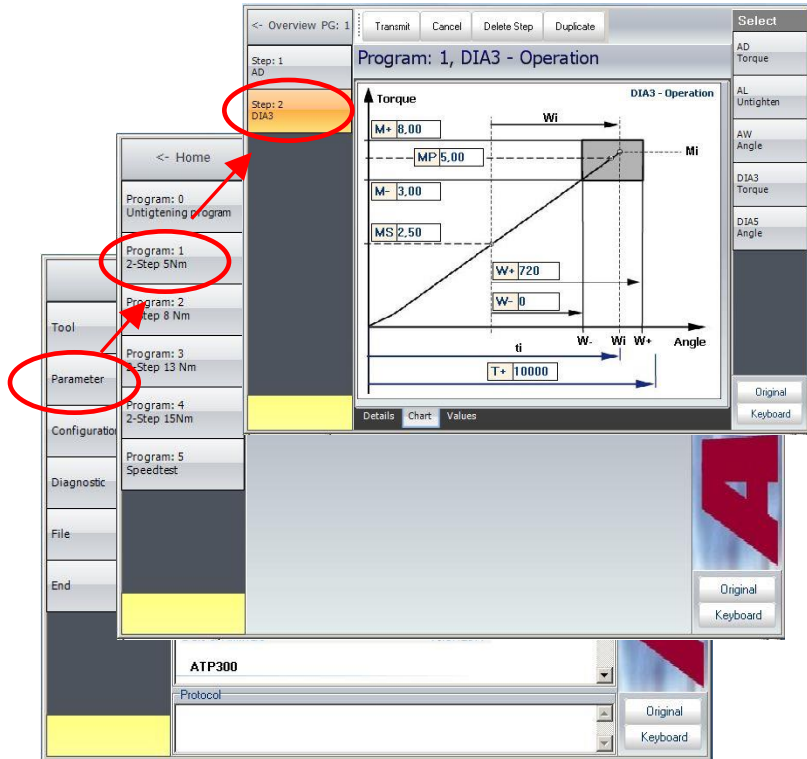
Software

Control SMX BT

Parameterization

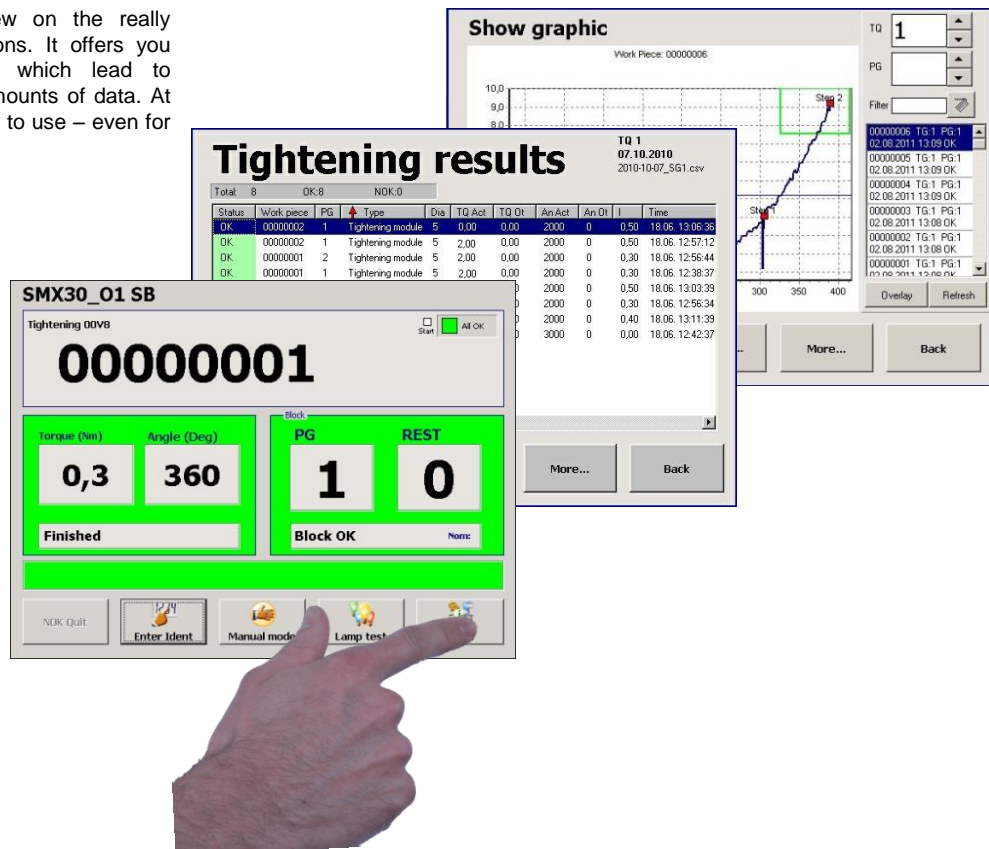
All necessary programming and parameterization steps can be easily set via the 10.4" touch display. Parameterization of the individual tightening phases is supported by the corresponding diagram. This makes it easy for the user to enter the correct switch-off and monitoring parameters into the system via the ergonomic touch display.

The individual tightening tasks are compiled via the comfortable menu navigation. The most complex tasks can be solved with the integrated sequence control.



Analysis

Our software offers a clear view on the really important results of your operations. It offers you high-performance analysis tools which lead to reliable reports even with large amounts of data. At the same time the software is easy to use – even for the occasional user.



Control SMX40 BT

Technical Data:

Features

- Work station control for up to 10 rechargeable tools
- Interface of other OEM tools (e.g. offset wrench, rivet gun).
- Interface to assembly control systems
- Link to host computer
- Nutrunner data transfer to quality safety systems
- Statistics
- Graphic display

General

- Compact Flash Card
- 2x Ethernet interface 10/100Mbit
- 3x Serial interface
- 4x USB interface

Display and Operator Controls

- 10,4" touch-screen display

Programming and Parameterization

- Integrated operator and parameter interface
- Via network



Periphery

- Operator control
- Socket box
- Indicators (e.g. lights, horn, sector division, etc.)
- Signal exchange with SPS:
 - - I/O modules (parallel)
 - - Field bus (e.g. Profibus, Interbus, DeviceNet, etc.)
- Barcode reader, data media (e.g. Moby E)

Dimension

- 330*379*180 (H*W*D) in mm

Control SMX-BT

Type	Order-No.
SMX40 BT	70011479
SMX40 BT PN incl. Profinet interface	70036787
SMX40 BT PBS incl. Profibus Slave interface	70036788
SMX40 BT EA incl. parallel I/O interface	70036789

SMX40 BT Control Accessories:

WiFi Network Kit

Type	Order-No.
WiFi Network Kit	700 35134



Software and Documentation

Type	Order-No.
Software and Documentation CD*	700 11484

* included at no charge with tool order



Crosslink- Patch Cable

Type	Order-No.
Network Cable 2 Meter	701 7404
Network Cable 5 Meter	770 9301



Logbook Storage

Type	Order-No.
Logbook Storage Standard	705 0174
Logbook Storage Wall Mounting	70005183



USB- Cable

Type	Order-No.
USB- Cable Type A - Mini USB	700 13341



Controller Stand

Type	Order-No.
Controller Stand (Aluminum)	700 05118

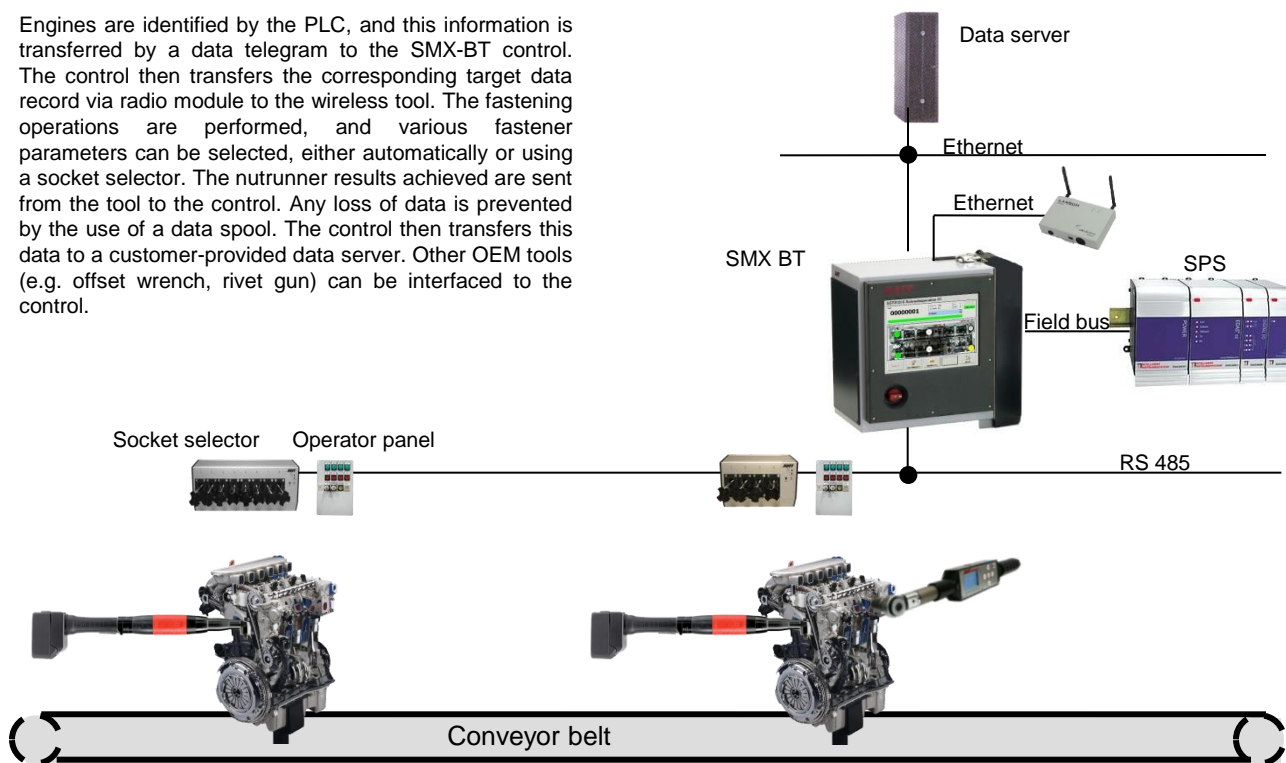


Applications

Examples

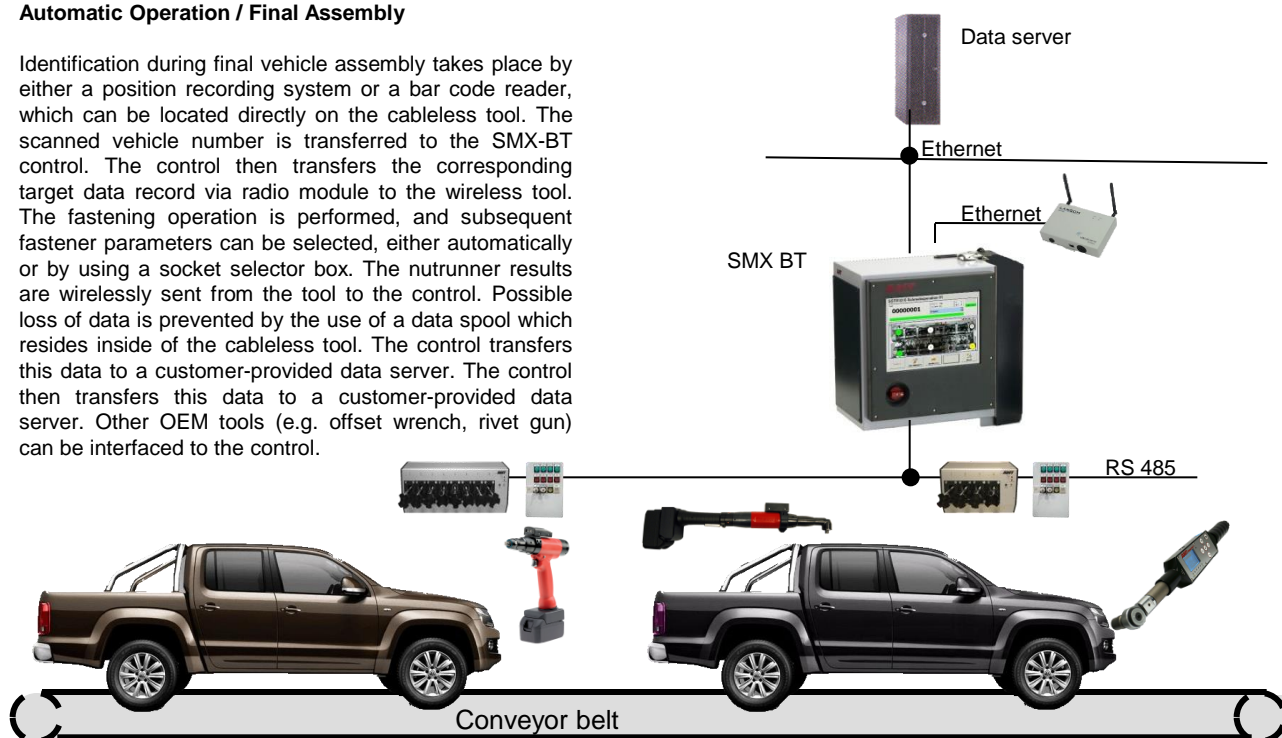
Automatic Operation / Engine Assembly

Engines are identified by the PLC, and this information is transferred by a data telegram to the SMX-BT control. The control then transfers the corresponding target data record via radio module to the wireless tool. The fastening operations are performed, and various fastener parameters can be selected, either automatically or using a socket selector. The nutrunner results achieved are sent from the tool to the control. Any loss of data is prevented by the use of a data spool. The control then transfers this data to a customer-provided data server. Other OEM tools (e.g. offset wrench, rivet gun) can be interfaced to the control.



Automatic Operation / Final Assembly

Identification during final vehicle assembly takes place by either a position recording system or a bar code reader, which can be located directly on the cableless tool. The scanned vehicle number is transferred to the SMX-BT control. The control then transfers the corresponding target data record via radio module to the wireless tool. The fastening operation is performed, and subsequent fastener parameters can be selected, either automatically or by using a socket selector box. The nutrunner results are wirelessly sent from the tool to the control. Possible loss of data is prevented by the use of a data spool which resides inside of the cableless tool. The control transfers this data to a customer-provided data server. The control then transfers this data to a customer-provided data server. Other OEM tools (e.g. offset wrench, rivet gun) can be interfaced to the control.



Alfing Montagetechnik GmbH

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