

Nutrunner Controls

Nutrunner Control SMX10

H 1.6.2

Single-Channel

■ General Information

Most cost-effective control for documentdriven fastening applications

The SMX10 offers the same nutrunning features as the Master control (SMX20, SMX30, SMXP), without an integrated PC. It was developed especially for use in networks and is generally driven as a “slave” component. A internal bus-system (Ident-No. 700 9937) provides communication capabilities with a AMT Master control (SMX20, SMX30, SMXP). An Ethernet interface (Ident-No. 700 9943) provides communication capabilities with a plant’s master control (e.g., PC) or an SMX30.

In slave mode, the SMX10 receives program requirements from a master, based on target data that is either stored locally or downloaded from a host computer. These are then processed by the SMX10 in a self-sufficient manner. After each fastening operation, rundown results and graphs are reported back to the master.

Manual operation

Manual operation mode is available with the SMX10 nutrunner control for operation without a master. The control functions in this mode without communication to a master control. This means that it is not possible to form overall part-based quality assessments. Programs are determined by a program selector switch on the operator panel or by a socket tray. If only one program is required, then this can also be permanently set.

Rundown results are stored locally on the nutrunner control in this mode and uploaded to the master control after reconnection. If parts are identified by a barcode reader, then the part number is also assigned to rundown results in this operating mode.

Enhanced nutrunning and monitoring processes

The SMX10 offers programming capabilities for complex nutrunning processes. All torque and angle-controlled algorithms are available as base modules. These modules, along with additional commands for process control, can be linked to create complex nutrunning processes. Conditional program statements can be based on rundown results, which enable, for example, loosening operations with or without repeated nutrunning. In addition, the control offers advanced nutrunning and monitoring processes, such as yield control, retrospective nutrunning monitor, and friction measurement. The SMX10 can be programmed with a userfriendly interface that resides on a laptop or master-PC.



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■ Special Features – Technical Data

Assembly

- Housing brackets for wall / mounting on support element
- IP54 protection

Display and Operator Controls

- 7-digit display for status and error messages
- 4 LEDs to display individual nutrunning and operational status

Programming und Parameter Definition

- User-friendly programming software via network

Nutrunning Processes

- Torque-controlled tightening
- Torque-controlled with angle monitor
- Angle-controlled with torque monitor
- Yield-controlled tightening
- Angle-controlled and torque-controlled loosening
- Shutdown based on digital signal with torque and angle monitor
- Friction measurement
- Retrospective nutrunning monitor
- Redundant motor current control
- Nutrunning time monitor

Interfaces

- Serial interface for barcode reader
- Parallel I/O
- Ethernet

Peripheral Equipment

- Operator console
- Socket tray
- Barcode reader

Number of Programs

Slave mode

- max. 31 tightening programs and 1 loosening program

Manual operation

- 1 program without operator console or socket tray
- max. 8 tightening programs with socket tray
- max. 15 tightening programs with operator console
- with program selection switch
- 1 loosening program

Spindle Types

- Hand tools from HCR, HCRK, PCR, HCX and PCX series with reaction torque sensors or action torque sensors
- Built-in tools from ECR1 and ECR2 series with reaction torque sensors or action torque sensors



Type	Dimensions control (HxWxD) in mm	Dimensions wall console (HxWxD) in mm	Total dimensions (HxWxD) in mm	Weight in kg	Ident-No.
SMX10 40ASH 02	330x180x316	330x180x63	330x180x379	approx. 12,5	700 9937
SMX10 40ASH 02 ETH*	330x180x316	330x180x63	330x180x379	approx. 12,5	700 9943

* Version ETH (Ethernet) only in connection with a Master PC to be made available by the customer.