AMT

HIGH POWER systems

SMX10 Nutrunner Control

Single-Channel

Most cost-effective control for document-driven fastening applications

The SMX10 offers the same nutrunning features as the SMX30, without an integrated PC. It was developed especially for use in networks and is generally driven as a “slave” component. An Ethernet interface 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-based 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 user-friendly interface that resides on a laptop or master-PC.

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Technical Data

General
- Firmware, parameters, and data on removable CompactFlash card

Assembly/Dimensions
- Four assembly mounting holes in wall console
- IP54 protection
- Control dimensions: 330x180x316 (HxWxD in mm)
- Wall console dimensions: 330x180x63 (HxWxD in mm)
- Total dimensions: 330x180x379 (HxWxD in mm)
- Weight of control: approx. 9 kg
- Weight of wall console: approx. 2 kg

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

Programming and Parameterization
- 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 and program selection switch
  - 1 loosening program

Power Supply
- 230 V / 50 Hz

Nutrunner Models
- Hand tools from HCR, HCRK, and PCR Series with reaction torque sensors or action torque sensors
- Built-in tools from ECR1 and ECR2 Series with reaction torque sensors and action torque sensors