MultiBasic Blue | MultiBasic | MultiClassic | **MultiPro**

CONTROL SYSTEMS

Overview		
Type	Execution TA	Execution FL
> MultiBasic Blue	Nutrunners of type SA	-
> MultiBasic	Nutrunners of type SA	-
> MultiClassic	Nutrunners of type MDW	Press-in units of series SMP/QMP
> MultiPro	Nutrunners of type MDW	Press-in units of series SMP/QMP

Control units with digital processing of the measuring signals for nutrunners of the DS series and press-fit units of the QMP/SMP series. Applicable for manual work stations and automatic stations. All control units have a LCD display and a tripartite LED status report. The control unit and the power pack are combined in one case. Consequently the control system does not require an electrical cabinet and therefore little space. Configuration and programming is made directly at the unit or at an external computer.

Create individual sequence programs and adjust these to the process flow.

The accurate control system for every assembly process

DSM offers products which are especially configured for your applications in the tightening and press-in technique. In the adequate execution, for the adequate range of application, in the required precision, with the adequate accessories.

Components of DSM control systems

- Control module with firmware tightening technique / press-in technique
- Basic module supplies power to control unit and tool, controls and monitors the servo motor
- Modular set-up of the housing, control module + power electronic module
- Compact flash slot with CF card to store the measurement data
- Software MultiControl - for configuration, parameterisation, programming and monitoring of the control system
- Various accessories and options

Advantages of DSM control systems

- Control system and software are suitable for tightening and press-in applications, same operating concept
- Control unit and power pack are accommodated in a single housing
- Compact design for wall mounting
- Thanks to the parameter memory module inside the tool, a error-free configuration is possible
- Simple and convenient programming with the plain text menu navigation
- A wide range of tightening and press-in processes are integrated in the control system
- Complex, customer-specific procedures realised the DSM development team
- Traceable calibration

Accessories control system

Type	IO-Extension 4/4S	IO-Extension 4/4C	IO-Extension 8/8S	IO-Extension 8/8C
Inputs / Outputs	4IN/4OUT	4IN/4OUT	8IN/8OUT	8IN/8OUT

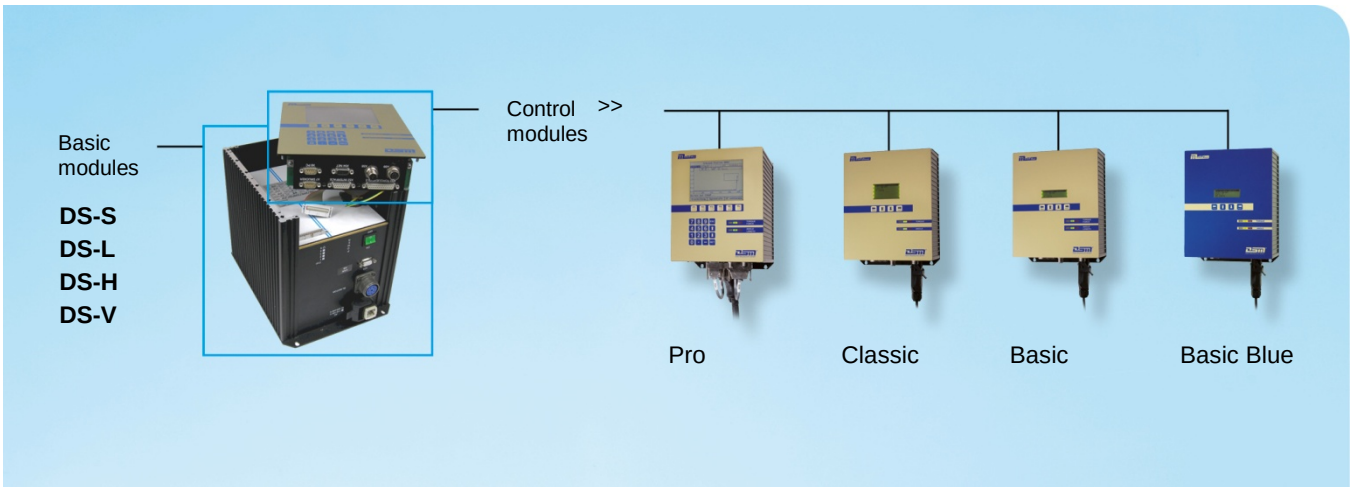
IO Extension is used to expand the standard inputs and outputs of the DSM control systems.
The device is selected via the DSM systembus interface. The inputs and outputs can be used for any control tasks in the sequence programming. Up to 16 extension modules can be connected at a control system.

Each IO-Extension is equipped with

- Status display of the inputs and outputs
- Function check DSM system bus
- Reset key

Adequate power packs for all control systems

The power pack supplies the control unit and the connected tool. There are different power packs available. This depending on the required performance of the tool. Important accessory for the safety of persons is the Machine-Safety-Interface (MSI).



Basic modules DS-S, DS-L, DS-H, DS-V

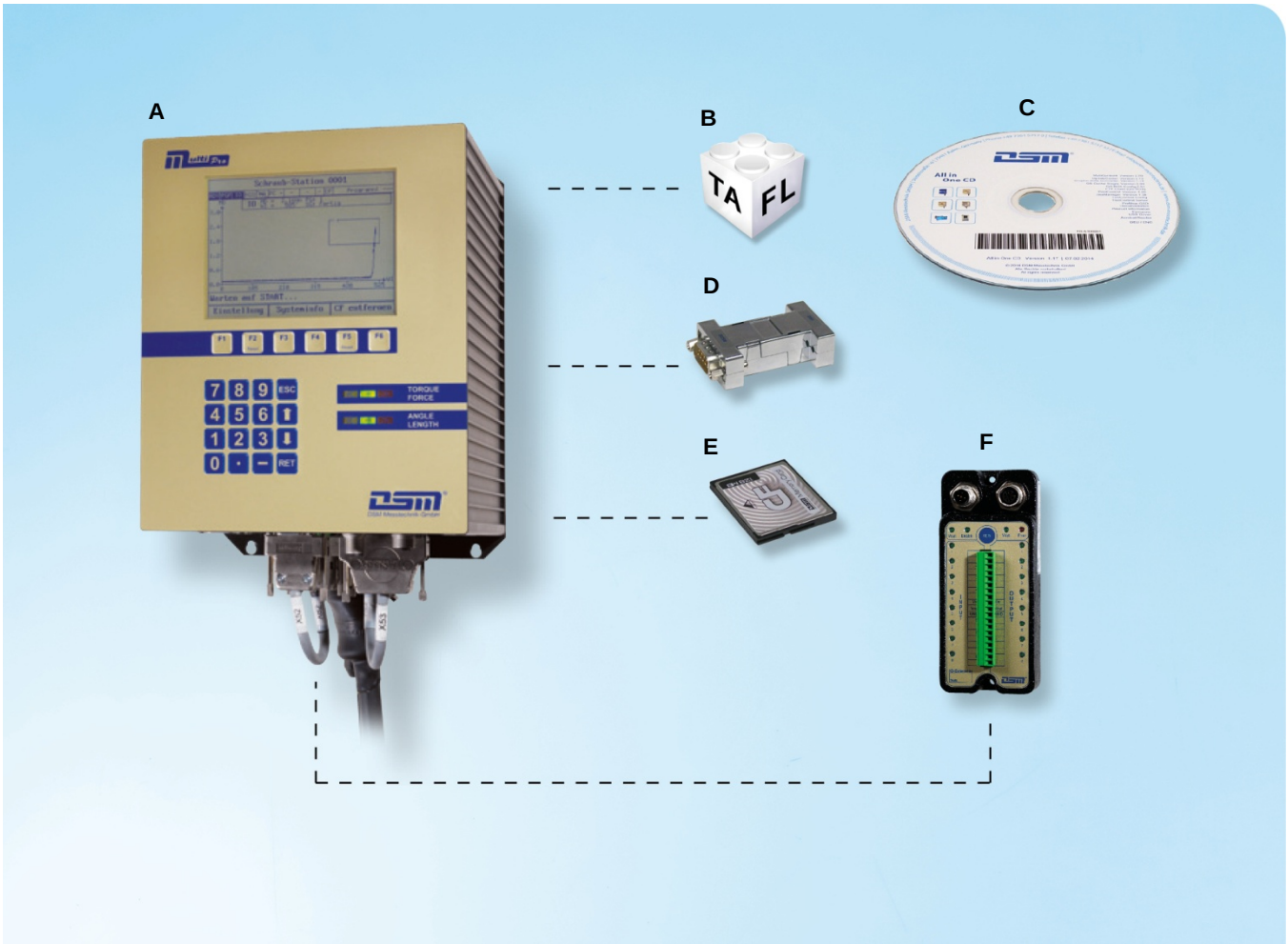
Overview		
Basic module Type	Tool Nutrunners SA / MDW, press-in units	**Article number**
DS-S type 1	DSH 26/005; DS 26/005	**ML-1000210**
DS-S type 2	DSH 26/01/02/04; DS 26/01/02/04	**ML-1000220**
DS-L type 1	DS 34/025/05	**ML-1000310**
DS-L type 3	DS 44/025/5/10/20; SMP 300/005/01/02	**ML-1000330**
DS-L type 4	DS 34/10/15; DSH 34/05/10/20; DSH 44/20/30/40/60	**ML-1000340**
DS-L type 5	DS 44/35	**ML-1000350**
DS-H type 2	QMP 80/025/05/10; SMP 400/05/10	**ML-1000820**
DS-H type 3	DS 57/25/50	**ML-1000830**
DS-H type 4	DS 57/70/90/140	**ML-1000840**
DS-H type 5	QMP 80/20/25	**ML-1000850**
DS-V type 4	DS 80/220/300/420/500/600; DS80-130/900/1000/1500/2000/2400	**ML-1000940**
DS-V type 5	QMP 100/30/40/50/60; QMP 140/70/100/120; SMP 500/20/30/50/70	**ML-1000950**

Accessories basic module	
Type	**Article number**
MSI Machine-Safety-Interface Tightening System	**ML-1000005**
MSI Machine-Safety-Interface Press-In System	**ML-1000015**

To that, the power pack controls and monitors the motor of the tool (nutrunner / press). Among others it thereby it checks the voltage and condition of the hallsensor as well as temperature, current and voltage of the servo motor.

Supply

- Mains voltage basic module type DS-S, DS-L, DS-H: 230 VAC / 50 Hz
- Mains voltage basic module type DS-V: 3 x 400 VAC / 50 Hz



Control module MultiPro

A) MultiPro

Type	Execution TA	Execution FL	Article number
Control module MultiPro	Tightening control MDW	Press-in control QMP/SMP	**MS-1001100**

B) Firmware

Type	Article number
TA: Firmware tightening system (Firmware 1200 ProDS-E)	**MS-1101200**
FL: Firmware press-in system (Firmware 3200 Pro-E)	**MS-1103200**

Accessories control system

Type	Article number
Ethernet module (Ethernet, TCP/IP interface)	**MS-1001520**
Modification control system to protection class IP 54	**MS-1001554**
Basic module (power pack), depending on the performance of the tool	> Basic modules

C) PC software packages

Type	Article number
MultiControl4 standard software (50 measuring results), included in delivery	**MS-1002500**
MultiControl4 software, activated full version (unlimited numbers of measuring results)	**MS-1002505**
Linemanager software for centralised control tasks and data storage	**MS-1002600**

Accessories

Type	Cable length	Article number
PC interconnecting cable	3 m	**MK-1001703**

D) DSM USB module

Type	Article number
DSM USB module RS232 | USB	**MS-1001705**

E) Portable memory CF card

Type	Article number
Compact flash card (CF) 128 MB	**MS-1001605**

F) IO-Extension System bus unit for additional inputs and outputs

Type	Inputs / Outputs	Article number
IO-Extension 4/4S with terminal block	4IN, 4OUT	**MS-1003044**
IO-Extension 4/4C with M8 circular plug-in connector	4IN, 4OUT	**MS-1003144**
IO-Extension 8/8S with terminal block	8IN, 8OUT	**MS-1003088**
IO-Extension 8/8C with M8 circular plug-in connector	8IN, 8OUT	**MS-1003188**

Accessories

Type	Article number
System bus terminating resistor	**MS-1003030**
T-piece for system bus connection	**DSM-200722**
Y-piece for system bus connection	**DSM-200724**
System bus cable 1 m	**MS-1003001**
System bus cable 2 m	**MS-1003002**
System bus cable 5 m	**MS-1003005**

Cable MultiPro

Type	Cable length	Article number
Power cord 230 VAC (power pack DS-S, DS-L, DS-H, DS-LH)	1,5 m	**MS-1009002**
Power cord 400 VAC (power pack DS-V)	5 m	**MS-1009035**

Technical data

Pro

The high-end tightening control system **MultiPro TA** for complex operations with highest precision. Suitable for all DSM tightening tools of the DS series with direct torque-measurement (MDW).

All press-in units of the QMP and of the SMP series can be controlled with the high-end press-in controller **MultiPro FL**. It is in equal measure suitable for simple as well as for high-precision press-fit, joining and forming operations.

Both, hand-work places as well as automatic stations can be equipped with the controller MultiPro. Several stations can be linked to a multi-channel system.

- Digital measuring signal processing
- 5,7“ LCD display with illumination
- 2 x 3 LED status reports for torque and angle of rotation / force and length (stroke)
- Function keys and keypad
- Traceable calibration
- Programming and parameterisation directly at the unit or via MultiControl4 software
- Freely programmable operations
- Automatic self test of the control system and of the tool
- Mobile backup and production memory 128 MB (compact flash card)
- Ring buffer for 500 measured values
- Parameter and program backup in EEPROM
- Firmware bilingual, reversible
- User administration, access control / access journal
- Single-step mode (for test of the program sequence)

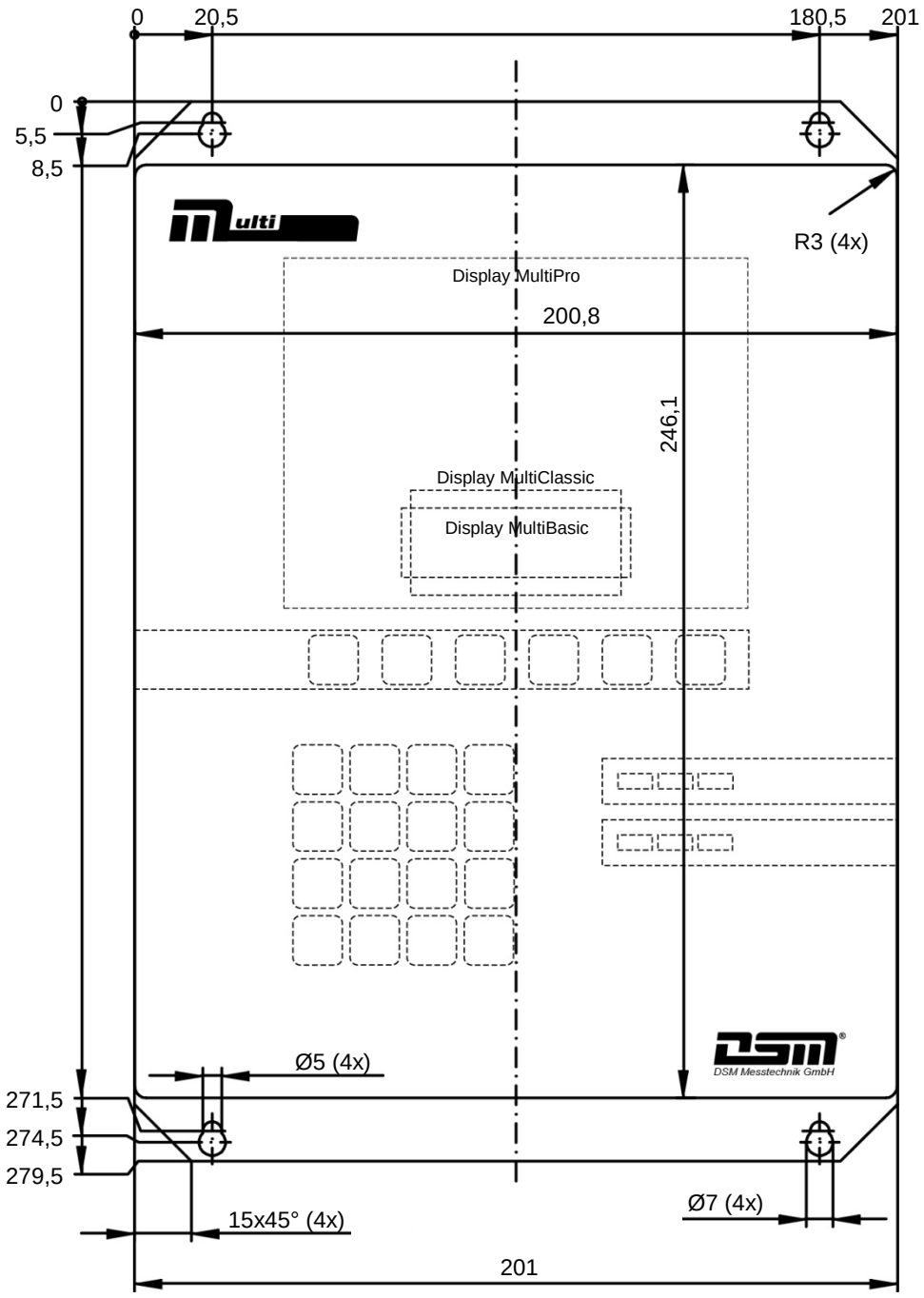
Number of programs	255
Number of instructions per program max. / total	200 / 3000
Instruction set	37 instructions
Max. number of tightening stages / press-in stages per program	199
Standard tightening processes (execution TA)	5
Standard untightening process (execution TA)	1
Standard press-in process (execution FL)	8
Envelope monitoring	ja
Freely direct inputs	4
Freely direct outputs	4
Inputs and outputs extendable	yes
Sampling rate	1 kHz
Interfaces	V24, system bus, Profibus
Interfaces optional	TCP/IP
Protection class	IP 40 (optional IP 54)

Accessories

- IO-Extension (up to 128 inputs and outputs)
- Printer PR-II
- DSM radio controlled clock
- ToolControl socket box
- P-Control position monitoring
- DCM-Extension: for activation of an external DC motor
- Status Indication: external status report

Technical drawings Control systems

MultiBasic Blue, MultiBasic, MultiClassic, MultiPro

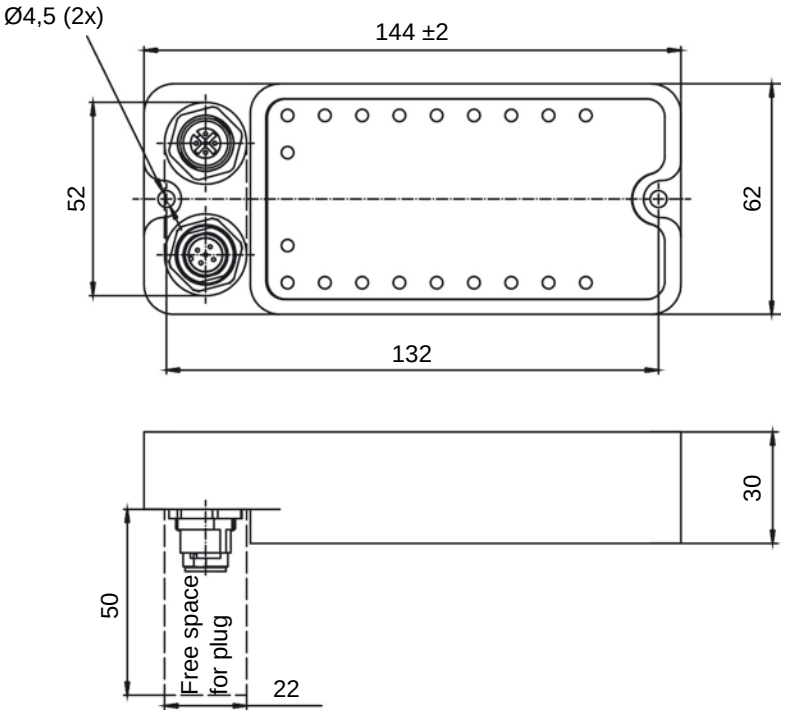
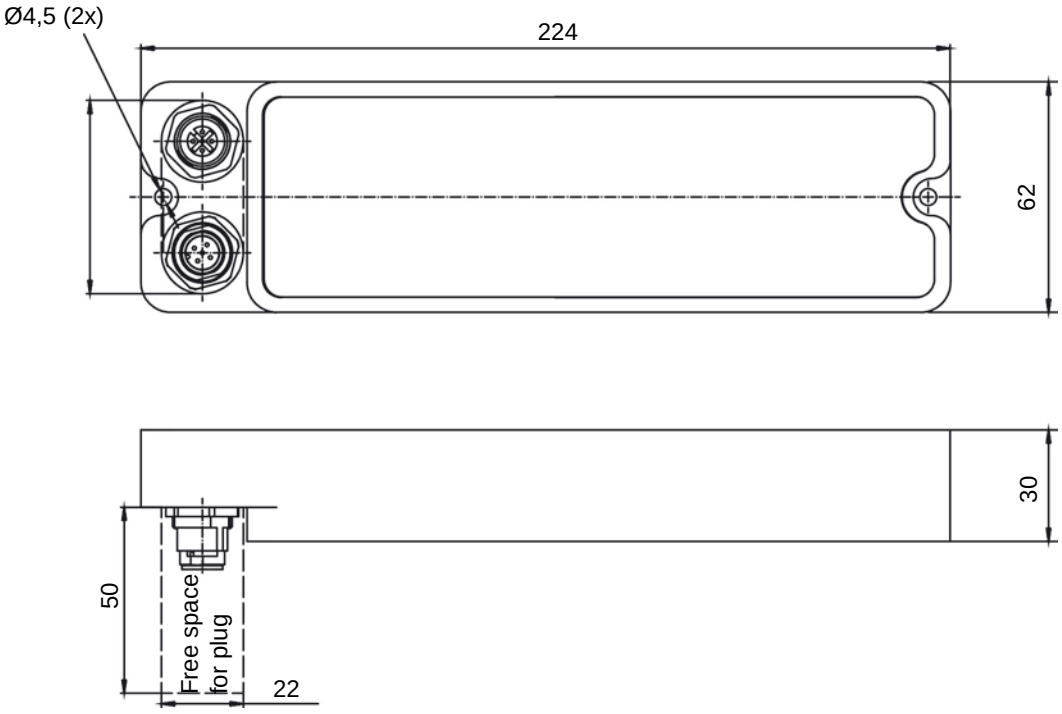


Plan at least 140 mm space for cable!

Type	Depth mm
Control module + basic module DS-S type 1	128
Control module + basic module (all other executions)	231

Technical drawings IO-Extension

4/4S, 4/4C, 8/8S



8/8C