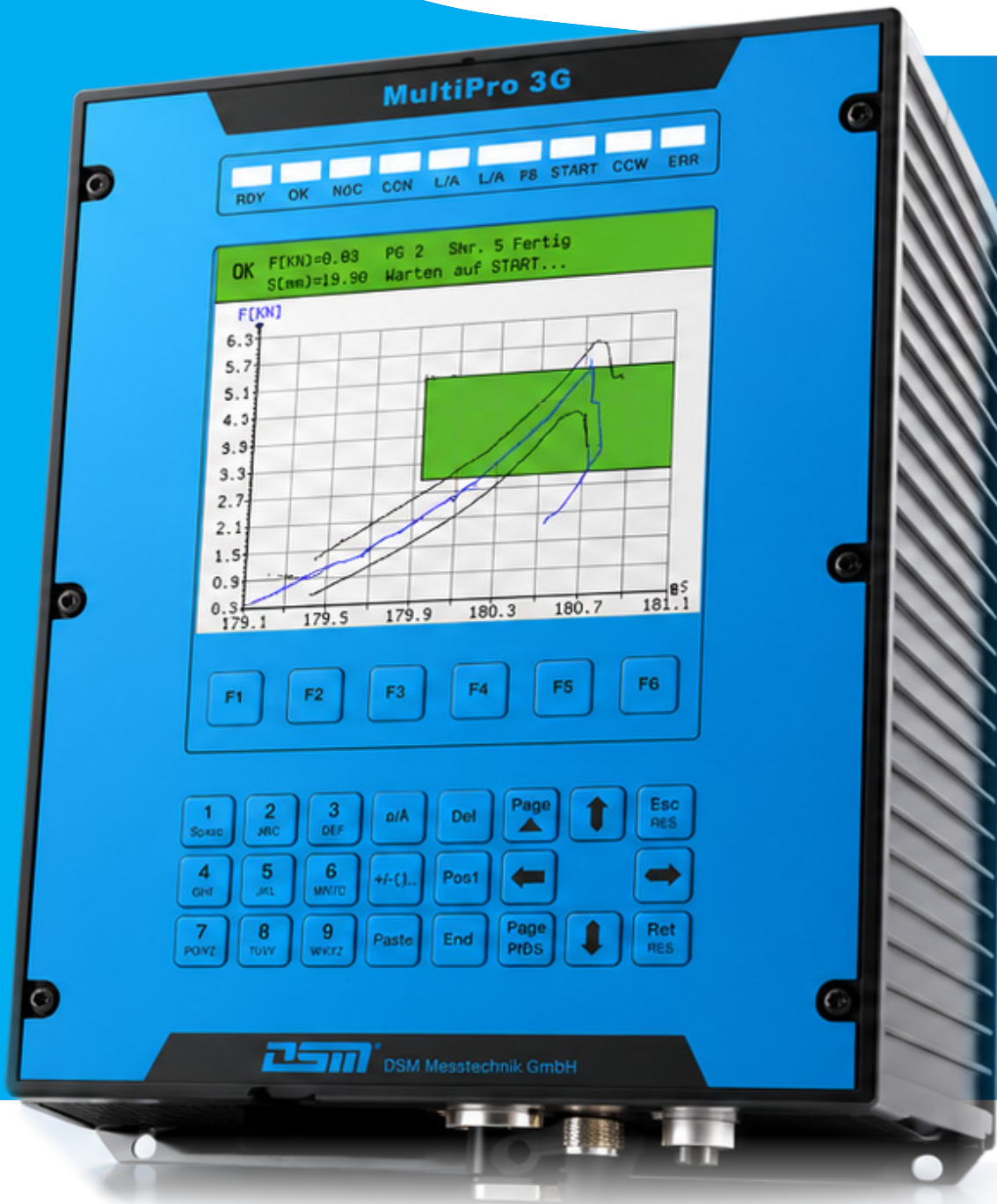


MultiPro 3G

Technical Product Overview

Control System for Tightening, Press-In and Testing



Tightening



Press-In



Testing



Automation



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MultiPro 3G





Control System for Tightening, Press-In and Testing Processes

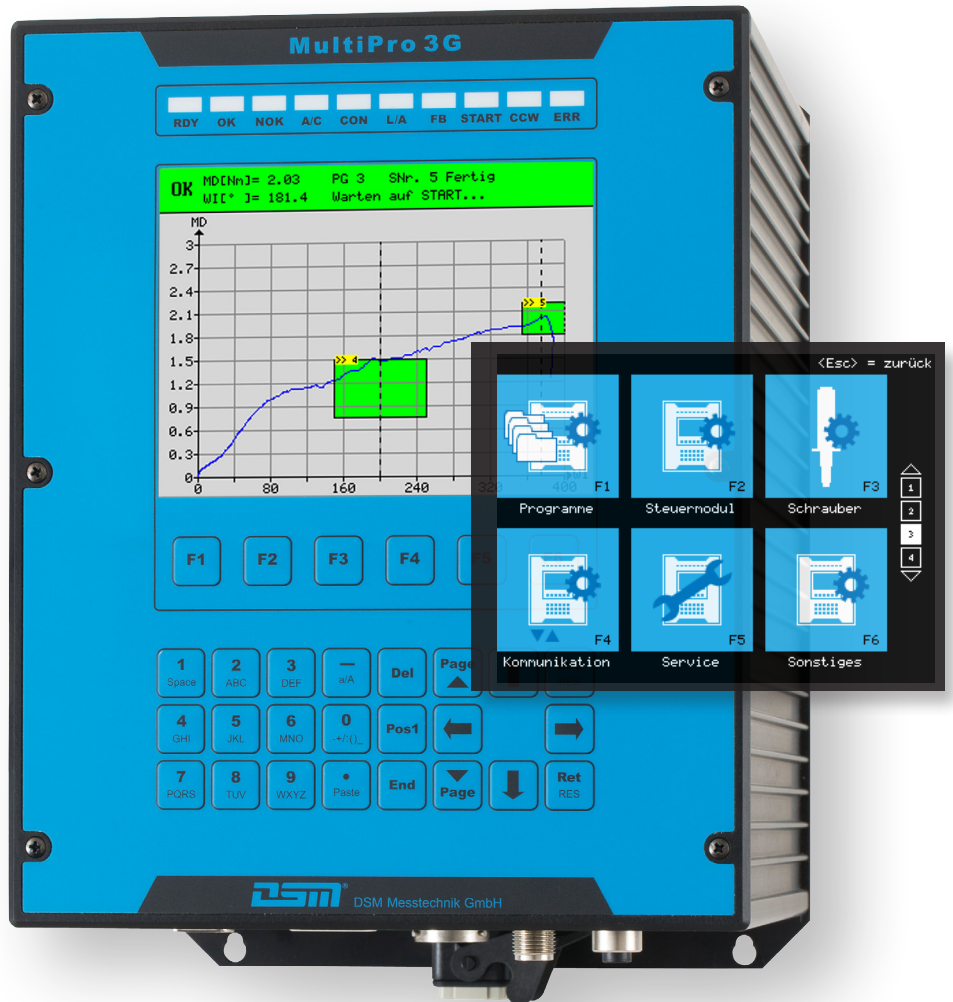
Process Control, Quality Monitoring and Communication in One System

The modular MultiPro 3G provides a common platform for tightening, press-in and testing applications.

System modules and functions can be configured to meet specific application requirements – from standalone workstations to automated production lines.

APPLICATIONS

-  Tightening
-  Press-In
-  Testing
-  Automation



KEY BENEFITS



Unified Platform

for Tightening and Press-In Applications



Comprehensive Process Functions

and Monitoring Functions



Traceable Results

Defined Evaluation of Process and Measurement Data



Configurable System

Through Modules and Functions



Seamless Integration

Into Existing Automation Architectures

MultiPro 3G

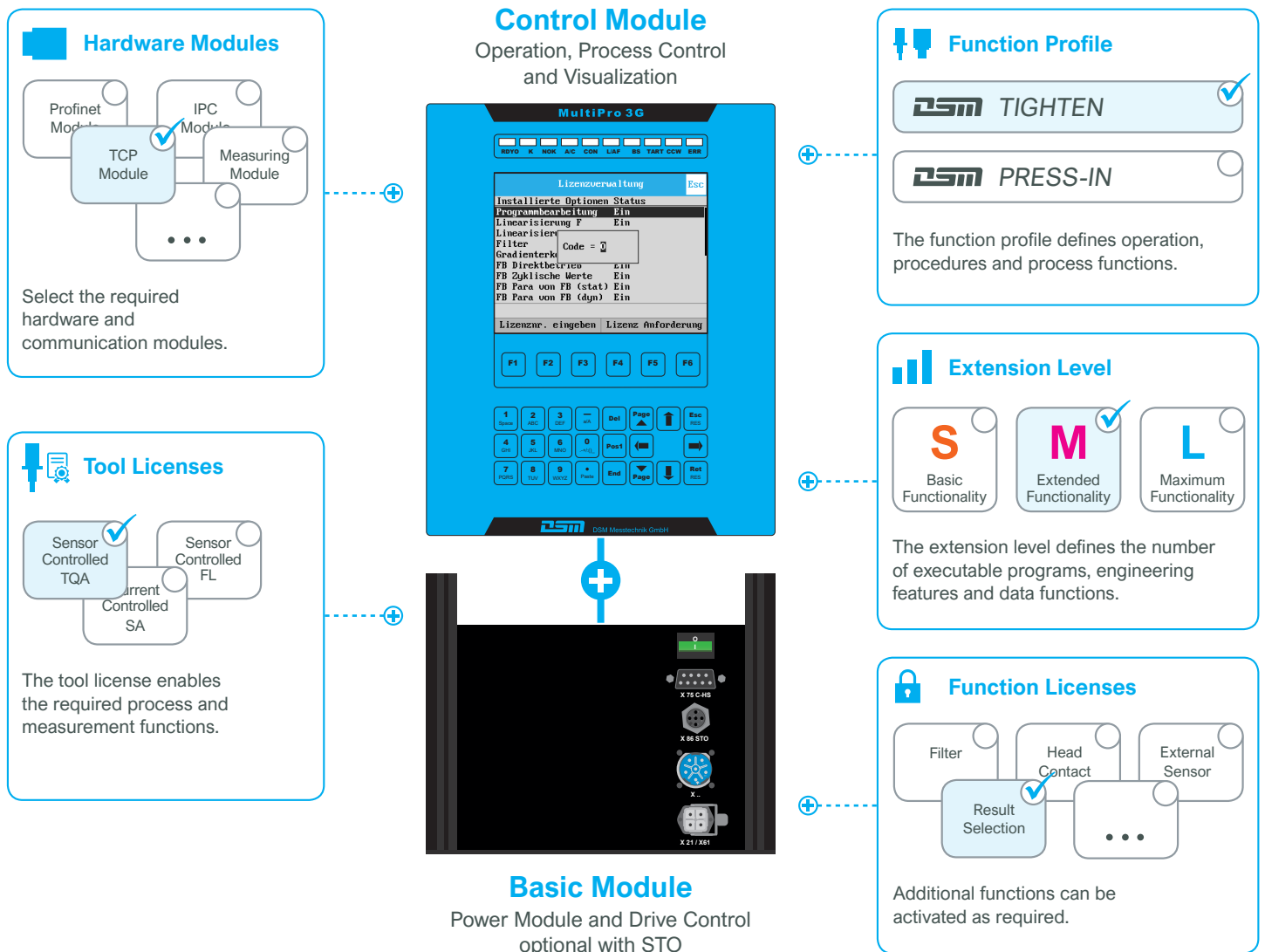
Modular System – Configurable for Your Application

Control Module, Power Module and System Components for Application-Specific Solutions

Hardware modules, function profiles for tightening and press-in applications, as well as the S, M and L extension levels, enable adaptation to specific process and communication requirements.

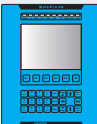
Testing applications can also be implemented using the TIGHTEN or PRESS-IN function profiles.

System scope and functionality can be configured and combined to meet individual application requirements.




✓ Your MultiPro 3G Solution

By combining the Control Module, Basic Module and System Components, a system tailored to your application can be configured.



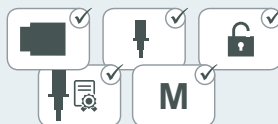
Control Module

+




Basic Module

+



System Components

=



Your Solution

MultiPro 3G

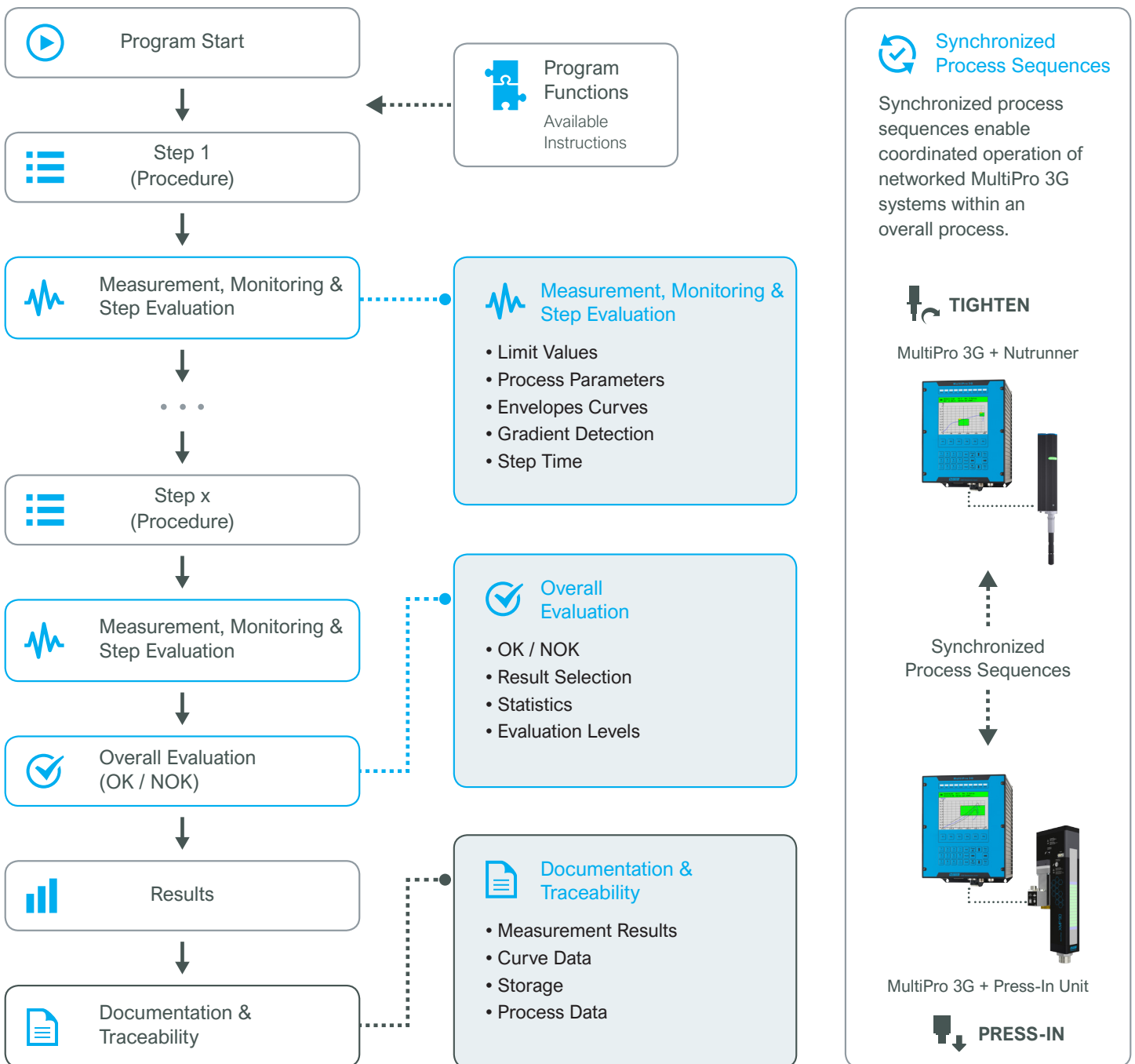
Structured Process Sequences for Tightening and Press-In Applications

Process Steps, Monitoring Functions and Result Evaluation Within a Continuous Sequence

The MultiPro 3G enables the implementation of simple to complex assembly and testing applications through combinable instructions and configurable process steps within a process sequence.

Control, monitoring and evaluation functions are integrated directly into the sequence.

Process steps and measurement results can be monitored, evaluated and documented.



MultiPro 3G

Tightening and Press-In Procedures for Various Process Strategies

Systematic Configuration of Procedures for Assembly and Testing Applications

Tightening and press-in procedures can be adapted to different process and quality requirements.

Step parameters for shut-off, setpoints, process control and measurement form the basis for application-specific process strategies.

TIGHTEN

Tightening Procedures & Process Functions

Standard Procedures
(included in the function profile)

Angle
(Turn In / Turn Out)

Torque
(Turn In / Turn Out)

Initiator
(Turn In)

Yield Strength
(Turn In)

Head Contact
(Turn In)

Thread-Forming Screws
(Turn In)

External Sensor
(Turn In)

Thread Entry Detection
(Turn Out)

Gradient Detection
(Function)

Envelope Curve
(Monitoring)

Hold Function
(Torque / Position)

Result Selection
(Function)

Filter
(Function)

Function Extensions (optionally licensed)

Additional Function Extensions See Page 7

PRESS-IN

Press-In Procedures & Process Functions

Standard Procedures
(included in the function profile)

Length (Move)

Force (Move)

Initiator (Move)

Move Empty

Starting Position

Force Progression in OK Window (Function)

Review Length (Function)

Linearisation Force (Function)

External Sensor (Move)

Gradient Detection (Function)

Envelope Curve (Monitoring)

Hold Function (Force / Position)

Result Selection (Function)

Filter (Function)

Function Extensions (optionally licensed)

Additional Function Extensions See Page 7

MultiPro 3G

Process Communication & Integration into Automation Architectures

Fieldbus, System Bus and I/O Connectivity for Networked Assembly and Testing Processes

The MultiPro 3G provides measurement values, results and control information for networked automation architectures.

Information from higher-level control systems, sensors and external components is integrated directly into process sequences, monitoring functions and evaluation functions.



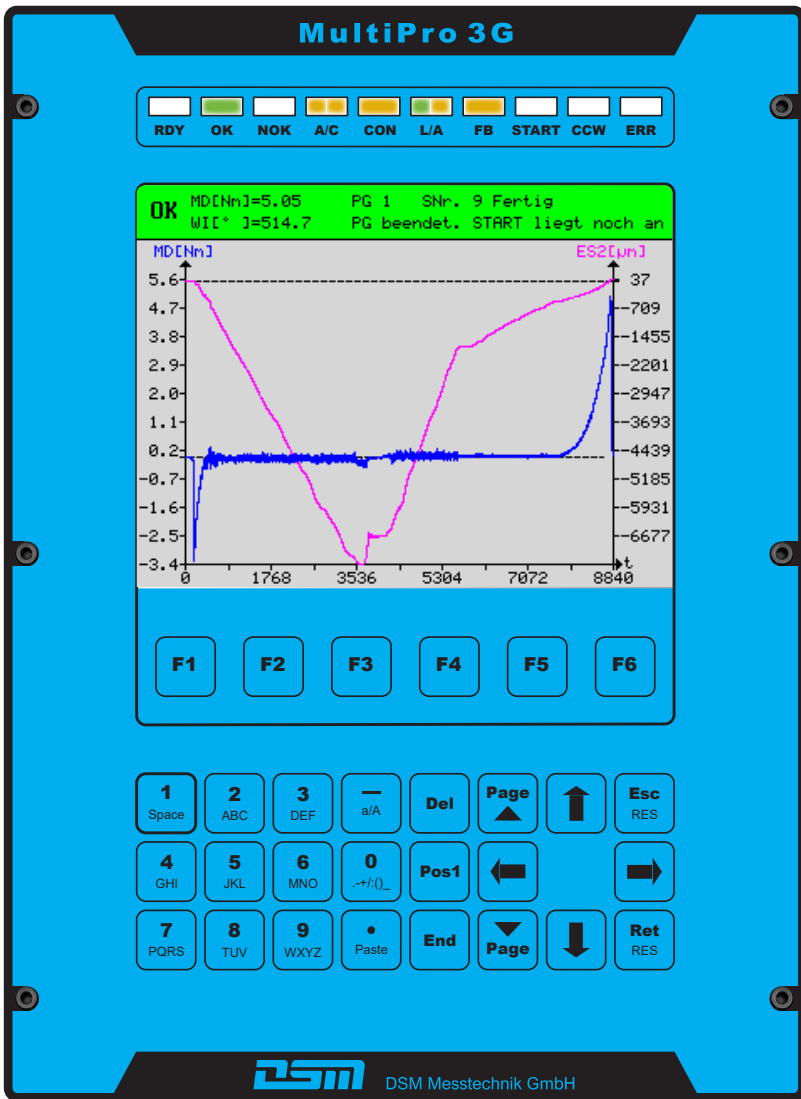
MultiPro 3G

Process Visualization, Result Analysis & Diagnostics

Display and analyze measurement values, curve data and system information directly on the MultiPro 3G

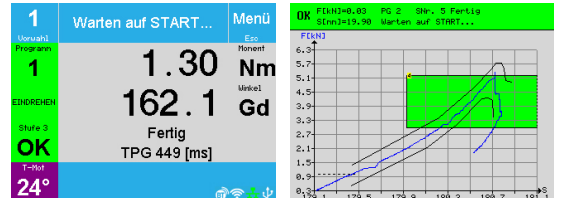
Production screens, graphical displays, and measurement, statistics and logging functions for the analysis, quality evaluation and optimization of assembly and testing processes.

Analysis tools such as curve analysis and simulation, as well as extended configuration functions in conjunction with the MPEC software.



Process Visualization

- Production screens with results
- Graphical displays
- OK / NOK evaluation
- Zoom, scroll and cursor functions



Result Evaluation

- Measurement and result storage
- Step results and evaluation storage
- Statistical evaluation (SPC, histogram, CMK, ...)
- Process logs and execution times



Result List					Statistics		Log			
Res	PG	SNo	TQ (Nm)	AN (r)	%	CMK	No.	LNo	Instruction	t (ms)
OK	1	2	10.45	378.5	100	1.67	0		Initialisation	22
OK	1	2	10.40	371.3	90		1	1	Graphicinit	1
OK	1	2	10.42	376.6	80		2	2	Filter	2
OK	1	2	10.39	369.5	70		3	3	Turn in TQ	693
OK	1	2	10.40	372.7	60		4	4	Turn in TQ	670
NOK	1	2	6.69	497.2	50		5	5	Transmit	4
OK	1	2	10.35	369.1	40		6	6	End	754
									Total (ms)	2146

Diagnostics & System Status

- System messages
- Status LEDs and communication status
- Connection icons (fieldbus, network, system bus, USB, WLAN, Bluetooth, ...)
- Device information and service functions



Intuitive Operation & Functions

Touch Operation
Intuitive navigation via touchscreen or keypad

Zoom & Analysis
Detailed analysis using zoom and measurement functions

Screenshot
Screenshot function for documentation on a USB memory stick

Data Storage
Measurement values, parameters and diagnostic data stored on a USB memory stick

User Management
User and access rights management for enhanced security

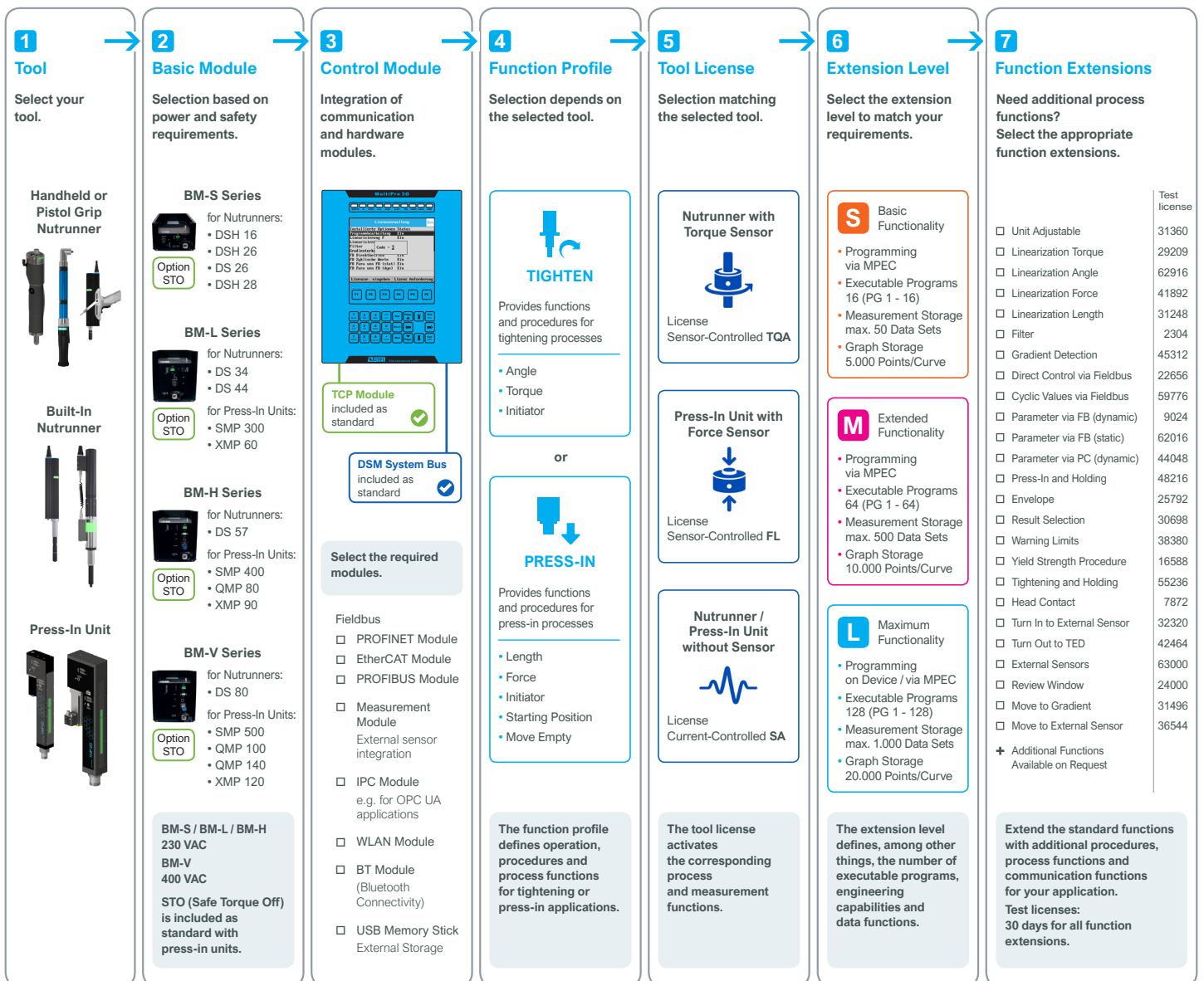
MultiPro 3G

System Configuration & Licensing Model

Modules and Functions for Application-Specific Process Solutions

Basic modules, communication interfaces and function profiles form the basis for configuring application-specific system solutions.

Extension levels, tool licenses and function licenses define the functional scope for a wide range of assembly, testing and automation applications.



By combining the selected system components, a MultiPro 3G solution tailored to your application is created – optimized for assembly, testing and automation tasks.



Tighten



Press-In



Test



Automate

MultiPro 3G

Technical Overview

Performance Data, Interfaces and System Features at a Glance



1 DISPLAY & OPERATION

- 5.7" TFT color display (14.48 cm diagonal, active)
 - Resolution 320 × 240 pixels (QVGA)
 - TFT with 262,144 colors (262k)
 - Measurement value display, status display and graph display with full-screen mode and zoom function
 - User interface with intuitively operable icons
-
- 12 status LEDs for operating, communication and process states
-
- 15 alphanumeric keys
 - 8 navigation keys
 - 6 function keys (F1 - F6) for configuration and programming as an alternative to touch operation
-
- Switchable between German and English
 - Additional languages on request



2 PROGRAMMING & STORAGE

Program Slots (Total)	255
Executable Programs	1 - 128
Subprograms (Macros)	129 - 255
Max. Lines per Program / Total	200 / 3000
Max. Steps per Program	99
Instruction Set	approx. 60 Instructions
Sampling Rate	1 kHz
Internal Memory	2 GB
External Storage (USB Memory Stick)	SLC, min. 2 GB

Measurement Storage
50 / 500 / 1.000 Data Sets

Graph Storage
5.000 / 10.000 / 20.000 Points per Curve

Statistics & Error Storage per Step

Measurements, Screenshots, Backup & Diagnostic Data



3 INTERFACES & COMMUNICATION

Fieldbus (Option)	PROFINET, EtherCAT, PROFIBUS (further protocols via converter)
System Bus	DSM System Bus (for system bus devices and networking)
TCP/IP	MPEC Software (Configuration, Analysis)
USB-A	USB Memory Stick (Data, Screenshots)
USB-B	MPEC Software (Configuration, Service)
I/O Level	8 Inputs / 8 Outputs (expandable via I/O Extension up to 128 I/O)

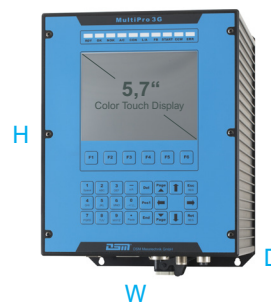


Additional Optional Modules Available:
Measurement Module, IPC, WLAN and BT Modules



4 DIMENSIONS & GENERAL DATA

Width	201 mm
Height	246 mm
Depth	128 mm / 231 mm
Weight	1,5 kg (max. 15 kg with Basic Module)
Supply Voltage	18 VAC via Basic Module



18 VAC (Steuermodul)

230 VAC (BM-S, BM-L, BM-H)

400 VAC (BM-V)



MultiPro 3G – Modular, Scalable, Networked.

One platform for tightening, press-in and testing processes – configurable, integrable and expandable.



MultiPro 3G
Documentation & Downloads
<https://dsmcloud.dsm-messtechnik.de/url/multipro3g>

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MultiPro 3G

Technical Product Overview

The Modular Control Solution
for Tightening, Press-In and Testing Processes.



Unified Platform

Control solution for tightening,
press-in and testing processes.



Configurable System

Perfectly tailored through modular
components and functions.



Traceable Results

Reliable evaluation of process and
measurement data.



Seamless Communication

Fieldbus, system bus and I/O connectivity for
networked assembly and testing processes.



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