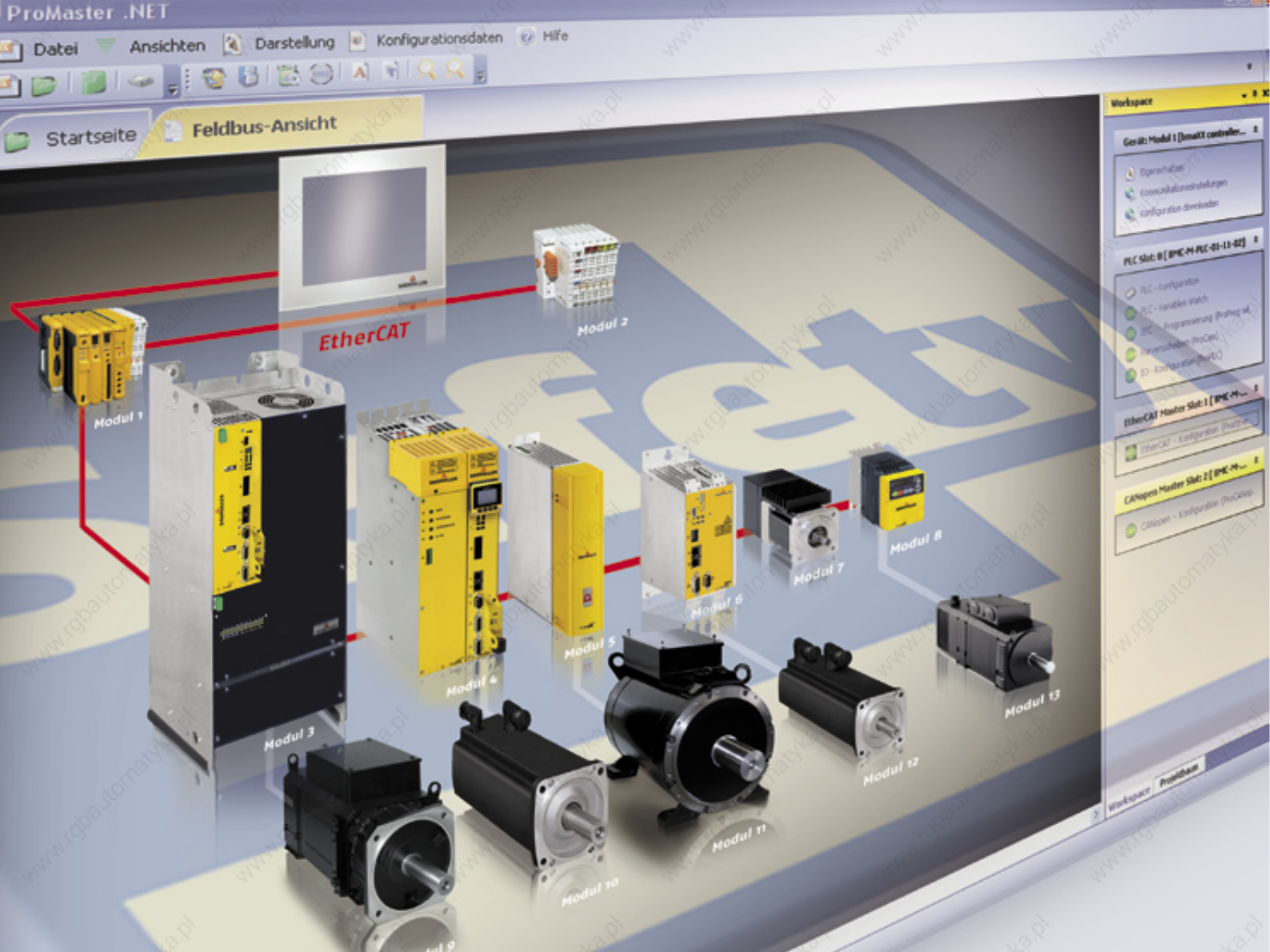


be in motion

b maXX 5000 4000 3000 2000 1000 ProDrive

b maXX

4400 4500 4600 4700 4800 4900



b maXX 5000
Safe, stackable
servo controller

b maXX 5500

Drive safety

ProSafePara

04

06

08

12

Our automation solutions for your machines

Our interest is always in the successful operation of the overall system, and, naturally, its optimization through our products and services. For this, we rely on Baumüller research. We develop modern solutions for automation and drive technology there. Our solutions are implemented successfully in every branch of mechanical engineering, from special machines to mass-produced ones. We design and supply complete automation systems, from control desks to the machine controller and software solutions to the electrical drive system.

Supporting our customers from commissioning of the system and over the course of the lifetime of the product is part of our company philosophy. As part of our comprehensive service spectrum, engineering, support and service play a decisive role.

Technical competency, innovation, flexibility and total customer orientation are the characteristics of our company philosophy. This is also reflected in our motto:

be in motion.

Information, projects and documentation are updated on a daily basis and can be found at:

www.baumueller.com



b maXX 4000
Modular servo controller

b maXX 3300
Servo controller up to 5 kW

b maXX 2000
Mini servo controller

b maXX 1000
Frequency converter

ProDrive:
Control and parameterisation
for b maXX

ProMaster
Engineering Framework

Motors

14

32

34

36

38

40

42



5100 5200 5300 5400 5500

5000

4500 4600 4700 4800 4900

The new stackable generation of b maXX 5000 converters incorporates an integral Drive Connect system: individual modules can be removed and installed without the entire drive system having to be dismantled. Cutting-edge quality of control is guaranteed at all times.

⁵⁰⁰⁰ b maXX – Stackable, flexible and secure

Baumüller has raised the bar even higher with the new generation of b maXX 5000 converters. High-performance power modules with air and cold plate cooling, a flexible expansion capacity and connection to a universal communication concept are some of the impressive features of stacking technology resulting from the consistent further development of the successful b maXX series. These new converters and controllers with an output power ranging from 1 to 35 kW can be used to implement both standard and complex automation solutions. Machine and system requirements for future compatibility, flexible expansion capacity and simple adaptation to modified production processes have already been taken into consideration during the b maXX 5000 development process.

b maXX 5000 – Integrated safety concept instead of add-on solution



- ⊙ Plug-in module, optionally with or without safety functions
- ⊙ Three different safety modules with scalable functionality
- ⊙ All modules with integrated parameter memory for safe and unsafe data
- ⊙ Safety functions according to IEC 61800-5-2
- ⊙ Power output for motor brake
- ⊙ Choice of safety functions via local safe I/O or EtherCAT FSoE

Technical data b maXX 5000

Supply units		DC link power		DC link peak power ¹⁾		Overload factor	Dimensions WxHxD [mm]	
Frame size	Type	[kW]	[hp]	[kW]	[hp]		Air	Cold plate
3	5031	10	13.4	15	20.1	1.5	75 x 395 x 280	75 x 395 x 210
3	5032	18	24.1	27	36.2	1.5	75 x 395 x 280	75 x 395 x 210
4	5043	36	48.2	54	72.4	1.4	100 x 395 x 280	100 x 395 x 210
4	5044	70	93.8	70	93.8	1.0	100 x 395 x 280	100 x 395 x 210

Regenerative units		DC link power		DC link peak power ¹⁾		Overload factor	Dimensions WxHxD [mm]	
Frame size	Type	[kW]	[hp]	[kW]	[hp]		Air	Cold plate
4	5143*	36	48.2	52	69.7	1.4	100 x 395 x 280	100 x 395 x 210
7	5174	64	87	96	130.2	1.5	175 x 395 x 280	175 x 395 x 210

Axis units		I _N	I _{MAX}	Typical motor rating ²⁾		Overload factor	Dimensions WxHxD [mm]	
Frame size	Type	[A]	[A]	[kW]	[hp]		Air	Cold plate
2	5323	2 x 3	2 x 9	2 x 1.6	2 x 2.1	3	50 x 395 x 280	50 x 395 x 210
2	5325	2 x 6	2 x 18	2 x 3.2	2 x 4.2	3	50 x 395 x 280	50 x 395 x 210
2	5326	12	24	6.5	8.7	2	50 x 395 x 280	50 x 395 x 210
2	5327	20	40	10.8	14.5	2	50 x 395 x 280	50 x 395 x 210
2	5328	30	60	16.2	21.7	2	50 x 395 x 280	50 x 395 x 210
3	5331	2 x 12	2 x 24	2 x 6.5	2 x 8.7	2	75 x 395 x 280	75 x 395 x 210
3	5332	2 x 20	2 x 40	2 x 10.8	2 x 14.5	2	75 x 395 x 280	75 x 395 x 210
3	5333	2 x 30	2 x 60	2 x 16.2	2 x 21.7	2	75 x 395 x 280	75 x 395 x 210
3	5334	40	60	21.6	29.0	1.5	75 x 395 x 280	75 x 395 x 210
3	5335	60	90	32.4	43.4	1.5	75 x 395 x 280	75 x 395 x 210

Supply unit, regenerative unit:

Supply voltage: 207 V–528 V ± 0% AC
 Supply frequency: 50/60 Hz
 Electronics supply: External 24 V DC
 Supply rated voltage: 400 V
 DC link rated voltage: 540 V (supply unit),
 640 V (regenerative unit)
 Certification: CE, cUL*

For further information, see the b maXX complete catalogue

Axis units:

Electronics supply: external 24 V DC
 DC link voltage: 540 V rated voltage
 Chopping frequency: 4/8 kHz
 Certification: CE, cUL*

1) for 150 seconds, 2) Load cycles as per EN 61800

* currently in preparation

Subject to change



Safety

10 15 115 215 315

315

5000 5100 5200 5300 5400 5500

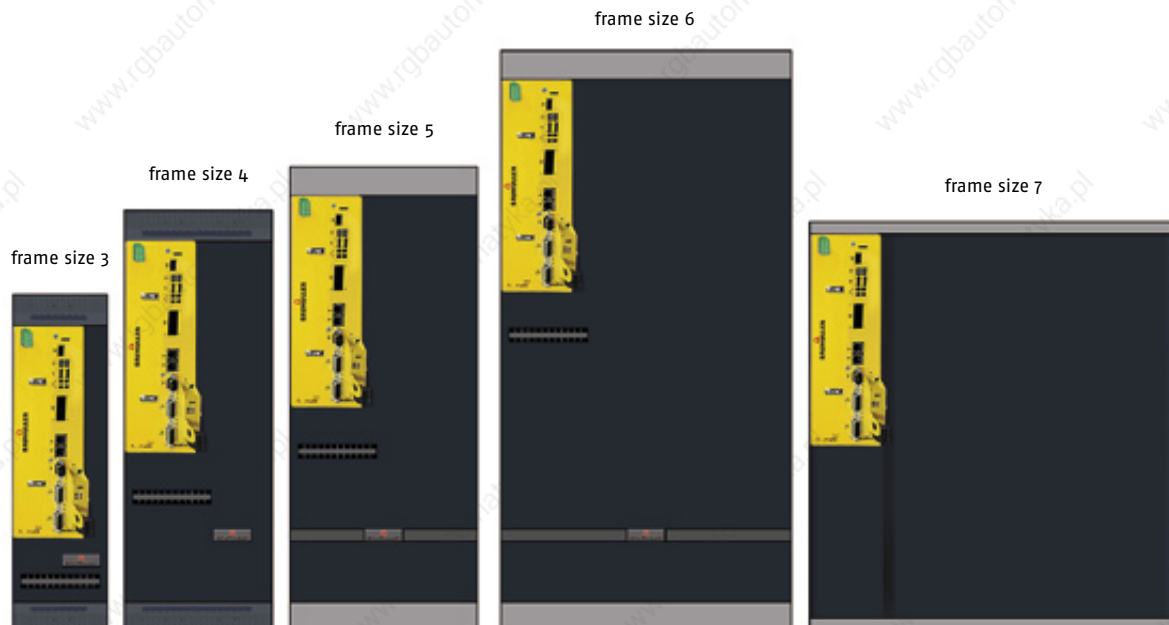
The series-mounting converters 5000 have been extended to mono-units in the range 5500. This covers power ratings of 10 to 315 kW and higher safety functions such as SLS (safely limited speed) and SLP (safely limited position) can be integrated up to high power ratings.



b maXX 5500 converter family

b maXX 5500 offers a performance range from 10 kW to 315 kW.
All devices have integrated rectifiers, DC link capacitors, and inverters.

Safety functions
according to
IEC 61800-5-2



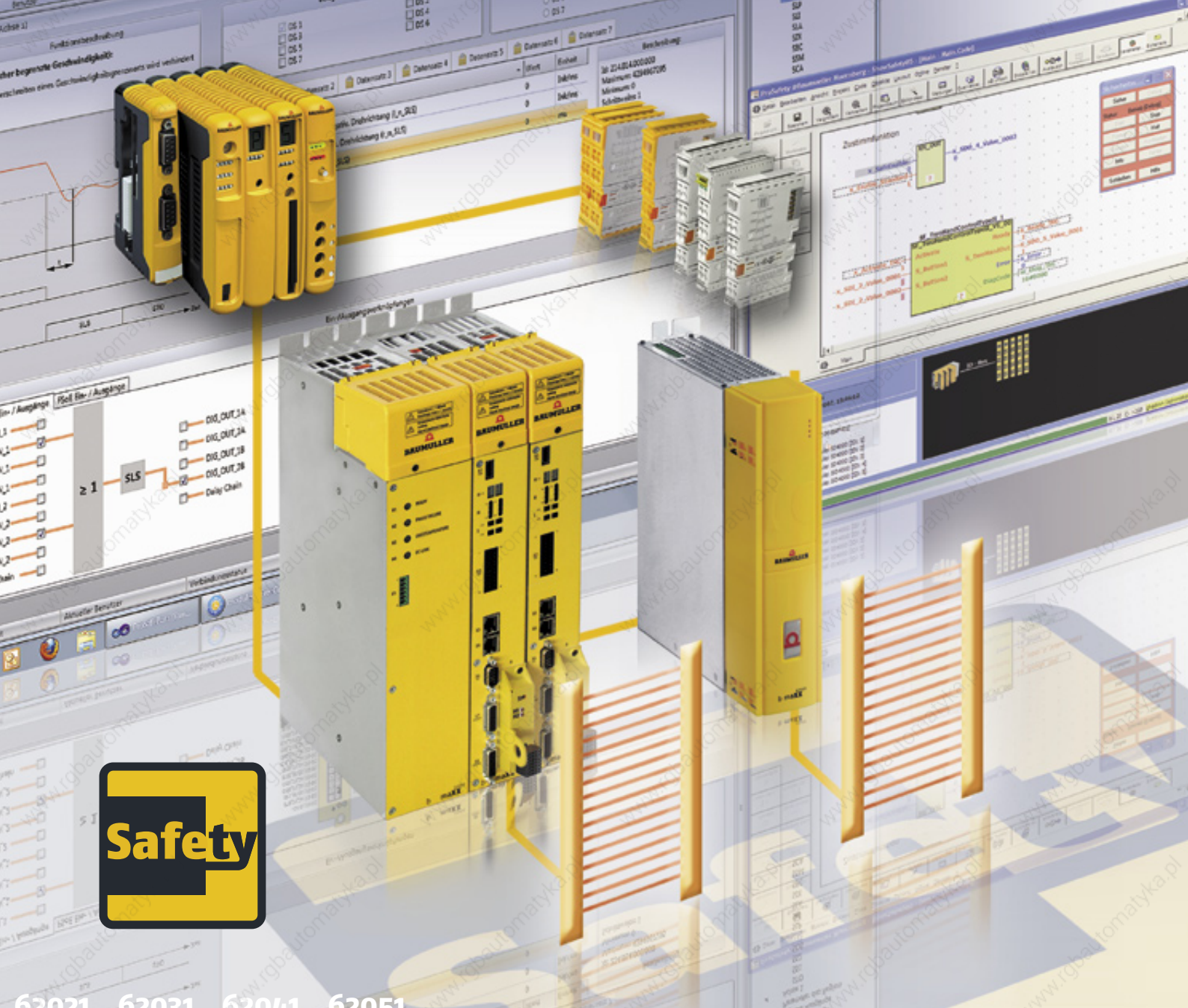
Frame size	Type	I _N [A]	I _{max} [A]	Typical motor rating		Overload factor	Dimensions W x H x D _A / D _W ¹⁾ [mm]
				[kW]	[hp]		
3	5532	22.5	45	10	13.4	2	155 x 510 x 340 / 325
3	5533	30	60	13	17.4	2	155 x 510 x 340 / 325
3	5534	45	90	20	26.8	2	155 x 510 x 340 / 325
3	5535	60	90	28	37.5	1.5	155 x 510 x 340 / 325
4	5543	80	120	36	48	1.5	190 x 624 x 374 / 327
4	5544	100	130	45	60	1.3	190 x 624 x 374 / 327
4	5545	130	170	58	78	1.3	190 x 624 x 374 / 327
4	5546	150	200	75	100	1.3	190 x 624 x 374 / 327
5	5553	150	195	75	100	1.3	307 x 656 x 374 / 321
5	5554	210	260	110	147	1.3	307 x 656 x 374 / 321
6	5562	250	325	132	177	1.3	437 x 815 x 378 / 316
6	5563	300	390	160	215	1.3	437 x 815 x 378 / 316
6	5566	350	450	175	234	1.3	437 x 815 x 378 / 316
7	5572	450	585	225	302	1.3	520 x 600 x --- / 340
7	5573	615	780	315	422	1.3	520 x 600 x --- / 340

supply voltage: 207 V–528 V ± 0% AC
supply frequency: 50/60 Hz
supply rated voltage: 400 V
DC link voltage: 540 V rated voltage
chopping frequency: 2/4/8 kHz

output voltage: 0–95% of supply voltage
electronics supply: external 24 V DC (diagnostic capability)
fan connection: 230 V AC ± 10%
certification: CE, CSA, UL

- 1) height and depth without mounting brackets; depth including required bending radius of connecting cables; D_A = depth of air cooling; D_W = depth of water cooling
- 2) for 1 second;
- 3) single phase

Subject to alteration



62021 62031 62041 62051

62061

001 002 003 004 005 006 007 008 009

According to a European Union resolution, the new Machinery Directive finally came into force on 31 December 2011. Machinery manufacturers and operators will have to observe all safety requirements stipulated in standards EN ISO 13849 or EN 62061 from this date onwards.



Plug-in safety for the b maXX 5000

Four modules with plug-in board design for the b maXX 5000 provide the perfect solution for drive-based safety. Machine manufacturers can quickly and flexibly adapt the converter to meet the relevant application requirements.

Three safety options with the safety modules

The SAF-001, 002 and 003 safety modules guarantee the required machine safety and future compatibility in line with the latest standards. The b maXX 5000 fulfils the guidelines in standard EN ISO 13849 up to SIL 3 with its scalable range of functions and EN 62061 up to PL_e.

The plug-in SAF modules allow the user to respond to new requirements with maximum speed and flexibility. All modules are equipped with an integral parameter memory that stores all the safe and unsafe parameters preset on the b maXX drive controller.

The safe functions are selected via safe local I/Os or EtherCAT-FSoE, which are integrated on the safety module.



SAF-000

Safety function: none

Parameter memory: yes



SAF-001

Safety function: STO

Safely controlled via: I/O

Parameter memory: yes



SAF-002

Safety function: STO, SS1, SS2, SOS, SDI, SLS, SBC

Safely controlled via: I/O and field bus

Parameter memory: yes

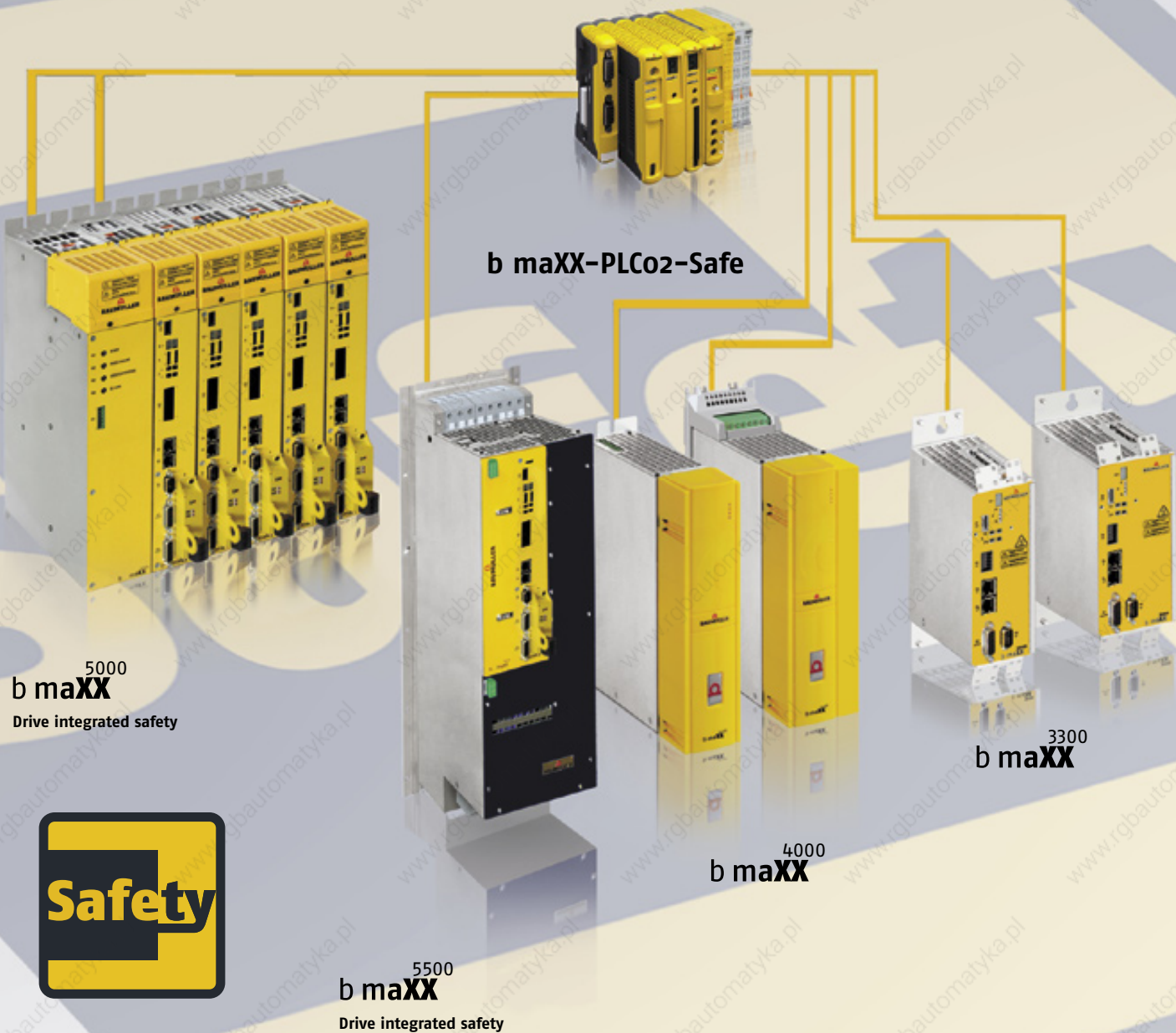


SAF-003

Safety function: STO, SS1, SS2, SOS, SLA, SLS, SLP, SLI, SDI, SBC, SSM, SCA

Safely controlled via: I/O and field bus

Parameter memory: yes



b maXX-PLCo2-Safe

5000
b maXX
Drive integrated safety



3300
b maXX

4000
b maXX

5500
b maXX
Drive integrated safety

13849

13449 13549 13649 13749

According to a European Union ruling, the transition period for the new Machinery Directive ended on January 1, 2011. From this date on both machine builders and operators must meet the safety requirements contained in the EN ISO 13849 standard.

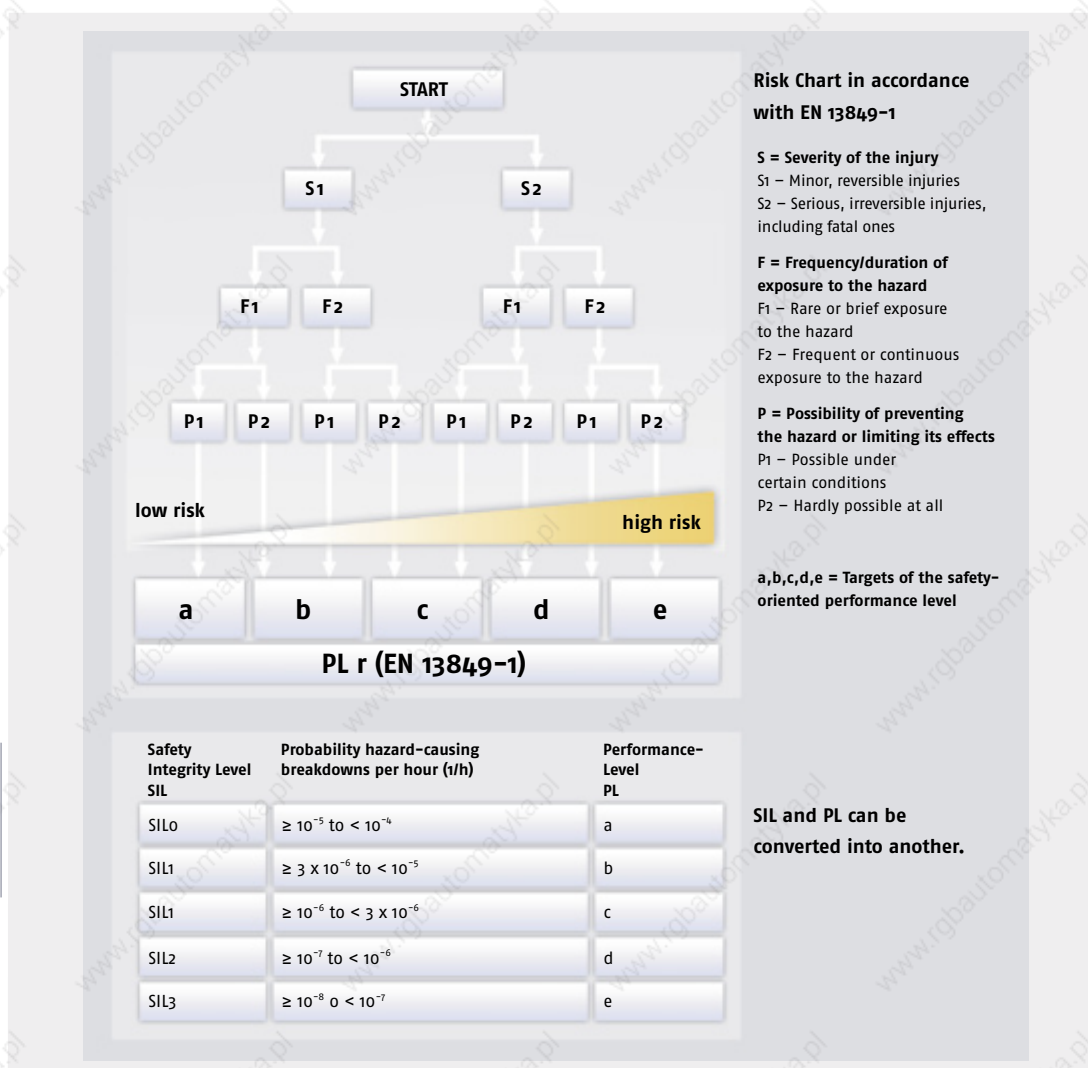
Baumüller safety engineering allows you to build powerful machines, which meet the safety requirements of the EN ISO 13849 standard.



Baumüller safety engineering

EN 13849-1 builds on the qualitative aspect of EN 954-1 by including a quantitative calculation of safety functions. For many systems, this will mean that a safety control will need to be used. As a member of the PLCopen Safety organization, Baumüller has addressed the new automation sector requirements, enabling it to offer you safety solutions in conformance with PLCopen Safety and which can be integrated into the machine's automation system as a whole.

The concept encompasses centralized, modular decentralized, and hybrid automation structures and is reflected in every area of the application. In this way, Baumüller integrates its safety concept into all automation components – including communication – as well as into the ProMaster Engineering Framework.



b maXX-PLCo2-Safe safety control

In addition to the safety aspect, the b maXX-PLCo2-Safe is also characterized by the way in which it reduces complexity. This is achieved by eliminating the need for complicated wiring, reducing the number of wires involved, and minimizing the inspection effort required. Centralized safety controls often make multi-coupled units completely superfluous to requirements. Therefore, the combined SIL0/SIL3 safety control not only reduces the complexity of your system or machine and ensures safe operation, it also offers a cost benefit compared to conventional solutions.



Safety



ProSafePara

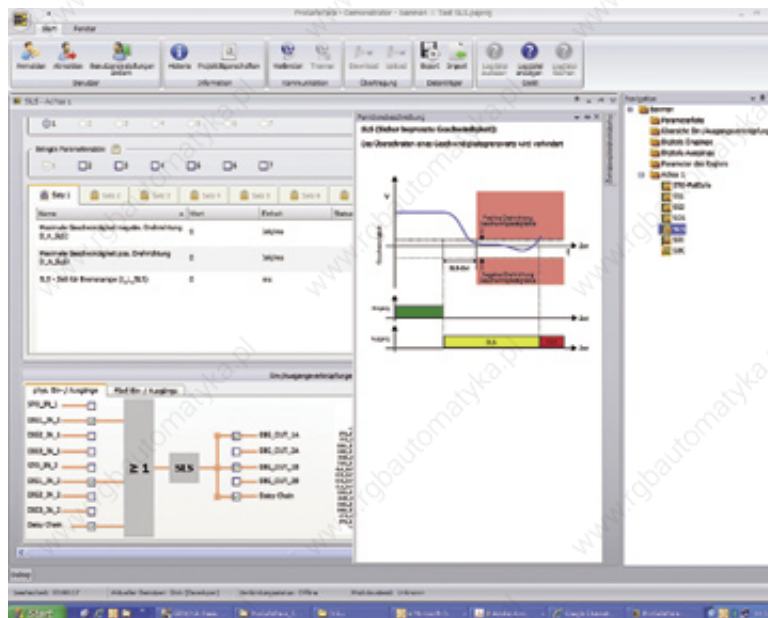
001 002 003 004 005 006 007 008 009



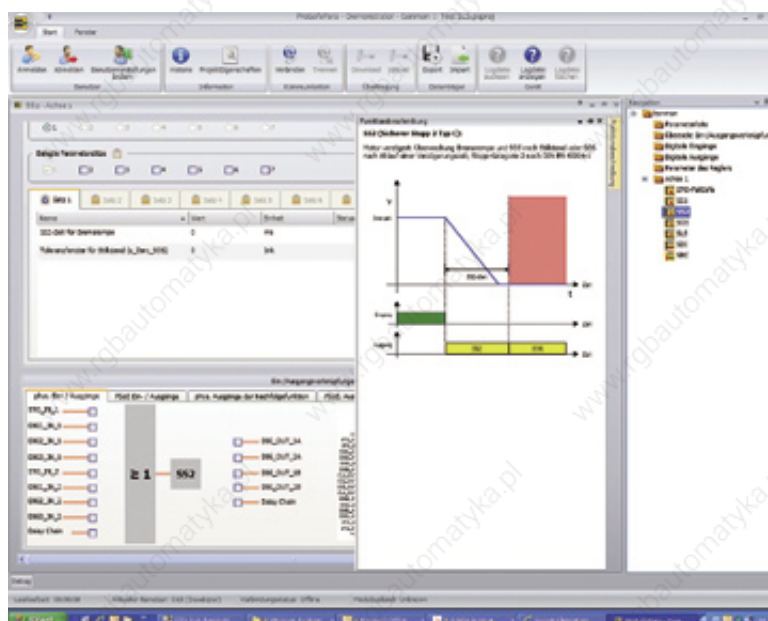
Easy, intuitive parameterisation of drive safety with ProSafePara

Baumüller is one of the few drive and automation manufacturers that consistently offers integral safety solutions for central, local modular and hybrid automation structures in line with the standards stipulated in new Machinery Directive, EN ISO 13849-1 and EN IEC 62061 up to Performance Level e and Safety Integrity Level 3. The ProMaster engineering tool supports configuration of the parameters of the b maXX safety modules SAF-002 and SAF-003. ProMaster enables the scalable integration of b maXX 5000 safety modules in standard automation technology using the integral safe parameterisation environment ProSafePara.

Safety technology is fully integrated in the ProMaster engineering tool in the ProSafePara environment and accesses the same project database. The environment was developed according to the requirements of standard IEC 61508 and covers all safety requirements up to SIL 3, thereby guaranteeing the safe parameterisation of safety modules SAF-002 and SAF-003.



Parameterisation screen for SLS safety function (Safe speed)



Parameterisation screen for SS2 safety function (Safe Stop Type 2)



4200 4300 4400 4500 4600

11

1 2 3 4 5 6 7 8 9 10

b maXX has up to eleven inserts for plug-in modules and can therefore be individually adapted for special automation tasks. Special plug-in modules interface b maXX, including interface adaptors for most standard bus systems. The plug-in b maXX-drivePLC module provides integrated intelligent control.

The proven drive concept from Baumüller – b maXX 4000 modular – scalable – open

Baumüller is setting standards with b maXX, its current generation of drive.

This series of converters and controllers was developed to meet current and future automation technology requirements worldwide. b maXX serves as a basis for both simple and complex automation solutions.

The requirements placed on machines and systems centre on the ability to cope with future needs, flexible expansion capacity and simple adaptation for modified production processes. With b maXX, Baumüller provides an automation and drive solution that meets the following requirements:

Modular

b maXX can be adapted in line with the specific requirements of a given application. The modular design guarantees that the drive system can be expanded adequately. Plug-in modules equip the controller, for example, with control functions or additional field bus interfaces. This ensures that the user can benefit from cost-effective configuration since only the modules required for a specific job need to be purchased.



Scalable

The drive capabilities are expandable to meet the demands and requirements that are placed on a machine or system. The performance capability of b maXX extends from simple to highly sophisticated automation applications. Functionality and computing power are selected relative to the application on the basis of a consistent hardware and software platform.



Open

b maXX provides access to automation bus systems. The field busses EtherCAT, CANopen, CANsync, PROFIBUS-DP, Sercos and EtherNet/IP are fully supported. An OPC server is provided for the interfacing of visualisation systems. Remote access to process variables within the drive PLC is also possible without additional programming. This is accomplished through the use of the OPC server and Ethernet TCP/IP connection of the b maXX-drivePLC.



The b maXX-drivePLC module makes the controller intelligent and therefore perfectly suitable for all special automation requirements. Thanks to the standardised programming language IEC 61131-3, control programs and technology functions can also easily be created by the user.

User benefits

The b maXX guarantees user-friendly operation, simple commissioning and maintenance as well as optimised configuration with maximum flexibility for integration into a wide variety of machine concepts. This qualifies it as a highly cost-effective and technically optimal solution. Engineering work is reduced to a minimum. The stocking and storage of replacement parts is optimised due to the pluggable modularity.

b maXX⁴⁴⁰⁰ – Modular servo controller – Flexible extension options

The b maXX 4400 is equally suitable for simple speed control applications or highly synchronous, multi-axis applications as it can easily be equipped with:

- ⊙ Analogue I/Os
- ⊙ Digital I/Os
- ⊙ Encoder emulation (incremental/SSI)
- ⊙ Parameter storage module
- ⊙ Encoder signal processing (for closed loop applications)
- ⊙ Field bus interfaces
- ⊙ Integrated PLC: b maXX-drivePLC

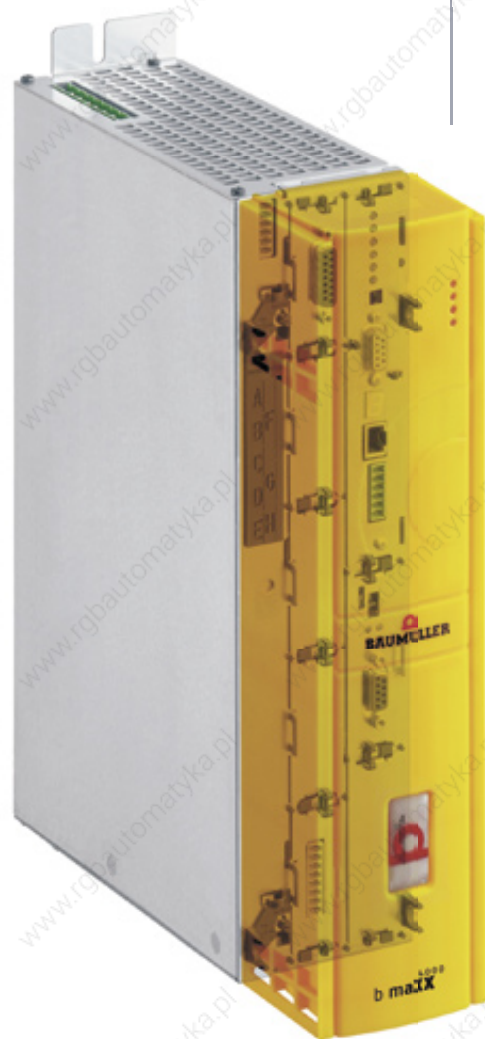
The hardware can therefore be adapted in line with the exact requirements of your automation solution.

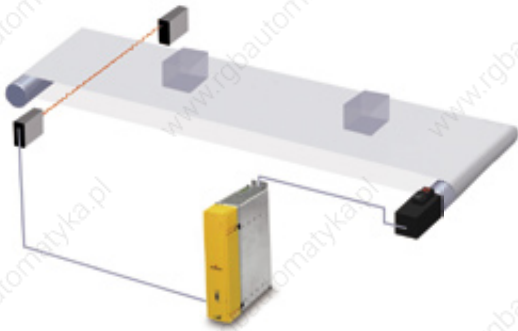
Drive controller

b maXX 4400 uses the principle of vector control for maximum dynamic response. Position control, speed control and current control are integrated and have a cycle time of 125 μ s. As a result, the motor is powered in a fast and precise manner. Clock speed and production output can be increased effectively. The operating modes jogging (teaching), referencing and synchronous operation with electronic gears are also supported. All the drive parameters can be permanently saved in a maximum of eight data records. They can also be switched over and defined on-line. The data records are switched over via the digital I/Os, the field bus interface or the b maXX-drivePLC. As a result, b maXX can quickly and easily be adapted in line with variations in the production process. This significantly reduces retrofitting times and enhances the flexibility of the production process.

Integrated positioning control Integrated positioning control paves the way for relative or absolute positioning. Positioning can be trapezoidal with acceleration and brake ramp or in the form of an "S" curve. Jolt-free motion sequences extend the life of the mechanical components and enhance the availability of the machine. The amount of maintenance required will be reduced.

16 positioning profiles can be stored. These can be switched over online via the digital I/Os or the field bus interface. Therefore, the user does not require a PLC for simple motion sequences. More demanding motion control with complex motion sequences and logic operations are implemented by the b maXX-drivePLC. This relieves the burden on the machine's control unit or, if required, a smaller control unit can be used and the highly dynamic motion sequences can be executed by the b maXX-drivePLC. Elaborate bus systems from the control unit to each of the drives are no longer necessary as the b maXX-drivePLC is already located in the drive where it directly executes the high-performance tasks. Depending on the application, the b maXX-drivePLC can control a single machine module or the entire machine.





Standard application

Fields of application

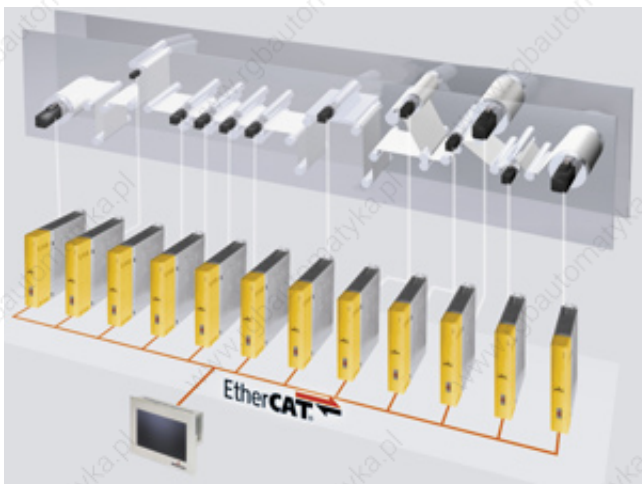
b maXX 4400 was designed and developed for a wide range of applications. For very simple applications with an open loop vector control for the encoderless control of standard motors and for standard servo applications with a closed loop vector control, b maXX 4400 is typically equipped with:

- ⊙ Encoder feedback such as resolver, SinCos or incremental
- ⊙ Digital I/Os for recording control signals

This configuration meets the requirements for simple positioning and drive tasks in the following fields: conveyor belts, material handling systems, cutting equipment, punches, presses and many more.

For complex automation tasks b maXX 4400 is typically equipped with:

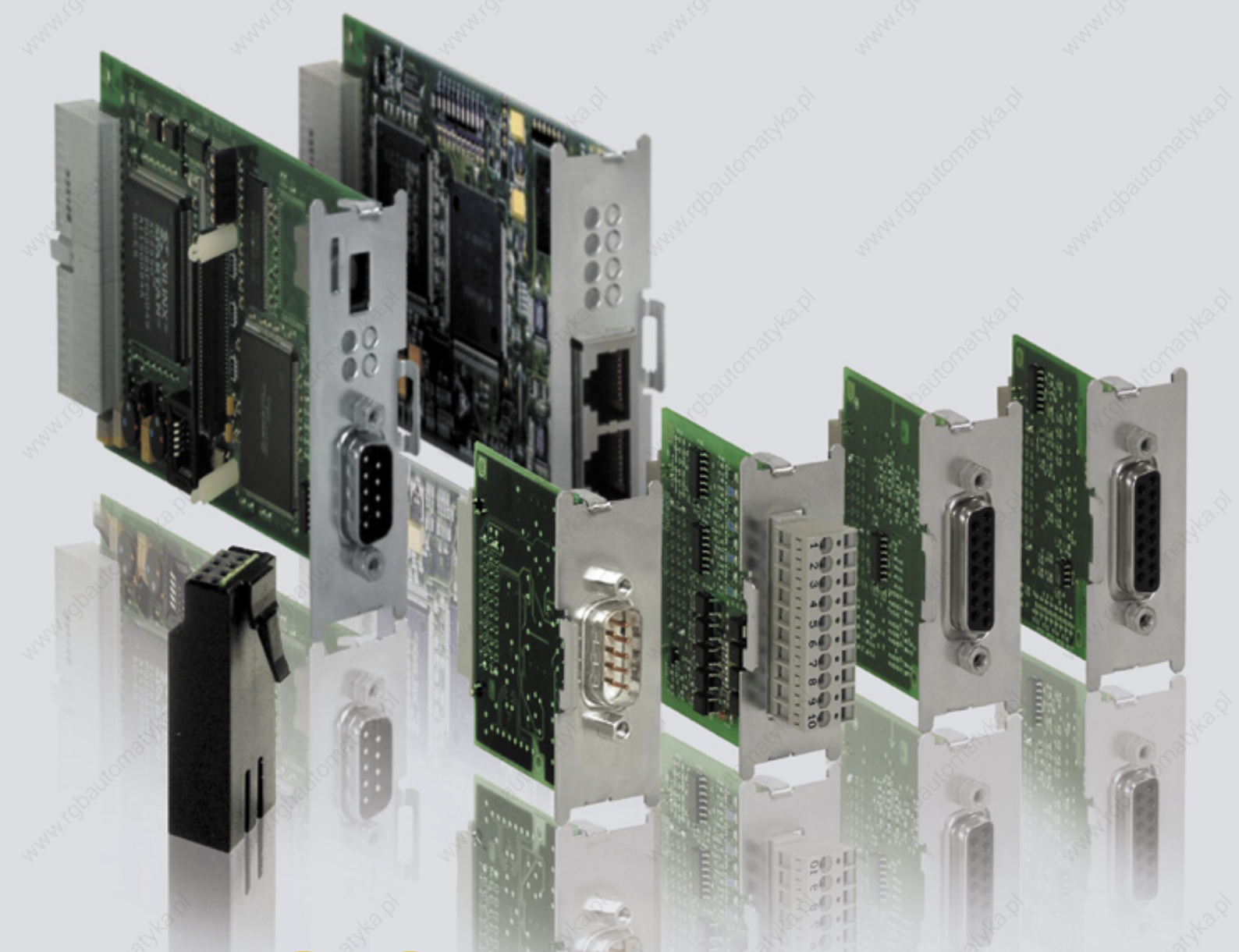
- ⊙ Encoder feedback such as SinCos, incremental or full digital encoder systems
- ⊙ Asynchronous field bus interfaces such as CANopen or Profibus DP
- ⊙ Synchronous field bus interfaces such as CANsync or Sercos, CANopen with Sync-Telegram
- ⊙ Ethernet-based field buses such as EtherCAT, Powerlink, Varan, EtherNet/IP
- ⊙ Ethernet TCP/IP: the data highway for diagnosis, visualisation, teleservice, engineering
- ⊙ Integrated PLC: b maXX-drivePLC for complex control/technology tasks
- ⊙ Digital I/Os for process interfacing
- ⊙ Analogue I/Os for measured value acquisition
- ⊙ Encoder emulation (incremental/SSI)



Complex application – e.g. modular label printing machine

Consequently, b maXX 4400 is suitable for complete automation solutions:

- ⊙ Newspaper, form or label printing
- ⊙ Plastics processing
- ⊙ Textile manufacture and processing
- ⊙ Packaging and food processing
- ⊙ Robotics and handling
- ⊙ Machine tools
- ⊙ Paper processing
- ⊙ Metal and wire processing
- ⊙ Wood working and many more



30

20 21 22 23 24 25 26 27 28 29

With more than 30 different function and option modules b maXX can easily be adapted in line with the individual tasks of the automation and drive solution.

Function and option modules for b maXX 4400

The individual modules are designed as plug-in boards and therefore the drive controller no longer has to be ordered as a preassembled unit. By using various plug-in boards, the machine manufacturer can secure a wide variety of functions and configure the appropriate combinations on their own. In this way, he can react quickly and flexibly to new requirements.

This system also ensures that the drive can be quickly expanded at the user's facility. Production adjustments can be implemented within a short space of time and with minimal effort.





Digital I/Os

- ⊙ 4 inputs, 24 V industrial logic, isolated
- ⊙ 4 outputs, 24 V industrial logic, isolated, 0.5 A



Analogue I/Os

- ⊙ 2 inputs ±10 V 12 Bit and 2 outputs ±10 V 8 Bit
- ⊙ 2 inputs ±10 V 16 Bit and 2 outputs ±10 V 16 Bit
- ⊙ 2 inputs ±10 V 12 Bit and 2 outputs ±10 V 12 Bit
- ⊙ 2 inputs 4-20 mA, 16 Bit, 2 outputs ±10 V 16 Bit



SinCos encoder

With hiface interface and electronic rating plate.
Resolution: up to several million incr./rev.



Resolver

Resolution: 1024 incr./rev.



5 V-square-wave incremental encoder

Resolution: (stroke no. x 4) incr./rev.



SinCos encoder with EnDat@ interface

Sine/cosine encoder with EnDat 2.1 and 2.2 interface for single and multiturns, length measurement systems and absolute position recognition.



SinCos encoder with SSI interface

Sine/cosine encoder with SSI standard interface, with internal and external encoder power supply.



Incremental encoder emulation

5 V-square-wave/differential signal, 90° phase shift



Storage module

The parameter storage module contains all the parameters that are set on the drive controller of the b maXX for all 8 parameter data records and all 16 positioning profiles. New parameters can be loaded to the drive controller simply by plugging in the module. Given that the parameter module is pluggable, a drive can be replaced during servicing without the need for any knowledge of the operating software. Servicing could not be easier.



Field bus modules for b maXX 4400

b maXX 4400 supports all conventional field bus systems. b maXX can be optimally integrated into all systems by simply replacing the corresponding option module. EtherCAT is the standard field bus.



EtherCAT

Ethernet

EtherNet/IP

**SERCOS[™]
interface**

CANsync

**PROFI
BUS**

CANopen

VARAN

**ETHERNET
POWERLINK**

Field bus interfaces

Field bus	b maXX 4400	b maXX-drivePLC
EtherCAT	Slave	Slave, Master, Cluster
EtherNet/IP	Slave	–
CANopen	Slave	Slave, Master
CANsync	Slave	Slave, Master
Profibus	Slave	Slave
Sercos	Slave	–
Varan	Slave	–
POWERLINK	Slave	Slave
Ethernet	TCP/IP	TCP/IP



100

80 84 88 92 96

With a typical cycle time of 100 microseconds for 1,000 lines of STL, b maXX-drivePLC is one of the fastest in-drive PLCs in the world.

The control unit b maXX-drivePLC

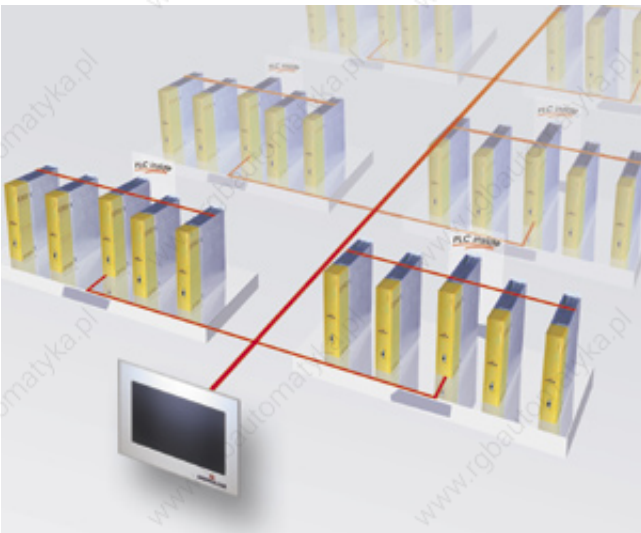
The b maXX-drivePLC module makes the drive intelligent. This in-drive control intelligence allows very fast access to the setpoints and actual values of the drive controller. Therefore, the functionality of the drive can be enhanced with complex motion, control and technology functions. This ensures that the application can be created quickly and economically.



b maXX-drivePLC – one of the fastest in-drive PLCs in the world

With a typical cycle time of 100 microseconds for 1,000 lines of STL, b maXX drivePLC is one of the fastest in-drive PLCs in the world and is therefore ideal not only for sophisticated control tasks but also for demanding motion control tasks. This relieves the burden on the control PLC which can, if required, now be replaced with a smaller control unit. The machine program and the motion control application can be completely decoupled. This enhances the transparency and clarity of the application.

The CAN option module serves as a CANopen master for b maXX-drivePLC. Up to 65,536 digital I/O points can be connected with this module. With the existing EtherCAT master and the CANSync master, sophisticated and highly synchronous motion sequences can be controlled directly on the b maXX-drivePLC. The comprehensive product range includes decentralised analogue and digital I/O modules.



The program memory of the b maXX-drivePLC is sufficient for 120,000 lines of STL. 2 MB RAM is available for variables. The optional, nonvolatile 56 KB memory requires no battery and features a NOVRAM buffer. This guarantees that sufficient code memory is available. Cost-intensive memory expansions are not necessary. Thanks to the battery-free NOVRAM, the data is available maintenance-free and without data loss after each switching off/on operation.

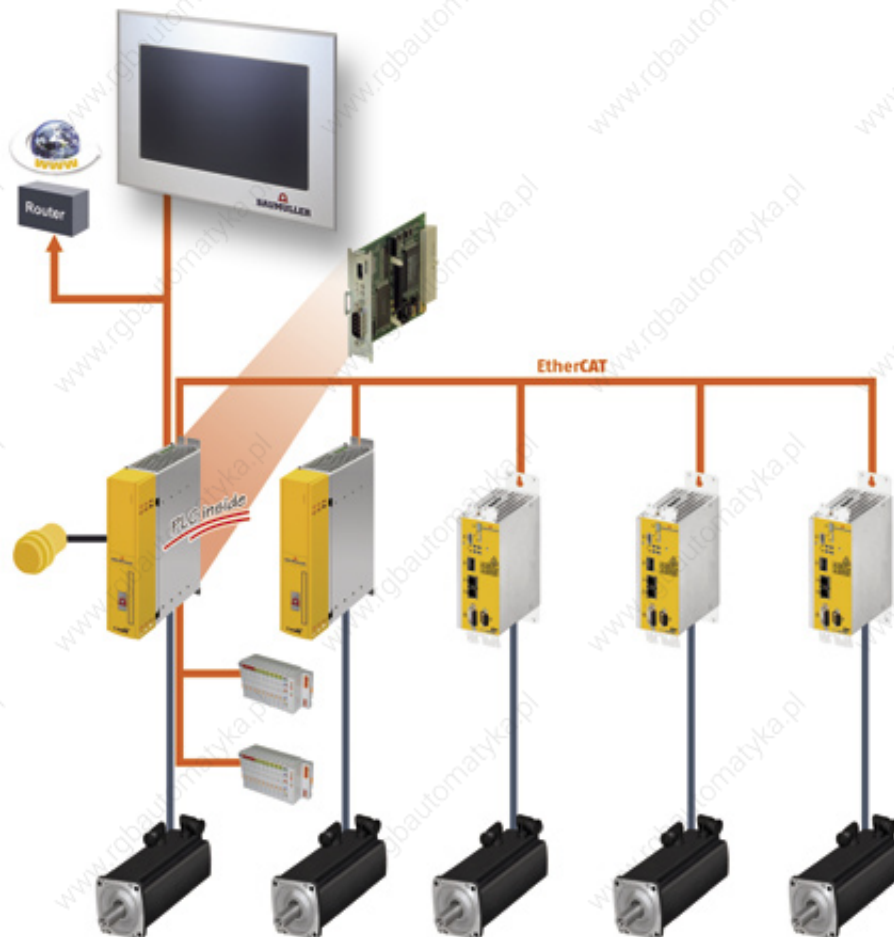
Technical Data

- © 32 bit processor, 120 MHz
- © 2 MB program memory for max. 200,000 STL lines or typically 60,000 STL lines
- © 2 MB variables memory
- © 1.4 MB memory for debug functions, e.g. logic analysis
- © Typically 100 µsec/1000 lines STL
- © 56 kB nonvolatile memory and 4 MB flash expansion (optional)
- © IEC 61131 multi-tasking, real-time operating system



PLC and drive are synchronous

The in-drive PLC can have synchronized access to all setpoints and actual values of the drive controller via the internal parallel bus. Therefore, time-consuming communications programs do not have to be created. The signal transit times are reduced to a minimum. This greatly enhances process security and also increases the availability of the system.



All the advantages at a glance

- ⦿ Fast, synchronous PLC access to the drive controller:
Sophisticated communications programs are no longer required – the burden on the system is relieved
- ⦿ No wiring between the PLC and the drive:
Fault-prone cable connections can be reduced – availability is increased
- ⦿ Compact design saves control cabinet space:
The volume of the control cabinet can be reduced
- ⦿ Maximum PLC and servo controller performance due to independent processors: No limitations due to overlapping processes – the system remains stable and reliable
- ⦿ Baumüller is the contact partner for the PLC and drive system, and therefore the automation system as a whole: Experience and competence for the entire automation system – direct communication with one reliable partner reduces the amount of engineering that is required

Further details on how b maXX 4400 can be extended into a complete automation system can be found in the brochure with the title "Automation".



35

15 20 25 30

Five cooling concepts for seven frame sizes allow you to select the optimal power modules for your requirements.

New approach for power modules

Baumüller has adopted a new approach with its power modules. To enhance diagnostics capability, the power modules are coupled with the drive controller via internal, serial communication. In this way, the drive controller can be parameterized independent of the size of the power module. The amount of engineering required is reduced.

The power modules are provided with integrated line voltage measurement for operation in different networks throughout the world, e.g. the USA.

A wide variety of cooling concepts allow you to select the optimal cooling system. The push-through cooling concept greatly reduces power loss in the control cabinet. Depending on the application, cost-intensive cooling and air-conditioning systems are not required.

The utilization of the water cooling version paves the way for a reduction of the construction volume and, as a result, cost-effective control cabinet designs can be implemented. Stainless steel cooling systems guarantee low-maintenance operation and high availability.

Types of cooling ¹⁾

Braking energy

Brake resistor activation is integrated in the form of a brake chopper. A regenerative resistor is connected externally. This paves the way for optimal dimensioning and also reduces the volume of the control cabinet.

Line filter

To optimize configuration from a cost perspective, line filters are always connected in series outside the device. Several power modules can thus be grouped for each line filter resulting in reduced costs for the system as a whole.

Temperature-dependent fan control

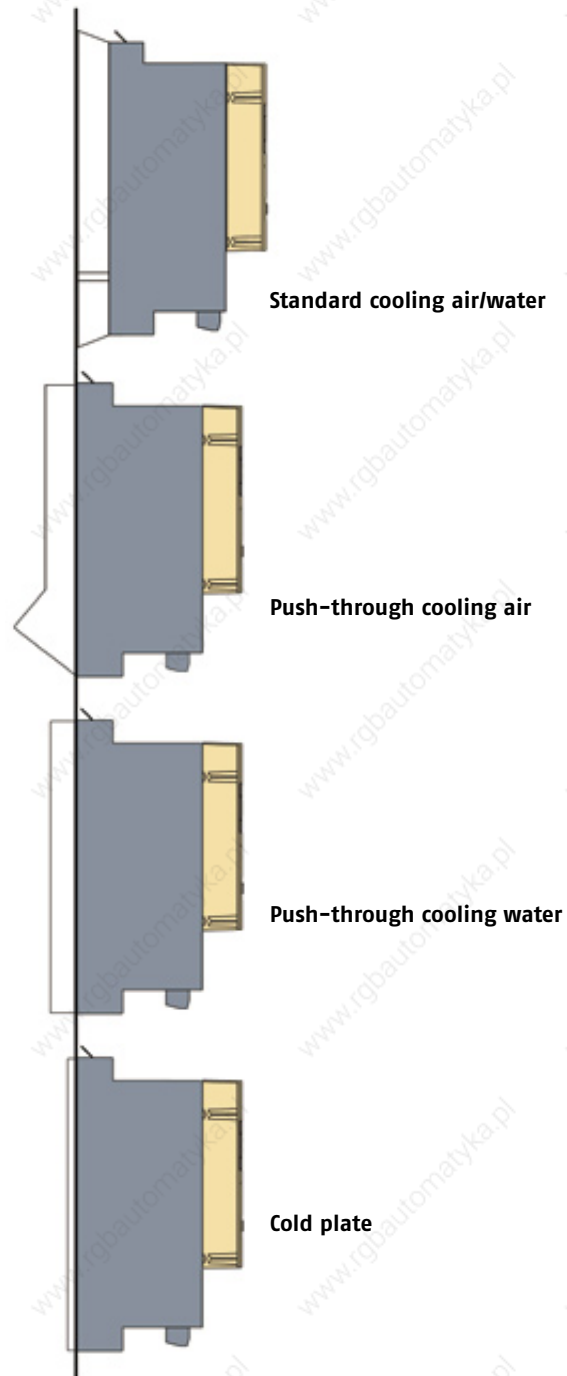
The fan is controlled relative to the temperature inside the device. This leads to a reduction in energy consumption and therefore lowers the overall costs of a system.

DC link coupling

DC link coupling can be achieved for a number of power modules for the purpose of energy compensation. Surplus energy is not "burned". It is made available to other drive units without taking additional energy from the supply network.

Safety module

With the optional safety module, the option "safety stop" in accordance with EN ISO 13849 safety category 4 can easily be realized without the integration of additional contactors in the motor line. This ensures that the structure of the safety circuit remains simple and transparent. The danger potential of the machine is reduced – the machine works reliably.



¹⁾ Availability depends on frame size

b maXX 4400 converter family

b maXX 4400 offers a performance range from 1.1 kW to 315 kW. All devices have integrated rectifiers, DC link capacitors, and inverters.



STO safety function according to IEC 61800-5-2



Frame size	Type	I _N [A]	I _{max} [A]	Typical motor rating		Overload factor	Dimensions W x H x D _A / D _W ¹⁾ [mm]
				[kW]	[hp]		
1 S	4412	2.5	5	1.1	1.5	2	80 x 310 x 263 / ---
1 S	4413	4.5	9	2	2.7	2	80 x 310 x 263 / ---
1 B	4412	2.5	5	1.1	1.5	2	106 x 310 x 263 / ---
1 B	4413	4.5	9	2	2.7	2	106 x 310 x 263 / ---
2	4422	7.5	15	3.4	4.6	2	106 x 428 x 340 / 320
2	4423	11	22	5	6.7	2	106 x 428 x 340 / 320
2	4424	15	30	6.8	9.1	2	106 x 428 x 340 / 320
2	4425	15	40 ²⁾	6.8	9.1	2.6	106 x 428 x 340 / 320
2	4426 ³⁾	22.5	45 ²⁾	6	8.0	2	106 x 428 x 340 / 320
2	4426	22.5	45 ²⁾	10	13.4	2	106 x 428 x 340 / 320
3	4432	22.5	45	10	13.4	2	155 x 510 x 340 / 325
3	4433	30	60	13	17.4	2	155 x 510 x 340 / 325
3	4434	45	90	20	26.8	2	155 x 510 x 340 / 325
3	4435	60	90	28	37.5	1.5	155 x 510 x 340 / 325
4	4443	80	120	36	48	1.5	190 x 624 x 374 / 327
4	4444	100	130	45	60	1.3	190 x 624 x 374 / 327
4	4445	130	170	58	78	1.3	190 x 624 x 374 / 327
4	4446	150	200	75	100	1.3	190 x 624 x 374 / 327
5	4453	150	195	75	100	1.3	307 x 656 x 374 / 321
5	4454	210	260	110	147	1.3	307 x 656 x 374 / 321
6	4462	250	325	132	177	1.3	437 x 815 x 378 / 316
6	4463	300	390	160	215	1.3	437 x 815 x 378 / 316
6	4466	350	450	175	234	1.3	437 x 815 x 378 / 316
7	4472	450	585	225	302	1.3	520 x 600 x --- / 340
7	4473	615	780	315	422	1.3	520 x 600 x --- / 340

supply voltage: 207 V–528 V ± 0% AC
 supply frequency: 50/60 Hz
 supply rated voltage: 400 V
 DC link voltage: 540 V rated voltage
 chopping frequency: 2/4/8 kHz

output voltage: 0–95% of supply voltage
 electronics supply: external 24 V DC (diagnostic capability)
 fan connection: frame size 1–3: 24 V DC electronics supply
 frame size 4–7: 230 V AC ± 10%
 certification: CE, CSA, UL

- 1) height and depth without mounting brackets; depth including required bending radius of connecting cables; D_A = depth of air cooling; D_W = depth of water cooling
- 2) for 1 second;
- 3) single phase

Subject to alteration



90

84 85 86 87 88 89

It is often the case with electrical drives that energy costs make up almost 90% of the overall life-cycle costs. With this in mind, regenerative systems help to reduce the total cost of ownership.

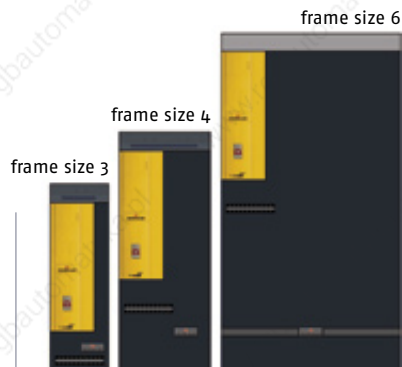
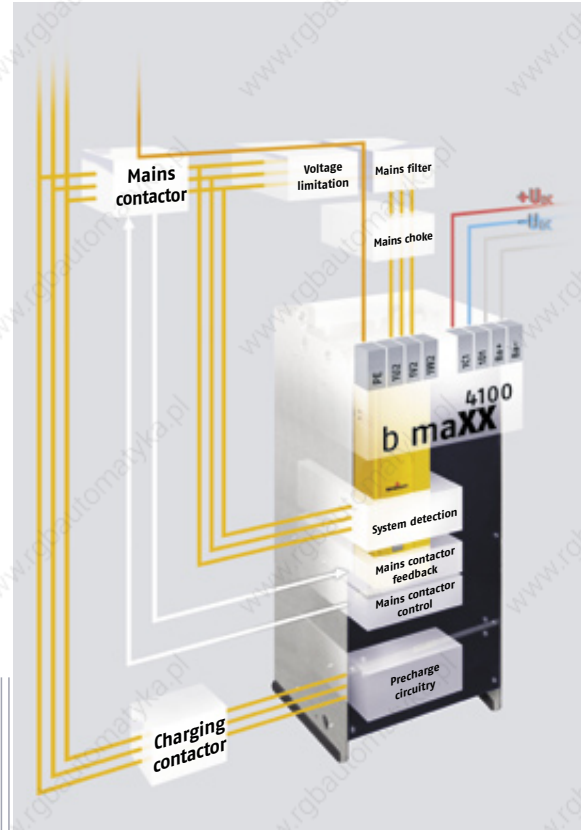
⁴¹⁰⁰ b maXX – Regenerative power supply unit

Baumüller's tried-and-tested b maXX automation and drive solution is being expanded with the addition of the new b maXX 4100 series regenerative power supplies. These units work in conjunction with b maXX 4400 series units, and can supply the DC link voltage to one or more drives. By using a b maXX 4100, all excess regenerative brake energy generated by the system is returned to the AC mains supply rather than wastefully dissipating this energy as heat.

From the standpoint of energy costs, this offers the user considerable savings over the machine's service life. Regenerative systems help to lower energy consumption (and do their bit for the environment) by feeding the available brake energy back to the power grid rather than wasting it via a regenerative resistor.

The b maXX 4100 units are fully integrated into Baumüller's b maXX automation and drive solution family of products. The benefits which the b maXX series offers to its users such as modularity and flexibility, are also provided by the b maXX 4100. Four different frame sizes cover a DC link power range of 35 kW to 150 kW with the option of air or water cooling. The b maXX 4100 can also be integrated in the Baumüller automation environment by means of various optional fieldbusses. System consistency is achieved by adopting the same housing technology and connection arrangements as well as integrating the parameters of the b maXX 4400 into the existing b maXX ProDrive operating software.

- ⊙ Regenerative brake energy is returned as a sine wave
- ⊙ 3 frame sizes with 35 kW to 150 kW
- ⊙ 60 second overload capability
- ⊙ Current-controlled charging circuit
- ⊙ Integrated control of charging and mains contactors
- ⊙ Integral regenerative switching transistor
- ⊙ Monitoring of mains, charging connection, mains contactor, DC link voltage, and heat sink temperature
- ⊙ Optional fieldbus modules



Technical data b maXX 4100

frame size	type	DC link power ¹⁾		peak DC link power		overload factor ²⁾	dimensions WxHxD ³⁾ [mm]
		[kW]	[hp]	[kW]	[hp]		
3	4135	35	47	52	70	1.5	155 x 510 x 340
4	4145	80	107	104	139	1.3	190 x 624 x 374
6	4163	150	201	190	255	1.3	437 x 815 x 378

Supply voltage: 360 V–528 V ± 0% AC
 Supply frequency: 45 Hz–65 Hz
 Supply rated voltage: 400 V AC
 DC link rated voltage: 640 V DC
 Switching frequency: 8 kHz

Regenerative switching transistor: Integrated
 Electronics supply: External, 19.3–30 V DC (diagnostic capability)
 Fan connection: Frame size 3: 24 V DC electronics supply
 Frame sizes 4–6: 230 V AC ± 10%
 Certification: CE, CSA, UL

1) For 640 V DC DC link rated voltage

2) For 60 seconds

3) Height and depth without mounting brackets; depth including required bending radius of connecting cables

Subject to change



4600/4700

4100 4200 4300 4400 4500 4600 4700

Peak and nominal load devices available in five sizes supplement the proven b maXX series. Regardless of whether you require maximum performance on a continuous or temporary basis – the b maXX series offers customised drive solutions for every application.

b maXX 4600/b maXX 4700 – Peak and nominal load devices

The tried-and-tested b maXX automation and drive solution is being expanded to include new peak and nominal load devices from the 4600 and 4700 series. Baumüller is now able to meet the specific requirements of applications in the injection moulding or extrusion sector, for example, where either short-term peak output or permanent high performance is required. As a result, the drive can be adapted perfectly to the power requirements of the relevant application.

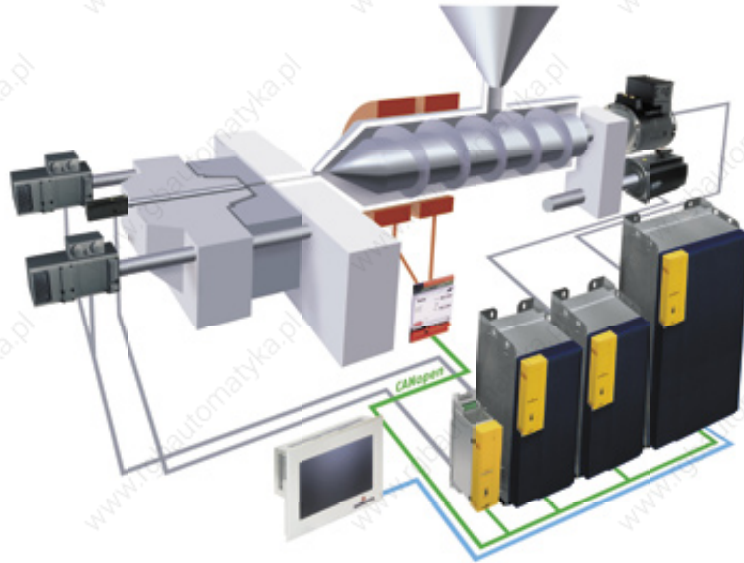
Although the devices in the series are more powerful, they have a compact design and take up much less space in the control cabinet – double benefits for the user



STO safety function
according to
IEC 61800-5-2

b maXX 4600/b maXX 4700 – Your benefits at a glance:

- ⊙ Optimised drive solution for specific industry requirements
- ⊙ Different sizes available for compatible drive dimensions
- ⊙ Less space required in the control cabinet due to smaller devices and the use of water cooling, control cabinet therefore less expensive to manufacture
- ⊙ Water cooling in the control cabinet provides a cost-effective solution
- ⊙ Compatible with other devices in the b maXX series



be in motion be in motion be in motion be in motion

b maXX 4600 – Technical data

frame size	type	I_N [A]	I_{max} [A]	overload factor ¹⁾	dimensions WxHxD [mm]
3	4632-F	60	120	2	208 x 556.5 x 325
4	4641-F	85	170	2	242 x 681 x 327
4	4642-F	100	200	2	242 x 681 x 327
5	4650-F ²⁾	130	260	2	360 x 550 x 285
5	4651-F ²⁾	165	330	2	360 x 550 x 285
5	4652-F ²⁾	200	400	2	360 x 550 x 285
6	4661-F ²⁾	250	500	2	490 x 710 x 285
6	4662-F ²⁾	300	600	2	490 x 710 x 285

b maXX 4700 – Technical data

frame size	type	I_N [A]	I_{max} [A]	overload factor	dimensions WxHxD [mm]
5	4755-F ²⁾	260	260	1	360 x 550 x 285
6	4766-F ²⁾	450	450	1	490 x 710 x 285
7	4773-F	720	800	1.1	580 x 660 x 340

1) for 1 second with a cycle of 5 seconds

2) compact design, water-cooled

Subject to change



5

1 2 3 4

The servo inverter b maXX 3300 was designed for low power ratings up to 5 kW. With the series of DSD and DSC servomotors and linear motors, Baumüller offers a complete system for low power ratings that are ideal, above all, for applications in the packaging and textile industries, small-scale robotics or handling.

Top-end servo controller for small drives – b maXX 3300

The servo inverter b maXX 3300 is a high-quality servo controller with integrated position control for low power ratings. b maXX 3300 excels through its compact, space-saving design. The field-oriented control provides for excellent concentricity. Higher-level speed and position control ensure dynamic and exact positioning. The b maXX 3300 is compatible with the b maXX 5000 servo controllers in terms of handling, communication, parameter structure, main functionality and operation. Parameters are assigned to the b maXX 3300 via ProDrive.

Given that the controller is very compact and was designed with a central focus on economic efficiency, the b maXX 3300 is ideal for applications in handling and robotics as well as for applications in the printing, textile and packaging industries. The servo controller is specifically designed for operation with the DSD 28-100 servomotors and the pancake and linear motor series from Baumüller.

The highly dynamic control of the b maXX 3300 in connection with the highly dynamic mini servomotors of the DSD series increases the clock speed of the application and therefore also improves the production output of machines and systems. The high chopping frequency (16 kHz) reduces noise emission and therefore relieves the burden on the environment.

b ma³³⁰⁰XX – Compact mini servo controller

The following control types are available for synchronous machines:

- ⊙ Current control (sampling times 62.5 μs)
- ⊙ Speed control (sampling times 125 μs)
- ⊙ Position control (sampling times 125 μs)
- ⊙ Jogging mode
- ⊙ Referencing

Functions:

- ⊙ 230 V or 400 V mains supply voltage
- ⊙ Chopping frequency 4/8/16 kHz
- ⊙ Integrated regenerative switching transistor
- ⊙ Integrated ballast resistor
- ⊙ External 24 V supply

- ⊙ 1 encoder input
- ⊙ Digital I/Os 24 V/; 2 In; 2 Out
- ⊙ Analogue I/Os ± 10 V; 1 In; 2 Out;
- ⊙ 2 parameter data sets
- ⊙ Open loop control
- ⊙ EtherCAT/CANopen on board

Encoder types:

- ⊙ Resolver
- ⊙ Rectangle incremental encoder
- ⊙ SINCOS absolute encoder (single/multiturn)
- ⊙ SINCOS incremental encoder
- ⊙ ENDAT 2.1
- ⊙ SSI-Encoder

Safety Technology:

- ⊙ Certified Safety Function STO according to EN ISO 13849 up to PLe



frame size 0 frame size 1



be in motion

be in motion

Technical data b maXX 3300

frame size	type	I _N [A]	I _{max} [A]	Type motor rating		max. peak current duration [s]	dimensions W x H x D ¹⁾ [mm]
				[kW]	[hp]		
0	BM 3301	5	10	2,5	3,4	5	65 x 170 x 170
1	BM 3311	10	10	5	6,8	-	85 x 170 x 170

Mains supply voltage: frame size 0: 110 V–243 V, single-phase; supply rated voltage: 230 V
 frame size 0/1: 180 V–528 V, three-phase; supply rated voltage: 400 V
 Supply frequency: 50/60 Hz
 Chopping frequency: 4/8/16 kHz
 Output voltage: 0–85% (single-phase), 0–95% (three-phase) of supply voltage
 Electronics supply: external 24 V DC

Data applies for 4 kHz chopping frequency
 1) without mounting brackets

Subject to change



2000 2300 2400

1

300 400 500 600 700

The b maXX 2400 is a mini servo controller for applications below 2 kW. As a switch cabinet version, the maXX 2400 can be combined with Baumüller disc motors, linear motors and motors of the mini servo controller series DSD 28–36 to form low-output systems.

b maXX 2000 – Mini servo controller for a performance range below 2 kW

The b maXX 2400 constitute the lower end of the converter and controller generation b maXX. This mini servo controller can be installed in a switch cabinet as b maXX 2400. As b maXX 2200 it has been integrated into motors of the DSD136 and DSM115 series.

The b maXX 2400 are compact mini servo controller, which can be fully integrated into the b maXX 4000 and b maXX 3000 series. The main functions, such as manageability and operation, are the same as for the larger servo controllers of the b maXX series. The b maXX 2000 is parameterized via Pro_Drive2000 software or the fieldbus CANopen.

b maXX 2400 – compact mini servo controller

The options for motor control include the following:

- ⊙ Current control (scan rate 125 μs)
- ⊙ Speed control (scan rate 250 μs)
- ⊙ Positional control (scan rate 2 ms)

Field bus options:

- ⊙ CANopen, EtherCat, Profibus, MODBUS

Programmable controls

- ⊙ MotionProcessUnit with 1600 lines of code
- ⊙ Cycle time 100 μs
- ⊙ Can be used as a master

Encoder types:

- ⊙ Rectangular incremental encoder
- ⊙ Rotor position controller



b maXX 2405



b maXX 2410



b maXX 2415



b maXX 2430



Technical data for b maXX 2400 – switch cabinet variant

frame size	type	I _N [A]	I _{max} [A]	Type motor rating		Supply Voltage electronics U _e [V DC]	Supply Voltage performance U _p [V DC]	Dimensions ⁴⁾ WxHxD ¹⁾ [mm]
				[W]	[hp]			
1	2405	5	15	200	0.26	9...30	9...60	45.5x74x14 ³⁾
2	2410	10	50	400	0.53	9...30	9...60	22.5x77x110
2	2415	15	50	650	0.86	9...30	9...60	40x77x110
3	2430	30	100	1200	1.6	9...30	9...60	30x100x111 ³⁾

frame size	type	Digital inputs	Digital outputs	Continuous output current	Analog inputs
1	2405	3	1	[A]	1 +/- 10 V; differential
2	2410	8	2	2.5	2 +/- 10 V; differential + single ended
2	2415	8	2	2.5	2 +/- 10 V; differential + single ended
3	2430	8	2	2.5	2 +/- 10 V; differential + single ended

1) Dimensions without heat sink, without additional field bus options

2) Dimensions with heat sink, without plug connector, without additional field bus options

3) Continuous output with additional heat sink or installation on assembly plate in switch cabinet

4) The additional field bus modules result in changes to the housing dimensions



3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1

3

1.2 2.2 3.2 4.2 5.2 6.2 7.2 8.2

The b maXX 1000 is a frequency converter that provides for the highly efficient vector control of standard motors in three sizes with output power ranging from 0.2 kW to 11 kW.

b maXX 1000 – Frequency converter

In designing the b maXX 1000, Baumüller has placed their primary focus on providing an easy to use line of products. The b maXX 1000 offers an integrated EMC filter as standard, for compliance with the applicable EU standard (EN 55011A/Second Environment). Numerous protective and overload functions, such as phase failure detection on the line and motor side, ensure error-free operation. A comprehensive control scheme provides a constant, precise overview of the current drive status.

The b maXX 1000 is also equipped for wide-ranging applications, thanks to its 15 different preset speeds. Its adjustable pulse width modulation, from 1 kHz to 15 kHz, also means that it emits barely any noise during operation. It can achieve a rotating field frequency of between 0.1 Hz and 400 Hz, meaning that even multi-pole machines can be operated at high speeds.

The b maXX 1000 can be connected to CANopen, the premier open fieldbus system. It is also able to work as a motion control slave, due to its integrated protocols.

b ma¹⁰⁰⁰XX – Highly efficient, easy to operate frequency converter

- ⊙ Comprehensive protective functions: overvoltage and undervoltage protection, ensuring that the device cannot be destroyed; ground-fault, short-circuit, overload, and no-load protection, ensuring that the motor is protected effectively; protection against overheating
- ⊙ Adjustable PWM frequency, 1 kHz to 15 kHz – for extremely quiet machine operation
- ⊙ Intelligent output current monitoring
- ⊙ Automatic energy-saving function – reduces cost of ownership
- ⊙ CANopen and ModBus onboard
- ⊙ Auto tuning – improves ease of setup
- ⊙ Automatic slip tracking – always provides optimum efficiency
- ⊙ Starting torque up to 150% – simple compensation for high breakaway torques
- ⊙ PID control – fast response to perturbation, constant speed
- ⊙ 15 preset speeds – for optimum speed range
- ⊙ S-curve function for smooth acceleration and deceleration – soft starting is better for your mechanical systems
- ⊙ Detachable keypad available as an option

frame size 3



frame size 2



frame size 1



frame size	type	I _N [A]	I _{max} [A]	typical motor rating		overload factor ³⁾	dimensions WxHxD ⁴⁾ [mm]
				[kW]	[hp]		
1	1211 ¹⁾	1.6	2.4	0.2	0.27	1.5	72 x 142 x 152
1	1212 ¹⁾	2.5	3.75	0.4	0.54	1.5	72 x 142 x 152
1	1213 ¹⁾	4.2	6.3	0.75	1.0	1.5	72 x 142 x 152
1	1412 ²⁾	1.5	2.25	0.4	0.54	1.5	72 x 142 x 152
1	1413 ²⁾	2.5	3.75	0.75	1.0	1.5	72 x 142 x 152
1	1414 ²⁾	4.2	6.3	1.5	2.0	1.5	72 x 142 x 152
2	1224 ¹⁾	7.5	11.25	1.5	2.0	1.5	100 x 174 x 152
2	1225 ¹⁾	11.0	16.5	2.2	3.0	1.5	100 x 174 x 152
2	1425 ²⁾	5.5	8.25	2.2	3.0	1.5	100 x 174 x 152
2	1426 ²⁾	8.2	12.3	3.7	5.0	1.5	100 x 174 x 152
3	1437 ²⁾	13.0	19.5	5.5	7.4	1.5	130 x 260 x 169
3	1438 ²⁾	18.0	27.0	7.5	10.0	1.5	130 x 260 x 169
3	1439 ²⁾	24.0	36.0	11.0	14.8	1.5	130 x 260 x 169

Supply voltage: 200–240 V ±10% (TN-, TT-, IT mains)
380–480 V ±10% (TN-, TT-, IT mains)

Supply frequency: 47–63 Hz
Clock frequency: 1–15 kHz

Adjustable frequency: 0.1 Hz–400 Hz
Electronics supply: internal, 24 V DC

Type of protection: IP20
Operating temperature: –10°C to 50°C (to 40°C if adding)
Certification: CE, UL

1) Single-phase, 230 V 2) Three-phase, 400 V

3) For 60 seconds 4) Height and depth with mounting brackets; depth without required bending radius of connecting cables

Subject to change



7

1000 3400 4100 4400 4600 4700 5000

ProDrive is a tool that simplifies the commissioning, parameterization and operation of the seven b maXX series.

ProDrive: Operation and parameterization of the b maXX servo controller family

ProDrive is a tool that simplifies the commissioning, parameterization and operation of all b maXX controllers – for newcomers and advanced users. In particular, the user can carry out initial commissioning very swiftly thanks to the intuitive operator interface of ProDrive.

ProDrive

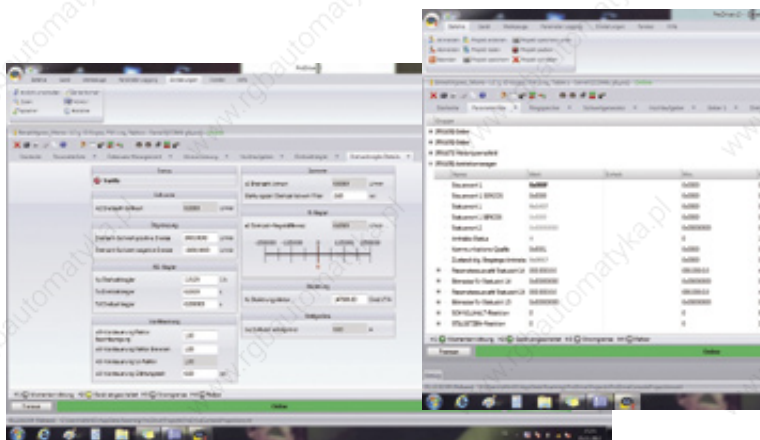
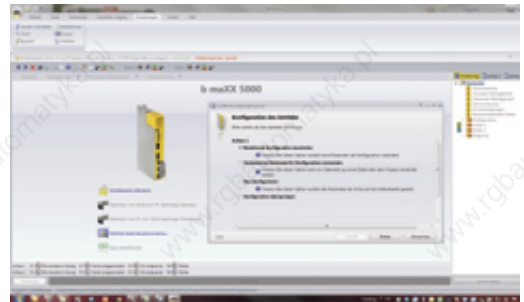
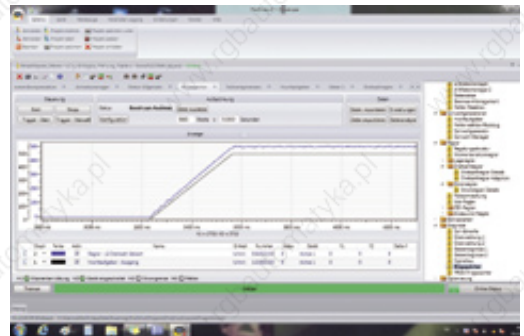
Ease of operation for newcomers

The support provided by the graphic user interface is very important for newcomers when parameterizing the controller. By clicking on the overview page, the user gains quick access to the individual interfaces of the drive functions. Here, he will initially only find the most important parameters, clearly arranged. In the details view, all the parameters of the corresponding drive function are listed on one page. This enhances transparency and eliminates the possibility of a maloperation.



Range of functions

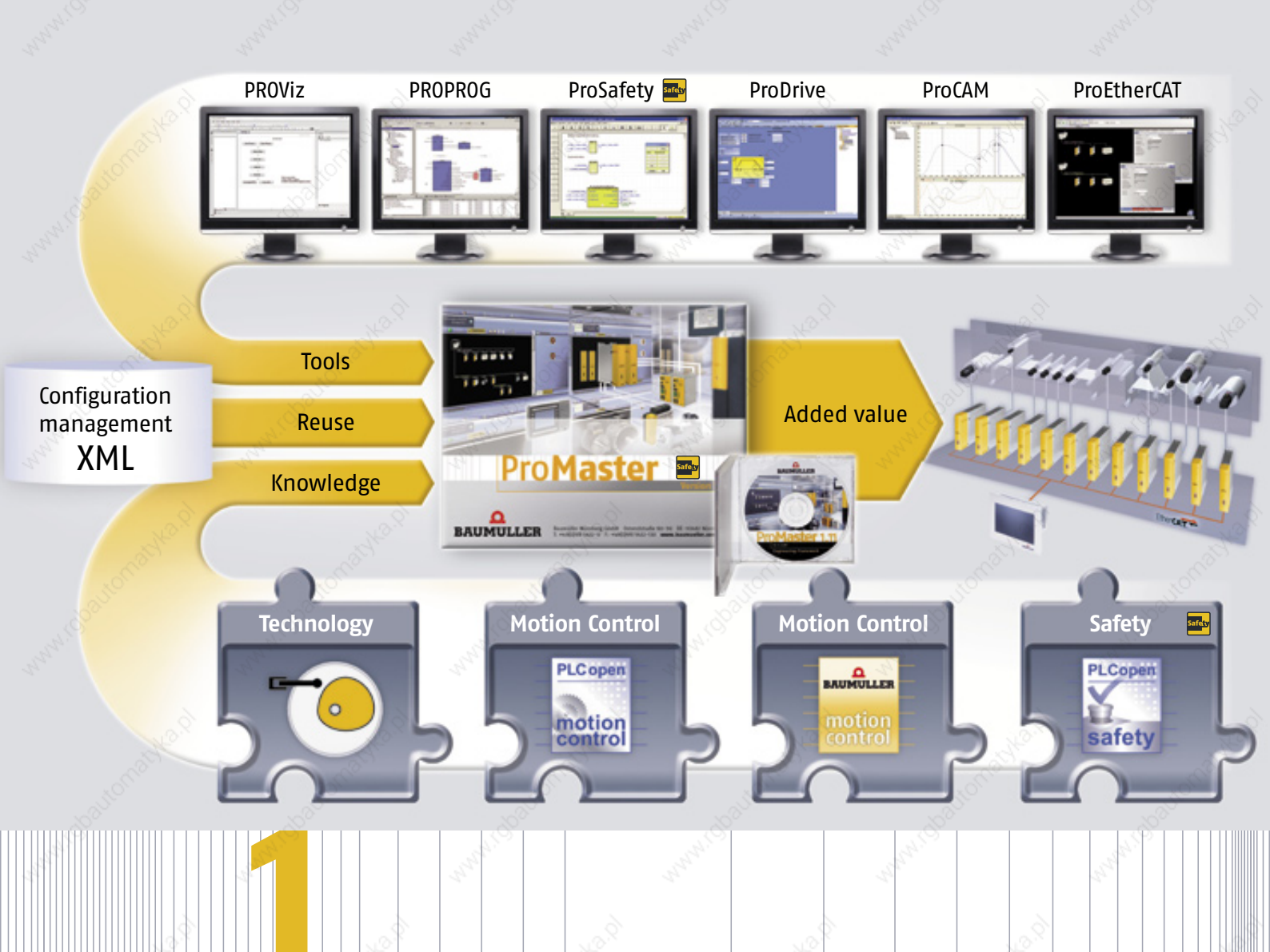
- ⊙ Integrated, updateable power module, motor and encoder database, thus ensuring up-to-date maintenance via subsequently loaded modules
- ⊙ Diagnosis/analysis tools such as oscilloscope function and FFT-analysis for optimization down to the last detail and for the simple and transparent analysis of the drive system; additional diagnosis devices are not necessary
- ⊙ On-/offline-parameterization
- ⊙ Single Axis or Multi Axis operation via Ethernet
- ⊙ Language selection: German/English



Fast operation for advanced users

The advanced user can take a short cut. The user gives preference to a parameter list in order to move through the controller structure quickly. With ProDrive, all the parameters can be displayed in a single window. The parameters are arranged in groups (folders) according to their functions. The user can, however, create his own parameter groups. All characters have symbolic designations and also feature comments. This guarantees a clearly arranged display.

Hence, ProDrive is a tool that can save newcomers and advanced users a great deal of time: parameterization, commissioning, analysis and (remote) diagnosis.



The more intuitive the engineering, the more efficient will be the automation solution. ProMaster allows you to introduce new machine concepts to the marketplace more quickly and you systematically increase the added value of your machine.

ProMaster – An integrated engineering Framework

Consistent machine configuration, parametrization, programming and diagnosis are the fundamental aspects for a machine-oriented application. The implementation of the independent standards such as Motion Control functionalities in accordance with PLCopen or EtherCAT field bus are used.

Your knowledge is managed in the form of parameters and functions in data-sets and libraries – over the entire machine life cycle.

Thanks to ProMaster you can concentrate on your core competence – your machine.



Operating and visualizing with the bmaxx HMI

The bmaxx HMI model range is designed for special automation requirements. The web-based visualization with the HMIs equipped with a 3.5 inch to 15 inch display meets all the requirements of control panels and visualization. The user-friendly and intelligently designed control and visualization tool ProViz which is integrated in the Baumüller Engineering Framework, Pro Master, allows the machine to be adapted to every production process.



b maXX drivePLC – Drive-Integrated Control System

The b maXX drivePLC makes the drive intelligent. The control system intelligence direct on the drive offers the facility of gaining very rapid access to the set value and actual value of the drive regulator. This allows the function of the drive to be expanded by complex motion control, technological and control functions. This guarantees rapid and economical applications.

The b maXX drivePLC is fully integrated in the Engineering Framework ProMaster. Here you have access to all applications for the creation of the machine/plant topology, the field bus and I/O configurators as well as applications such as the IEC 61131-3 programming environment PROPROGwt III, the cam disk editor ProCAM and others. A b maXX local drivePLC is available for applications on the local axis.



b maXX Controller PLC – Modular and Safe

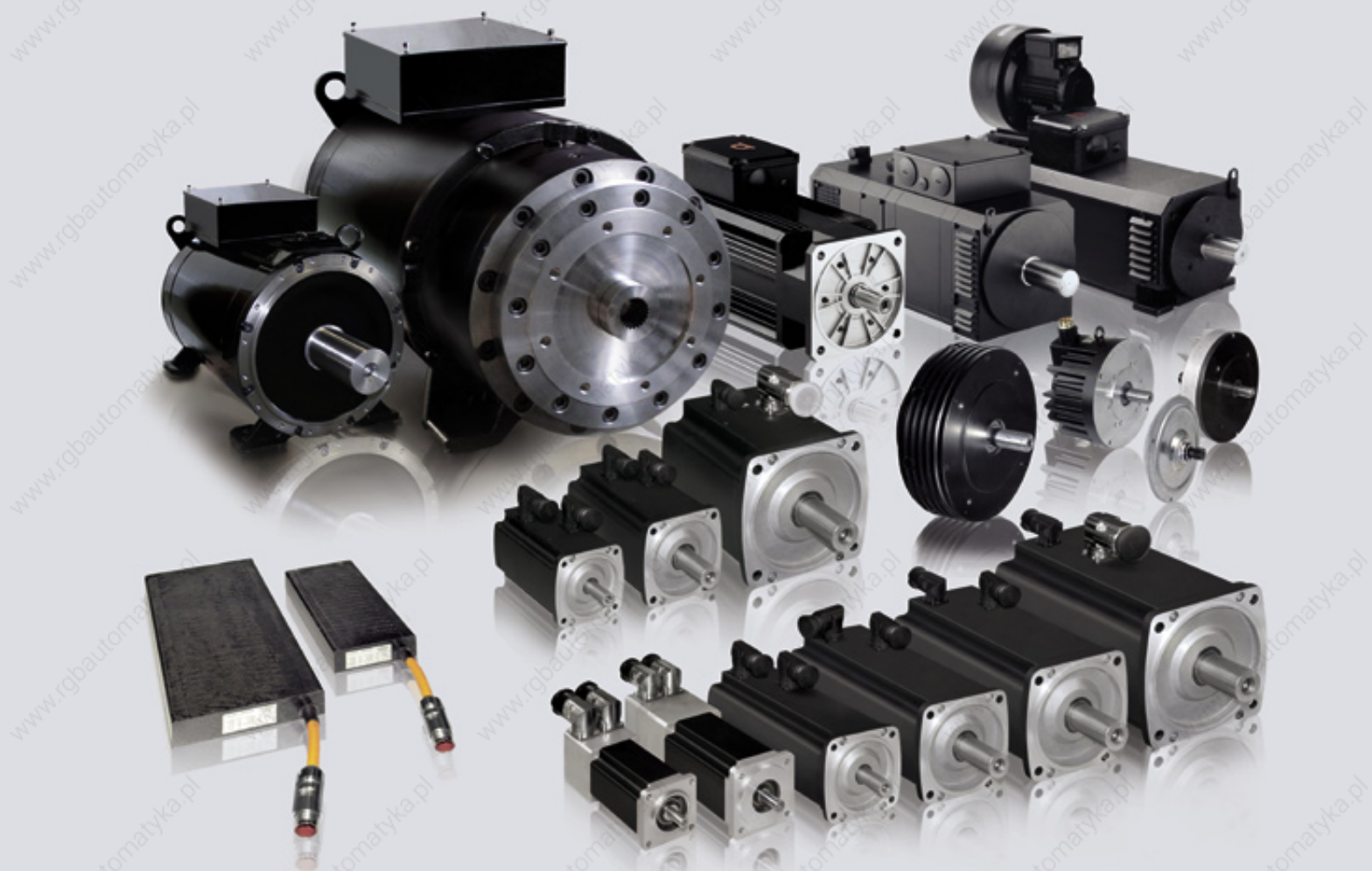
The b maXX Controller PLC consistently implements the concept of scalability and modularity for flexible individual adapting by the mechanical engineer. Thus the b maXX PLC02-Safe has extended the standard motion control range by a two-channel safety control system that fulfils the requirements of IEC61508 to SIL3 and EN 13849 to PL e. This is the first certificated EtherCAT Motion Control PLC with integrated safety function.



b maXX-PCC – PC based PLC

The calculation performance of an industrial PC in combination with a powerful PLC supplements the range of control systems with a reliable and innovative platform. It is equipped with components of the highest level of performance and is based on open standards in the fields of automation and IT. Multi-core processor architecture provides decisive advantages for automation solutions: various different functions can be distributed and the calculation performance can be allocated to the various tasks. It therefore not only fulfils the high real-time requirements of calculation-intensive applications in a control system, it also takes on additional tasks such as visualization or IT linking on a platform. Both box and panel versions are available.





400

135 200 260 315 400

Baumüller offers an extremely wide range of synchronous and asynchronous motors with shaft heights from 28 mm to 400 mm and many different cooling methods.

DS/DA – General purpose servo motors

The servo motor for all applications with strict energy efficiency requirements.

Type DS: Sizes 45, 56, 71, 100, 132, 160 and 200, power range 0.25–290 kW (0.33–389 hp), speeds up to 6000 min⁻¹, unventilated IP54, ventilated IP23/IP54, water-cooled IP54.

Type DA: Sizes 100, 132, 160, 180, 225 and 280, power range 3.5–400 kW (4.7–536 hp), speeds up to 3000 min⁻¹, ventilated IP23/IP54, water-cooled IP54.



DSC – Compact servo motors

The DSC 45–100 is a series of high-torque servo motors that are up to 30% more compact than conventional servo designs.

Sizes 45, 56, 71 and 100, power range 0.5–18 kW (0.67–24.1 hp), speeds up to 4000 min⁻¹, up to IP65 type of protection



DSP – For high speed performance

For applications requiring high rotary speeds, DSP motors complete the existing DSC range, covering nominal rotary speeds of up to 6000 min⁻¹.

Sizes 45, 56, 71, 100, speeds up to 6000 min⁻¹, up to IP65 type of protection

DSD – Dynamic servo motors

The servo motors for highly dynamic applications with the highest requirements of acceleration capacity and the best start-stop qualities.

Sizes 28, 36, 45, 56, 71 and 100, power range 0.28–37 kW (0.38–49.6 hp), speeds up to 6000 min⁻¹, up to IP65 type of protection

DST – Powerful high torque motors

The high-torque motor DST2 for application with maximum torque requirements.

Sizes 135, 200, 260, 315 and 400, power range 2.7–320 kW (3.6–429 hp), speeds up to 1500 min⁻¹, torque up to 32,900 Nm, IP54 type of protection, water-cooled

GDM & DSM – Disc motors

Baumüller offers a wide range of disc rotors for use in a large number of different applications where installation space is at a premium.

GDM DC disc motors: Power range 16–3000 W (0.02–4 hp)

DSM brushless disc motors: Power range 180–6300 W (0.24–8.4 hp)

DSA – External rotor motors

External rotor motors save energy due to their high efficiency rate. Also available are kit solutions for customer-specific installation.

Performance range from 100 to 300 W (0.13–0.40 hp)

BPx – Planetary Gear Series

The BPx planetary gear series in combination with our standard DS/DSD/DSC servo motors are ideally suited for applications with high demands on torque and dynamic.

LSE/LSM & LAE – Linear motors

The linear motor components LSE10/LSM10 (synchronous) und LAE (asynchronous) can achieve maximum thrust forces of up to 14.750 N. Customized motor concepts can be realized using a modular system.

DSDI/DSMI – Motors with integrated control and power electronics

The model ranges DSDI and DSMI are servo motors with integrated control and power electronics. These servo drive meet the requirements of modern, decentralized drive architectures in automation. The DSDI is a highly dynamic motor and the DSMI is a high torque servo drive.

Power range 170–385 W (0.23–0.52 hp), speeds up to 6000 rpm, protection rating up to IP65



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