the power to control

bachmann.

Uncompromising and robust distribution

M100 I/O System

energy.industry.maritime.

Decentralized Peripherals in a new dimension

Compact. Powerful. Highly available.

»For us, the focus is on the unconditional system availability of our solutions. Today, and over the decades to come. That's why we rely on state-of-the-art technologies and the highest IT security standards – in robust packaging.«

Daniel Pfeifer
Director Technology at Bachmann electronic

b.control
Automation
Scalable. Robust. Versatile.

M100 is an I/O system which, with its uncompromising robustness, fits perfectly into the Bachmann portfolio. Not only that – its compact dimensions also open up completely new possibilities for machine and plant builders. The platform, developed completely from scratch, is based on future-proof architecture and offers an incomparable range of functions. This provides the security today for the right system solution tomorrow.

Tough

Despite its compact size, the system makes no compromises when it comes to availability and stability. The modules, protected with EMC-proof metal housings, withstand shock, vibration, extreme temperatures and condensation – just what the market has come to expect from Bachmann automation systems over decades.

Modules are screwed onto the stable and torsion-free bus rail, which is also suitable for rail mounting. All signal terminals, jumpers and connectors are equipped with a vibration-proof Lock&Release mechanism. The M100 series can therefore withstand shock acceleration of 30 g and continuous vibration with up to 6 g of amplitude. The metal housings also offer a high degree of vibration protection.

The metal housings offer high-quality protection on all sides against penetrating dirt up to IP40. With an operating temperature range of -30 °C to 70 °C, and the condensation-free 'Extended Climate Range' variants, even installation in challenging climates and environments are covered.

Cyber secure integration

System architectures, processors, logic and signal interfaces are based on the latest technologies. Together, they deliver low power dissipation, ultra-fast data transmission packed with functions, as well as next-generation IT security. Secure start-up (Secure Boot) protects fieldbus hardware from any compromises and enables the integration of remote I/O stations into the automation system, with up to 744 digital or 372 analog channels, cost effectively and as compact as possible.

24 digital or 12 analog inputs/outputs require a module width of only 24 millimeters. When it comes to maximum availability and stability, the system is uncompromising – despite its compact size.

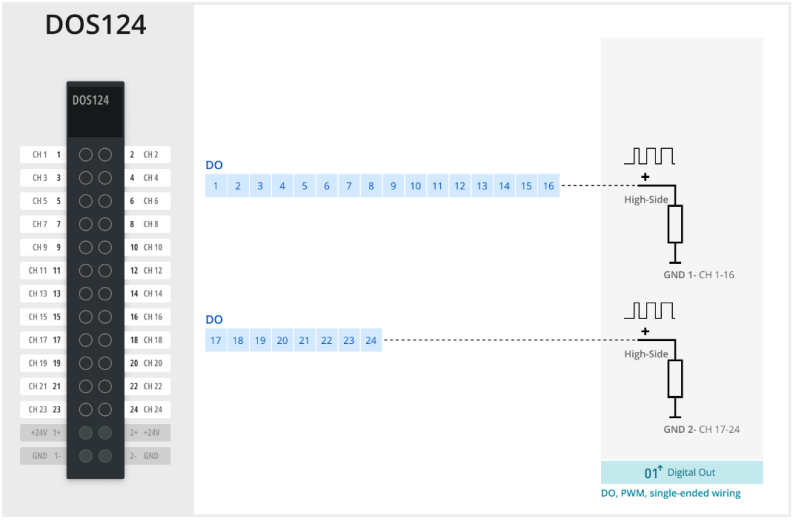
Full speed into the future

The system's internal active module bus is designed for a data throughput of 50 Mbit/s per module, future proofing it for data-intensive applications over the long term.

Digital inputs measure status changes with microsecond precision and provide the signal values with a 64-bit time stamp. Logging such precise temporal relationships opens up new possibilities for exact measurements as well as high-precision correction or control activities.

Direct module-to-module communication without any delays also reduces CPU load and, by eliminating delay time, ensures a quality of results not seen before.

24 digital or 12 analog inputs/outputs require a module width of only 24 millimeters. When it comes to maximum availability and stability, the system is uncompromising – despite its compact size.



Module information can be read quickly via dedicated QR codes.

Separate potential groups

The complete separation of the various control voltage circuits of the input and output modules ensures greater operational safety and reliability. Faulty circuits can be decoupled from the rest of the system, allowing fault-free circuits to continue operating, and simplifying troubleshooting.

Practical handling

Cables can be attached directly to the module or via a removable connector. Lockable plug technology, standard for the M100 series, enables easy control cabinet pre-wiring without any electronics. The generously dimensioned, tool-free push-in terminals also accommodate stranded wires with a cross-section of up to 2.5 mm2. Potential bridges with tool-free plugin reduce wiring effort and thus time required for control cabinet construction. Integrated test taps and module information, readable via QR code, facilitate commissioning and troubleshooting.

Project planning with brand new functionality

The decentralized I/O system is integrated into the Bachmann M200 automation system via powerful EtherCAT bus couplers. M100 integration is therefore accomplished in no time at all, unlocking the complete automation world spectrum with powerful MultiCore processors, safety, network monitoring, network protection and condition monitoring.

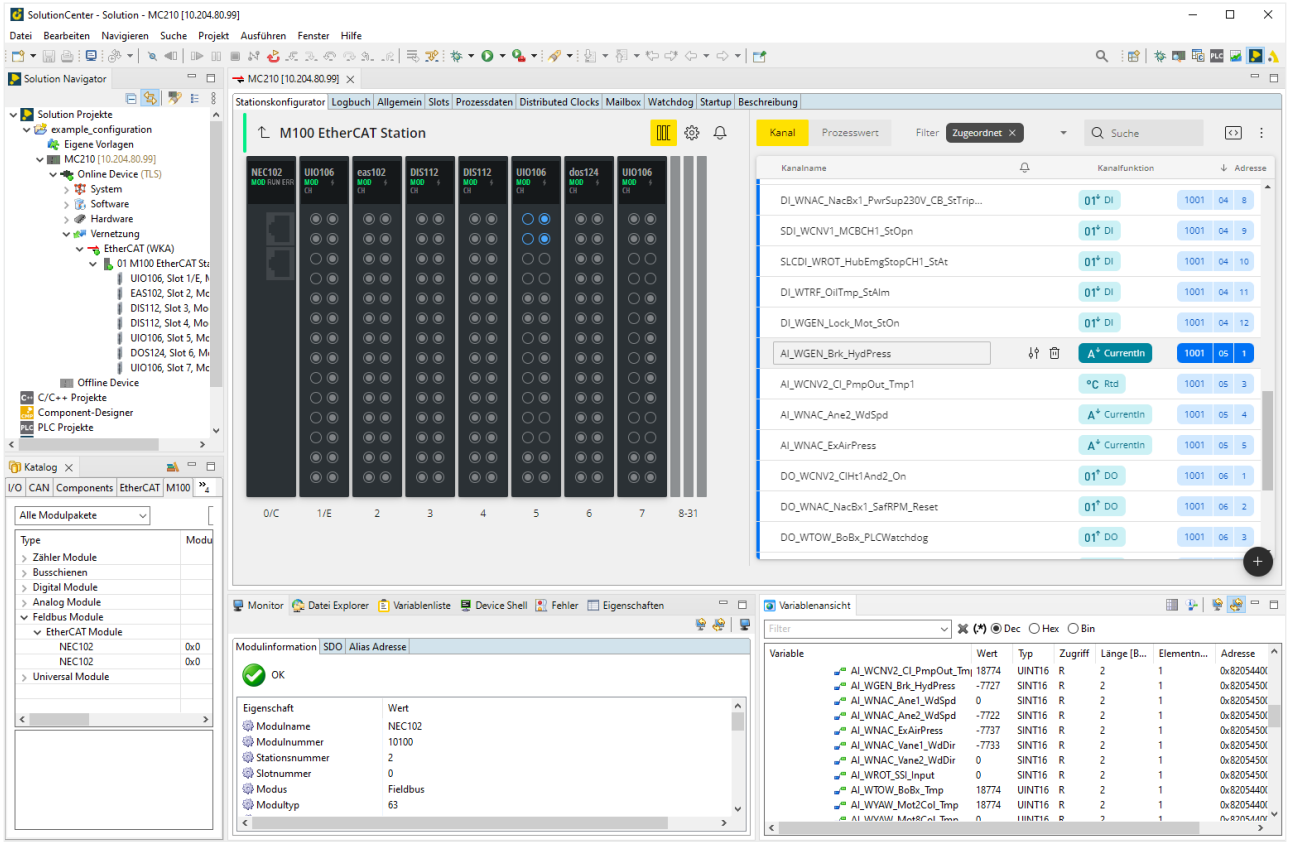
The M100 I/O system is configured in a completely new, web-based section of the proven SolutionCenter. Module and channel settings are directly integrated, and I/O process data is mapped on a 'Unified Fieldbus Model'. The program logic, decoupled from the bus and module, enables programming independent of the fieldbus actually used.

Importing the channel list reduces engineering time and removes the need for parallel maintenance. Optimal module selection can be generated automatically based on the channel list. The channels are linked to the modules at a late stage. This makes it very simple to distribute channels that are not yet assigned between modules with spare capacity, provided these modules offer the required interfaces and functions.

Open to all

Vendor-neutral interfaces also allow for operation of the M100 series on 3rd party systems.

The M100 I/O system configuration has been redesigned from scratch in the proven SolutionCenter.



Contents

Digital Inputs

8, 12 or 24 channels with single and multi-conductor connection

In a world where automation has always required a choice between durability and compactness, the M100 from Bachmann provides the answer: 24 digital inputs/outputs that require a module width of just 24 millimeters. Each module, packaged in an EMC-proof metal housing, withstands shock, vibration, extreme temperatures and condensation – everything you have come to expect from Bachmann automation systems over the previous decades.

FUNCTIONS

- *8- / 12- / 24-channel digital input module*
- *Interface according to IEC 61131-2 Type 1 and 3*
- *3- / 2- / 1-wire connection*
- *Time stamp / synchronous clocks*
- *Integrated counter function*
- *Impuls extension*
- *Oversampling*
- *Direct module-to-module communication*

Product Datasheet

Highlights

24 V DC standard signal types in accordance with IEC 61131-2 have become established worldwide for connecting digital sensors in harsh industrial environments. Automation technicians have a wide range of proven standard products at their disposal in any required price or quality category. The modules of the DIS100 series provide here the ideal interface for the link to the PLC/ controller level. They combine an extremely wide range of functions with outstanding robustness and sensor connection options.

Module	DIS108	DIS112	DIS124
Inputs	8	12	24
Signal Standard	IEC 61131-2 Typ 1 / Typ 3 Sink		
Signal Supply Voltage Range	18 V DC to 32 V DC		
Connection	3-Wire	2-Wire	1-Wire
Counters (32 bit)	0 to 4 configurable		
INC mode	Rising / falling / both		

Digital Outputs

8, 12 or 24 channels with single and multi-conductor connection

The modules of the DOS/DOH family are ideally suited for switching binary controlled actuators. Reliable and meeting the usual Bachmann high quality standards, they are the basic building block for the cost-optimized development and safe operation of machines and plants.

The latest technology and a sophisticated thermal module design enable a previously unseen density of functions. Housings do not require ventilation slots, eliminating the risk of dirt or particles entering during production or maintenance.

FUNCTIONS DOS FAMILY

- *8- / 12- / 24-channel digital output module*
- *Interface according to IEC 61131-2 Type 0.5*
- *High overload capability*
- *Parallel connection*
- *3- / 2- / 1-wire connection*
- *Synchronous clocks / timed output*
- *Energy saving function*
- *Pulse width modulation*
- *Direct module-to-module communication*

Highlights

The reliable switching of binary actuators is the basis for any automated plant. Robustness and durability are just as important as precision and power reserves. The DOS/DOH series of digital output modules ideally combines these requirements with integrated special functions and state-of-the-art technology.

Module	DOH108	DOS108	DOS112	DOS124
Outputs	8	8	12	24
Signal Standard	IEC 61131-2 Typ 2 Source	IEC 61131-2 Typ 0.5 Source		
Signal Voltage Range	18 V DC to 32 V DC			
Terminals per Output	3 (Signal, 24 V, GND)	3 (Signal, 24 V, GND)	2 (Signal, GND)	1 (Signal)

FUNCTIONS DOH108

- *8-channel digital output module*
- *Interface according to IEC 61131-2 Type 2*
- *3-wire connection*
- *Output readback*
- *Synchronous clocks / timed output*
- *Energy saving function*
- *Pulse width modulation*
- *Comprehensive diagnostics*
- *Direct module-to-module communication*

Product Datasheet

Analog Input/Output Modules

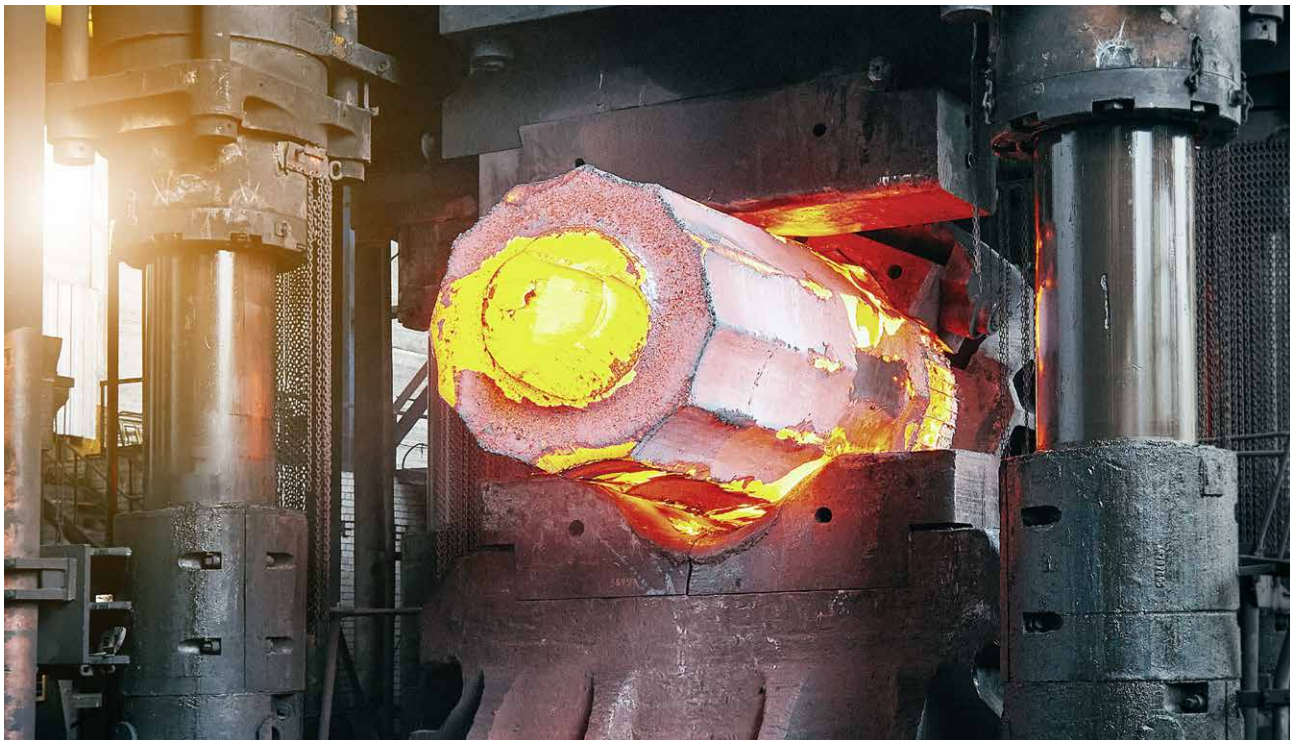
4 isolated or 12 analog inputs or outputs

With their metal housing, the analog input and output modules are highly compact, extremely robust and packed with functions. The module type offers a broad range, current loops, high-impedance voltage measuring ranges, temperature aquisition via Pt100/Pt1000 sensor in 2-, 3- and 4-wire connections, as well as thermo-couples and free configurable resistance measurement.

FUNCTIONS AIO112

- *12-channel analog input/output module*
- *Channel-by-channel configurable signal type and direction*
- *Pt100/Pt1000 2-wire temperature measurement*
- *Current output 0/4 mA to 20 mA, 0 mA to 2mA, 0 µA to 200 µA*
- *Value range and measured value monitoring*
- *Synchronous clocks / latch*

Product Datasheet



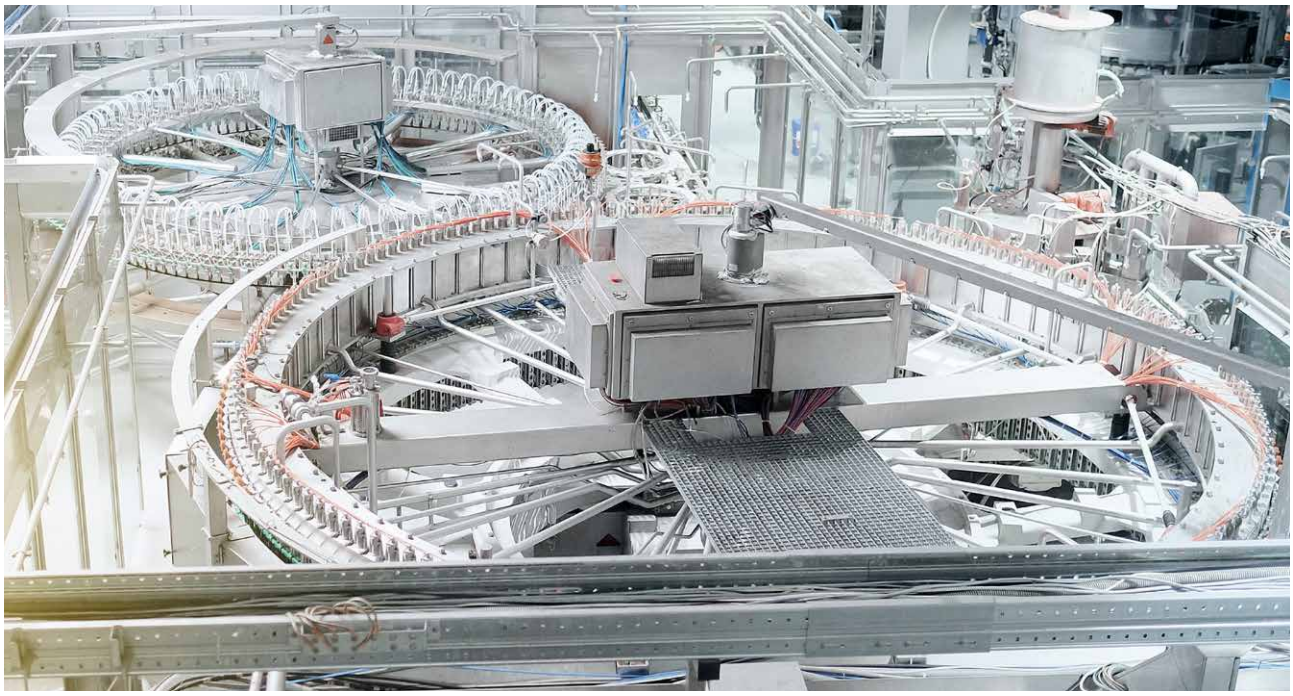
Highlights AIO112

Temperature measurements represent the numerically largest group of analog interfaces in industrial automation. All the more reason why technical perfection and cost-effectiveness are important requirements here.

Both of these are covered by the AIO112 module types in an exemplary manner. Up to 12 Pt100/Pt1000 sensors can be cost-effectively connected to a single module using a 2-wire connection. A hardware-accelerated high-speed interpolation that can be activated as required provides continuous measurement signals independent of the filter settings and even with very short bus cycles.

Precise signal conversion is possible with a 16-bit resolution and at very high sampling rates thanks to the special measurement electronics. Widely adjustable filter chains, precisely tuned to the signal path, ensure a configurable balance between interference suppression and measurement dynamics. Alternatively, each individual channel can also be operated as a 14-bit current output (0/4 to 20 mA).

Module AIO112	
Channels	12 Inputs/Outputs
Function	Input: RTD Pt100/Pt1000 Output: Current
Connection	2-Wire



Highlights AIO104/I

Plants extended over large distances, interference fields caused by power engineering systems, difficult grounding conditions or aggressive substances close to the measurement sensors – the challenges in analog measurement technology for industrial applications can be manifold. Floating measurement circuits with differential circuits must be planned in order to exclude interference from the measurement chain as much as possible. To prevent interference and damage from being transmitted from one sensor circuit to all the others, the measuring and control circuits are galvanically isolated from each other.

For this purpose, the AIO104/I module type offers the benefits of an extremely versatile multi-signal analog input/output module combined with channel-wise galvanic isolation. Each of the 4 primary channels can be operated individually either as an analog input or output. The types of input range from current loops (0/4 to 20 mA) to 4 high-impedance voltage measurement ranges (±10 V to ±10 mV), Pt100/Pt1000 temperature measurement in 2-, 3- and 4-wire circuits as well as thermocouples to freely configurable resistance measurement.

The integrated measuring range and measured value monitoring enable both sensor circuit faults as well as process alarms to be implemented easily. Current loops can also be driven or 0/±10 V voltage signals can be output in 14 bits. Besides the 4 freely configurable primary channels, up to 4 additional I/O channels with restricted signal types are available.

FUNCTIONS AIO104/I

- *4-channel analog input/ output module isolated*
- *Up to 4 additional analog channels depending on the required signal type*
- *Channel-by-channel configurable signal type and direction*
- *AI current/voltage, Pt100, Pt1000, TC*
- *AO current/voltage*
- *Channel-wise galvanic isolation*
- *Synchronous clocks*

Module AIO104/I	
Channels	4 Inputs/Outputs (isolated)
Function	Input: Current/Voltage, RTD Pt100/Pt1000, Thermocouples (J, K, T, N, E, R, S, B) Output: Current/Voltage
Connection	2-, 3-, 4-wire

Product Datasheet

Highlights AIM112

Modern automation solutions are highly dependent on precise, fast and robust sensors with an analog interface. The wide range of interfaces required for integration can be challenging here. This is especially the case when a large number of different interfaces also requires a correspondingly large variety of types in the measurement modules.

This is a challenge that the AIM112 type modules can meet very easily: up to 12 analog inputs can be individually configured to the desired signal type. The modules provide both the common standard signals for current loops (4 to 20 mA, ±20 mA) and 4 high-impedance voltage measuring ranges (±10 V to ±10 mV), each adapted to the conversion range. Alternatively, channel types for all industrially relevant thermocouples including integrated characteristic linearization are also available for measuring very wide temperature ranges.

Precise signal conversion is possible with a 16-bit resolution and at very high sampling rates thanks to the special measurement electronics. Widely adjustable filter chains, precisely tuned to the signal path, ensure a configurable balance between interference suppression and measurement dynamics. A hardware-accelerated high-speed interpolation that can be activated as required provides continuous measurement signals independent of the filter settings and even with very short bus cycles.

Modul AIM112	
Channels	12 Inputs
Function	Input: Thermocouples (J, K, T, N, E, R, S, B) Voltage, Current

FUNCTIONS AIM112

- *12-channel analog input module*
- *Channel-by-channel configurable signal type*
- *Temperature measurement: Thermocouple types J, K, T, N, E, R, S, B*
- *Voltage measurement ±10 V, ±1 V, ±100 mV, ±10 mV*
- *Current input ±20/4 mA to 20 mA*
- *Value range and measured value monitoring*
- *Synchronous clocks / latch*

Product Datasheet

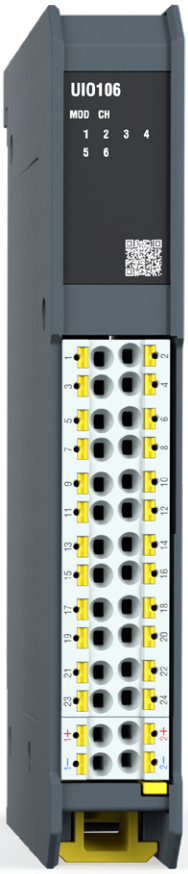
Universal Input/Output Module

6 channels, for either digital and/or analog inputs/outputs

With the UIO106, a single module type covers all common analog and digital signals for inputs and outputs that can be configured individually for each channel.
The extensive versatility of the module is rounded off by a wide range of additional functions such as counters, encoders or pulse width modulation. Besides the 6 freely configurable primary channels, up to 6 additional I/O channels with restricted signal types are available.

FUNCTIONS

- *6-channel analog/digital input/output module*
- *Up to 6 additional channels depending on the required signal type*
- *Channel-by-channel configurable signal type and direction*
- *DI / counter / encoder, DO / PWM*
- *AI current/voltage, Pt100, Pt1000, TC*
- *AO current/voltage*
- *Synchronous clocks / latch / sync out*
- *Direct module-to-module communication*



Product Datasheet

Highlights

The cost and performance optimized design of complex automation solutions involves a large number of different sensor and actuator types. The standard 10 V and 4 to 20 mA interfaces are often not sufficient to achieve demanding objectives. With the UIO106, a single module type covers all common analog and digital signals for inputs and outputs that can be configured individually for each channel.

The extensive versatility of the module is rounded off by a wide range of additional functions such as counters, encoders or pulse width modulation. This simplifies the entire process from the quotation phase through planning, programming and commissioning, right up to stockkeeping and servicing. Besides the 6 freely configurable primary channels, up to 6 additional I/O channels with restricted signal types are available.

Analog Inputs
Voltage , 0 to 6 configurable, Signal Standard, ±10 V, ±1 V, ±100 mV, ±10 mV
Current, 0 to 6 configurable, Signal Standard, 4 mA to 20 mA, ±20 mA
RTD, 0 to 6 configurable, Signal Standard, Pt100, Pt1000
Thermocouples, 0 to 6 configurable, Signal Standard, Thermocouples Typ J, K, T, N, E, R, S, B

Analog Ouputs
Voltage, 0 to 6 configurable, Signal Standard, ±10 V, 0 V to 10 V
Current, 0 to 6 configurable, Signal Standard, 4 mA to 20 mA, 0 mA to 20 mA, 0 mA to 2 mA, 0 µA to 200 µA

Digital Inputs
24 V, 0 to 6 configurable, Signal Standard, IEC 61131-2 configurable Type 1/2/3, Sink / Source
TTL, 0 to 6 configurable, Signal Standard, TTL

Digital Outputs
24 V, 0 to 6 configurable Signal Standard, 0,1 A Source, HighSide / Sink, LowSide / Push-Pull

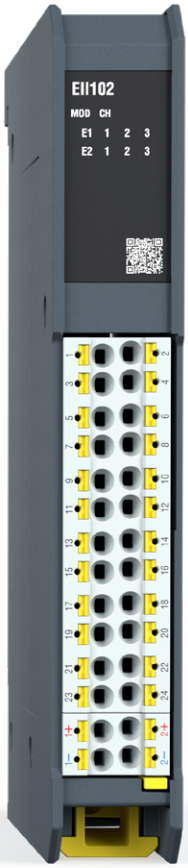
Counter / Time Measurement / Incremental Encoder Interface Module

Up to 6 independent counters or 2 A/B/Z encoders.

In a single module, the EII102 combines extremely fast edge counting, period and pulse duration measurement, as well as evaluation of incremental encoders up to 32 MHz. Speeds are calculated and provided directly at the module.

FUNCTIONS

- *Up to 2 incremental encoder interfaces:*
  - *A, B, Z + inverted*
  - *1-wire connection: TTL, HTL*
  - *Differential transmission: RS422, HTL*
  - *Calculation of the speed at the module*
- *Up to 6 channels as counters / for time measurement*
- *6 DI for latch / homing / counter enable*
- *2 x 5 V DC / 24 V DC / GND encoder supply*
- *Synchronous clocks*
- *Direct module-to-module communication: Switching of DO at the adjacent module when the target position / compare value is reached*



Product Datasheet

Highlights

Incremental encoder and counter evaluations at the highest signal input frequencies are managed in automation tasks by modules of the EII100 series. The digital sensor signals to be acquired are configurable, thus enabling the connection of a wide range of sensors.

The module allows the counting of pulse edges as well as the measurement of period and pulse duration. The module offers the evaluation of incremental encoders up to 32 MHz for demanding motion and handling applications. Immediate reactions such as latch, reset or counter enable are triggerable via digital inputs on the module. If the actual position is reaching a configured target value, module-module communication enables a digital output to be switched at the adjacent module without any time loss and and thus initiate a machine response. Integrated sensor power supply units for 5 V and 24 V directly in the terminal panel simplify wiring.

Digital Inputs
24 V, 0 to 6 configurable Signal Standard, IEC 61131-2 Typ 1 / Typ 3 Sink
HTL (High Threshold Logic), 0 to 6 configurable Signal Standard
TTL (Transistor Transistor Logic), 0 to 6 configurable Signal Standard
HTL differential (High Threshold Logic differential), 0 to 6 configurable, Signal Standard
RS422 (TTL differential), 0 to 6 configurable Signal Standard
Time Measurement
0 to 6 configurable, Selectable Input Interfaces
Counters
0 to 6 configurable, Selectable Input Interfaces
Incremental Position Encoder
0 to 2 configurable, Selectable Input Interfaces

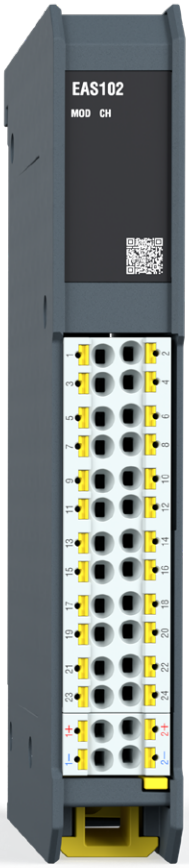
Absolute Encoder Interface Module

Acquisition of 2 absolute positions via SSI protocol

With the EAS102, up to 2 encoder position datapoints can be retrieved in sync with the fieldbus. When a certain reference position is reached, such as a limit switch, a digital output on the neighboring module can be switched and an immediate reaction triggered.

FUNCTIONS

- *2 interfaces for evaluating SSI encoders*
- *DIR and SET output*
- *Input for detecting encoder errors*
- *2 x encoder supply 5 V DC / 24 V DC / GND*
- *Synchronous clocks*
- *Direct module-to-module communication: Immediate switching of DO when target position / compare*
- *value is reached*



Product Datasheet

Highlights

Type EAS102 M100 modules make it possible to evaluate up to 2 absolute encoders. SSI (Synchronous Serial Interface) is used as the communication protocol.

The EAS102 offers the openness of an extensively configurable SSI protocol. Furthermore, a parity check and the evaluation of transmitted special purpose bits are supported. The counting direction can be defined via the DIR output. Referencing is initiated via the SET output. Digitally transmitted encoder errors can be detected via a separate input. If the actual position is reaching a configured target value, module-to-module communication enables a digital output to be switched at the adjacent module without any time loss. An encoder supply directly via the module terminals enables a complete and fast SSI encoder connection directly via the connector panel of the EAS102 module.

Digital Inputs

5 V / 24 V Pull up, 0 to 2 configurable
(maximum 1 per SSI interface)
Signal Standard, Suitable for 5 V (TTL) and 24 V DC (HTL)

Interface

RS485, 0, 2, 4 configurable (2 per SSI interface)
Signal Standard

Digital Output

HTL (High Threshold Logic), 0 to 4 configurable
(2 per SSI interface), Signal Standard

TTL (Transistor Transistor Logic), 0 to 4 configurable
(2 per SSI interface), Signal Standard

Absolute Position Encoder

SSI (Synchronous Serial Interface), 0 to 2 configurable
Signal Standard

Fieldbus Node Adapter

EtherCAT bus coupler compliant with standards

Modular machine concepts in demanding environments significantly reduce the cost of variants. The decentralized positioning of I/O stations also reduces wiring effort, and therefore costs. With the M100 I/O system, up to 744 digital or 372 analog channels per station can be positioned cost-effectively in the smallest possible space. For the first release, Bachmann has utilized EtherCAT as a standardized, real-time capable fieldbus.

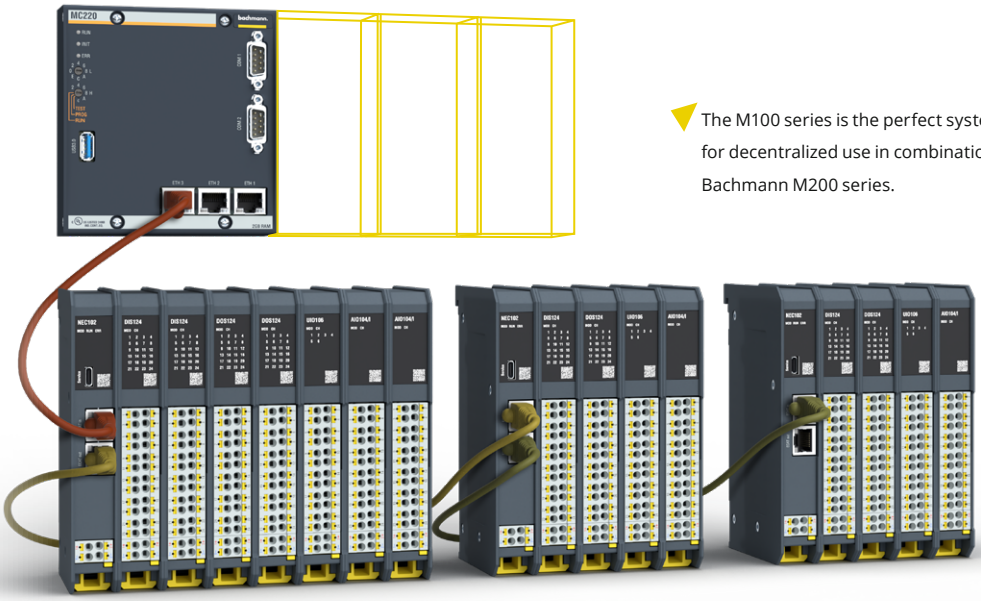
FUNCTIONS

- *EtherCAT fieldbus IO node adapter*
- *2x RJ45 Connections (In/Out)*
- *Address configuration: automatic / SW*
- *Synchronization: Distributed clocks (DC)*
- *EtherCAT PDO/SDO, FoE*
- *Maximum process image / station: 1486 bytes*
- *Minimum bus cycle: 100 µs*
- *Integrated power supply unit for module supply: 20 W*

SYNCHRONIZATION FUNCTIONS

- *DC-Synchron*
- *FreeRun / SM-Synchron*

Product Datasheet



The M100 series is the perfect system addition for decentralized use in combination with the Bachmann M200 series.

Highlights

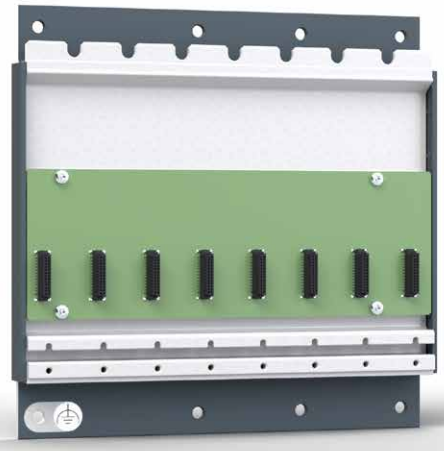
The NEC102 node adapter maps the powerful and flexibly configurable M100 station to a standard EtherCAT interface. The operating modes of the M100 I/O modules are defined during the configuration and are available to both the Bachmann master and also to masters of other manufacturers. Thanks to distributed clocks on the EtherCAT stations that can also be synchronized with external time servers, the implementation of short control intervals across the entire control system is given.

Network / Bus-Interface	
Protocol Standard	EtherCAT (Slave) according to Modular Device Profile
Protocol Profiles	CoE PDO/SDO, FoE
Bus Interface	2x RJ45 socket, 'ECAT IN' / ‚ECAT OUT'
Data Transfer Rate	100 MBit/s

Backplanes

4 to 32 slots

The highly torsion-resistant BPS100 / BPR100 backplanes implement the extremely fast, active module bus, with parallel communication to every module. The IP40-compliant design, and the mounting concept of the M100, allow units to be mounted directly on or in the machine, on a mounting rail or with a direct screw connection. Individual modules are additionally screwed together and thus remain reliably fixed even under considerable loads caused by vibration or impact.



FUNCTIONS

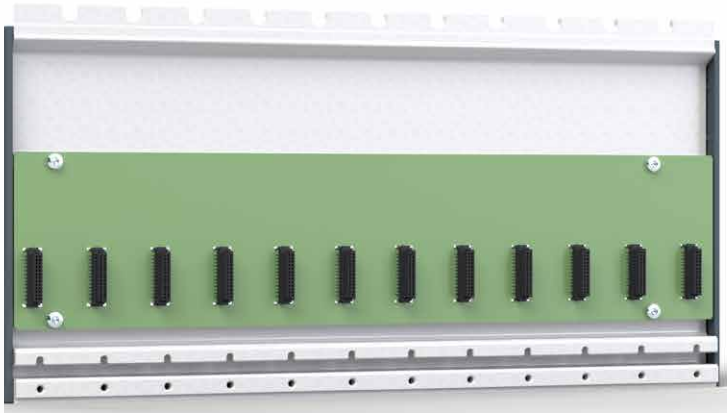
- *Backplane system M100 for direct screw mounting*
- *4 to 32 slots*
- *Mechanically robust / self-supporting base for modules*
- *Module exchange without the removal of other modules*
- *Enables complete pre-assembly and testing*
- *Any slots possible as reserve (gaps)*
- *Enhanced heat dissipation via rear mounting surface*
- *Integrated environmental monitoring*

Product Datasheet

BPS100 – Backplane for Direct Screw Mounting

The backplane combines the node adapter and the I/O modules into a mechanically robust EMC compliant unit. Fully fitted I/O stations can thus be pretested after mounting and transferred to the application without further modification.

Backplanes enable real-time communication between modules as well as with the node adapter and provide the power supply to the logic side of the modules. This separate assembly enables individual modules to be exchanged and retrofitted without having to remove the unaffected modules. Fastening with a scalable number of solid M5 screws makes this variant ideal for environments subject to high shock and vibration loads. The solid metal body and large rear mounting area enable enhanced heat dissipation to the support structure, thus simplifying use in temperature critical applications.



BPR100 – Backplane DIN-Rail Mounted

As with the BPS100, this type of busbar also provides a robust, EMC-safe connection between the bus coupler and the I/O modules, forming a mechanically solid unit. Furthermore, this busbar type allows the unit to be mounted on a mounting rail in compliance with standards, and then removed in one, easy step. When replacing and retrofitting individual modules, the same real-time communication, power supply and flexibility features apply to the BPR100 as to the BPS100.

FUNCTIONS

- *M100 system backplane for DIN rail mounting*
- *4 to 32 slots*
- *Mechanically robust / self-supporting base for modules*
- *Module exchange without the removal of other modules*
- *Enables complete pre-assembly and testing*
- *Any slots possible as reserve (gaps)*
- *Integrated environmental monitoring*

Product Datasheet

Accessories

Maintenance-friendly and safe technology

Safe and reliable connections are essential for automation and industrial applications. The lockable connector technology, standard for the M100 series, enables easy control cabinet prewiring without electronics. All signal terminals, jumpers and connectors are equipped with a vibration-proof Lock&Release mechanism. The tool-free, push-in technology ensures maximum contact reliability and saves a lot of time during assembly. Free slots on M100 busbars can be protected with an empty slot cover.

FUNCTIONS

- *M100 system backplane slot cover for 1 slot*
- *Compatible with BPR1nn and BPS1nn backplanes*
- *Direct side by side mounting or between modules*
- *Can be used for any slot (except 0/C)*
- *Screw mounting*
- *Captive screw*
- *Degree of protection IP40*

Product Datasheet

BPC101 – Backplane Slot Cover

Empty slots on backplanes are useful for optional retrofits, machine variants or for keeping reserve space in plant construction. The BPC101 backplane slot cover protects each slot from mechanical influences, electrostatic discharge and contamination. BPC101 can be fitted both between mounted modules as well as mounted side by side. In both cases the achieved degree of protection is IP40.

Other accessories

The front connectors of the M100 system are designed as generously dimensioned, tool-free push-in terminals that can also accommodate stranded wires with a cross-section of up to 2.5 mm². The advantages of this modern connector technology are clear:

- Fast and tool-free connection with high retention force.
- Constant spring force ensures reliable bonding over the long term
- Convenient testing due to integrated test tap
- Ideally suited for use in environments with vibration and shock loads

Terminal Block – Supply

The fully removable terminal block for the M100 system is a push-in spring-cage connection.

Technical Data
4-Way/Contacts, Pitch: 5.0 mm, Female, Conductors flexible 0.2-2.5 mm² (24-13 AWG), solid 0.2-1.5 mm² (24-16 AWG), ferrule 0.25-1.5 mm² (23-16 AWG); Stripping length: 10 mm; Rating: 300 V / 8 A per contact,

Terminal Block – Signal

As with the supply terminal block, the signal terminal block is fully removable and is a push-in spring-cage connection.

Technical Data
24-Way/Contacts, Pitch: 5.0 mm, Female, Conductors flexible 0.2-2.5 mm² (24-13 AWG), solid 0.2-1.5 mm² (24-16 AWG), ferrule 0.25-1.5 mm² (23-16 AWG); Stripping length: 10 mm; Rating: 300 V / 8 A per contact,

Keying Element for Terminal Blocks

The TKP106 plastic ring, with 6 coding pins, can be used for M100 I/O system signal and supply connectors and prevents accidental connection to the wrong module.

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