

## AS-Interface Fieldbus Solutions



**Fieldbus Communication  
for Actuator Sensor  
Interface Applications**



Lumberg Automation™ Provides  
Reliable Actuator Sensor Interface  
Fieldbus Solutions for Industrial  
Automation Applications Worldwide.





## Be Certain with Belden

### Belden® Industrial Solutions – More Convenience and Solutions for Networks in Harsh Environments and Large-scale Infrastructures

#### Belden Industrial Solutions

For mission-critical applications, Belden is the signal transmission partner that delivers confidence in signal availability, integrity and performance because only Belden can offer solutions that satisfy any requirement.

A majority of system failures occur within the signal transmission space, and trouble-shooting can be very difficult and time-consuming. We want everyone to "Be Certain" that when choosing Belden you receive **Signal Availability** – always there, **Signal Integrity** – always trusted and secure, and **Signal Performance** – always when and where you need it.

Belden has brought together a comprehensive line of industrial cabling, connectivity and networking devices, offering the most reliable communications solutions for your application. Whether you are networking your devices to the controllers, connecting the controllers to the control room, relaying data between the control room, the engineering department, and remote manufacturing sites – or all of the above – Belden has the products you need to seamlessly connect your communications.

From the petrochemical, automotive, pharmaceutical, power generation, pulp and paper, metals, food and beverage, or general manufacturing plant to the corporate headquarters – and everywhere in between – Belden has your signal transmission solution. Belden offers the most dependable network and communications system performance in tough and mission-critical environments.

#### Our Synergy Ensures Continuous Performance

With the Hirschmann™ and Lumberg Automation™ product line additions to the Belden offering, our line of Complete Industrial Solutions is uniquely positioned to provide the best network and communications infrastructure possible. Belden products and systems expertise means that you can maintain ongoing operations without interruption and costly downtime – in any environment.

Here are a few more good reasons why Belden is your best choice for industrial networking, communications and control:

- We have the expertise to integrate your industrial and commercial networks.
- Our products are engineered to perform in tough and difficult environments.
- We offer the broadest selection of products, for a complete, end-to-end Ethernet solution.
- Our sales and engineering professionals can audit, recommend/design, configure and assemble the products and systems to your specific requirements.
- Our global manufacturing and distribution network make our products available to you globally.

#### Offering Comprehensive Service & Support

Belden recognizes that comprehensive know-how is necessary to ensure an optimized, homogenous solution. We also know that consultation, support and training requires more than just a general understanding of the products, technologies and market trends. It requires a solid understanding of the application and the ability to provide the type of support that is needed – when and where it is needed. It requires the four key service and support areas that are critical to success:

- Network Design
- Training
- Technical Support
- System Performance

#### Network Design

Belden eliminates your design challenges because we understand the issues surrounding the design and operation of networks in industrial and mission-critical environments. Our engineers are available to work with you to deliver high-availability networks that meet your enterprise-wide IT needs. Whether it's designing systems for Greenfield facilities, or integrating into existing industrial IT environments, our highly-trained staff lifts the design burden from your shoulders to ours.

We'll consult with you to develop a strategy – or we'll develop and implement your full design – either way our staff is available to you.

#### Training

Backed by years of meeting and exceeding the needs of a broad range of end-user applications, Belden is ideally suited to offer beginners and networking experts alike the opportunity to expand their understanding of mission-critical industrial networks. Belden has developed a series of training programs that are given by Belden-certified individuals – all experts in industrial networking and cabling.

#### Technical Support

At Belden, our personnel are poised to assist our customers – ensuring maximum uptime and reliability. And with offices in North America, Asia and Europe, Belden can respond globally.

#### System Performance

If Belden designs it, we guarantee performance – period. We are committed to ensuring world-class signal connectivity and to significantly improve your operational up-time. All Belden components are "designed" to deliver optimum performance: from connectors, to cable, to routers and switches. Based on this comprehensive product portfolio, we have the necessary industrial solutions DNA to deliver reliability.

For more information on our service and support offering, including our warranties, please go to the Belden web site at [www.belden.com/industrial](http://www.belden.com/industrial) to locate a Belden sales representative near you.

## The Lumberg Automation™ Brand Sets the Standard for Quality, Reliability and Service.



### About Our Solutions

Today, more than ever, manufacturing productivity depends upon seamless data communication and automation systems. Lumberg Automation has assembled one of the most diversified portfolios for industrial connectivity and distributed I/O systems for control applications.

With the advancements in technology and improved machine designs, industrial controls, such as sensors, actuators, safety light curtains, pushbutton switches and the like are moving closer to the application.

### Our Enclosure~less™ Concept

The Enclosure~less concept from Lumberg Automation addresses these applications with an entire suite of industrial hardened connectivity and distributed I/O products.

Enhanced environmental characteristics, modular designs, plug-and-play electronics with quick-disconnect designs are all integrated to increase speed of installation, decrease troubleshooting and maintenance while reducing the overall complexity of the control application. These products provide the optimal solution in machine and equipment design and offer excellent opportunities and benefits to OEMs, system integrators, and end users alike.

### Easing the Design Process

Our system approach leads to decreased time and money to develop complete integrated connectivity solutions. Using our Enclosure~less concept is one of the most effective ways to dramatically reduce the design time.

### Re-Useable Solutions

OEM's now have access to a set of standard products designed around the concept that everything is pluggable and interchangeable.

Having the flexibility to re-configure or expand an existing system without worrying about customization is made possible with our Enclosure~less concept. Most importantly, our products are re-usable and can be adapted to future designs or merely put back on the shelf for future use.

### Improved Installation Time with Less Mistakes

A recent study by a group of European manufacturers concluded that Enclosure~less assembly costs save as much as 30 percent over conventional installation methods.

These savings are realized through not only the Enclosure~less concept, but by the technology that is being employed. With a modular design approach and plug-and-play electronic features, less time will be spent running down errors or replacing parts from incorrect wiring.

### Trouble-Shooting is Simplified

Troubleshooting circuits can be a long process, especially when one is dealing with several hundred termination points.

Many of our products have integrated LED function indicators which provide a visual notification that a circuit is functioning properly.

By using products that have integrated LED functions, mechanics and engineers alike can quickly isolate and resolve the problem.

### Testing Made Simple

OEMs can cost-effectively build and pre-test a machine at their facility, disassemble and transport it to an end user's plant knowing that everything has been tested. This is primarily made possible through the reduction of wiring terminations throughout the system, which makes testing a much simpler and quicker process.

### Reliability is Maximized

Enclosure~less™ solutions can minimize wiring errors because wiring is pre-manufactured with quick-disconnect features. With less manual wiring involved, there are fewer points of failure.

Some studies suggest that a large portion of system failures come from installation rather than part failures. The decrease in errors associated with pre-manufactured wiring leads to an increase in the overall reliability of the control system.

In the end, this helps speed installation and commissioning, maintenance, troubleshooting, and ultimately boosts a plant's production.

### Maintenance/Repair Time is Reduced

Maintenance technicians and operators no longer need to access the control panel since much of the maintenance and troubleshooting can be done outside.

With the simplicity of wiring layout and connections, end users can efficiently isolate problems and replace a starter or I/O locally, rather than sorting through a complex panel. The result is significantly easier troubleshooting and shorter Mean-Time-To-Repair (MTTR).

### Floor Space at a Premium

Control cabinets can occupy a substantial amount of the production floor. The Enclosure~less™ concept dramatically reduces the need for that real estate, allowing companies to leverage more of their facility.

Industries like semiconductor and pharmaceutical manufacturing have realized the benefits of the On-Machine approach for years, as their clean-room space is at a premium.



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AS-Interface Modules  
with Plug-N-Play  
Connectivity Reduce  
Overall Installation and  
Maintenance Costs.

## AS-Interface Introduction

### Common Industrial Protocol

AS-i (Actuator Sensor Interface) was designed as a simple system for the quick data exchange of binary signals. Research, spawned by market demands, has made it possible to transmit analog data as well (also see "The new AS-i-specification V2.1"). That data, however, must not be time-critical, since the transmission of an analog value requires several data cycles

The biggest advantage of AS-i is the quick and uncomplicated installation of the system. Communication (Manchester Encoding) and power supply are transmitted via a 2-wire cable. By using piercing technology for contacting the cable it is possible to insert a new slave at any point in the system. In addition, the arbitrary structure of the bus (line, tree, star, ...) permits the perfect adaptation to the relevant plant or machine.

AS-i is mainly used for small machines, as a subsystem for more complex bus systems (e.g. PROFIBUS-DP) or as an easy introduction to bus technology.

AS-Interface is an open standard. Thus, it is possible to operate different bus participants made by different manufacturers in one network.

### About Lumberg Automation AS-i Products

Lumberg Automation remains true to the AS-i easy installation concept and offers compact, solid module technology to the customer. The IP67 components have been designed to use directly on machines.

The flat cable shown below is commonly used with AS-i. However, for some applications such as C-tracks, Lumberg provides connections for round cable for all modules as well.

### Technical Data

Transmission media: Unshielded 2-wire cable for power supply (module electronics and sensors) and data transmission (Manchester Encoding and optionally mechanically encoded flat or round cable.



AS-i Module depicted with flat cable and M12 field attachable connectors and junctions.

### Network Topology

The bus can be built arbitrarily (line, star, tree, ...). Terminating resistors are not required.

### Bus Access

- Monomaster system
- Master-slave access

### Number of Slaves

- 31 slaves by using standard slaves
- 62 slaves by using A/B slaves with profile 2.1

### Standard Transmission Rates and Segment Lengths

- Transmission rate: 167 kbaud
- Max. segment length: 100 m Bus cycle time
- Standard slaves max. 5 ms in case of full arrangement (31 slaves)
- Just A or B slave per address max. 5 ms in case of full arrangement (31 slaves)
- A and B slave per address max. 10 ms in case of full arrangement (62 slaves)



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## Addressing

AS-i slaves are generally addressed via software (the default address is generally "0" for all AS-i slaves). This can be done in several ways:

- **Via the master:** The slaves are connected to the master consecutively. The latter automatically identifies the kind of slave and starts communicating. Then the slave can be addressed.
- **Via an addressing unit:** All AS-i slaves can be addressed with the standard addressing unit "0913 ATL 003" (the Lumberg flat cable modules require the adapter "0913 ATL 002 / 0.35M"; modules according to profile 2.1 require the adapter" 0913 ATL 004 / 1 M).
- **Automatic addressing:** If a slave in a network fails, AS-i offers the option of auto-addressing. The defective slave is replaced by an identical one. The master identifies this slave and automatically addresses it to the address of the missing slave.

## Diagnostic system

According to the AS-i specification 2.1 periphery errors like short circuit or overload can be sent to the master in the form of a collective diagnostic. In addition, there is a status LED on the relevant slave.

## The New AS-i Specification Version 2.1










With the introduced AS-i specification V. 2.1 some innovations have been integrated into the AS-i system. The most important alteration is the possibility to operate 62 (instead of 31) slaves in one network. This became possible by the introduction of a differentiation between A and B slaves (e.g. 1A + 1B). To achieve that, the system had to be designed with one output per slave less (max. 4I/30).

The new specification is downward compatible, and old AS-i slaves can be operated in one network together with new ones. In addition to that, the processing of analog values was improved. The transmission of analog values are integrated in the master. This means that specific function blocks need not be used any more.

Transmission Rate	AS-i Specification Version 2.0	AS-i Specification Version 2.1
Slave	Standard	A/B Slave
Max. Number of Slaves	31	64
Max. Number of Inputs	4 Inputs x 31 slaves = 124 Inputs	4 Inputs x 62 slaves = 248 Inputs
Max. Number of Outputs	4 Outputs x 31 slaves = 124 Outputs	3 Outputs x 62 slaves = 186 Outputs <small>(one output is needed for the A/B addressing)</small>
Cycle Time	5ms for 31 slaves	10ms for 62 slaves
Analog Value Processing	via functional blocks	integrated in the master

Table 1: Admissible transmission rates

## Product Characteristics

-  Especially suitable for robotic applications (resistance to torsion).
-  Very good resistance to oils, coolants and lubricants as well as emulsions.
-  Suitable for use in C-Tracks.
-  Very good resistance to flying weld slag (e.g.) unfinished constructions).
-  Very good resistance to acids, lye and chemical cleaning agents.
-  Very good electromagnetic resistance (EMC) and shielded systems.
-  Very good vibration and shock resistance.
-  UL approved.
-  UL/CSA approved.



Integrated AS-i application.



0910 ASL 501

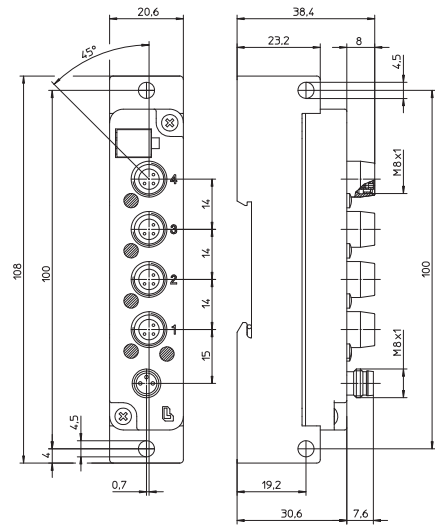


## AS-Interface Module with 4-Digital Inputs

### 4 IN

AS-interface module with 4 digital inputs to connect M8 standards sensors, M8 bus connection.

- Version 2.1 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
					M12 Input			
Byte 0	-	-	-	-	I-4	I-3	I-2	I-1

### Diagnostic Indication

LED	Indication	Condition
1..4	yellow	channel status
	green	slave is involved in data transfer
	red	communications error, no data transfer (e.g., slave address 0)
AS-I-DIA	red flashing	periphery error (e.g., sensor supply overload or short circuit)

### Pin Assignment

Bus Connection M8	Input M8
<p>1 = AS-interface + 2 = AS-interface - 4 = n.c.</p>	<p>1 = +24 V 2 = GND (0 V) 4 = IN</p>





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### AS-Interface Module with 4-Digital Inputs

0910 ASL 501

#### Technical Data

##### Environmental

Degree of protection	IP 67
Operating temperature range	-15°C (+5°F) to +60°C (+140°F)
Weight	100 g
Housing material	PUR

##### Bus system

AS-Interface profile	S 0.A.E
I/O configuration	0 hex
ID code	A hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	yes

##### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 120 mA
Reverse polarity protection	yes
Indication	LED green

##### Inputs

Rated input voltage	24 V DC
Signal state "1"	Us > 11 V / Is > 6 mA
Signal state "0"	Is < 2 mA
Input current at	24 V 15 mA
Input circuit	p-switching
Number of digital channels	4
Channel status indicator	LED yellow per channel

##### Diagnostic

Indication	LED red
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##### Connection via cordset, double-ended

M8 / M8	e.g. RSMV-RKMV (please see product group cordsets, double-ended)
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##### Included in delivery / Accessories

Dust covers M8	2 pieces
Attachable label	1 piece

#### Part Number

0910 ASL 501



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 409

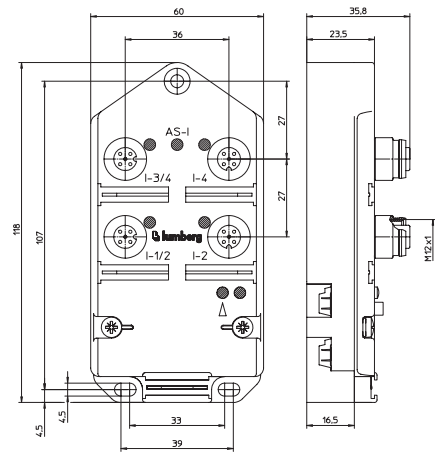


## AS-Interface Module with 4-Digital Inputs

### 4 IN

AS-Interface flat cable module with 4 digital inputs to connect standard sensors, combined M12 socket, infrared interface for the addressing.

- Version 2.1 -







### Bit Assignment

Bit	-	-	-	-	3	2	1	0
M12 Input								
Byte 0	-	-	-	-	I-4	I-3/4	I-2	I-1/2

### Diagnostic Indication

LED	Indication	Condition
I-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
	red	communication error
FID	red flashing	periphery error 9sensor/actuator short circuit

### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
 <p>1 = +24 V 2 = IN 2 3 = GND (0 V) 4 = IN 1 5 = earth</p>	 <p>1 = +24 V 2 = n.c. 3 = GND (0 V) 4 = IN 2 5 = earth</p>	 <p>1 = +24 V 2 = IN 4 3 = GND (0 V) 4 = IN 3 5 = earth</p>	 <p>1 = +24 V 2 = n.c. 3 = GND (0 V) 4 = IN 3 5 = earth</p>

The connection to earth for the inputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 4-Digital Inputs

0910 ASL 409

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

#### Bus system

AS-Interface profile	S 0.A.E
I/O configuration	0 hex
ID code	A hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	yes

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 250 mA
Reverse polarity protection	yes
Indication	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	24 V DC
Signal state "1"	Us > 11 V / Is > 6 mA
Signal state "0"	Is < 2 mA
Input current at	15 mA
Input circuit	p-switching
Number of digital channels	4
Channel status indicator	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

### Note

The input channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor to input socket 1 or 3 a further sensor must not be plugged to input socket 2 or 4 respectively due to the Y wiring of the inputs.

### Part Number

0910 ASL 409



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 132

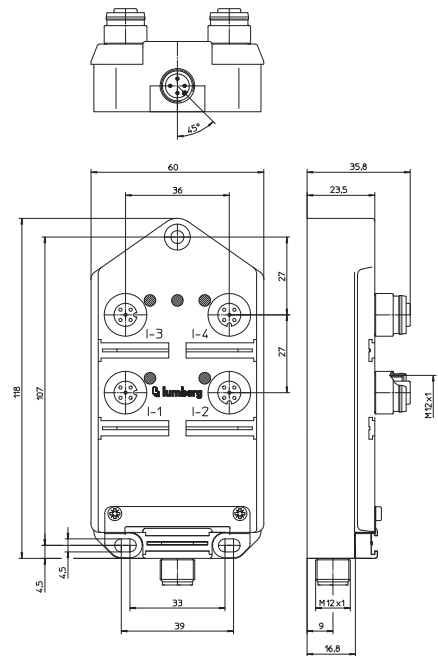


## AS-Interface Module with 4-Digital Inputs

### 4 IN

AS-Interface module with 4 digital inputs to connect standard sensors, combined M12 socket, M12 bus connection.

- Replaces module 0910 ASL 112 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
					I-4	I-3	I-2	I-1
<b>Byte 0</b>	-	-	-	-	I-4	I-3	I-2	I-1

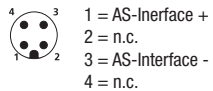
M12 Input

### Diagnostic Indication

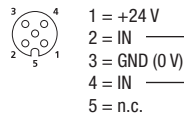
LED	Indication	Condition
I-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active

### Pin Assignments

#### Bus connection M12



#### Input M12





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## AS-Interface Module with 4-Digital Inputs

0910 ASL 132

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

#### Bus system

AS-Interface profile	S 0.A.E
I/O configuration	0 hex
ID code	0 hex
ID2 code (extended ID-code)	F hex
Support A/B addressing	yes

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 250 mA
Reverse polarity protection	yes
Indication	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	24 V DC
Signal state "1"	Us > 11 V / Is > 6 mA
Signal state "0"	Is < 2 mA
Input current at	15 mA
Input circuit	p-switching
Number of digital channels	4
Channel status indicator	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Connection via cordset, double-ended

M12 / M12	0915 034 101/... M
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

### Part Number

0910 ASL 132



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 412

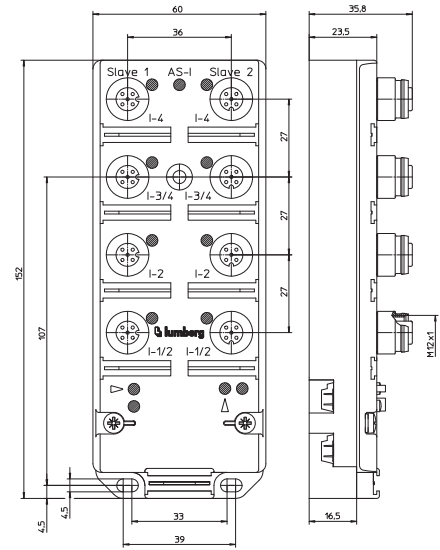


## AS-Interface Module with 8-Digital Inputs

### 8 IN

AS-Interface flat cable module with 8 digital inputs to connect standard sensors, combined M12 socket, infrared interface for the addressing.

- Version 2.1 -







### Bit Assignment

Bit	-	-	-	-	3	2	1	0
	M12 Input							
Byte 0 / Slave 1	-	-	-	-	I-4	I-3	I-2	I-1
Byte 1 / Slave 2	-	-	-	-	I-4	I-3	I-2	I-1

### Diagnostic Indication

LED	Indication	Condition
I-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
	red	communication error
FID	red flashing	periphery error (sensor/actuator short circuit)

### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 4</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	 <ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>

The connection to earth for the inputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 8-Digital Inputs

0910 ASL 412

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	300 g
Housing material	PUR

#### Bus system

AS-Interface profile	S 0.A.E
I/O configuration	0 hex
ID code	1 hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	yes

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 500 mA
Reverse polarity protection	yes
Indication	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	24 V DC
Signal state "1"	Us > 11 V / Is > 6 mA
Signal state "0"	Is < 2 mA
Input circuit	p-switching
Number of digital channels	8
Channel status indicator	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

#### Note

The input channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor to input socket 1 or 3 a further sensor must not be plugged to input socket 2 or 4 respectively due to the Y wiring of the inputs.

### Part Number

0910 ASL 412



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



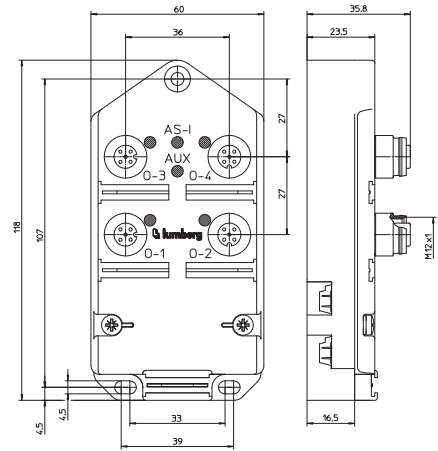
0910 ASL 403



## AS-Interface Module with 4-Digital Outputs

### 4 OUT

AS-Interface flat cable module with 4 digital outputs to connect standard actuators, combined M12 socket.



### Bit Assignment

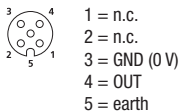
Bit	-	-	-	-	3	2	1	0
	M12 Output							
Byte 0	-	-	-	-	0-4	0-3	0-2	0-1

### Diagnostic Indication

LED	Indication	Condition
O-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active

### Pin Assignments

#### Output M12







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## AS-Interface Module with 4-Digital Outputs

0910 ASL 403

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

#### Bus system

AS-Interface profile	8.0
I/O configuration	8 hex
ID code	0 hex
Support A/B addressing	no

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 75 mA
Reverse polarity protection	yes
Indication	LED green

#### Output power supply

Rated voltage	24 V DC
Voltage range	10–30 V
Potential separation	present
Reverse polarity protection	yes/electronic
Indication	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2-2</b> 2 A per channel
Short circuit-proof	yes
Max. output current	4 A per module
Overload-proof	yes
Number of digital channels	4
Channel type N.O.	p-switching
Channel status indicator	LED yellow per channel

#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

### Part Number

0910 ASL 403



The application of these products in harsh environments should always be checked before use.  
Specifications subject to alteration.



0910 ASL 133

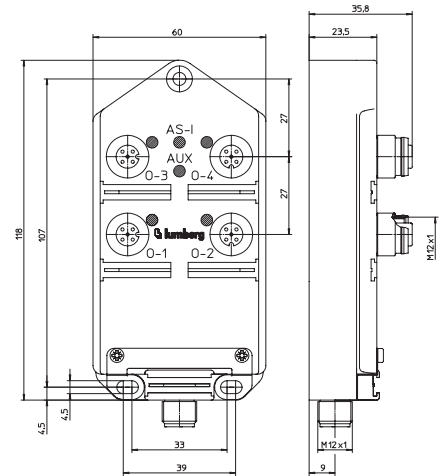


## AS-Interface Module with 4-Digital Outputs

### 4 OUT

AS-Interface module with 4 digital outputs to connect standard actuators, combined M12 socket, M12 bus connection.

- Replaces module 0910 ASL 111 -





### Bit Assignment

Bit	-	-	-	-	3	2	1	0
	M12 Output							
Byte 0	-	-	-	-	0-4	0-3	0-2	0-1

### Diagnostic Indication

LED	Indication	Condition
0-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active

### Pin Assignments

Bus connection M12	Output M12
 <ul style="list-style-type: none"> <li>1 = AS-Interface +</li> <li>2 = 0 V AUX</li> <li>3 = AS-Interface -</li> <li>4 = +24 V AUX</li> </ul>	 <ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT</li> <li>5 = earth</li> </ul>



Be Certain with Belden

## AS-Interface Module with 4-Digital Outputs

0910 ASL 133

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

#### Bus system

AS-Interface profile	S 8.0.F
I/O configuration	8 hex
ID code	0 hex
ID2 code (extended ID-code)	F hex
Support A/B addressing	no

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 75 mA
Reverse polarity protection	yes
Indication	LED green

#### Output power supply

Rated voltage	24 V DC
Voltage range	10–30 V
Potential separation	present
Reverse polarity protection	yes/electronic
Indication	LED green

#### Outputs

Rated output current	2 A per channel
Short circuit-proof	yes
Max. output current	4 A per module
Overload-proof	yes
Number of digital channels	4
Channel type N.O.	p-switching
Channel status indicator	LED yellow per channel

#### Connection via cordset, double-ended

M12 / M12	0915 034 101/... M
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

### Part Number

0910 ASL 133



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 419

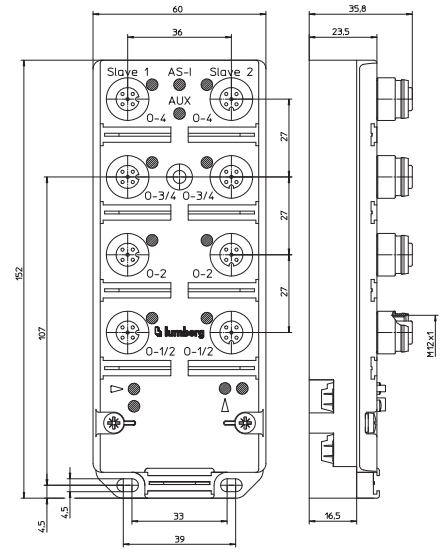


## AS-Interface Module with 8-Digital Outputs

### 8 OUT

AS-Interface flat cable module with 8 digital outputs (0.5 A, Y connected) to connect standard actuators, combined M12 socket, infrared interface for the addressing.

- Version 2.1 -







### Bit Assignment

Bit	-	-	-	-	3	2	1	0
	M12 Input							
Byte 0 / Slave 1	-	-	-	-	0-4	0-3	0-2	0-1
Byte 1 / Slave 2	-	-	-	-	0-4	0-3	0-2	0-1

### Diagnostic Indication

LED	Indication	Condition
0-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
FID	red	communication error
	red flashing	periphery error (actuator short circuit)

### Pin Assignments

Output 1 M12	Output 2 M12	Output 3 M12	Output 4 M12
 <p>1 = n.c. 2 = OUT 2 3 = GND (0 V) 4 = OUT 1 5 = earth</p>	 <p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 2 5 = earth</p>	 <p>1 = n.c. 2 = OUT 4 3 = GND (0 V) 4 = OUT 3 5 = earth</p>	 <p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 4 5 = earth</p>

The connection to earth for the outputs is implemented via the earthing contacts at the fastening holes.



# Be Certain with Belden

## AS-Interface Module with 8-Digital Outputs

0910 ASL 419

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	300 g
Housing material	PUR

#### Bus system

AS-Interface profile	S 8.1.E
I/O configuration	8 hex
ID code	1 hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	no

#### Electronics power supply

Rated voltage	AS-Interface net
Voltage range	26.5–31.6 V DC
Power consumption	max. 75 mA
Reverse polarity protection	yes
Indication	LED green

#### Output power supply

Rated voltage	AUX
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	Type 0.5 A acc. to IEC 61131-2
Short circuit-proof	0.5 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	8
Channel status indicator	p-switching
	LED yellow per channel

#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

### Note

The output channels are connected together. That allows a greater connection flexibility (see pin assignment). When actuators are connected, this Y wiring of the terminal sockets has to be taken into consideration with respect to current load.

### Part Number

0910 ASL 419



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 410

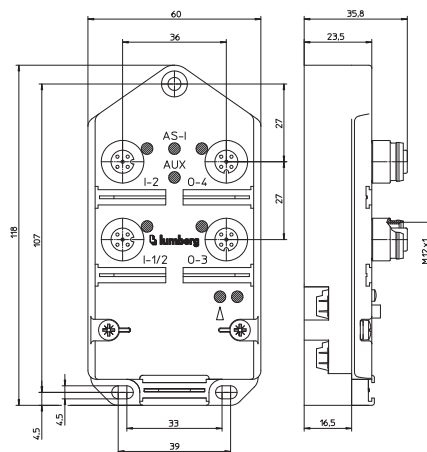


## AS-Interface Module with 2-Digital Inputs and 2-Digital Outputs

### 2 IN / 2 OUT

AS-Interface flat cable module with 2 digital inputs to connect standard sensors and 2 digital outputs to connect standard actuators, combined M12 socket, infrared interface for the addressing.

- Version 2.1 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	-	-	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	-	-

### Diagnostic Indication

LED	Indication	Condition
O-1..4 / O-3..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
FID	red	communication error
	red flashing	periphery error (actuator short circuit)

### Pin Assignments

Input 1 M12	Input 2 M12	Output 3 M12	Output 4 M12
<p>1 = +24 V 2 = IN 2 3 = GND (0 V) 4 = IN 1 5 = earth</p>	<p>1 = +24 V 2 = n.c. 3 = GND (0 V) 4 = IN 2 5 = earth</p>	<p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 3 5 = earth</p>	<p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 4 5 = earth</p>

The connection to earth for the inputs and outputs is implemented via the earthing contacts at the fastening holes.



# Be Certain with Belden

## AS-Interface Module with 2-Digital Inputs and 2-Digital Outputs

0910 ASL 410

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

#### Bus system

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 3.F.E
ID code	3 hex
ID2 code (extended ID-code)	F hex
Support A/B addressing	E hex
	no

#### Electronics power supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 11 V / Is > 6 mA
Input current at 24 V	Is < 2 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	2
	LED yellow per channel

#### Output power supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	2
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

#### Note

The input channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor to input socket 1 a further sensor must not be plugged to input socket 2 respectively due to the Y wiring of the inputs.

### Part Number

0910 ASL 410



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 134

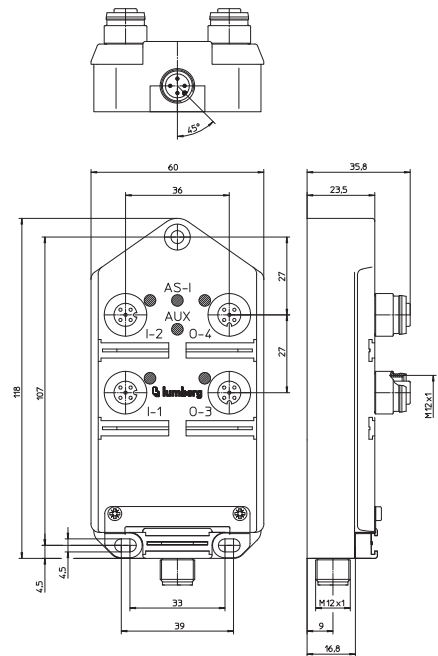


## AS-Interface Module with 2-Digital Inputs and 2-Digital Outputs

### 2 IN / 2 OUT

AS-Interface module with 2 digital inputs to connect standard sensors and 2 digital outputs to connect standard actuators, combined M12 socket, M12 bus connection.

– Replaces module 0910 ASL 110 –






### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	-	-	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	-	-

### Diagnostic Indication

LED	Indication	Condition
0-1..4 / 0-3..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active

### Pin Assignments

Bus connection M12	Input M12	Output M12
 <p>1 = AS-Interface + 2 = 0 V AUX 3 = AS-Interface - 4 = +24 V AUX</p>	 <p>1 = +24 V 2 = IN 3 = GND (0 V) 4 = IN 5 = n.c.</p>	 <p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 5 = earth</p>





Be Certain with Belden

**AS-Interface Module with 2-Digital Inputs and 2-Digital Outputs**

0910 ASL 134

**Technical Data**

**Environmental**

Degree of protection IP 67  
 Operating temperature range -25°C (-13°F) to +80°C (+176°F)  
 Weight 200 g  
 Housing material PUR

**Bus system**

AS-Interface profile S 3.F.E  
 I/O configuration 3 hex  
 ID code 0 hex  
 ID2 code (extended ID-code) F hex  
 Support A/B addressing no

**Electronics power supply**

Rated voltage AS-Interface net  
 Voltage range 26.5–31.6 V DC  
 Power consumption max. 250 mA  
 Reverse polarity protection yes  
 Indication LED green

**Input power supply**

Voltage range (AS-Interface net) 17–30 V  
 Total current of all sensors max. 200 mA  
 Short circuit-proof yes

**Inputs**

Rated input voltage 24 V DC  
 Signal state “1” Us > 11 V / Is > 6 mA  
 Signal state “0” Is < 2 mA  
 Input current at 24 V 15 mA  
 Input circuit p-switching  
 Number of digital channels 2  
 Channel status indicator LED yellow per channel

**Output power supply**

Rated voltage 24 V DC  
 Voltage range 10–30 V  
 Potential separation present  
 Reverse polarity protection yes/electronic  
 Indication LED green

**Outputs**

Rated output current 2 A per channel  
 Short circuit-proof yes  
 Max. output current 4 A per module  
 Overload-proof yes  
 Number of digital channels 2  
 Channel type N.O. p-switching  
 Channel status indicator LED yellow per channel

**Diagnostic**

Indication LED red

**Connection via cordset, double-ended**

M12 / M12 0915 034 101/... M

**Included in delivery / Accessories**

Dust covers M12 2 pieces  
 Attachable label 10 pieces

**Part Number**

0910 ASL 134



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 414

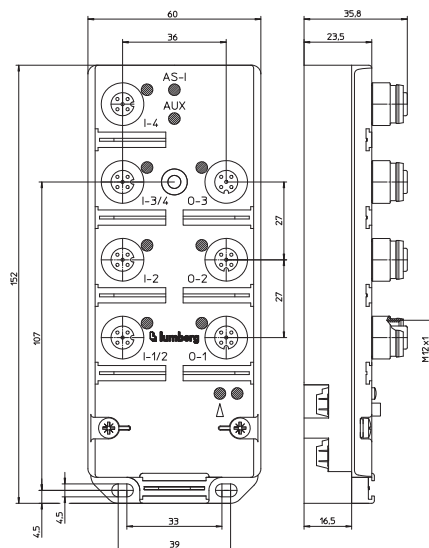


### AS-Interface Module with 4-Digital Inputs and 3-Digital Outputs

#### 4 IN / 3 OUT

AS-Interface module with 2 digital inputs to connect standard sensors and 2 digital outputs to connect standard actuators, combined M12 socket, M12 bus connection.

- Version 2.1 -



#### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3/4	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	-	O-3	O-2	O-1

#### Diagnostic Indication

LED	Indication	Condition
O-1..4 / O-3..4	yellow	channel status
AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
	red	communication error
FID	red flashing	periphery error (actuator short circuit/sensor supply error)

#### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
1 = +24 V 2 = IN 2 3 = GND (0 V) 4 = IN 1 5 = earth	1 = +24 V 2 = n.c. 3 = GND (0 V) 4 = IN 2 5 = earth	1 = +24 V 2 = IN 4 3 = GND (0 V) 4 = IN 3 5 = earth	1 = +24 V 2 = n.c. 3 = GND (0 V) 4 = IN 4 5 = earth
Output 1 M12	Output 2 M12	Output 3 M12	
1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 1 5 = earth	1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 2 5 = earth	1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 3 5 = earth	

The connection to earth for the outputs is implemented via the earthing contacts at the fastening holes.



**AS-Interface Module with 4-Digital Inputs and 3-Digital Outputs**

0910 ASL 414

**Technical Data**

**Environmental**

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	300 g
Housing material	PUR

**Bus system**

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 7.A.E
ID code	7 hex
ID2 code (extended ID-code)	A hex
Support A/B addressing	E hex
	yes

**Electronics power supply**

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 100 mA
Indication	yes
	LED green

**Input power supply**

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 100 mA
Short circuit-proof	yes

**Inputs**

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 10 V / Is > 4.7 mA
Input current at 24 V	Is < 1.5 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

**Output power supply**

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

**Outputs**

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	3
Channel status indicator	p-switching
	LED yellow per channel

**Diagnostic**

Indication	LED red
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**Included in delivery / Accessories**

Dust covers M12	2 pieces
Attachable label	10 pieces

**Note**

The input channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor to input socket 1 or 3 a further sensor must not be plugged to input socket 2 or 4 respectively due to the Y wiring of the inputs.

**Part Number**

0910 ASL 414



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 408

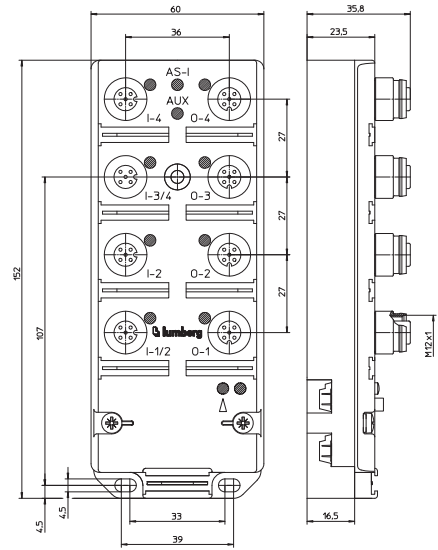


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface flat cable module with 4 digital inputs to connect standard sensors and 4 digital outputs to connect standard actuators, combined M12 socket, infrared interface for the addressing.

- Version 2.1 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3/4	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	O-2	O-1

### Diagnostic Indication

LED	Indication	Condition
O-1..4 / O-3..4	yellow	channel status
AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
FID	red	communication error
	red flashing	periphery error (actuator short circuit)

### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 4</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>
Output 1 M12	Output 2 M12	Output 3 M12	Output M12
<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 4</li> <li>5 = earth</li> </ul>

The connection to earth for the inputs and outputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

0910 ASL 408

### Technical Data

#### Environmental

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	300 g
Housing material	PUR

#### Bus system

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 7.A.E
ID code	7 hex
ID2 code (extended ID-code)	F hex
Support A/B addressing	E hex
	yes

#### Electronics power supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 11 V / Is > 6 mA
Input current at 24 V	Is < 2 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

#### Output power supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	2 pieces
Attachable label	10 pieces

#### Note

The input channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor to input socket 1 or 3 a further sensor must not be plugged to input socket 2 or 4 respectively due to the Y wiring of the inputs.

### Part Number

0910 ASL 408



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 135

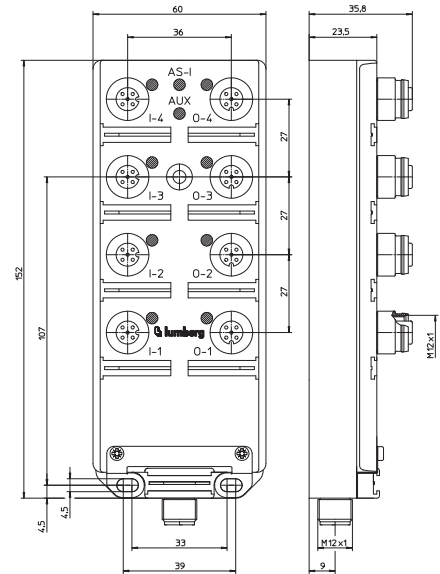


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface module with 4 digital inputs to connect standard sensors and 4 digital outputs to connect standard actuators, combined M12 socket, M12 bus connection.

- Replaces module 0910 ASL 109 -






### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3	I-2	I-1
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	O-2	O-1

### Diagnostic Indication

LED	Indication	Condition
0-1..4 / 0-4..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active

### Pin Assignments

Bus connection M12	Input M12	Output M12
 <p>1 = AS-Interface + 2 = 0 V AUX 3 = AS-Interface - 4 = +24 V AUX</p>	 <p>1 = +24 V 2 = IN 3 = GND (0 V) 4 = IN 5 = n.c.</p>	 <p>1 = n.c. 2 = n.c. 3 = GND (0 V) 4 = OUT 5 = earth</p>



AS-Interface

Be Certain with Belden

**AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs**

0910 ASL 135

**Technical Data**

**Environmental**

Degree of protection	IP 67
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	200 g
Housing material	PUR

**Bus system**

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 7.A.E
ID code	7 hex
ID2 code (extended ID-code)	0 hex
Support A/B addressing	F hex
	yes

**Electronics power supply**

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

**Input power supply**

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

**Inputs**

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 11 V / Is > 6 mA
Input current at 24 V	Is < 2 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

**Output power supply**

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

**Outputs**

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

**Diagnostic**

Indication	LED red
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**Connection via cordset, double-ended**

M12 / M12	0915 034 101/... M
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**Included in delivery / Accessories**

Dust covers M12	2 pieces
Attachable label	10 pieces

**Part Number**

0910 ASL 135



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 424

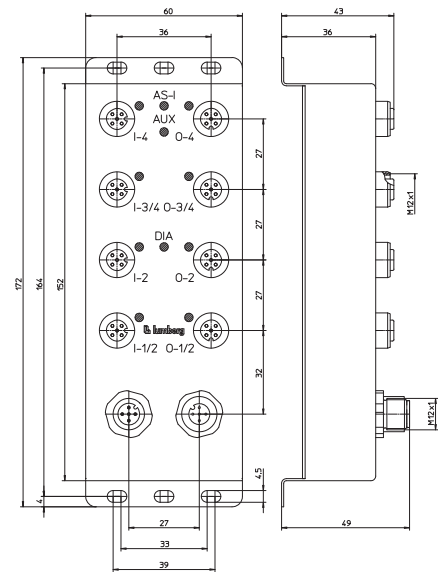


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface module with housing and receptacle shells in stainless steel, 4 digital inputs (Y connected) to connect standard sensors and 4 digital outputs (2 A, Y connected) to connect standard actuators, M12 bus connection.

- especially designed for food and beverage equipment -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3/4	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3/4	O-2	O-1/2

### Diagnostic Indication

LED	Indication	Condition
O-1..4 / O-4..4	yellow	channel status
AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
	red	communication error
DIA	red flashing	periphery error (actuator short circuit/sensor supply error)

### Pin Assignments

Bus connection M12	Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
<ul style="list-style-type: none"> <li>1 = AS-Interface +</li> <li>2 = 0 V AUX</li> <li>3 = AS-Interface -</li> <li>4 = +24 V AUX</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 4</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>
Output 1 M12	Output 2 M12	Output 3 M12	Output 4 M12	
<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 2</li> <li>3 = GND (0 V)</li> <li>4 = OUT 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 4</li> <li>3 = GND (0 V)</li> <li>4 = OUT 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 4</li> <li>5 = earth</li> </ul>	

The connection to earth for the outputs is implemented via the earthing contacts at the fastening holes.





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## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

0910 ASL 424

### Technical Data

#### Environmental

Degree of protection	IP 69K
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	550 g
Housing material	stainless steel

#### Bus system

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 7.A.E
ID code	7 hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	F hex
	no

#### Electronics power supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 310 mA
Indication	yes
	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 10 V / Is > 4.7 mA
Input current at 24 V	Is < 1.5 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

#### Output power supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	4 pieces
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#### Note

The input and output channels are connected together. That allows a greater connection flexibility (see pin assignment). On the input side the special characteristics of the Y wiring with one channel or two-channel sensors has to be taken into consideration. On the output side the current load has to be accounted for.

### Part Number

0910 ASL 424



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 425

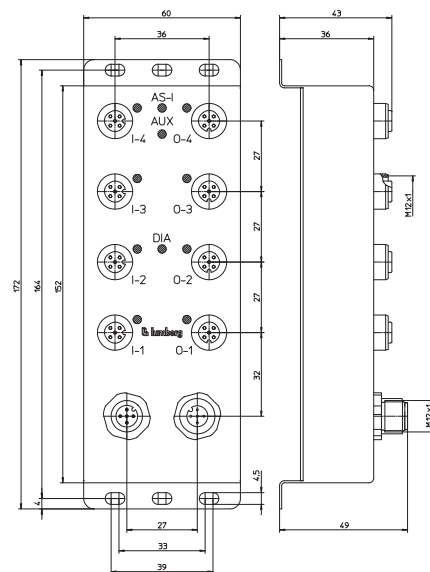


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface module with housing and receptacle shells in stainless steel, 4 digital inputs to connect standard sensors and 4 digital outputs (2 A) to connect standard actuators, M12 bus connection.

- especially designed for food and beverage equipment -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3	I-2	I-1
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	O-2	O-1

### Diagnostic Indication

LED	Indication	Condition
0-1..4 / 0-4..4	yellow	channel status
AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
	red	communication error
DIA	red flashing	periphery error (actuator short circuit/sensor supply error)

### Pin Assignments

Bus connection M12	Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
<ul style="list-style-type: none"> <li>1 = AS-Interface +</li> <li>2 = 0 V AUX</li> <li>3 = AS-Interface -</li> <li>4 = +24 V AUX</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>
Output 1 M12	Output 2 M12	Output 3 M12	Output 4 M12	
<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 4</li> <li>5 = earth</li> </ul>	

The connection to earth for the outputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

0910 ASL 425

### Technical Data

#### Environmental

Degree of protection	IP 69K
Operating temperature range	-25°C (-13°F) to +80°C (+176°F)
Weight	550 g
Housing material	stainless steel

#### Bus system

AS-Interface profile	<b>AS-Interface Version 2.1</b>
I/O configuration	S 7.A.E
ID code	7 hex
ID2 code (extended ID-code)	E hex
Support A/B addressing	F hex
	no

#### Electronics power supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

#### Input power supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 200 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 10 V / Is > 4.7 mA
Input current at 24 V	Is < 1.5 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

#### Output power supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / Accessories

Dust covers M12	4 pieces
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### Part Number

0910 ASL 425



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 146

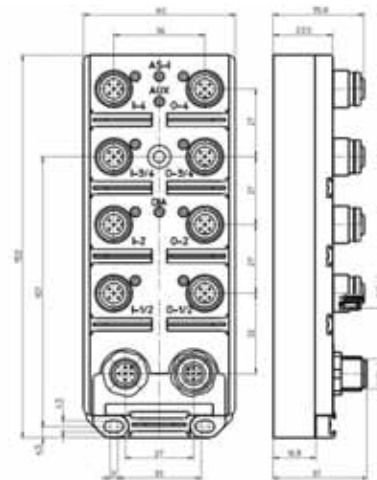


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface flat cable module with 4 digital inputs for 2-wire- or 3-wire sensors and 4 digital outputs to connect standard actuators, combined FIXCON/M12 socket.

- Version 3.0 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3	I-2	I-1
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3	O-2	O-1

### Diagnostic Indication

LED	Indication	Condition
0-1...4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
DIA	red	communication error
	red flashing	periphery error (sensor/actuator short circuit)

### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 4</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>
Output 1 M12	Output 2 M12	Output 3 M12	Output 4 M12
<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 2</li> <li>3 = GND (0 V)</li> <li>4 = OUT 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 4</li> <li>3 = GND (0 V)</li> <li>4 = OUT 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 4</li> <li>5 = earth</li> </ul>
AS-i/Aux. PWR In (Plug M12)	AS-i/Aux. PWR Out (Socket M12)		
<ul style="list-style-type: none"> <li>1 = AS-i (+)</li> <li>2 = Auxiliary power (-)</li> <li>3 = AS-i (-)</li> <li>4 = Auxiliary power (+)</li> <li>5 = n.c.</li> </ul>	<ul style="list-style-type: none"> <li>1 = AS-i (+)</li> <li>2 = Auxiliary power (-)</li> <li>3 = AS-i (-)</li> <li>4 = Auxiliary power (+)</li> <li>5 = n.c.</li> </ul>		

The connection to earth for the inputs and outputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

0910 ASL 146

### Technical Data

#### Environmental

Degree of protection	IP 67
Temperature range	-25°C / +80°C
Weight	300 g
Housing	PUR

#### Bus System

AS-Interface profile	<b>AS-Interface V3.0</b>
I/O configuration	S 7.A.7
ID code	7 hex
ID2 code (extended ID-code)	A hex
Support A/B addressing	7 hex
	yes

#### Electronics Power Supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

#### Input Power Supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 250 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage 2	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 11 V / Is > 6 mA
Input current at 24 V	Is < 2 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

#### Output Power Supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
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#### Included in delivery / accessories

Dust covers M12	2 pieces
Attachable labels	10 pieces

#### Note

The input- and output channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor/actuator to input/output socket 1 or 3 a further sensor/actuator must not be plugged to input/output socket 2 or 4 respectively due to the Y wiring of the inputs/outputs.

### Part Number

0910 ASL 146



\* = submitted

The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0910 ASL 438

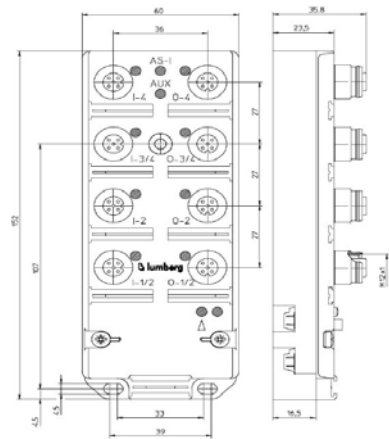


## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

### 4 IN / 4 OUT

AS-Interface flat cable module with 4 digital inputs for 2-wire or 3-wire sensors and 4 digital outputs to connect standard actuators, combined FIXCON/M12 socket, infrared interface for the addressing.

- Version 3.0 -



### Bit Assignment

Bit	-	-	-	-	3	2	1	0
<b>M12 Input</b>								
Byte 0	-	-	-	-	I-4	I-3/4	I-2	I-1/2
<b>M12 Output</b>								
Byte 0	-	-	-	-	O-4	O-3/4	O-2	O-1/2

### Diagnostic Indication

LED	Indication	Condition
I-1..4/O-1..4	yellow	channel status
U-AS-i	green	AS-Interface power supply active
AUX	green	actuator supply active
FID	red	communication error
	red flashing	periphery error (sensor/actuator short circuit)

### Pin Assignments

Input 1 M12	Input 2 M12	Input 3 M12	Input 4 M12
<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 2</li> <li>3 = GND (0 V)</li> <li>4 = IN 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = IN 4</li> <li>3 = GND (0 V)</li> <li>4 = IN 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = +24 V</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = IN 4</li> <li>5 = earth</li> </ul>
Output 1 M12	Output 2 M12	Output 3 M12	Output 4 M12
<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 2</li> <li>3 = GND (0 V)</li> <li>4 = OUT 1</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 2</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = OUT 4</li> <li>3 = GND (0 V)</li> <li>4 = OUT 3</li> <li>5 = earth</li> </ul>	<ul style="list-style-type: none"> <li>1 = n.c.</li> <li>2 = n.c.</li> <li>3 = GND (0 V)</li> <li>4 = OUT 4</li> <li>5 = earth</li> </ul>

The connection to earth for the inputs and outputs is implemented via the earthing contacts at the fastening holes.



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## AS-Interface Module with 4-Digital Inputs and 4-Digital Outputs

0910 ASL 438

### Technical Data

#### Environmental

Degree of protection	IP 67
Temperature range	-25°C / +80°C
Weight	300 g
Housing	PUR

#### Bus System

AS-Interface profile	<b>AS-Interface V3.0</b>
I/O configuration	S 7.A.7
ID code	7 hex
ID2 code (extended ID-code)	A hex
Support A/B addressing	7 hex
	yes

#### Electronics Power Supply

Rated voltage	<b>AS-Interface</b>
Voltage range	AS-Interface net
Power consumption	26.5–31.6 V DC
Reverse polarity protection	max. 250 mA
Indication	yes
	LED green

#### Input Power Supply

Voltage range (AS-Interface net)	17–30 V
Total current of all sensors	max. 250 mA
Short circuit-proof	yes

#### Inputs

Rated input voltage 2	<b>Type 2 acc. to IEC 61131-2</b>
Signal state "1"	24 V DC
Signal state "0"	Us > 11 V / Is > 6 mA
Input current at 24 V	Is < 2 mA
Input circuit	15 mA
Number of digital channels	p-switching
Channel status indicator	4
	LED yellow per channel

#### Output Power Supply

Rated voltage	<b>AUX</b>
Voltage range	24 V DC
Potential separation	10–30 V
Reverse polarity protection	present
Indication	yes/electronic
	LED green

#### Outputs

Rated output current	<b>Type 2 A acc. to IEC 61131-2</b>
Short circuit-proof	2 A per channel
Max. output current	yes
Overload-proof	4 A per module
Number of digital channels	yes
Channel type N.O.	4
Channel status indicator	p-switching
	LED yellow per channel

#### Diagnostic

Indication	LED red
------------	---------

#### Included in delivery / accessories

Dust covers M12	2 pieces
Attachable labels	10 pieces

#### Note

The input- and output channels are connected together. That allows a greater connection flexibility (see pin assignment). In case of connection of a two-channel sensor/actuator to input/output socket 1 or 3 a further sensor/actuator must not be plugged to input/output socket 2 or 4 respectively due to the Y wiring of the inputs/outputs.

### Part Number

0910 ASL 438



\* = submitted

The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



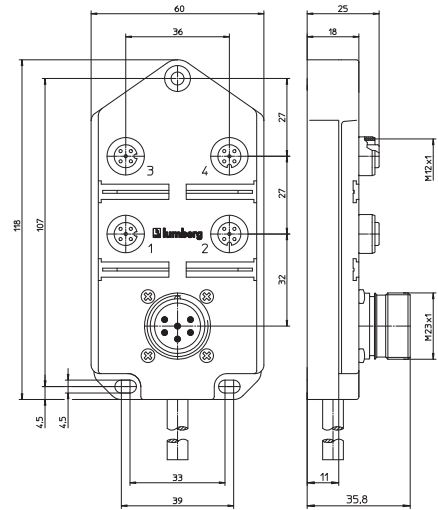
0911 ANC 002



## AS-Interface Passive Modules, 4-Ports

### 4 Ports / On-Board M23

AS-Interface passive module to connect 4 AS-Interface sensors, AS-Interface actuators or ASInterface round cable modules, 4 ports, combined M12 socket with connection for AS-Interface standard round cables and on-board M23 connection for aux power.

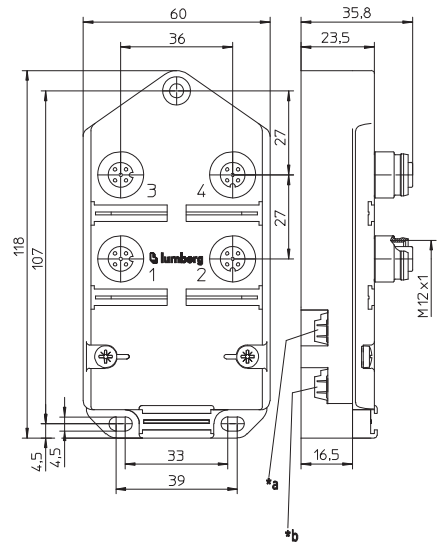


0911 ANC 403



### 4 Ports

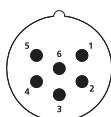
AS-Interface passive module to connect 4 AS-Interface sensors, AS-Interface actuators or ASInterface round cable modules, 4 ports, combined M12 socket, with connection for AS-Interface standard flat cables.



\*a Standard flat cable  
\*b Additional power supply (AS-Interface output levels)

## Pin Assignments

### Bus connection M12



- 1 = earth
- 2 = +24 V
- 3 = GND (0 V)
- 4 = n.c.
- 5 = n.c.
- 6 = n.c.

### Input 1 M12



- 1 = AS-Interface +
- 2 = 0 V AUX
- 3 = AS-Interface -
- 4 = +24 V AUX
- 5 = earth





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**AS-Interface Passive Modules, 4-Ports**

0911 ANC 002 / 0911 ANC 403

**Technical Data**

**Environmental**

Degree of protection IP 67  
 Operating temperature range -25°C (-13°F) to +80°C (+176°F)  
 Housing material PUR

**Cable Specifications**

**0911 ANC 002:**  
 PUR/PVC - cable-no. 41  
 Further information please see  
 chapter "Cable specifications"

Part Number	Outer Jacket	Cable lengths	
0911 ANC 002/...M	PUR/PVC	5 M / 10 M	
0911 ANC 403			

The application of these products in harsh environments should always be checked before use.  
 Specifications subject to alteration.



0911 ANC 101



### AS-Interface Junction Branches

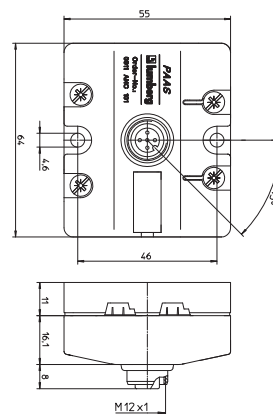
AS-Interface branch to connect AS-Interface slaves via a M12 connector with a flat cable system.

#### Technical Data

<b>Environmental</b>	
Degree of protection	IP 65
Housing material	PA
Nominal current at 40°C	4 A

#### Note

- insertion of the AS-Interface flat cable (yellow) in cable shaft "LINE1"
- insertion of the additional voltage supply (black flat cable) in cable shaft "LINE 2"



0911 ANC 401



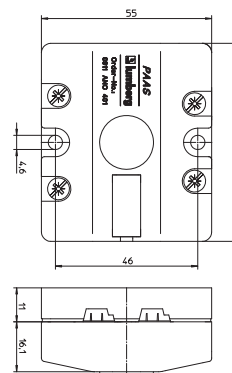
AS-Interface branch to connect two flat cables (opening of an AS-Interface branch or additional voltage supply).

#### Technical Data

<b>Environmental</b>	
Degree of protection	IP 65
Housing material	PA
Nominal current at 40°C	8 A

#### Note

Please be aware that only two wires with the same function may be inserted into this AS-Interface branch. This means that either only the yellow or only the black AS-Interface flat cable may be used.



### Pin Assignments

**Cable** **M12 - 5 Poles**

1 = AS-Interface +	brown
2 = 0 V AUX	white
3 = AS-Interface -	blue
4 = +24 V AUX	black
5 = earth	green/yellow



1 = AS-Interface +
2 = 0 V AUX
3 = AS-Interface -
4 = +24 V AUX
5 = earth

**Part Number**

0911 ANC 101



0911 ANC 401



The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



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## AS-Interface Accessories

0911 ANC 407/... M



AS-Interface connector for direct connection to a wired male connector: reusable access technology to IEC 60352-6. AS-Interface connector. 0911 ANC 406 is included with the delivered product.

### Technical Data

#### Environmental

Degree of protection	IP 67
Housing material	PA
Insert	PUR
Nominal current at 40°C	2 A per contact

0911 ANC 410/... M



AS-Interface connector for direct connection to two wired male connectors: reusable access technology to IEC 60352-6. AS-Interface connector 0911 ANC 406 is included with the delivered product.

### Technical Data

#### Environmental

Degree of protection	IP 67
Housing material	PA
Insert	PUR
Nominal current at 40°C	2 A per contact



### Pin Assignments

#### 2-Poles

1 = brown  
2 = blue

#### 2-Poles

1 = brown  
2 = blue

Part Number	Outer Jacket	Standard Cable Lengths	
0911 ANC 407/...M	PUR/PVC	2 M / 5 M / 10 M	
0911 ANC 410/...M	PUR/PVC	0.3 M / 0.6 M / 1 M / 2 M / 5 M / 10 M / 15 M	

The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



## AS-Interface Accessories

0911 ANC 408



AS-Interface cable connector, used for distribution of connections or as connector: reusable access technology to IEC 60352-6. AS-Interface connector 0911 ANC 406 is included with the delivered product.

### Technical Data

Degree of protection	IP 67
Molded body	PA
Insert	PA
Nominal current at 40°C	4 A

0911 ANC 406



AS-Interface connector for AS-Interface cables.

### Technical Data

Molded body	PA
-------------	----

0911 ANC 413



AS-Interface cable connector, used for distribution of connections or as connector: reusable access technology to IEC 68 and DIN 41611, hexagon screw in stainless steel, 4 poles. AS-Interface connector 0911 ANC 415 is included with the delivered product.

– especially designed for food and beverage equipment –

### Technical Data

Degree of protection	IP 67 / IP 69K
Molded body	PBT
Insert	PBT
Nominal current at 40°C	4 A

0911 ANC 415



AS-Interface connector for AS-Interface cables.

### Technical Data

Molded body	PBT
-------------	-----

Part Number		
0911 ANC 408	0911 ANC 406	
0911 ANC 413	0911 ANC 415	

The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



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### AS-Interface Accessories

0913 ATL 003



This AS-Interface Handheld controller serves to address the AS-Interface sensors, actuators and round cable modules. The mechanical connection is made by a mating M12 connector. AS-Interface flat cable modules are connected using the addressing adaptor type 0913 ATL 002/0.35 M. With this addressing equipment, all types of AS-Interface modules (including equipment with ASInterface Version 2.1) can be addressed.

**Important Note**

The equipment with AS-Interface Version 2.1 are not addressable with the previous address module 0913 ATL 001.

0913 ATL 002/0.35 M



The addressing adaptor is able to address the AS-Interface flat cable modules with existing handheld addressing units, length 0.35 m.

– suitable to addressing unit 0913 ATL 003 –

Part Number	
0913 ATL 003	0913 ATL 002/0.35 M

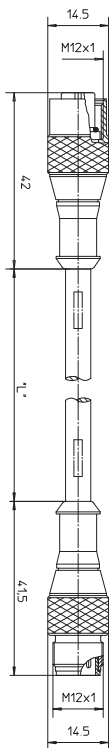
The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.



0915 034 101/... M



AS-Interface cordset, double-ended, M12 male connector and M12 female connector with self-locking threaded joint.



## AS-Interface Accessories

### Technical Data

#### Environmental

Degree of protection IP 67  
Temperature range -25°C / +80°C

#### Materials

Housing / Molded body TPU, self-extinguishing  
Insert TPU, self-extinguishing  
Contact Male connector: CuZn, prenickel and 0.8 microns gold-plated  
Female connector: CuZn, prenickel and 0.3 microns gold-plated  
Receptacle shell / knurled screw/ nut / hexagon screw/nut / sleeve CuZn, nickel-plated  
O-ring FKM (only female connector)

#### Electrical data

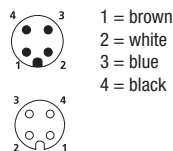
Nominal current at 40°C 4 A  
Nominal voltage 240 V  
Rated voltage 250 V  
Test voltage 2.0 kV eff. / 60 s  
Insulation resistance > 10<sup>9</sup> Ω  
Pollution degree 3

#### Cable specification

PUR/PVC - cable-no. 34  
Further information please see chapter "Cable specifications"

### Pin Assignments

#### 4-Poles



Part Number	Poles	Out Jacket	Standard Cable Lengths
0915 034 101/...M	4	PUR	1 M / 3 M / 5 M



The application of these products in harsh environments should always be checked before use.  
Specifications subject to alteration.



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### AS-Interface Accessories

0911 ANC 409



Terminal sleeves for flat cable, packing unit: 10 pieces.

Part Number
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0913 ANC 409
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The application of these products in harsh environments should always be checked before use. Specifications subject to alteration.

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