

## AS-Interface System – MA Si67

With **MA Si67** Murrelektronik is providing a continuous installation system for mechanical engineering. The encapsulated I/O modules are extremely resistant to mechanical influences such as vibration and shocks, and are sealed to meet industrial requirements. Having two outputs in one M12 plug-in socket reduces valve installation by as much as 50%.

The product range is also supplemented by passive installation technology modules with their practical interfaces to round cables, which are typically used in drag chains applications.

### End-to-end – with the uniform base plate

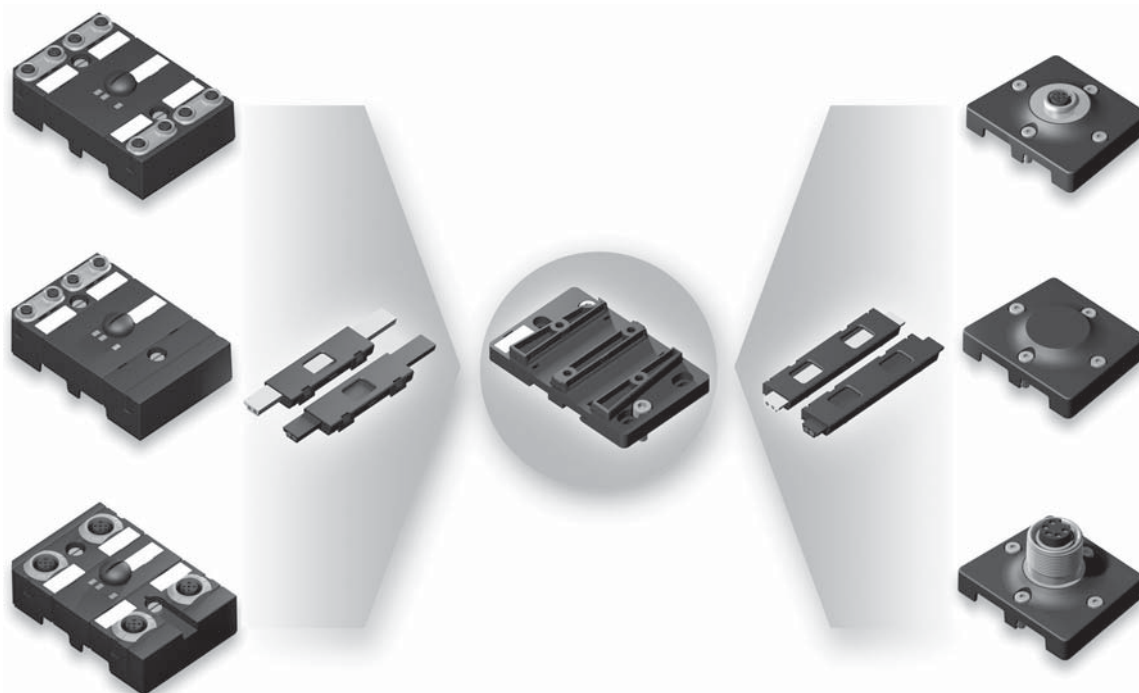
- one drilling template suits all modules
- same seals in all modules
- screw and DIN-rail mounting

→ uniform drilling

### Simple assembly – installation in piercing technology

- lay the profile cable with coding inset in the base plate – fit the lid – screw down – that's it!
- no elaborate crimping or stripping
- one 2-wire AS-Interface bus cable instead of elaborate parallel wiring

→ saves time during installation  
→ reduces costs of cabling  
→ avoids wiring errors



## MA Si67 and installation technology IP67 – the trick with base plate

Products in the **MA Si67** product range and IP67 installation technology have a standard base plate. The different drilling patterns and support rail latching mechanism of these products mean that they meet all of the current requirements for simple, universal assembly.

Code elements secure the AS-interface ribbon cables to the base plate and provide an installation that is simple and protected from polarity reversal, regardless of the cable insertion directions.

Every cable has an end – the industrially compatible sealing of cable ends can be achieved extremely easily with separate sealing elements. Attachments taken place using the coding elements.

### End-to-end – with the uniform base plate

- one drilling template suits all modules
- same seals in all modules
- screw and top head rail mounting

→ uniform drilling

## I/O modules



### with M8 connection and protection IP67

4 inputs  
8 inputs  
4 inputs and 3 outputs (AB)  
4 inputs and 4 outputs

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### with M12 connection and protection IP67

4 inputs  
8 inputs  
4 inputs and 3 outputs (AB)  
4 inputs and 4 outputs

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page 2.8.6

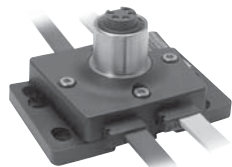
## System components

### Repeater in protection IP67



page 2.8.7

## Installation technology

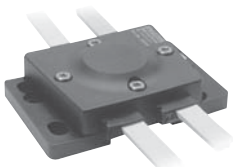


### Conversion of profile cable onto round plug connector in protection IP67

M12 female  
M12 male  
7/8" female  
7/8" male

page 2.8.8

MASI67



### Connection/distribution of profile cable in protection IP67

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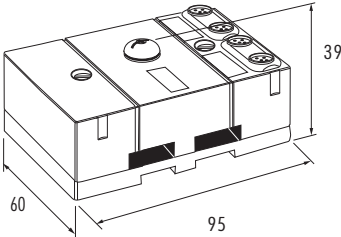
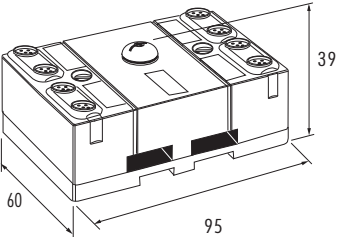
I/O modules  
Inputs  
via M8 round plug connector  
  
Protection IP67

**MASI67 DI4/0.2A AB 4xM8**  
4 inputs 0.2 A; AB-slave



**MASI67 DI8/0.24A AB 8xM8**  
8 inputs 0.24 A; AB-slave



Ordering data	Art.-No.	
	56405	56406
Technical data		
AS-Interface bus voltage	26.5...31.6 V	
Combined current usage	max. 250 mA	max. 290 mA
Addressing	via integrated address port or master, pre-adjusted to address 0	
Address range	1...62 (1...31 A or B)	2 x 1...62 (2 x 1...31 A or B)
Profile /IO/ID/ID2)	S-0.A.0	2 x S-0.A.0
Inputs		
Number of	4	8
Type	for 3-wire sensors pnp-switching, or for mechanical switches	
Input guideline	EN 61131-2, electrical short-circuit and overload protection/pnp-3-wire sensors	
Sensor supply	≤ 200 mA from AS-Interface, short-circuit and overload protection	≤ 240 mA from AS-Interface, short-circuit and overload protection
Short-circuit supply	electronic	
LED indicator	1 yellow LED per input	
Diagnostics		
AS-Interface supply	flashing green LED codes to specification 2.11	
Bus error	flashing red LED codes to specification 2.11	
General data		
Supply temperature range	-20...60 °C	
Storage temperature range	-40...80 °C	
Mounting method	screw fixing or DIN-rail mounting to EN60715	
Dimensions	39 x 95 x 60 mm	
Weight	approx. 180 g	
Dimension drawing		
		
Accessories	Art.-No.	
M8 blind plug	1 piece	3858627
Seal	(1 set) 2 pieces left, 2 pieces right	55061
Code element	(1 set) 2 pieces	55059
Note		
	Accessories see chapter 2.10. Connection cables can be found in chapter 1.	

## I/O modules Inputs and outputs via round plug connector

Protection IP67

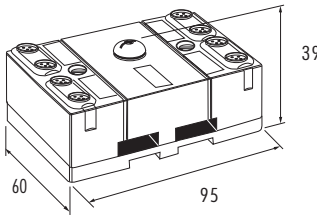
### MASI67 DI4/0.2A DO3/0.5A AB 7xM8

4 inputs 0.2 A  
3 outputs 0.5 A; AB-slave

### MASI67 DI4/0.2A DO4/0.5A 8xM8

4 inputs 0.2 A  
4 outputs 0.5 A



Ordering data		Art.-No. 56407	Art.-No. 56408
Technical data			
AS-Interface bus voltage	26.5...31.6 V		
Combined current usage	max. 250 mA		
Addressing	via integrated address port or master, pre-adjusted to address 0		
Address range	1...62 (1...31 A or B)	1...31	
Profile /I0/ID/ID2)	S-7.A.0	S-7.0.E	
Inputs			
Number of	4		
Type	for 3-wire sensors pnp-switching, or for mechanical switches		
Input guideline	EN 61131-2, electrical short-circuit and overload protection/pnp-3-wire sensors		
Sensor supply	≤ 200 mA from AS-Interface, short-circuit and overload protection		
Short-circuit supply	electronic		
LED indicator	1 yellow LED per input		
Outputs			
Number of	3	4	
Supply voltage	external 24 V DC (18...30.2 V DC) to DIN 19240, connection via black AS-Interface profile cable		
Current usage per output	0.5 A, 100 % ED		
Combined current	2 A		
Short-circuit supply	electronic		
Filament lamp load	2 W		
Max. switching frequency	resistive load: 100 Hz; inductive load: 1 Hz		
LED indicator	1 yellow LED per output		
Diagnostics			
AS-Interface supply	flashing green LED codes to specification 2.11		
Bus error	flashing red LED codes to specification 2.11		
External supply voltage	green LED		
General data			
Supply temperature range	-20...60 °C		
Storage temperature range	-40...80 °C		
Mounting method	screw fixing or DIN-rail mounting to EN60715		
Dimensions	39 x 95 x 60 mm		
Weight	approx. 180 g		
Dimension drawing			
<div></div>			
Accessories			
M8 blind plug	1 piece	Art.-No. 3858627	
Seal	(1 set) 2 pieces left, 2 pieces right	55061	
Code element	(1 set) 2 pieces	55059	
Note			
Accessories see chapter 2.10. Connection cables can be found in chapter 1.			

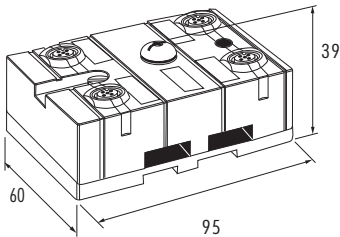
I/O modules  
Inputs  
via M12 round plug connector  
  
Protection IP67

**MASI67 DI4/0.2A AB 4xM12**  
4 inputs 0.2 A; AB-slave



**MASI67 DI8/0.24A AB 4xM12**  
8 inputs 0.24 A; AB-slave



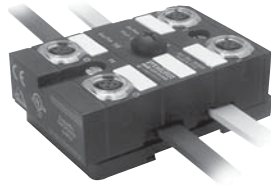
Ordering data	Art.-No. 56400		Art.-No. 56401
Technical data			
AS-Interface bus voltage	26.5...31.6 V		
Combined current usage	max. 250 mA	max. 290 mA	
Addressing	via integrated address port or master, pre-adjusted to address 0		
Address range	1...62 (1...31 A or B)	2 x 1...62 (2 x 1...31 A or B)	
Profile (IO/ID/ID2)	S-0.A.0	S-0.A.2	
Double assignment of M12 female	no	yes	
PIN 2 and PIN 4 of M12 female bridged	yes	no	
Inputs			
Number of	4	8	
Type	for 3-wire sensors, pnp-switching or for mechanical switches		
Input guideline	EN 61131-2, electrical short-circuit and overload protection/pnp-3-wire sensors		
Sensor supply	≤ 200 mA from AS-Interface, short-circuit and overload protection	≤ 240 mA from AS-Interface, short-circuit and overload protection	
Short-circuit supply	electronic		
LED indicator	1 yellow LED per input		
Diagnostics			
AS-Interface supply	flashing green LED codes to specification 2.11		
Bus error	flashing red LED codes to specification 2.11		
General data			
Supply temperature range	-20...60 °C		
Storage temperature range	-40...80 °C		
Mounting method	screw fixing or DIN-rail mounting to EN60715		
Dimensions	39 x 95 x 60 mm		
Weight	approx. 180 g		
Dimension drawing			
			
Accessories			Art.-No.
M12 blind plug	(1 set) 4 pieces		55468
Seal	(1 set) 2 pieces left, 2 pieces right		55061
Code element	(1 set) 2 pieces		55059
Note			
	Accessories see chapter 2.10. Connection cables can be found in chapter 1.		

## I/O modules Inputs and outputs via M12 round plug connector

Protection IP67

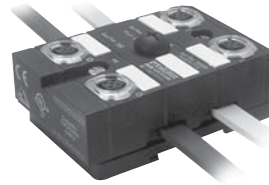
### MAI67 DI4/0.2A D03/2A AB 4xM12

4 inputs 0.2 A  
3 outputs 2 A; AB-slave



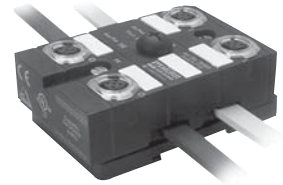
### MAI67 DI4/0.2A D04/2A 4xM12

4 inputs 0.2 A  
4 outputs 2 A



### MAI67 DI4/1.6 D04/2A 4xM12

4 inputs 1.6 A  
4 outputs 2 A



Ordering data	Art.-No.	Art.-No.	Art.-No.
	56402	56403	56404
Technical data			
AS-Interface bus voltage	26.5...31.6 V		
Combined current usage	max. 250 mA		50 mA
Addressing	via integrated address port or master, pre-adjusted to address 0		
Address range	1...62 (1...31 A or B)	1...31	
Profile (IO/ID/ID2)	S-7.A.2	S-7.F.E	
Double assignment of M12 female	yes		
Inputs			
Number of	4		
Type	for 3-wire sensors pnp-switching, or for mechanical switches		
Input guideline	EN 61131-2, electrical short-circuit and overload protection/pnp-3-wire sensors		
Sensor supply	≤ 200 mA from AS-Interface, short-circuit and overload protection		≤ 1.6 A via external 24 V DC supply voltage, short-circuit and overload protected
Short-circuit supply	electronic		
LED indicator	1 LED yellow per input		
Outputs			
Number of	3	4	
Supply voltage	external 24 V DC (18...30.2 V DC) to DIN 19240, connection via black AS-Interface profile cable		
Current usage per output	2 A, 100 % ED		
Combined current	6 A	8 A	
Short-circuit supply	electronic		
Filament lamp load	max. 10 W		
Max. switching frequency	resistive load: 100 Hz; inductive load: 1 Hz		
LED indicator	1 yellow LED per output		
Diagnostics			
AS-Interface supply	flashing green LED codes to specification 2.11		
Bus error	flashing red LED codes to specification 2.11		
External supply voltage	green LED		
General data			
Supply temperature range	-20...60 °C		
Storage temperature range	-40...80 °C		
Mounting method	screw fixing or DIN-rail mounting to EN60715		
Dimensions	39 x 95 x 60 mm		
Weight	approx. 180 g		
Dimension drawing			

Accessories	Art.-No.
M12 blind plug	(1 set) 4 pieces 55468
Seal	(1 set) 2 pieces left, 2 pieces right 55061
Code element	(1 set) 2 pieces 55059

System components

Protection IP67

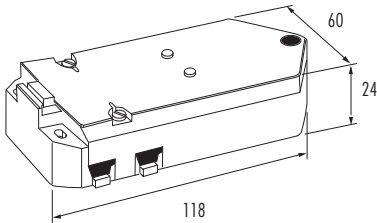
MA SI Repeater



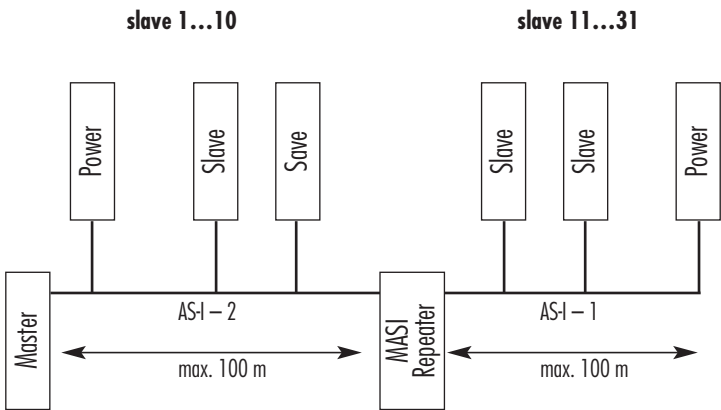
Ordering data	Art.-No.
	55670

Technical data	
Current usage	45 mA per segment, 90 mA overall
Supply voltage	18.5...31.6 V DC galvanical separation between segment 1 and 2
Bus extension	100 m (max. 2 repeater)
Supply voltage	via AS-Interfacebus
Indicator	
green LED	per segment
Time response	
Signal running time in the repeater	6 µs per telegram and per transmitter direction, 12 µs overall per telegram
General data	
Housing	plastic
Mounting method	AS-Interface ribbon cable – penetration technology
Temperature range	0...+55 °C
Mounting method	screw fixing
Dimensions	24 x 118 x 60 mm
Weight	170 g

Dimension drawing



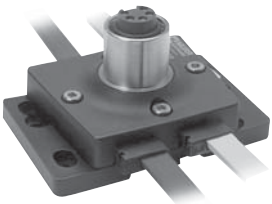
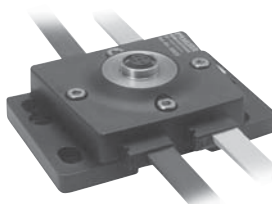
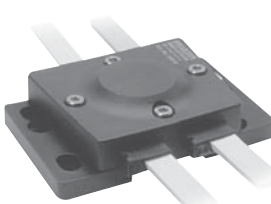
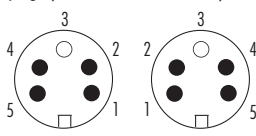
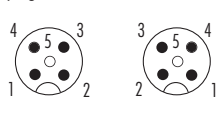
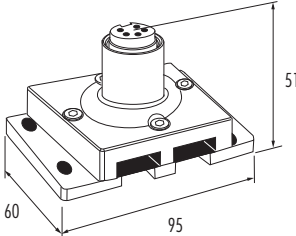
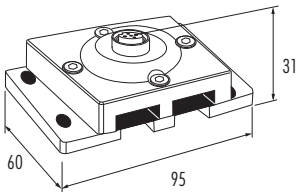
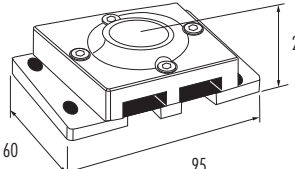
Circuit diagram



Note

Installation technology

Protection IP67

	MA SI67 Converter	MA SI67 Converter	MA SI67 Converter or connector
			
	representative illustration - female	representative illustration - female	
Pin configuration	<div>plug 7/8"      female 7/8"</div> <div></div> <div>Pin configuration</div> <div>Pin 1: AS-Interface + (brown)</div> <div>Pin 2: AS-Interface - (blue)</div> <div>Pin 3: N/C</div> <div>Pin 4: + 24 V (brown)</div> <div>Pin 5: 0 V (blue)</div>	<div>plug M12      female M12</div> <div></div> <div>Pin configuration</div> <div>Pin 1: AS-Interface + (brown)</div> <div>Pin 2: 0 V (blue)</div> <div>Pin 3: AS-Interface - (blue)</div> <div>Pin 4: + 24 V (brown)</div> <div>Pin 5: N/C</div>	
Ordering data	Art.-No.	Art.-No.	Art.-No.
Converter 2 x profile cable 7/8" female	55035		
Converter 2 x profile cable 7/8" male	55036		
Converter 2 x profile cable M12 female		55037	
Converter 2 x profile cable M12 male		55038	
Distributor 1 x on 3 x profile cable			55034
Connection 2 x on 2 x profile cable			55033
Technical data			
Max. voltage	36 V DC		
Max. combined current	8 A	4 A	8 A
Isolation voltage	AS-Interface/power: 200 V		
Connection	7/8"	M12	—
General data			
Temperature range	-20...70 °C		
Protection to DIN 40050	IP67		
Mounting method	screw fixing or DIN-rail mounting to EN60715		
Dimensions (in mm)	51 x 95 x 60 (female), 46 x 95 x 60 (male)	31 x 95 x 60 (female), 40 x 95 x 60 (male)	26 x 95 x 60
Weight	110 g	90 g	65 g
Dimension drawing			
	representative illustration - female	representative illustration - female	
Accessories			Art.-No.
Seal	(1 set) 2 pieces left, 2 pieces right		55061
Middle gasket	(1 set) 2 pieces		55062
Code element	(1 set) 2 pieces		55060
Note	Accessories see chapter 2.10. Connection cables can be found in chapter 1.		