

The space-saving design and protection class of the products in the **MASI00** and **MASI20** product ranges make them ideal for use in switch cabinets.

The range of the well-thought-out and application-oriented products includes

- system supplies
- gateways
- I/O modules
- installation technology with interfaces for distributed peripherals

Adapting the electrical and mechanical interfaces to the products themselves plays a special part in keeping the use of tools to a minimum during assembly, therefore reducing installation times and making an overall contribution to keeping costs down.



Greatest flexibility

- interfaces to many different higher-level field bus systems
 - automatic addressing on replacement of modules
 - convenient conversion and separation for transport
- flexible and extendable
→ quick change of modules

Find the errors instead of searching for them – allround diagnostic

- on-site diagnostic at the module
- detailed messages to controls (master and PLC)
- cut-off and error message to master in case of short-circuit or overload

I/O modules



Bus components MASI00/20

AS-Interface I/O modules with pluggable connections, integrated addressing female, DIN-rail mounting
Protection IP20
4 inputs
4 outputs
2 inputs and 2 outputs
4 inputs and 4 outputs

from page 2.6.2

System components



Supply voltage

AS-Interface system components, protection IP20
Power supply unit MCS-A 4
Power supply unit MCS-A 4 EFD (with integrated earth fault detective)
Power supply unit MASI-2.8

from page 2.6.5

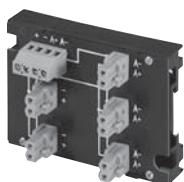
Gateway

AS-Interface system components, protection IP20 for Profibus-DP

Diagnostic with graphical display, metall housing

from page 2.6.7

Installation technology



Accessories, AS-Interface bus and power distributor

Control panel interface for field wiring with AS-Interface flat profile cable.
Plug connectors for easy transport separation.
Break through technology for easy and fast cable manufacture.

from page 2.6.8

I/O modules

- integrated AS-Interface
- pluggable bus connector

Protection IP00

MASI00 DI4 DO4 0.2A



Connection cable



Connection cable

with fork terminal ends



Ordering data	Art.-No.	Art.-No.	Art.-No.
4 digital inputs/outputs	55700		
1 m cable		556510	
150 mm cable			556511
Technical data			
AS-Interface current usage	max. 250 mA		
Supply voltage inputs/outputs	via AS-Interface bus		
Current usage inputs/outputs	max. 200 mA		
Addressing	1...31 via plug terminals		
Profile (IO/ID/ID2 code)	S-7.F.F		
Inputs			
Number of	4		
Type	for standard switches		
Sensor supply	max. 200 mA		
Short-circuit protection	electronically 200 mA		
LED indicator	–		
Outputs			
Number of	4		
Current usage per output	max. 25 mA		
Combined current	max. 200 mA		
Switching frequency	max. 100 Hz at resistive load		
Switch off time by short-circuit	approx. 50 ms		
General data			
Connection technology	Bus: plug-in screw terminals 0.2...2.5 mm ²		
Temperature range	0...+55 °C		
Mounting method	DIN-rail mounting to EN 60715		
Weight	approx. 50 g		
Dimensions	58 x 43 x 15 mm		
Dimension drawing			

MASI00/20

Notes

I/O modules

- all connections pluggable
- integrated addressing socket
- DIN-rail mounting to EN 60715

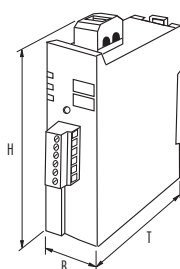
Protection IP20

MASI20 DI4/0.17A AB

4 Inputs 0.17 A; AB-Slave



Ordering data	Art.-No.
4 Inputs	55688
Technical data	
AS-Interface bus voltage	26.5...31.6 V DC
AS-Interface current usage	250 mA
Supply voltage inputs/outputs	24 V
Addressing	via integrated address port or master, pre-adjusted to address 0
Address range	1...62 (1...31 A or B)
Profile (I0/ID/ID2 code)	S-O.A.0
Inputs	
Number of	4
Switching voltage	'0': 0...5 V; '1': 11...30 V
Input voltage/current	24 V/10 mA
Sensor supply (combined current)	170 mA
Short-circuit protection	electronically
LED indicator	yellow LED
Outputs	
Number of	–
Current usage per output	–
Combined current	–
Switching frequency	–
LED indicator	–
Diagnostic	
Green LED/red LED	coded to AS-Interface, specification 2.11 (watchdog, sensor supply, short-circuit and overload protected)
General data	
Connection technology AS-Interface	isolation connectors 0.5...0.75 mm ²
Connection technology sensor/actuator	spring clamp terminals 0.14...1.5 mm ²
Temperature range	-20...+60 °C
Mounting method	DIN-rail mounting to EN 60715
Weight	70 g
Dimensions H x B x T	91 x 25 x 77 mm (with terminals)
Dimension drawing	



Notes
Up-to-date files and manuals can be downloaded from www.murrelektronik.com . Accessories can be found in chapter 2.10.

I/O modules

- all connections pluggable
- integrated addressing socket
- DIN-rail mounting to EN 60715

Protection IP20

**MASI20
DI4/0.2A DO3/0.5A AB**
4 inputs 0.2 A
3 outputs 0.5 A; AB-slave



**MASI20
DI4/0.17A DO3R AB**
4 inputs 0.17 A
3 relay outputs; AB-slave



**MASI20
DI4/0.2A DO4/0.5A**
4 inputs 0.2 A
4 outputs 0.5 A



**MASI20
DI4/0.2A DO4R**
4 inputs 0.2 A
4 relay outputs



Ordering data	Art.-No.	Art.-No.	Art.-No.	Art.-No.
4 Inputs / 4 solid state outputs			55686	
4 Inputs / 4 relay outputs				55685
4 Inputs / 3 solid state outputs	55687			
4 Inputs / 3 relay outputs		55768		
Technical data				
AS-Interface bus voltage	26.5...31.6 V DC			
AS-Interface current usage	max. 50 mA	250 mA	50 mA	300 mA
Supply voltage inputs/outputs	24 V	via AS-Interface bus	24 V	via AS-Interface bus
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 code)	S-7.A.E		S-7.O.E	
Inputs				
Number of	4			
Switching voltage	'0': 0...5 V; '1': 11...30 V			
Input voltage/current	24 V/10 mA			
Sensor supply (combined current)	external (200 mA)	≤ 170 mA from AS-Interface bus	external (200 mA)	≤ 200 mA from AS-Interface bus
Short-circuit protection	electronically			
LED indicator	yellow LED			
Outputs				
	Relay			
Number of	–	3	–	4
Current usage per output	–	max. 2 A	–	max. 2 A
Combined current	–	max. 4.5 A	–	max. 4.5 A
Switching frequency	–	0.1 Hz	–	0.1 Hz
LED indicator	–	yellow LED	–	yellow LED
	Solid state			
Number of	3	–	4	–
Current usage per output (short-circuit protected)	0.5 A	–	0.5 A	–
Combined current	max. 2 A	–	max. 2 A	–
Switching frequency	500 Hz	–	500 Hz	–
Switch off time by short-circuit	approx. 20 ms	–	approx. 20 ms	–
LED indicator	yellow LED	–	yellow LED	–
Diagnostic				
Green LED/red LED	coded to AS-Interface, specification 2.11 (watchdog, sensor supply, short-circuit and overload protected)			
General data				
Connection technology AS-Interface/power	isolation connectors 0.5...0.75 mm ²			
Connection technology sensor/actuator	spring clamp terminals 0.14...1.5 mm ²			
Temperature range	-20...+60 °C			
Mounting method	DIN-rail mounting to EN 60715			
Dimensions H x T x B / weight	91 x 25 x 77 mm (with terminals) / 95 g			
Dimension drawing				
Notes				
Up-to-date files and manuals can be downloaded from www.murrelektronik.com . Accessories can be found in chapter 2.10.				

System components
Single-phase, primary switch mode

Supply voltage for AS-Interface

Touch protected to EN 60529 (IP20)

Approvals:



MASI - 2.8

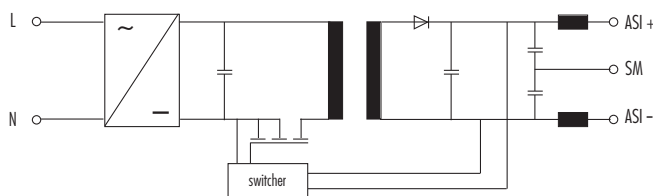
Input voltage 115 V AC



MASI - 2.8

Input voltage 230 V AC

Circuit diagram



Ordering data

output rating
30.5 V DC/2.8 A 85.4 W

Art.-No.

85425

Art.-No.

85424

Input

Input voltage	115 V AC	230 V AC
Input current	1.3 A	0.8 A
Inrush	< 14 A	< 20 A
Safety	max. 10 A T	
Frequency	50/60 Hz	

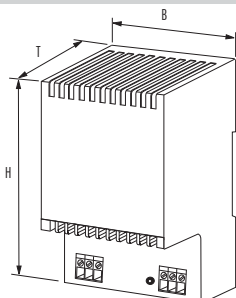
Output

Output voltage	30.5 V DC SELV \pm 3 %
Max. output current	2.8 A
Efficiency	0.85
Mains failure bridging	> 30 ms (115 V AC) > 30 ms (230 V AC)
Ripple	< 50 mV _{ss}
Protection	overload and short-circuit protected
LED-indicator	green LED for output voltage
Output filter	filter to AS-Interface specification

General data

Guideline	EN 60950-1, EN 61204-3, EN 55022 B
Temperature range	-10...+60 °C
Mounting method	DIN-rail mounting to EN 60715 (TH35)
AS-Interface	the unit meets AS-Interface requirements for power supplies (PELV)
Weight	0.71 kg
Dimensions H x B x T	153 x 103 x 70 mm

Dimension drawing/Dimensions



Notes

MASI - 2.8 primary switch mode meets the EN 61000-3-2 guideline.

System components
Single-phase, primary switch mode

Supply voltage for AS-Interface

Touch protected to EN 60529 (IP20)

Approvals:



MCS-A 4

Input voltage 95...265 V AC

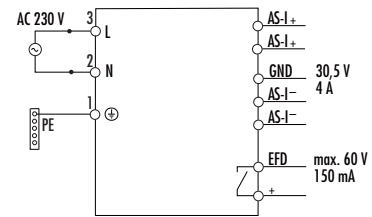
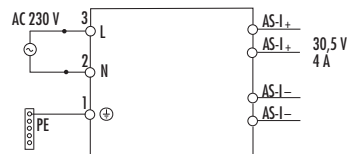


MCS-A 4 EFD

Input voltage 95...265 V AC



Circuit diagram



Ordering data

Art.-No.

Art.-No.

output rating	Art.-No.	Art.-No.
30.5 V DC/4 A	85381	85382

Input

Input voltage	95...265 V AC	95...265 V AC
Input current	2.1 A at 110 V AC	
Inrush current to 1 ms	typ. \leq 35 A at 230 V AC	
Safety	max. 10 A T	
Frequency	50/60 Hz	

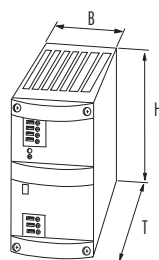
Output

Output voltage	30.5 V DC SELV \pm 2 %	
Max. output current	4.0 A (40 °C) ... 3.4 A (55 °C)	
Efficiency	0.85/240 V AC	
Mains failure bridging	> 14 ms typical/110 V AC	
Ripple	< 20 mV eff	
Protection	overload and short-circuit protected	
LED-indicator	green LED for output voltage	
Output filter	filter to AS-Interface specification	
Earth fault detection (EFD)	no	yes

General data

Guideline	EN 60950-1, EN 61204-3, EN 55022 B	
Temperature range	0...+40 °C	
Mounting method	DIN-rail mounting to EN 60715 (TH35)	
AS-Interface	the unit meets AS-Interface requirements for power supplies (PELV)	
Weight	0.6 kg	
Dimensions H x B x T x TA ¹⁾	115 x 54 x 147 mm	115 x 54 x 147 x 16 ¹⁾ mm

Dimension drawing/Dimensions



¹⁾ TA = Terminal block depth

Notes

Mounting adapter for side mounting see page 4.9.2

System components for AS-Interface/Profibus-DP

with diagnostic
with graphical display

Protection IP20

Gateway single master



Gateway single master metal housing



Gateway double master metal housing

Ordering data	Art.-No.	Art.-No.	Art.-No.
Gateway AS-Interface/Profibus-DP AS-I specification 2.1	55707	556612	556616

AS-Interface

Tested supply current	≤ 200 mA of AS-Interface circle		
Tested supply voltage	26.5...31.6 V DC		
Cycle time	150 μs x (number of slaves + 1)		
Bus connection	via screw terminals on the front	via spring clamp terminals on the front 0.2...2.5 mm ²	
Max. number of slaves	62	62	2 x 62

Profibus

Type	Profibus-DP slave		
Bus connection	SUB-D 9-pole		
Profibus interface	to DIN 19245 part 3		
Data rates	9.6...12000 kBaud, automatic detection		
Addressing	via buttons on the gateway or Profibus-DP addresses 1...126 adjustable (default 3)		
Profibus-DP functions	illustration of AS-Interface slaves as I/O process data in Profibus-DP, full diagnostic configuration via DP-master		
Button	4 (mode/set/OK/ESC)		

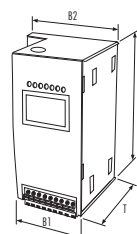
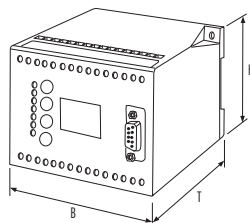
Display

Graphical display
- AS-Interface slave addresses
- error messages
- operating mode
- I/O data
- system, parameter and diagnostic data

General data

Tested isolation voltage	≥ 500 V		
EMC	to EN 50082, EN 50081		
Temperature range	0...+55 °C		
Storage temperature	-25...+85 °C		
Housing	plastic	stainless steel	
Mounting method	DIN-rail mounting to EN 60715		
Dimensions H x B (B1) x (B2) x T	75 x 110 x 100 mm	120 x 55 x 75 x 70 mm	
Weight	450 g	470 g	

Dimension drawing



Accessories

RS 232/RS 485 converter	using software tools to operate Profibus/AS-Interface gateways via a serial PC interface	55716
AS-Interface control tools	simple planning, diagnostic and commissioning of AS-Interface systems via PC Profibus gateway	55717
Profibus data cable		55770
Profibus connector	up to 12 MBit/s with switchable terminators	55762

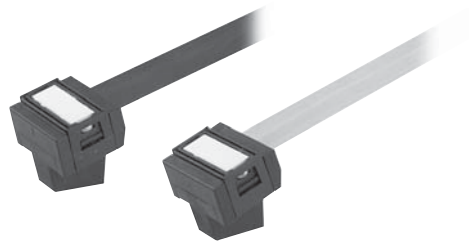
Notes

Other gateways on request. Up-to-date files and manuals can be downloaded from www.murrelektronik.com

Installation technology for AS-Interface

Plug-in terminal

Protection IP20



Ordering data

Art.-No.
55604

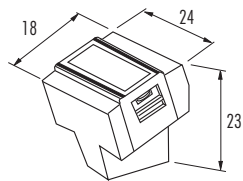
Technical data

Max. voltage	36 V DC
Max. current/connection	–
Max. combined current	8 A
Isolation voltage	–
Connection	piercing technology

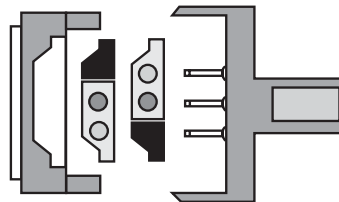
General data

Temperature range	-20...+70 °C
Mounting method	–
Dimensions	23 x 24 x 18 mm
Weight	approx. 8 g

Dimension drawing



Connection diagram

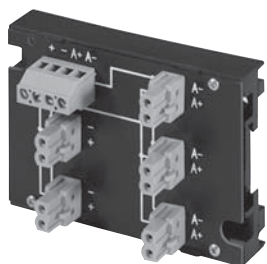


Notes

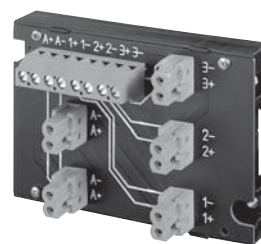
Installation technology for AS-Interface

Protection IP20

Bus and power distributor



Bus and power distributor



Ordering data

incl. 5 plug terminals

Art.-No.

55606

Art.-No.

55575

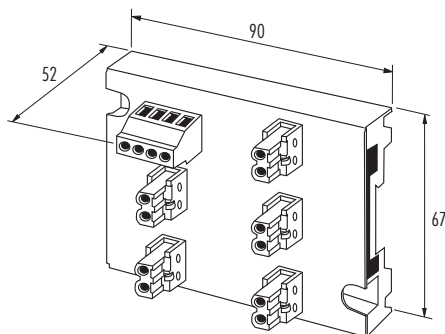
Technical data

Max. voltage	36 V DC
Max. current/connection	8 A
Max. combined current	24 A
Isolation voltage	AS-Interface/power 200 V, DIN VDE0110, 1989-01 table 4
Connection	screw terminal, single-core wires (0.25...4 mm ²), stranded wires (0.5...2.5 mm ²)

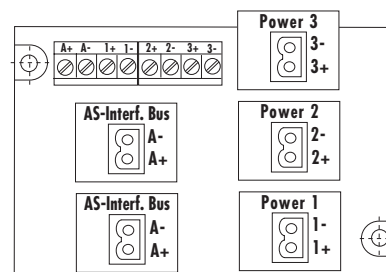
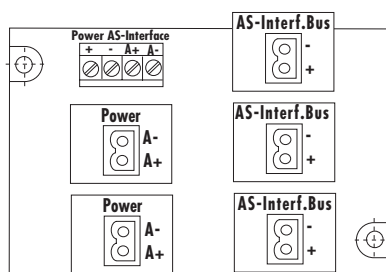
General data

Temperature range	-20...+70 °C
Mounting method	DIN-rail mounting to EN 60715
Dimensions	67 x 90 x 52 mm
Weight	approx. 80 g

Dimension drawing



Connection diagram

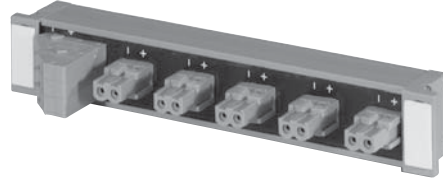


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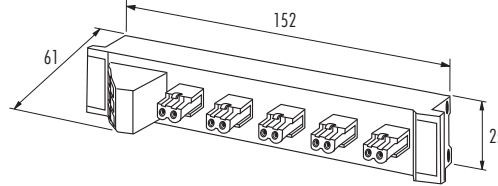
Installation technology for AS-Interface

Bus and power distributor

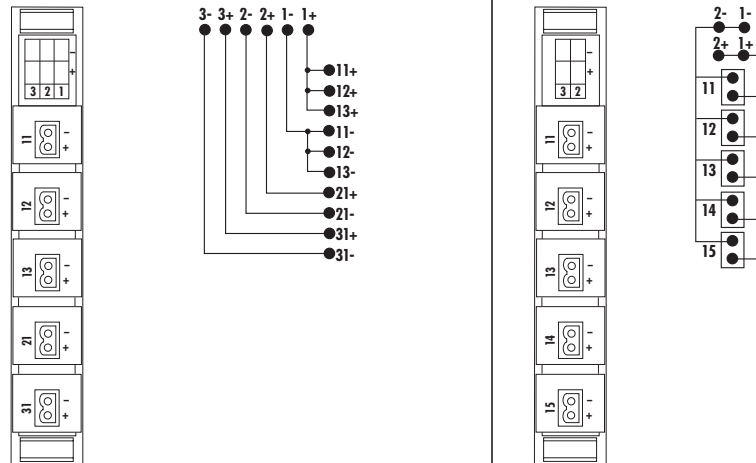
Protection IP20



Ordering data	Art.-No.	Art.-No.
incl. 5 plug terminals	55605	
without plug terminals	55607	incl. 5 plug terminals
		55611
Technical data		
Max. voltage	36 V DC	
Max. current/connection	8 A	
Max. combined current	12 A	
Isolation voltage	AS-Interface/power 200 V, power/power 50 V, DIN VDE 0110, 1989-01 table 4	
Connection	screw terminal, single-core wires (0.2...2.5 mm ²), stranded wires (0.2...1.5 mm ²)	
General data		
Temperature range	-20...+70 °C	
Mounting method	DIN-rail mounting to EN 60715	
Dimensions	25 x 152 x 61 mm	
Weight	approx. 60 g	
Dimension drawing		



Connection diagram



Notes