

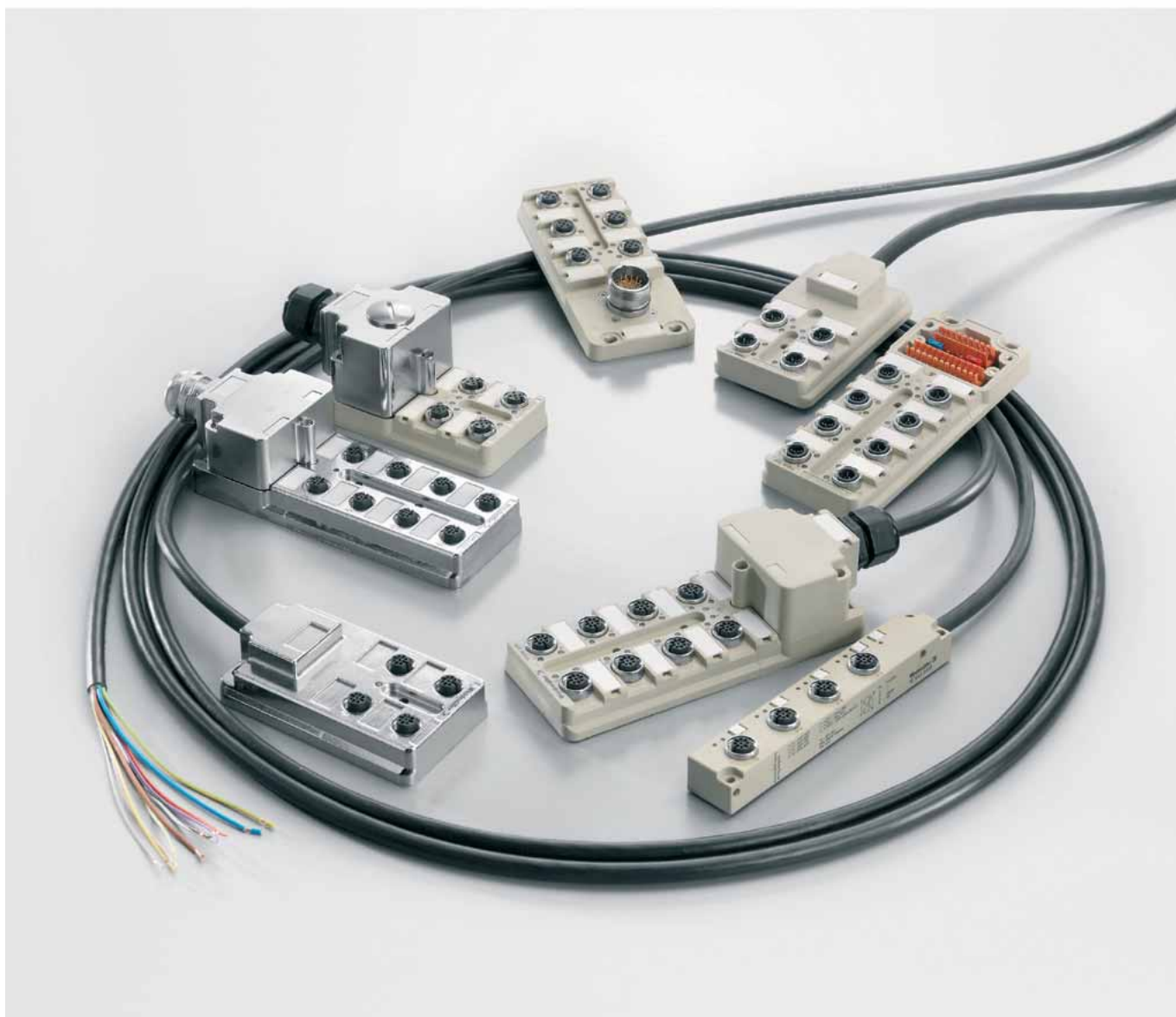
Passive distributors

Passive distributors	
Introduction	G.2
M12 distributors	G.4
ECO modules	G.14
M12 Push-Pull	G.16
M12 IDC	G.24
M12 VA stainless steel	G.28
M12 metal distributors	G.30
M12 distributors 1:1 Passive	G.36
M12 Combi distributor	G.37
M12 distributor for NPN and PNP sensors	G.38
M12 wall bushing	G.39
Solutions to customer specification	G.42
M8 distributors	G.44
M5 distributors	G.54
M12 Ex i distributors	G.58

SAI Passive

SAI Passive products are built with premium materials using the highest quality production methods. The fully encapsulated distributors are designed to meet harsh industrial requirements. Naturally they have also been designed so that they are easy to handle. The self assembled connectors in the hooded version, for example, are joined into a single part so that the entire block is available for the connection. This is a unique solution for distributors that has no equal anywhere. Nothing can break off, get mixed up or wired up incorrectly.

The distributors are equipped by default with threaded metal rings. This ensures a very reliable screw-on connection. The nut is completely threaded without any interruptions. This eliminates the possibility of it getting stuck or jammed. The IDC versions are especially noteworthy. Sensor cables of the proper lengths can be connected directly here.





Compact

The connection block is a single piece.



Small

Extremely small M12 distributor



Fast

Insulation displacement connection can be used to directly connect the sensor cables



Robust

Threaded metal ring without cut outs for reliable, safe handling



M12 distributor standard



M12 distributor with
DIP switch coding

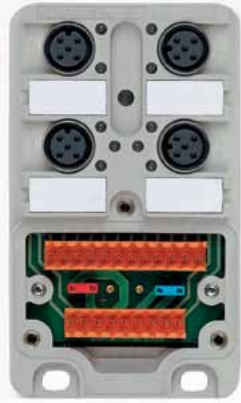


M12 distributor with
stainless steel housing



M12 distributor for Zone 1 and
Zone 22

SAI distributor with plug in connection hood: SAI-M



- Integrated plug in connector in connection hood
- M12 robust metal thread for sensor/actuator connection, now also available with plastic thread as an alternative
- Quick replacement of bus cables
- Bus cable can be supplied pre assembled
- Two connection systems for bus cable: screw or tension clamp
- Very flat connection hood: no higher than smallest 90° M12 round plug
- Distributor and connection hood can be supplied separately
- Connection hood compatible with 4 and 8 channel SAI distributors (upgrades only entail changing the base module)
- IP 68 Ingress protection class (IDC IP 67),
- Housing made from Pocan (PBT):
 - high dimensional stability
 - good electrical and mechanical properties
 - flame retardant without dioxin or furan formers
 - resistant to coolants and lubricants
- UL/CSA approvals for M12 SAI distributor
- SAI distributor available in pollution severity class 3
- Cable exit on top
- Weidmüller SAI distributors have the largest storage capacity in the connection hood
- Female connectors integrated into the metal plate for fast and reliable connections
- Wide range of M8 and M12 cables and plug-in connectors
- Various cable length's available
- Metal hoods and housings also available
- Plug-in connection module for bus cables increases flexibility on site
- Integral, plug in electrical isolation for two separate electric circuits (e.g. for emergency stop)
- Simple and vibration resistant connections on site
- Captive metric screws (grade 8.8 steel) have a +/- head
- M12 and IDC connections
- 1:1 arrangement available

Overview of M12 Distributors



Fixed cable version

- Pre assembled bus cable minimises installation time and reduces wiring errors
- Cable carrier compatible versions are available with polyurethane (PUR) sheathing



M12 Push-Pull quick-fit connection system

M12 Push-Pull is the new connection system for sensors and actuators. It is downward compatible to the existing M12 system, which means that both old M12 and new M12 Push-Pull lines can be used together on these SAIs. M12 Push-Pull decreases installation time and increases installation safety by means of colour coding and provides an audible click on locking for added reassurance.



SAI ECO – the cost-effective alternative

Weidmüller SAI distributors with hood have long since been standard fittings in machines and installations.

Why plastic threaded rings?

There were some applications, however, that called for a further version. In some applications it is necessary to avoid all metal parts, unless these are made from stainless steel. In such cases stainless steel is then used for screws and nuts only, but the M12 threaded rings can also be made from plastic. Such modules can now be supplied on request.

The use of plastic rings therefore results in a cheaper alternative. Although the service life and resistance are reduced when compared to metal, this is acceptable for some applications.

M12 distributors

Overview of SAI

M12 plastic

	Hood	M23	5 m	10 m	15 m	20 m
4-way, 4-pole	1705920000	9456000000	9456190000	9456200000	9456210000	9456230000
4-way, 5-pole	1701230000	9456000001	9456330000	9456340000	9456350000	9456370000
6-way, 4-pole	1705930000	9456010000	9456470000	9456480000	9456490000	9456510000
6-way, 5-pole	1701240000	9456010001	9456610000	9456620000	9456630000	9456650000
8-way, 4-pole	1705940000	9456020000	9456750000	9456760000	9456770000	9456790000
8-way, 5-pole	1701250000	1795470000	9456890000	9456900000	9456910000	9456930000

M12 metal

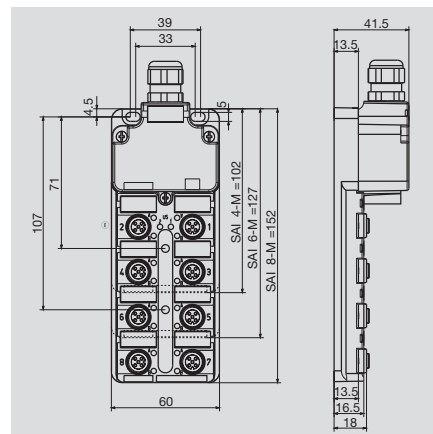
	Hood without shield connection	Hood with shield connection	5 m	10 m		
4-way, 4-pole		1783540000	9456190002	9456200002		
4-way, 5-pole	1783500000	1783520000				
8-way, 4-pole		1783530000	9456750002	9456760002		
8-way, 5-pole	1783490000	1783510000				

M8 line

	M12 group outlet	Solder version for PCB	5 m	10 m		
4-way, 3-pole	1828740000		1828720000	1828710000		
4-way, 4-pole			1849680000	1849690000		
6-way, 3-pole	1828730000	1057720000	1828700000	1828690000		
6-way, 4-pole			1849700000	1849670000		
8-way, 3-pole	1871680000		1828680000	1828670000		
8-way, 4-pole			1828620000	1828610000		
10-way, 3-pole	1877950000		1828660000	1828650000		
12-way, 3-pole			1828640000	1828630000		

M12 distributor

Hood version



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Without initiator-LED, for analogue signals	4 channel
Without initiator-LED, for analogue signals	8 channel
Tension clamp connection	4 plug-in slots
Tension clamp connection	8 channel
Base unit	
	4 channel
	6 channel
	8 channel
Mounting hood	
	Tension clamp connection
	Tension clamp connection
	Screw connection
	Screw connection
Complete modules, NPN-switched	8 channel
Note	

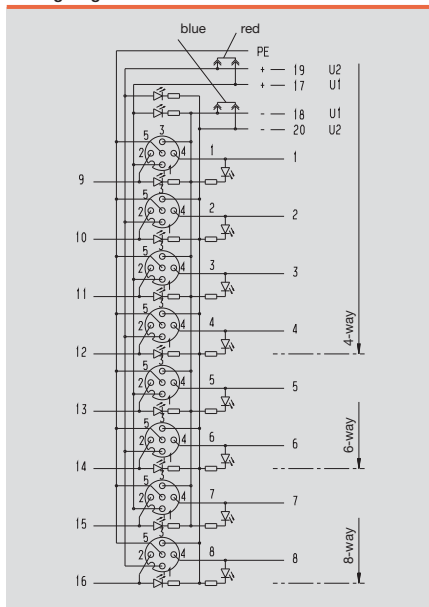
SAI-4/6/8-M		4-pole	
Type	Qty.	Order No.	
SAI-4-M 4P M12	1	1705920000	
SAI-6-M 4P M12	1	1705930000	
SAI-8-M 4P M12	1	1705940000	
SAI-4 M 4P M12 UT	2	1705921000	
SAI-6-M 4P M12 UT	2	1705931000	
SAI-8-M 4P M12 UT	2	1705941000	
SAI-4/6/8-MH BLZF3.5	1	1752080000	
SAI-4/6/8-MH BLZF3.5 SV	50	1752080050	
SAI-4/6/8-MH BL3.5	1	1724750000	
SAI-4/6/8-MH BL3.5 SV	50	1724750050	
Other versions on request			

SAI-4/6/8-M		4-pole	
Type	Qty.	Order No.	
SAI-4-M 5P M12	1	1701230000	
SAI-6-M 5P M12	1	1701240000	
SAI-8-M 5P M12	1	1701250000	
SAI-4-M 5P M12 OL	1	1800000000	
SAI-8-M 5P M12 OL2	1	1816610000	
SAI-4-M 5P M12 ZF	1	1854000000	
SAI-8-M 5P M12 ZF III	1	1767880000	
SAI-4-M 5P M12 UT	2	1701231000	
SAI-6-M 5P M12 UT	2	1701241000	
SAI-8-M 5P M12 UT	2	1701251000	
SAI-4/6/8-MH BLZF3.5	1	1752080000	
SAI-4/6/8-MH BLZF3.5 SV	50	1752080050	
SAI-4/6/8-MH BL3.5	1	1724750000	
SAI-4/6/8-MH BL3.5 SV	50	1724750050	
SAI-8-M 5P M12 NPN	1	1781060000	
Other versions on request			

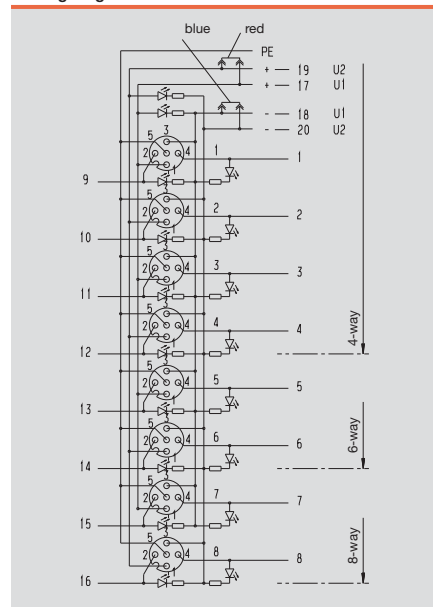
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	
With dual power supply: 2x8 = 16A total current	
Clamping range up to 2.5 mm ² with screw connection	

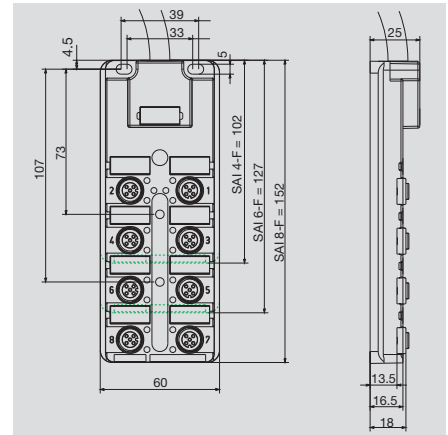
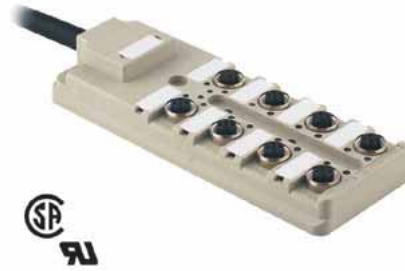
Wiring diagram



Wiring diagram



Fixed cable version



Ordering data

4 channel	
	Cable length 3 m
	Cable length 5 m
	Cable length 10 m
	Cable length 15 m
	Cable length 20 m
6 channel	
	Cable length 3 m
	Cable length 5 m
	Cable length 10 m
	Cable length 15 m
	Cable length 20 m
8 channel	
	Cable length 3 m
	Cable length 5 m
	Cable length 10 m
	Cable length 15 m
	Cable length 20 m
8 channel with reinforced fixed cable*	
	Cable length 2 m
	Cable length 5 m
	Cable length 10 m
	Cable length 15 m
	Cable length 20 m
Note	

SAI-4/6/8-F		4-pole	
Type	Qty.	Order No.	
SAI-4-F 4P PUR 3M	1	9456180000	
SAI-4-F 4P PUR 5M	1	9456190000	
SAI-4-F 4P PUR 10M	1	9456200000	
SAI-4-F 4P PUR 15M	1	9456210000	
SAI-4-F 4P PUR 20M	1	9456230000	
SAI-6-F 4P PUR 3M	1	9456460000	
SAI-6-F 4P PUR 5M	1	9456470000	
SAI-6-F 4P PUR 10M	1	9456480000	
SAI-6-F 4P PUR 15M	1	9456490000	
SAI-6-F 4P PUR 20M	1	9456510000	
SAI-8-F 4P PUR 3M	1	9456740000	
SAI-8-F 4P PUR 5M	1	9456750000	
SAI-8-F 4P PUR 10M	1	9456760000	
SAI-8-F 4P PUR 15M	1	9456770000	
SAI-8-F 4P PUR 20M	1	9456790000	
Other versions on request			

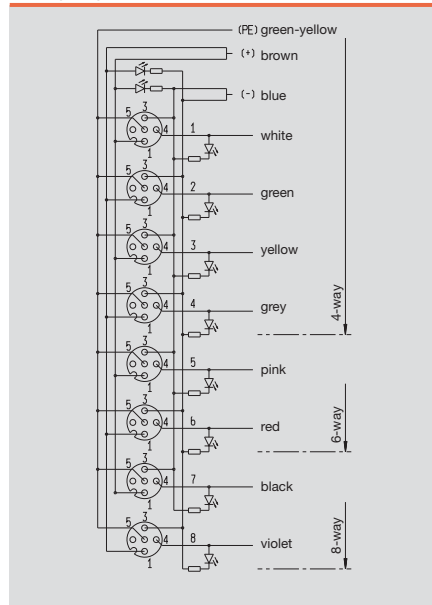
SAI-4/6/8-F		5-pole	
Type	Qty.	Order No.	
SAI-4-F 5P PUR 3M	1	9456320000	
SAI-4-F 5P PUR 5M	1	9456330000	
SAI-4-F 5P PUR 10M	1	9456340000	
SAI-4-F 5P PUR 15M	1	9456350000	
SAI-4-F 5P PUR 20M	1	9456370000	
SAI-6-F 5P PUR 3M	1	9456600000	
SAI-6-F 5P PUR 5M	1	9456610000	
SAI-6-F 5P PUR 10M	1	9456620000	
SAI-6-F 5P PUR 15M	1	9456630000	
SAI-6-F 5P PUR 20M	1	9456650000	
SAI-8-F 5P PUR 3M	1	9456880000	
SAI-8-F 5P PUR 5M	1	9456890000	
SAI-8-F 5P PUR 10M	1	9456900000	
SAI-8-F 5P PUR 15M	1	9456910000	
SAI-8-F 5P PUR 20M	1	9456930000	
SAI-8-F 5P 2M 0.5/1.0U	1	7915030000	
SAI-8-F 5P 5M 0.5/1.0U	1	9457590000	
SAI-8-F 5P 10M 0.5/1.0U	1	9457600000	
SAI-8-F 5P 15M 0.5/1.0U	1	1784510000	
SAI-8-F 5P 20M 0.5/1.0U	1	1784500000	
Other versions on request			

Technical data

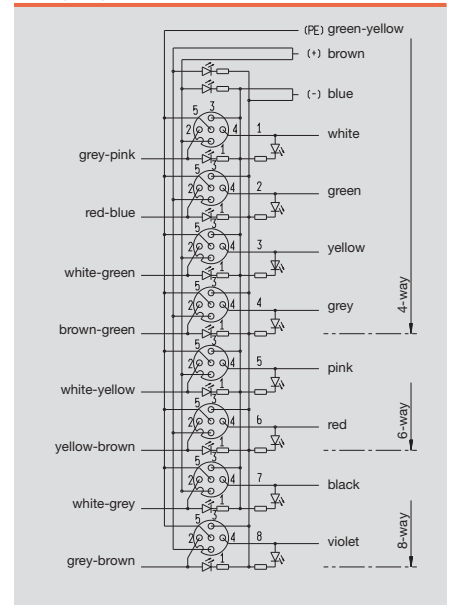
Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	9 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickel- gold-plated
screw socket	CuZn, nickel- plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

* 3x1mm² und 16x0.5mm² total current 12A

Wiring diagram

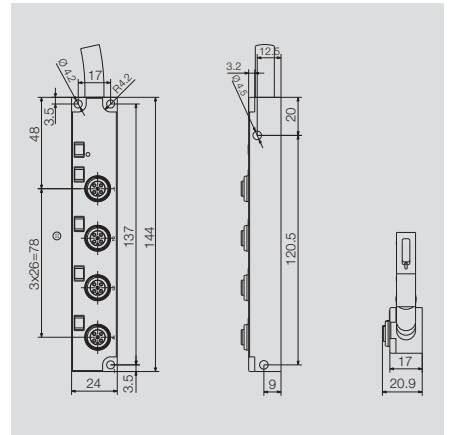


Wiring diagram



M12 distributor

Fixed-cable version
thin design



Ordering data

4 channel	Cable length 5 m Cable length 10 m
Note	

SAI-4-F M12 L

4-pole

Type	Qty.	Order No.
SAI-4-F 4P M12 L 5M	1	1070650000
SAI-4-F 4P M12 L 10M	1	1070660000
Other versions on request		

SAI-4-F M12 L

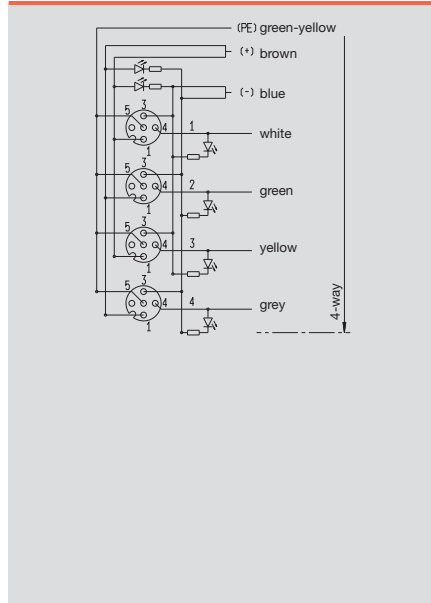
5-pole

Type	Qty.	Order No.
SAI-4-F 5P M12 L 5M	1	1070630000
SAI-4-F 5P M12 L 10M	1	1070640000
Other versions on request		

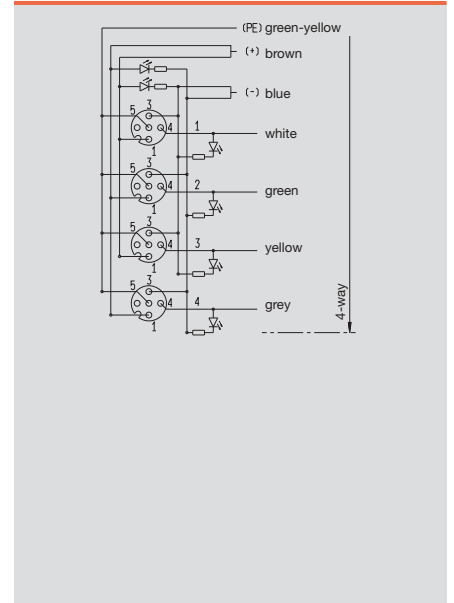
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	9 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickel- gold-plated
screw socket	CuZn, nickel- plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

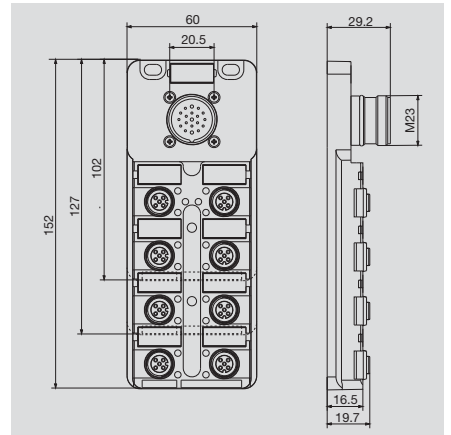
Wiring diagram



Wiring diagram



with M23 outlet



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Note	

SAI-4/6/8-S

4-pole

Type	Qty.	Order No.
SAI-4-S 4P M12	1	9456000000
SAI-6-S 4P M12	1	9456010000
SAI-8-S 4P M12	1	9456020000
Other versions on request		

SAI-4/6/8-S

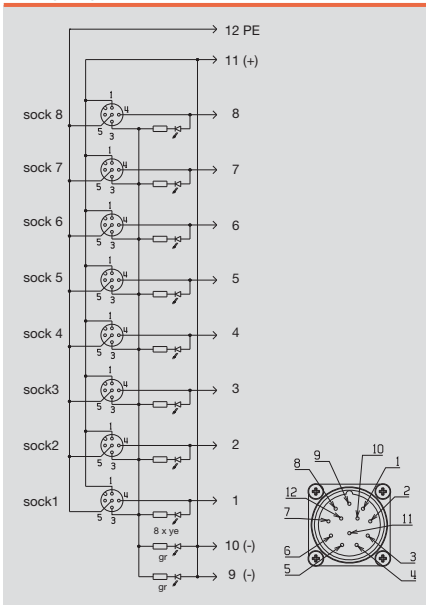
5-pole

Type	Qty.	Order No.
SAI-4-S 5P M12	1	9456000001
SAI-6-S 5P M12	1	9456010001
SAI-8-S 5P M12	1	1795470000
Other versions on request		

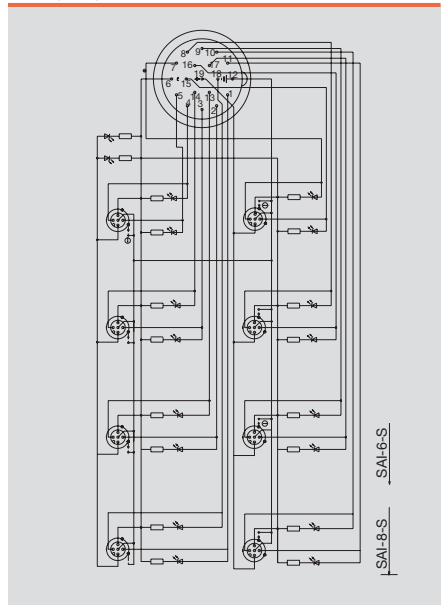
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickel- gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



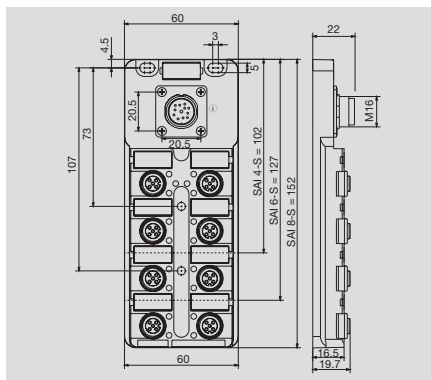
Wiring diagram



M12 distributor

with M16 outlet

SAI-8-M16



Ordering data

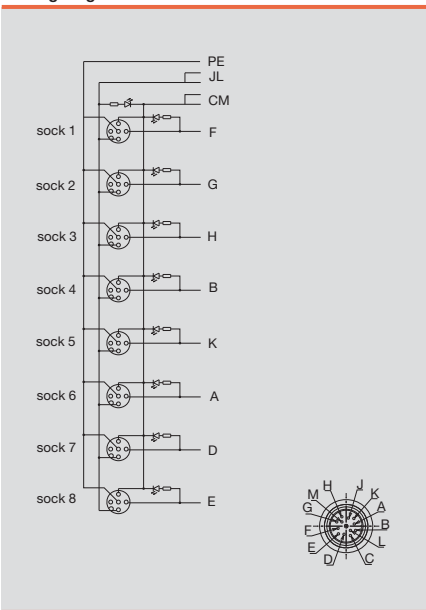
Complete modules	8 channel
Note	

SAI-8-M16	4-pole	
Type	Qty.	Order No.
SAI-8-M16 4P M12	1	1831020000
Other versions on request		

Technical data

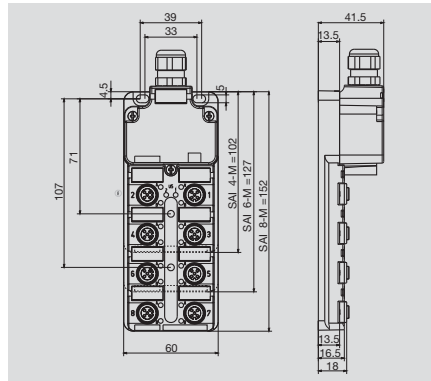
Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	6 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



**Hood version
with DIP-switch coding**

SAI-8-M M12 DIP



Ordering data

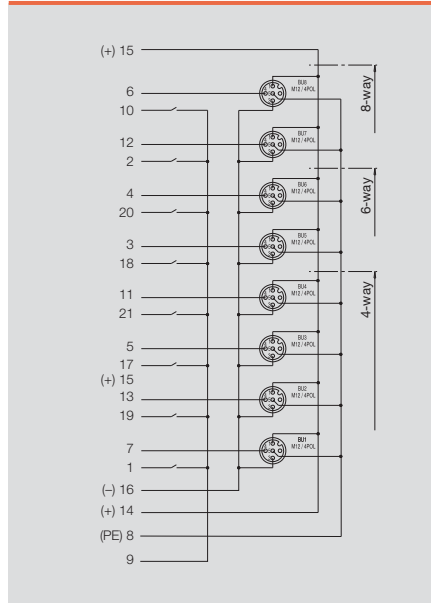
Complete modules	8 channel
Note	

SAI-8-M M12 DIP		4-pole
Type	Qty.	Order No.
SAI-8-M-4P M12 DIP	1	1059430000
Other versions on request		

Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	8 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



SAI ECO

SAI ECO – the cost-effective alternative

The Weidmüller SAI distributors with hoods have long since been standard fittings in machines and installations.

Why plastic threaded rings?

There were some applications, however, that called for a further version. In some applications it is necessary to avoid all metal parts. In such cases stainless steel is then used for screws and nuts only, but the M12 threaded rings can also be made from plastic. Such modules can now be supplied on request.

The use of plastic rings therefore results in a cheaper alternative. Although the service life and resistance are reduced when compared to metal, this is acceptable for some applications.

Cost-effective alternative

The ECO modules were developed to optimise costs. Many details of these modules were adapted in such a way that they can still be used wherever standard modules were used in the past, but the individual solutions have now become simpler:

- One way disconnecter: Up until now it was usual to achieve electrical isolation devised by Weidmüller by way of jumpers. To reduce costs, these jumpers have been replaced by solder bridges. These are simply cut to provide electrical isolation.
- No protective caps: Normally, Weidmüller M12 distributors are always supplied with two protective caps. These were not always required and so they have been omitted.
- Standard cable gland: The vibration resistant black screw cable gland has been replaced by a standard IP 68 cable gland.

These cost-cutting measures result in yet more applications for Weidmüller SAI distributors.

Greater reliability than with comparable systems

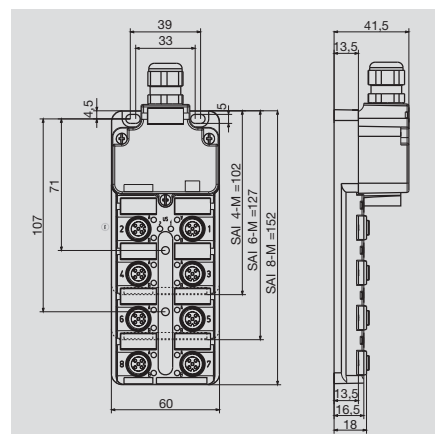
Plastic threaded rings are nothing new. However, the problem in the past was that the threaded rings formed part of the housing and were therefore made from the same plastic.

Weidmüller has once again pioneered a new and better solution. Weidmüller plastic rings are manufactured separately, which means that a more suitable, more durable material can be chosen. The Weidmüller production method is also patented.



Special threaded ring increases durability

Hood version



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
NPN	4 channel
NPN	8 channel
Base unit	
	4 channel
	6 channel
	8 channel
Mounting hood	
	Tension clamp connection
	Screw connection
Note	

SAI-4/6/8-M

5-pole

Type	Qty.	Order No.
SAI-4-M 5P M12 ECO	1	1892100000
SAI-6-M 5P M12 ECO	1	1892090000
SAI-8-M 5P M12 ECO	1	1892080000
SAI-4-M 5P M12 NPN ECO	1	1892100005
SAI-8-M 5P M12 NPN ECO	1	1892080005
<hr/>		
SAI-4-M 5P M12 ECO UT	2	1892101000
SAI-6-M 5P M12 ECO UT	2	1892091000
SAI-8-M 5P M12 ECO UT	2	1892081000
<hr/>		
SAI-4/6/8-MH BLZF3.5 SV	50	1752080050
SAI-4/6/8-MH BL3.5 SV	50	1724750050
These distributors are supplied without protective caps and markers.		

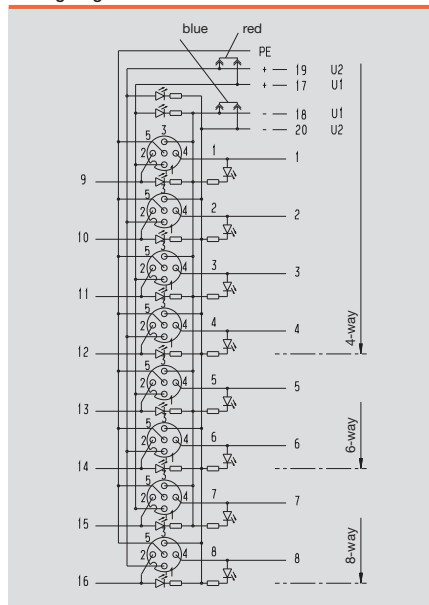
Type	Qty.	Order No.

Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	Pocan
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	

With dual power supply: 2x8 = 16A total current
Clamping range up to 2.5 mm² with screw connection

Wiring diagram



M12 Push-Pull: SAI distributors and cables, with rapid-connection technology

SAI distributors with M12 Push-Pull plug



Whereas the standard M12 system requires the sleeves to be laboriously screwed on and that operation is hindered by the vibration guard, M12 Push-Pull works with one click, just like those well-known garden hose systems. The audible locking function guarantees a safe and reliable connection as well as a good seal.

M12 Push-Pull is currently supplied by Weidmüller and five other international companies

M12 Push-Pull connections provide sufficient space for using T-pieces. The SAI module is slimmer and now only 54 mm wide.

The new SAI M12 Push-Pull distributors can be used with M12 plug-in connectors but also with the new M12 Push-Pull plug-in connectors.

The SAI distributors are available in fixed cable, hood, bayonet connection and M23 versions.

M12 Push-Pull speeds up installation and increases installation reliability thanks to the colour coding and the audible click when locking it into place.

M12 Push-Pull M23 versions



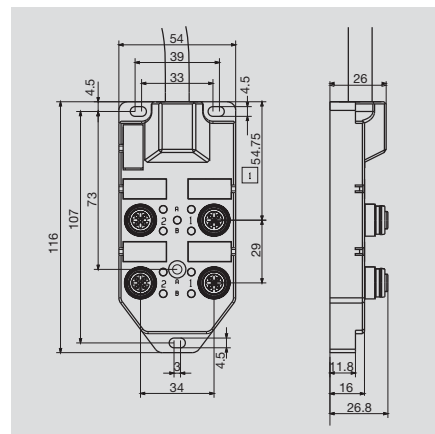
M12 Push-Pull hood version



M12 Push-Pull with bayonet connection



Fixed cable version



Ordering data

4 channel	
	Cable length 2 m
	Cable length 5 m
	Cable length 10 m
8 channel	
	Cable length 2 m
	Cable length 5 m
	Cable length 10 m
Note	

SAI-4/8-F

4-pole

Type	Qty.	Order No.
SAI-4-F 4P FC 2M	1	1848080000
SAI-4-F 4P FC 5M	1	1848060000
SAI-4-F 4P FC 10M	1	1848050000
Other versions on request		

SAI-4/8-F

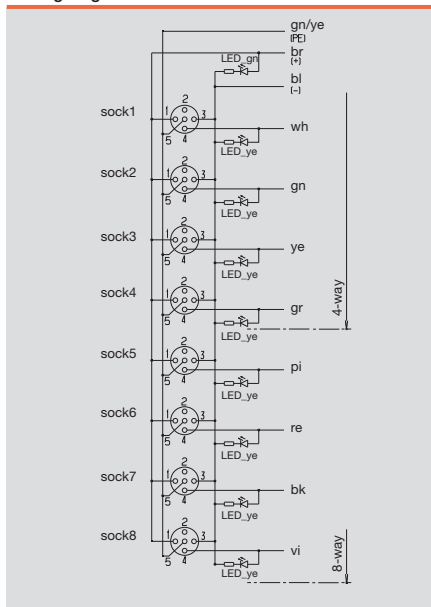
5-pole

Type	Qty.	Order No.
SAI-4-F 5P FC 2M	1	1847940000
SAI-4-F 5P FC 5M	1	1847950000
SAI-4-F 5P FC 10M	1	1847930000
Other versions on request		

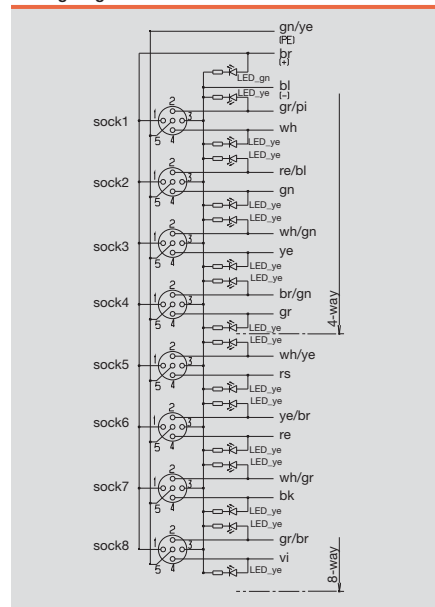
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	10 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes
Master trunk cable 3x1mm ² x n x 0.34mm ² ; Hallogen	

Wiring diagram

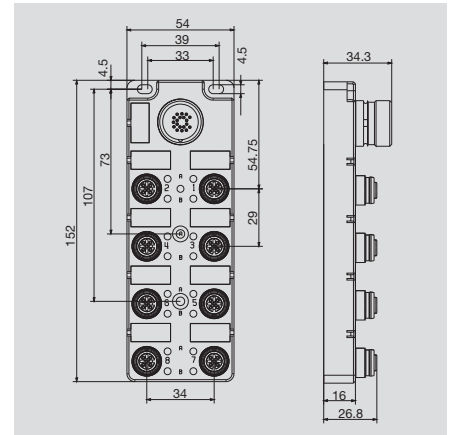


Wiring diagram



M12 Push-Pull

with M23 outlet



Ordering data

Complete modules	
	4 channel
	8 channel
Note	

SAI-4/8-S

4-pole

Type	Qty.	Order No.
SAI-4-S 4P FC	1	1847960000
SAI-8-S 4P FC	1	1847920000
Other versions on request		

SAI-4/8-S

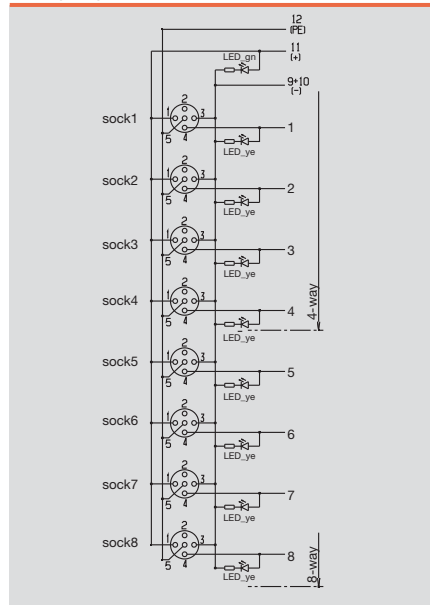
5-pole

Type	Qty.	Order No.
SAI-4-S 5P FC	1	1847970000
SAI-8-S 5P FC	1	1848040000
Other versions on request		

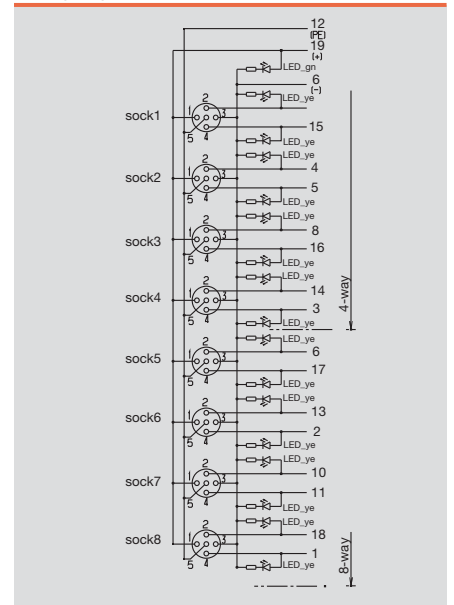
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	9 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

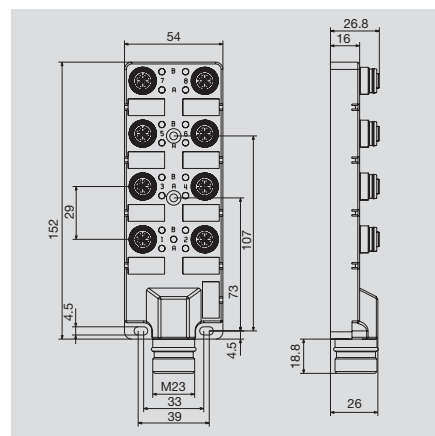
Wiring diagram



Wiring diagram



with M23 outlet on front



Ordering data

Complete modules	
	4 channel
	8 channel
Note	

SAI-4/8-SH

4-pole

Type	Qty.	Order No.
SAI-4-SH 4P FC	1	1859110000
SAI-8-SH 4P FC	1	1859120000

SAI-4/8-SH

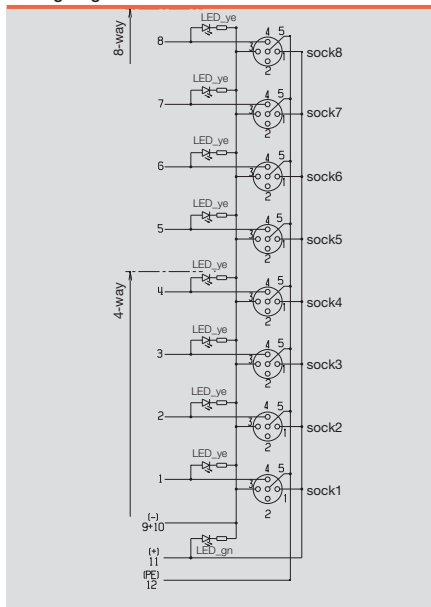
5-pole

Type	Qty.	Order No.
SAI-4-SH 5P FC	1	1859130000
SAI-8-SH 5P FC	1	1859140000

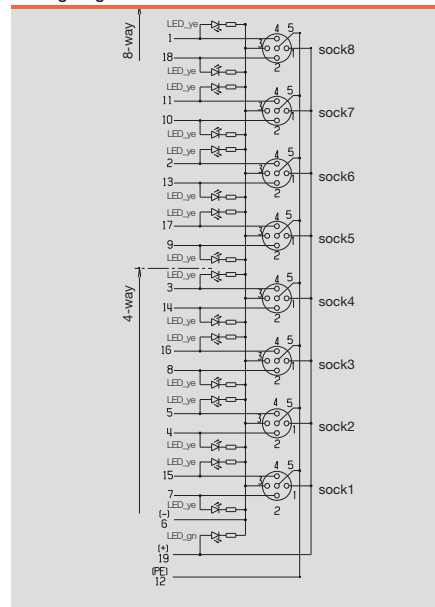
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	9 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



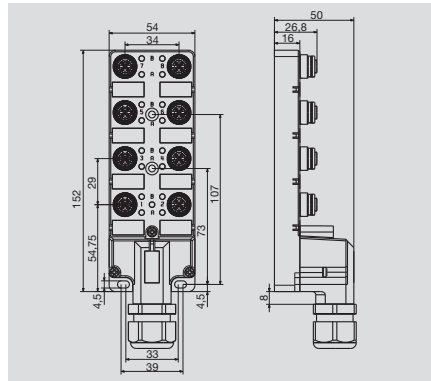
Wiring diagram



M12 Push-Pull

Hood version

SAI-8-M



Ordering data

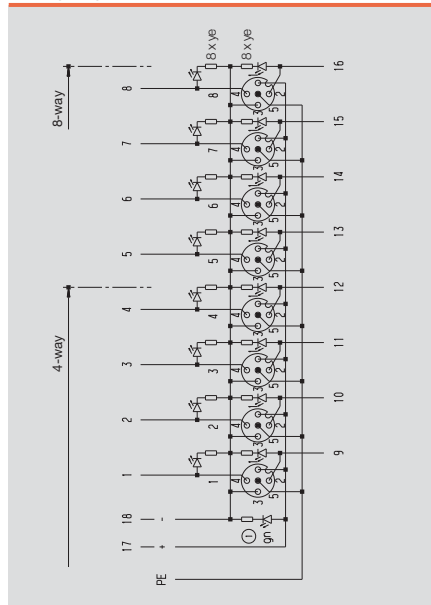
Complete modules	8 channel
Note	

SAI-8-M		5-pole
Type	Qty.	Order No.
SAI-8-M 5P FC	1	1848070000
Other versions on request		

Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	
Master trunk cable 3x1mm ² x n x 0.34mm ² ; halogen-free	

Wiring diagram

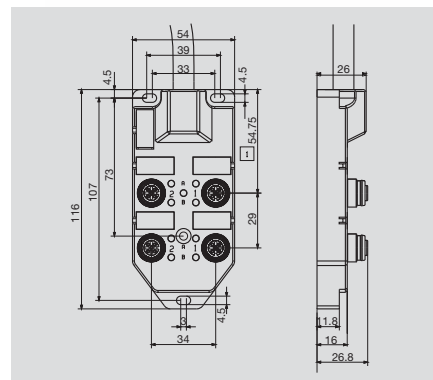
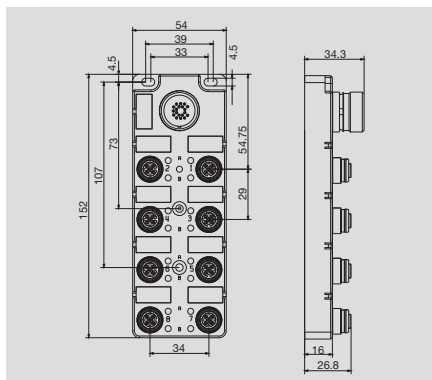


Terminal	Slot M12	Contact	Colour
1	1	4	white
2	2	4	green
3	3	4	yellow
4	4	4	grey
5	5	4	pink
6	6	4	red
7	7	4	black
8	8	4	violet
9	1	2	grey/pink
10	2	2	red/blue
11	3	2	white/green
12	4	2	brown/green
13	5	2	white/yellow
14	6	2	yellow/brown
15	7	2	white/grey
16	8	2	grey/brown
17	1-8	1	brown (+)
18	1-8	3	blue (-)
PE	1-8	5	green/yellow (PE)

CNOMO

SAI-4/8-S

SAI-4/8-F



Ordering data

4 channel	Cable length 5 m Cable length 10 m
8 channel	Cable length 5 m Cable length 10 m
M23	4 channel 8 channel
Note	

SAI-4/8-S		5-pole	
Type	Qty.	Order No.	
SAI-4-S 5P CNOMO	1	1861540000	
SAI-8-S 5P CNOMO	1	1861580000	

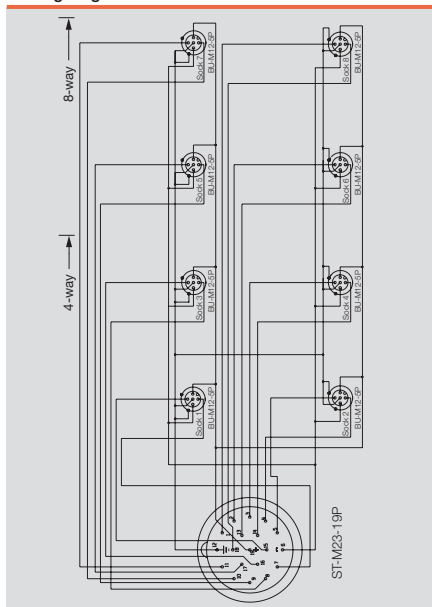
SAI-4/8-F		5-pole	
Type	Qty.	Order No.	
SAI-4-F 5P CNOMO 5M	1	1861570000	
SAI-4-F 5P CNOMO 10M	1	1861560000	
SAI-8-F 5P CNOMO 5M	1	1861550000	
SAI-8-F 5P CNOMO 10M	1	1861590000	

Technical data

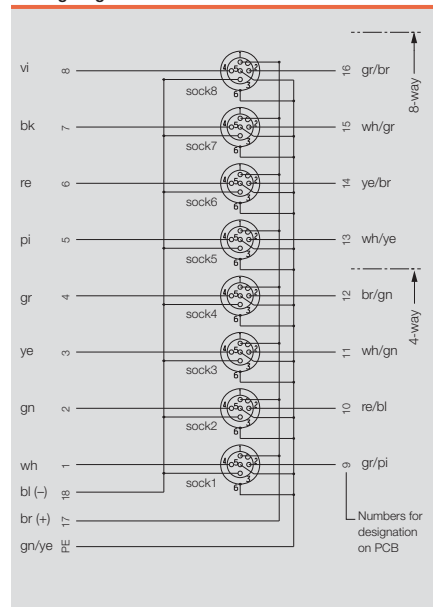
Operating voltage	10...50 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	8 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Max. total current with 4-channel distributor is 8A. And with 8-channel distributor is 12A

Wiring diagram



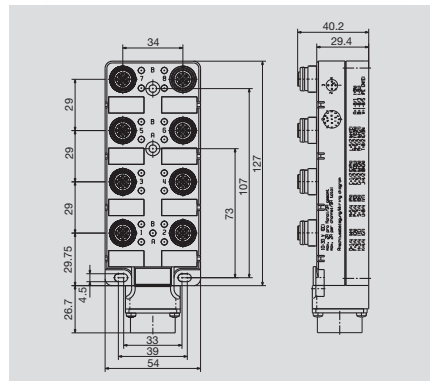
Wiring diagram



M12 Push-Pull

Bayonet joint

SAI-8-SHB



Ordering data

Complete modules	8 channel
Note	

SAI-8-SHB

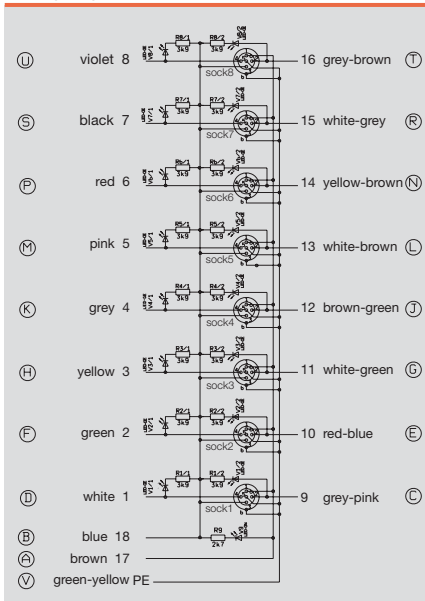
5-pole

Type	Qty.	Order No.
SAI-8-SHB 5P FC	1	1872440000
Other versions on request		

Technical data

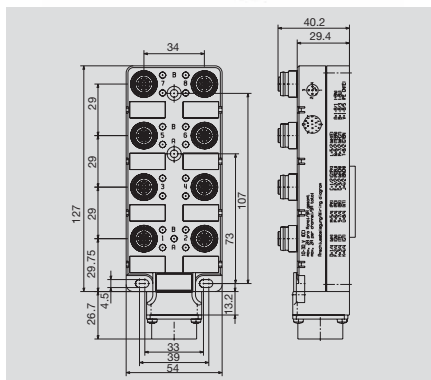
Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	9 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickel- plated
screw socket	CuZn, nickel- plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



Bayonet joint with socket connector on reverse

SAI-8-SHB



Ordering data

Complete modules	8 channel
Note	

SAI-8-SHB

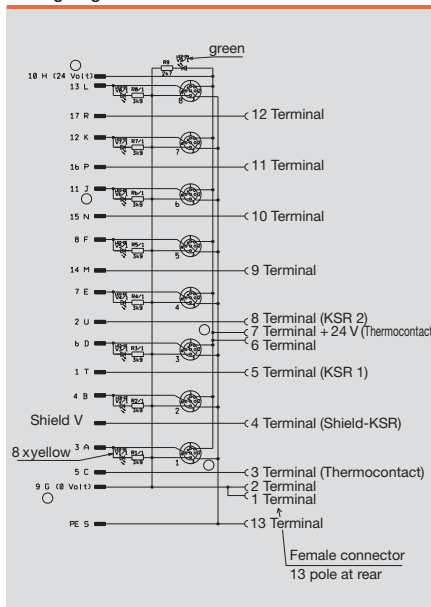
5-pole

Type	Qty.	Order No.
SAI-8-SHB 5P F13 FC	1	1872460000
Other versions on request		

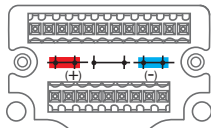
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	4 A
Total current	9 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

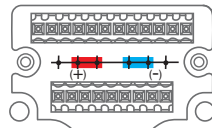
Wiring diagram



IDC - the quick connection



Factory setting
(see wiring diagram)
Current bridged



Current isolated

Hood version

- Compact IDC connection cuts production, commissioning and maintenance work
- Robust, knurled metal nut, safe handling requiring little force
- The dimensions of the IDC distributor correspond to and are compatible with the standard SAI distributor.
- Plug-in connection module for bus cables enhances on-site flexibility
- Three sizes for 4, 6 and 8 channels
- 3-pole version with one I/O signal per channel, 4-pole version with two I/O signals per channel
- Individual on site assembly of sensor/actuator lines
- Fast, reliable connection with IDC connection element
- IP 67 Ingress protection classification.

SAI fixed cable version

- Pre-assembled bus cables minimise installation work and avoid wiring errors
- 3 sizes for 4, 6 and 8 channels
- Highly flexible, cable carrier compatible bus cables with polyurethane (PUR/PVC) sheathing
 - 3 x 0.75 mm²
 - n x 0.34 mm²,
- 3-pole version with one I/O signal per channel, 4-pole version with two I/O signals per channel



IDC connection element

Ordering data

Type	Qty.	Order No.
SAI-SA-3-IDC	1	9457720000
SAI-SA-4-IDC	1	1766810000



The significant advantages of Weidmüller tools:

- Easy handling
- Very small, ideal for confined assembly conditions
- Patented solution
- Metal Connectors

Insulation displacement connections on Weidmüller SAI distributors are currently the smallest but also the most robust connection elements on the market. Thanks to their extremely small dimensions, corresponding distributors are available with the same dimensions in M12 or IDC versions.

For large series, e.g. where more than 100 modules are used every year, we recommend using a special tool to simplify the handling of the connected lines even further. However, this tool is not always necessary because all connection elements can be readily tightened by hand.

IDC tool



Ordering data

Type	Qty.	Order No.
SAI-IDC-Tool	1	1795020000

Screwty®

The IDC elements can also be tightened with the Weidmüller Screwty®.



Ordering data

Type	Qty.	Order No.
Screwty M12	1	1900001000

Protective cap M12 for IDC

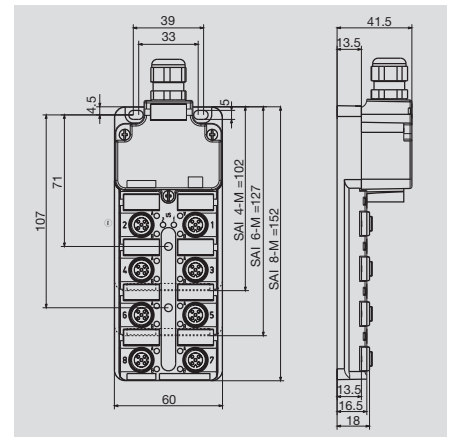


Ordering data

Type	Qty.	Order No.
SAI-SK-M12 IDC	10	1794850000

M12 IDC

Hood version



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Base unit	
	4 channel
	6 channel
	8 channel
Mounting hood	
	Tension clamp connection
	Tension clamp connection
	Screw connection
	Screw connection
Note	

SAI-4/6/8-M IDC

4-pole

Type	Qty.	Order No.
SAI-4-M 3P IDC	1	1760040000
SAI-6-M 3P IDC	1	1760050000
SAI-8-M 3P IDC	1	1760060000
SAI-4-M 3P IDC UT	2	1760041000
SAI-6-M 3P IDC UT	2	1760051000
SAI-8-M 3P IDC UT	2	1760061000
SAI-4/6/8-MH BLZF3.5	1	1752080000
SAI-4/6/8-MH BLZF3.5 SV	50	1752080050
SAI-4/6/8-MH BL3.5	1	1724750000
SAI-4/6/8-MH BL3.5 SV	50	1724750050
Other versions on request		

SAI-4/6/8-M IDC

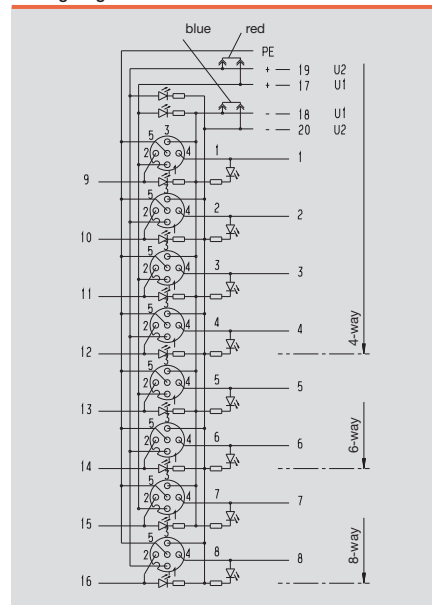
4-pole

Type	Qty.	Order No.
SAI-4-M 4P IDC	1	1766780000
SAI-6-M 4P IDC	1	1766790000
SAI-8-M 4P IDC	1	1766800000
SAI-4-M 4P IDC UT	2	1766781000
SAI-6-M 4P IDC UT	2	1766791000
SAI-8-M 4P IDC UT	2	1766801000
SAI-4/6/8-MH BLZF3.5	1	1752080000
SAI-4/6/8-MH BLZF3.5 SV	50	1752080050
SAI-4/6/8-MH BL3.5	1	1724750000
SAI-4/6/8-MH BL3.5 SV	50	1724750050
Other versions on request		

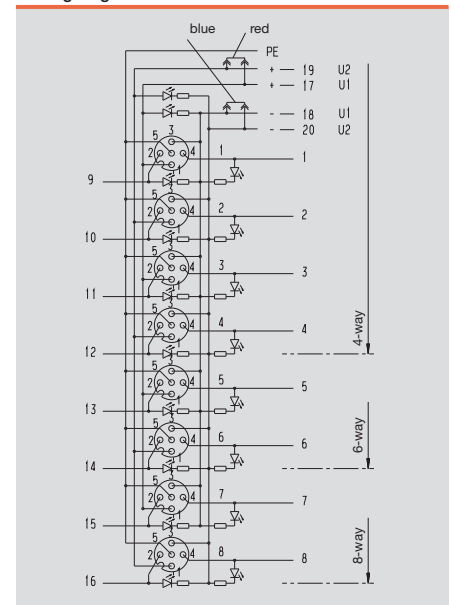
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	
With dual power supply: 2x8 = 16A total current	
Clamping range up to 2.5 mm ² with screw connection	

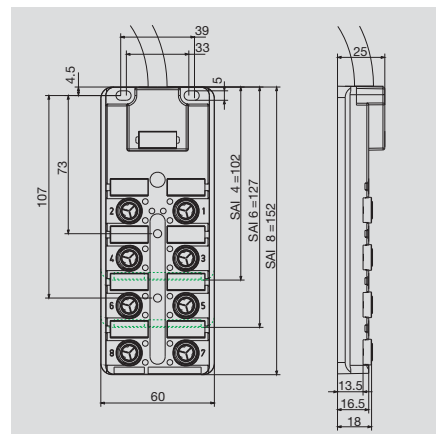
Wiring diagram



Wiring diagram



Fixed cable version



Ordering data

4 channel	
	Cable length 5 m
	Cable length 10 m
6 channel	
	Cable length 5 m
	Cable length 10 m
8 channel	
	Cable length 5 m
	Cable length 10 m
Note	

SAI-4/6/8-F IDC

3-pole

Type	Qty.	Order No.
SAI-4-F 3P IDC PUR 5M	1	1766720000
SAI-4-F 3P IDC PUR 10M	1	1766730000
SAI-6-F 3P IDC PUR 5M	4	1766740000
SAI-6-F 3P IDC PUR 10M	1	1766750000
SAI-8-F 3P IDC PUR 5M	1	1766760000
SAI-8-F 3P IDC PUR 10M	1	1766770000
Other versions on request		

SAI-4/6/8-F IDC

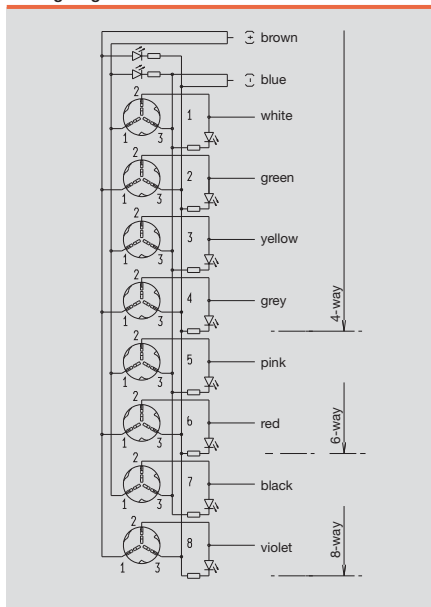
4-pole

Type	Qty.	Order No.
SAI-4-F 4P IDC PUR 5M	1	1766660000
SAI-4-F 4P IDC PUR 10M	1	1766670000
SAI-6-F 4P IDC PUR 5M	1	1766680000
SAI-6-F 4P IDC PUR 10M	1	1766690000
SAI-8-F 4P IDC PUR 5M	1	1766700000
SAI-8-F 4P IDC PUR 10M	1	1766710000
Other versions on request		

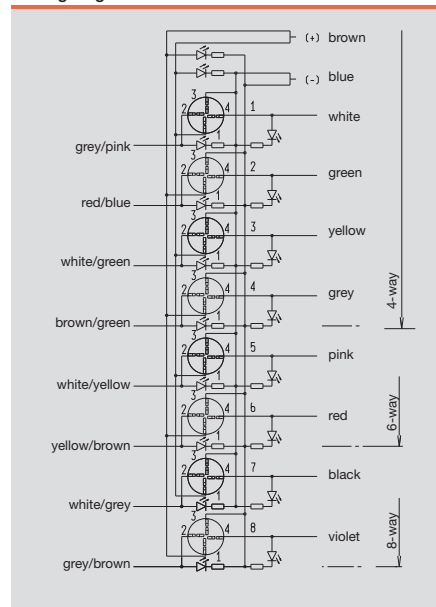
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	9 A
Pollution severity	2
Protection class	IP 67
Ambient temperature range	-20...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram



Wiring diagram



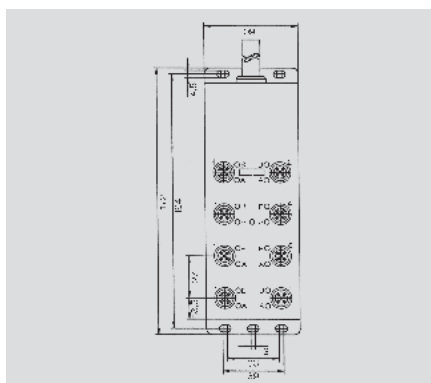
M12 VA stainless steel

Fixed cable version

- 5-pole, 2 signals per socket
- green LED operating indicator and yellow LED function indicator
- with stainless steel housing and cable glands

Ideal for machinery within the Food and Beverage Industries

SAI-8-F 5P M12 5M VA



Ordering data

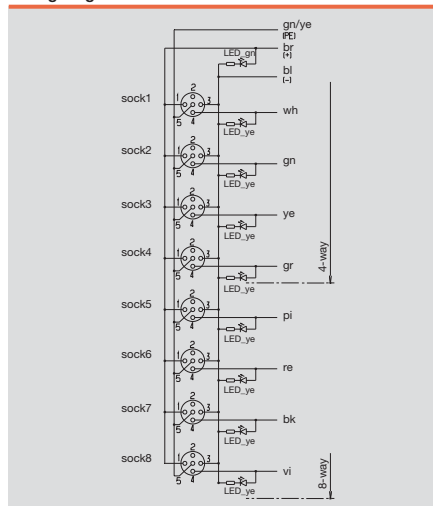
Male plug	
	M12 connectors in stainless steel
Note	

SAI-8-F 5P M12 5M VA		5-pole
Type	Qty.	Order No.
SAI-8-F 5P M12 5M VA	1	1865310000
SAIS-5/9-VA	1	1920700000

Technical data

Temperature range	0 °C/+ 60 °C
Materials:	
Housing	stainless steel 1.4404/316L
Contact carrier	PVC
Contact	CuZn, pre-nickel & 0.8 µm gold platin
Threaded bush	stainless steel 1.4404/316L
O-ring	EPDM
Mechanical data:	
Ingress protection class	IP69K only in screwed condition with associated mating pieces
Electrical data:	
Contact resistance	≤ 5mΩ
Current-carrying capacity	4 A per channel 12 A max. total
Operating voltage	10-30 V DC
Rated voltage	32 V AC eff
Pollution severity	2 to VDE 0110
Accessories (included)	4 protective caps for channels not assigned

Wiring diagram



Tension-clamp connection M12, stainless steel

SAIS / SAIB VA

straight



Ordering data

Male	5-pole, PG 9
	5-pole, PG 9
Socket	5-pole, PG 9
	5-pole, PG 9
Note	

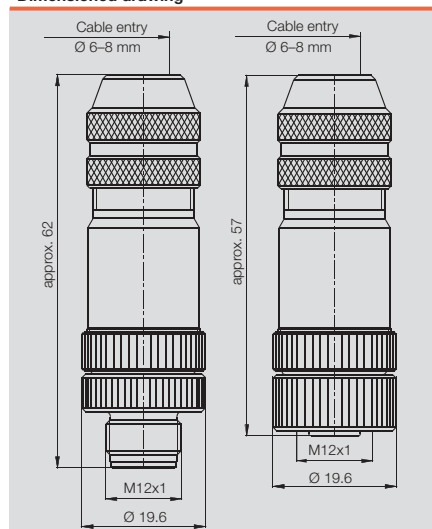
Type	Qty.	Order No.
SAIS 5/9-VA	1	1920700000
SAIS 5/9-VA-B-COD	1	1920720000
SAIB 5/9-VA	1	1920710000
SAIB 5/9-VA-B-COD	1	1920730000

Technical data

Type of connection	Tension clamp connection
Housing main material	1.4404/316L
Contact tube diameter	M12
Cable diameter	6...8 mm
Cross-section for connected wire	0.25 - 0.5 mm ²
Rated current	4 A
Rated voltage	125 V
Temperature range of housing	-25...+85 °C
Protection class	IP 69 k
Contact surface	gold-plated
Note	PB = PROFIBUS (B-COD)

Type of connection	Tension clamp connection
Housing main material	1.4404/316L
Contact tube diameter	M12
Cable diameter	6...8 mm
Cross-section for connected wire	0.25 - 0.5 mm ²
Rated current	4 A
Rated voltage	125 V
Temperature range of housing	-25...+85 °C
Protection class	IP 69 k
Contact surface	gold-plated
Note	PB = PROFIBUS (B-COD)

Dimensioned drawing



PB = PROFIBUS (B-COD)

Sensor-actuator distributors for special applications

All-metal

SAI-4/8-FMM M12



Shielded cable, e.g. for analogue initiators

Some applications need full shielding from sensor to control. This is possible with the all metal SAI distributors. The distributors are supplied with an EMC cable gland. Initiator LEDs are omitted.

Especially thick trunk cable

It is sometimes advisable to use the machine manufacturer's standard trunk cable. This cable will usually have a relatively large outside diameter and will therefore require plenty of space (SAI-4/6/8 MHD).

All-metal fixed cable distributors

Weidmüller metal distributors have proved their worth in many situations. They are available as 4 and 8 channel M12 versions with cable lengths of 5 or 10 m. Metal distributors are also necessary when ESD requirements must be complied with. The conductive metal surface provides low surface resistance.

Advantages:

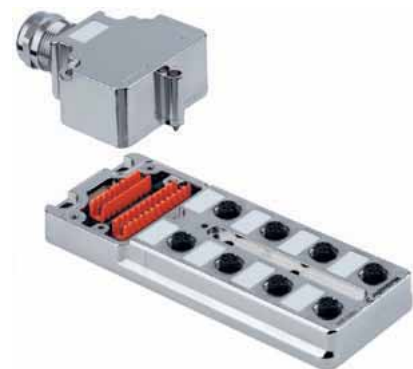
- no ESD/EMC problems
- high resistance to chemicals or mechanical loads
- standard mounting dimensions

SAI-M with metal hood

SAI-4/6/8 MMS SAI-4/6/8 MM

MMS: **M**odular, **M**etal, **S**hield

MM: **M**odular, **M**etal



SAI-4/6/8 MH

MH: **M**odular, **H**igh



SAI-4/6/8 MHD

MHD: **M**odular, **H**igh, sealed

(for especially thick cables)



SAI-4/6/8 MMS with EMC cable gland in metal housing

Especially tough conditions where plastic is totally unsuitable. In certain cases it makes sense to avoid the use of plastics altogether. In such cases a distributor made completely from metal is required that can be connected to others using metal cable glands, without additional connections for the shielding.

Cable gland: M20

For cables with outside insulation diameter from 10 mm to 14 mm. Listed below are just some of the cable sizes that are suitable for the SAI distributor with M20 cable gland:

- 14 x 0.50 mm² bis 16 x 0.50 mm²
- 8 x 0.75 mm² bis 15 x 0.75 mm²
- 8 x 1.00 mm² bis 10 x 1.00 mm²
- 5 x 1.50 mm² bis 7 x 1.50 mm²

Cable gland: M25

For cables with outside insulation diameter from 13 mm to 18 mm. Listed below are just some of the cable sizes that are suitable for the SAI distributor with M25 cable gland:

- 21 x 0.50 mm²
- 18 x 0.75 mm² bis 21 x 0.75 mm²
- 14 x 1.00 mm² bis 20 x 1.00 mm²
- 8 x 1.50 mm² bis 16 x 1.50 mm²

Overview of metal distributors

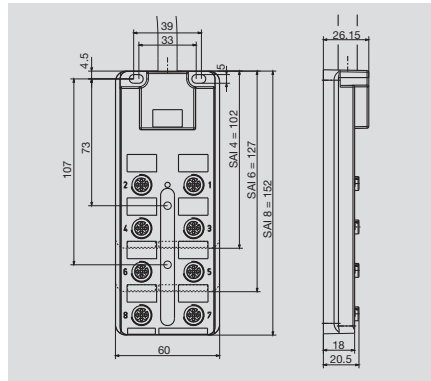
Type	SAI-UT	Sockets	M12	Poles-Hood	Form	Cable gland	Cable gland	Length	Order No.
SAI-4-MH-4P M12	PBT	4	4	Zn-G	high	M20	plastic		1705922000
SAI-6-MH-4P M12	PBT	6	4	Zn-G	high	M20	plastic		1705932000
SAI-8-MH-4P M12	PBT	8	4	Zn-G	high	M20	plastic		1705942000
SAI-4-MH-5P M12	PBT	4	5	Zn-G	high	M20	plastic		1701232000
SAI-6-MH-5P M12	PBT	6	5	Zn-G	high	M20	plastic		1701242000
SAI-8-MH-5P M12	PBT	8	5	Zn-G	high	M20	plastic		1701252000
SAI-4-MHD-5P M12	PBT	4	5	Zn-G	high	M25	plastic		1701233000
SAI-6-MHD-5P M12	PBT	6	5	Zn-G	high	M25	plastic		1701243000
SAI-8-MHD-5P M12	PBT	8	5	Zn-G	high	M25	plastic		1701253000
SAI-4-MHD-4P M12	PBT	4	4	Zn-G	high	M25	plastic		1705923000
SAI-6-MHD-4P M12	PBT	6	4	Zn-G	high	M25	plastic		1705933000
SAI-8-MHD-4P M12	PBT	8	4	Zn-G	high	M25	plastic		1705943000
SAI-4-MMS-4P M12	Zn-G	4	4	Zn-G	low	M20	EMC		1783540000
SAI-8-MMS-4P M12	Zn-G	8	4	Zn-G	low	M20	EMC		1783530000
SAI-4-MMS-5P M12	Zn-G	4	5	Zn-G	low	M20	EMC		1783520000
SAI-8-MMS-5P M12	Zn-G	8	5	Zn-G	low	M20	EMC		1783510000
SAI-4-MM-5P M12	Zn-G	4	5	Zn-G	low	M20	brass		1783500000
SAI-8-MM-5P M12	Zn-G	8	5	Zn-G	low	M20	brass		1783490000
SAI-4/6/8 MH-MH BL 3.5				Zn-G	high	M20	plastic		1724752000
SAI-4/6/8 MH-MHD BL 3.5				Zn-G	high	M25	plastic		1724753000
SAI-8-MH-5P M12 ZF III	PBT	8	5	Zn-G	high	M20	plastic		1782760000
SAI-8-MMS-5P M12 ZF III	Zn-G	8	5	Zn-G	high	M20	plastic		1782740000
SAI-4/6/8 MH-MH BL-ZF 3.5				Zn-G	high	M20	plastic		1782750000
SAI-4-FMM-4P M12 5M	Zn-G	4	4					5 m	9456190002
SAI-4-FMM-4P M12 10M	Zn-G	4	4					10 m	9456200002
SAI-8-FMM-4P M12 5M	Zn-G	8	4					5 m	9456750002
SAI-8-FMM-4P M12 10M	Zn-G	8	4					10 m	9456760002

Note: The cable outside diameter can vary from manufacturer to manufacturer. It is therefore possible that the cable glands hold other cables firmly despite a different strand lay-up. In each case, it is best to first measure the cable diameter and then choose an appropriate distributor.

M12 metal distributors

Fixed cable version

SAI-4-FMM



Ordering data

4 channel	Cable length 5 m Cable length 10 m
8 channel	Cable length 5 m Cable length 10 m
Note	

SAI-4-FMM

4-pole

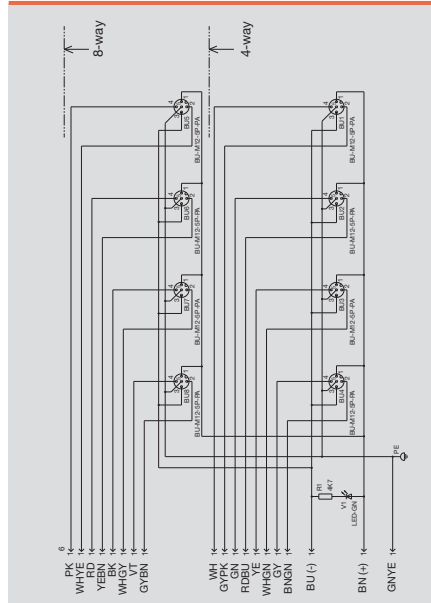
Type	Qty.	Order No.
SAI-4-FMM-4P M12 5M	4	9456190002
SAI-4-FMM-4P M12 10M	3	9456200002
SAI-8-FMM-4P M12 5M	1	9456750002
SAI-8-FMM-4P M12 10M	3	9456760002

Additional variants on request
Bus cable is not shielded

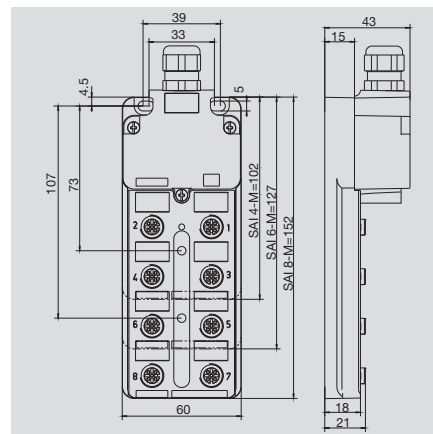
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	9 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	CuZn, nickel-plated
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	silver
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram



Hood version



Ordering data

Complete modules,4-pole	
	4 channel
	8 channel
Complete modules,5-pole	
	4 channel
	8 channel
Tension-clamp connection,high cover	
	8 channel
Base unit	
	8 channel
Mounting hood	
	Screw connection
Note	

SAI-4/6/8-MMS

Type	Qty.	M12 Order No.
SAI-4-MMS 4P M12	1	1783540000
SAI-8-MMS 4P M12	1	1783530000
SAI-4-MMS 5P M12	1	1783520000
SAI-8-MMS 5P M12	1	1783510000
SAI-4/6/8 MH-MM BL 3.5	1	1724754000
With EMC cable gland		

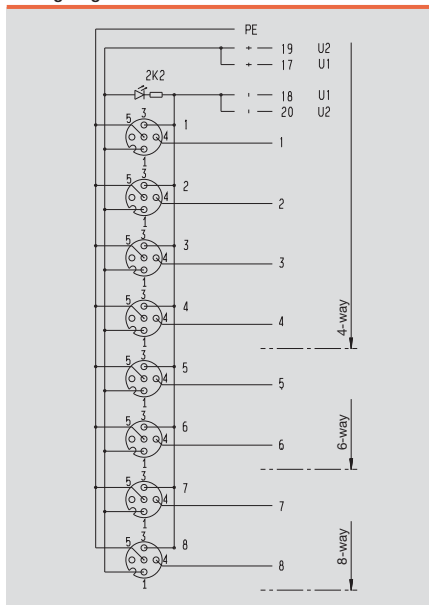
SAI-4/6/8-MM

Type	Qty.	M12 Order No.
SAI-4-MM 5P M12	1	1783500000
SAI-8-MM 5P M12	1	1783490000
SAI-8-MMH 5P M12 ZF	1	1782740000
SAI-8-MM 5P M12 UT	2	1783491000
SAI-4/6/8 MH-MM BL 3.5	1	1724754000
MM without initiator LED and with standard metal cable gland		

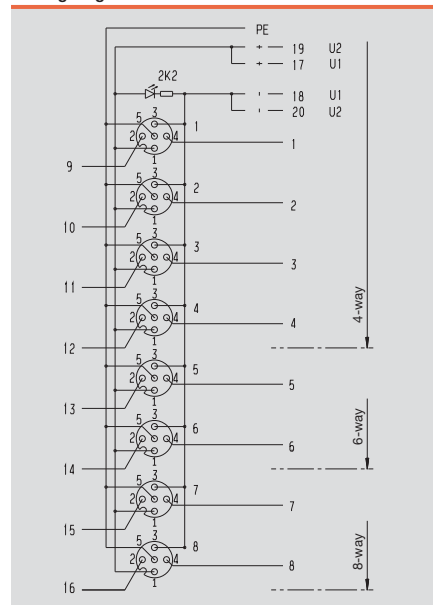
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	CuZn, nickel-plated
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	silver
Flammability class UL 94	V-0
Clamping range of hood-version (fixed cable connection)	0.08...1.5 mm ²

Wiring diagram



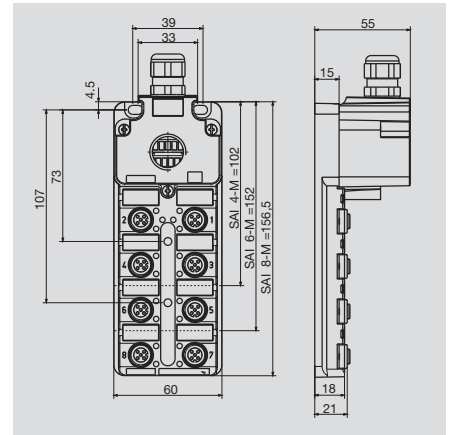
Wiring diagram



M12 metal distributors

Hood version with M20 outlet

For cables with 10-14 mm outer diameter



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Tension clamp connection	8 channel
Mounting hood	
	Tension clamp connection
	Screw connection
Note	

SAI-4/6/8-MH

4-pole

Type	Qty.	Order No.
SAI-4-MH-4P M12	1	1705922000
SAI-6-MH-4P M12	1	1705932000
SAI-8-MH-4P M12	1	1705942000
SAI-4/6/8 MH MH BLZF3,5	1	1782750000
SAI-4/6/8 MH-MH BL 3.5	1	1724752000
Other versions on request		

SAI-4/6/8-MH

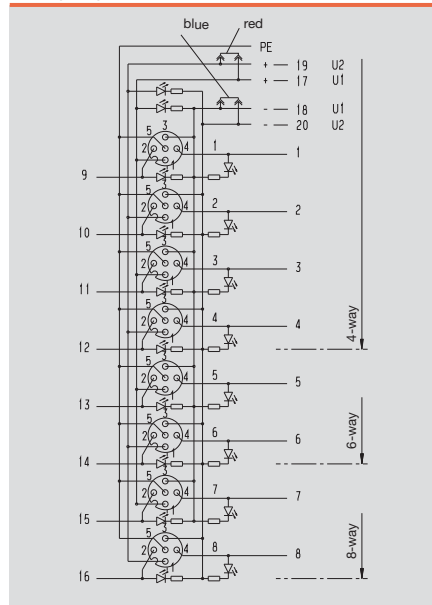
5-pole

Type	Qty.	Order No.
SAI-4-MH-5P M12	1	1701232000
SAI-6-MH-5P M12	1	1701242000
SAI-8-MH-5P M12	1	1701252000
SAI-8-MH-5P M12 ZF III	1	1782760000
SAI-4/6/8 MH MH BLZF3,5	1	1782750000
SAI-4/6/8 MH-MH BL 3.5	1	1724752000
Other versions on request		

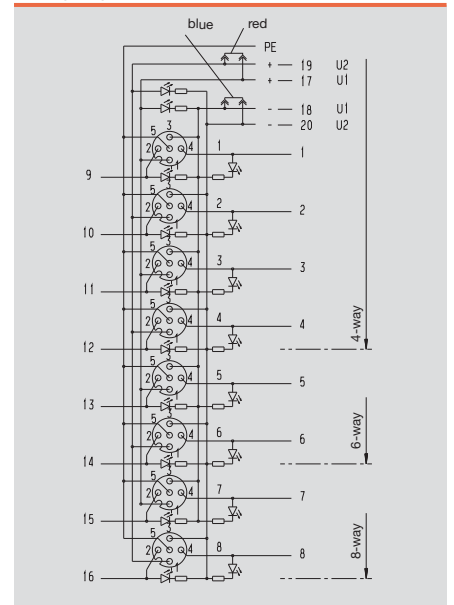
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	CuZn, nickel-plated
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	silver
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	
With dual power supply: 2x8 = 16A total current	
Clamping range up to 2.5 mm ² with screw connection	

Wiring diagram

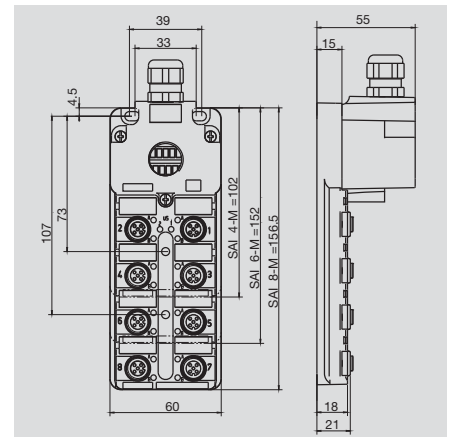


Wiring diagram



Hood version with M25 outlet

For cables with 13-18 mm outer diameter



Ordering data

Complete modules	
4 channel	
6 channel	
8 channel	
Mounting hood	
	Screw connection
Note	

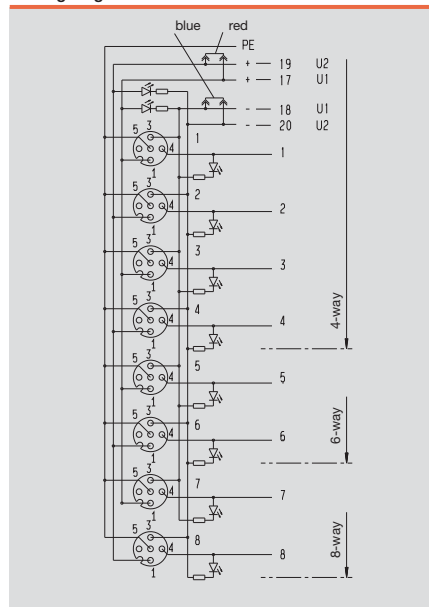
SAI-4/6/8-MHD		4-pole	
Type	Qty.	Order No.	
SAI-4-MHD-4P M12	1	1705923000	
SAI-6-MHD-4P M12	1	1705933000	
SAI-8-MHD-4P M12	1	1705943000	
SAI-4/6/8 MH-MHD BL 3.5			
Other versions on request			

SAI-4/6/8-MHD		5-pole	
Type	Qty.	Order No.	
SAI-4-MHD-5P M12	1	1701233000	
SAI-6-MHD-5P M12	1	1701243000	
SAI-8-MHD-5P M12	1	1701253000	
SAI-4/6/8 MH-MHD BL 3.5			
Other versions on request			

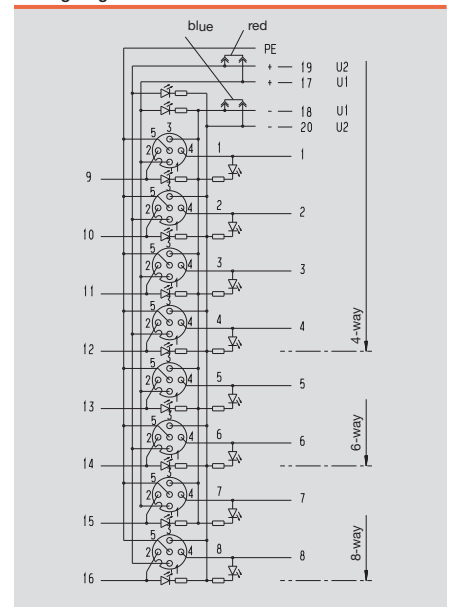
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	CuZn, nickel-plated
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	silver
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	
With dual power supply: 2x8 = 16A total current	
Clamping range up to 2.5 mm ² with screw connection	

Wiring diagram



Wiring diagram



For switching with five no-voltage contacts in an M12 without LED

with hood



Emergency stop wiring

Sometimes a machine builder will need more than two floating contacts in one M12 plug-in connector. This is the case, for example, in the wiring for some “emergency stop” circuits. It was for this application that Weidmüller developed the 1:1 SAI distributor.

This SAI distributor has four M12 plug-in connectors with five floating contacts in one socket connector. The distributor is supplied complete with hood.

When connecting PT100 3- and 4-conductor initiators, we recommend the new shielded metal version. If you need other circuit configurations, simply contact us.

Note: This distributor should not be used as base module for active bus distributors.

base element



Wiring diagram

Socket	Contact	BL 3.5 contact
1	1	1
1	2	2
1	3	3
1	4	4
1	5	5
2	1	6
2	2	7
2	3	8
2	4	9
2	5	10
3	1	11
3	2	12
3	3	13
3	4	14
3	5	15
4	1	16
4	2	17
4	3	18
4	4	19
4	5	20
-	-	21

metal



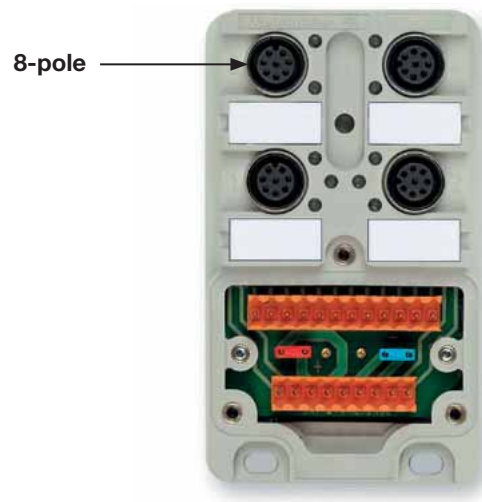
Technical data

Current per channel	2A
Total current	8A
LEDs	No LEDs are integrated at any point.

Ordering data

Type	Qty.	Order No.
SAI-4-M 5P M12 1:1 (plastic hood)	1	1806010000
Base element (plastic)	1	1806011000
SAI-4-MMS 5P M12 1:1 (Metal hood)	1	1897680000

SAI distributor with 8 poles per M12



Applications

This distributor can be used both as a base module for satellite solutions (SAI-Combi) and for connecting sensors/units with more than two contacts.

SAI-Combi

A sub-distribution board can be connected to every M12 with the help of the SAI-4-M 8P in conjunction with the SAI Active bus hood. This SAI should then be a 4-channel distributor with one channel per socket. The SAI-4-M 4P M12 is particularly suitable.

Part No. **1705920000**.

Sensors, units with more than two signals in one line

As one socket in this module contains four signal paths and, in addition, two +, two – and one PE, components with more than two signal lines can be connected to this module. Eight-pole connecting cables are available on request.

Wiring

M12 socket	M12 contact	BL 3.5 connection	PLC input	Supply
1	1	1	E0.0	
1	2	3	E0.1	
1	3	5	E0.2	
1	4	7	E0.3	
2	1	2	E0.4	
2	2	4	E0.5	
2	3	6	E0.6	
2	4	8	E0.7	
3	1	9	E1.0	
3	2	11	E1.1	
3	3	13	E1.2	
3	4	15	E1.3	
4	1	10	E1.4	
4	2	12	E1.5	
4	3	14	E1.6	
4	4	16	E1.7	
1/3	5	17		24 V
2/4	5	19		24 V
1/3	6/7	18		0 V
2/4	6/7	20		0 V
1/2/3/4	8	PE		PE

The jumpers in the distributor enable the potentials of 17 and 19 or 18 and 20 to be bridged. Contacts 6 and 7 are bridged in the 8-pole M12 in order to increase the current-carrying capacity, total current per M12: 2 A, signal current per pin: 1 A

Ordering data

Type	Qty.	Order No.
Complete module: SAI-4-M 8P M12	1	1807640000
Base separate: SAI-4-M M12 UT	1	1807641000
Matching hood passive: SAI-4/6/8-MH-BL3.5	1	1724750000

Technical information: The distributor does not include any signalling LEDs. Supply LEDs and electrical isolation are provided.

Fixed cable version

Fixed cable version



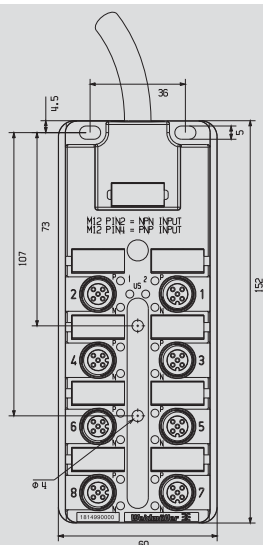
This distributor includes the option of attaching either a PNP sensor or an NPN sensor with 2 or 3 conductor connection to an M12 socket.

Eight inputs are available in total. In the case of a switched sensor, a + signal on the corresponding wire is connected through and the appropriate LED is illuminated.

The upper LED "N" is illuminated for NPN sensors and the lower LED "P" for PNP sensors. Do not connect a T-piece to the M12 socket.

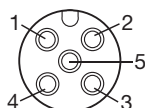
The existing M12 plug-in connectors are wired in such a manner that the PNP sensor can be connected to pin 4 and the NPN sensor to pin 2.

The distributor has eight channels and 5 m of cable. Other versions are also available.

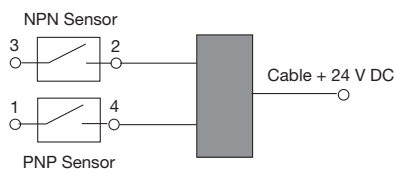


M12 sockets

- Pin 1 = +24 V DC
- Pin 2 = NPN input
- Pin 3 = 0 V DC
- Pin 4 = PNP input
- Pin 5 = PE



Wiring diagram (schematic)



Pin assignment

M12 socket	Pin	Function	Pin	Function	Output	Wire colour	Wire size
1	4	PNP	2	NPN	1	white	0.34 mm ²
2	4	PNP	2	NPN	2	green	0.34 mm ²
3	4	PNP	2	NPN	3	yellow	0.34 mm ²
4	4	PNP	2	NPN	4	grey	0.34 mm ²
5	4	PNP	2	NPN	5	pink	0.34 mm ²
6	4	PNP	2	NPN	6	red	0.34 mm ²
7	4	PNP	2	NPN	7	black	0.34 mm ²
8	4	PNP	2	NPN	8	violet	0.34 mm ²
all	1	24 V DC				brown	0.75 mm ²
all	3	0 V DC				blue	0.75 mm ²
all	5	PE				green/yellow	0.75 mm ²

Technical data

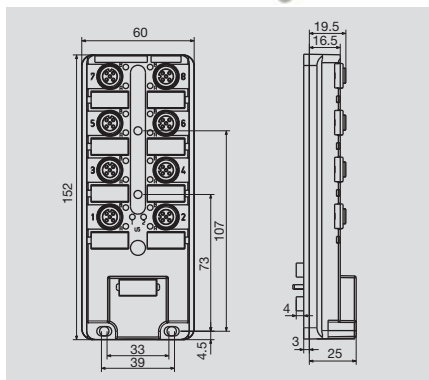
Operating voltage	24 V DC ±20 %
Operation temperature	0...80 °C
Storage temperature	-25...80 °C
Ingress protection class	IP68
PUR cable	5 m
Max. no-load current for 2-wire NPN sensors	2 mA DC

Ordering data

Type	Qty.	Order No.
SAI-8-F 5P NPN-PNP 5M	1	181499000

Wall bushing

SAI-8-B 5P M12 SL



Ordering data

Note

SAI-8-B 5P M12 SL

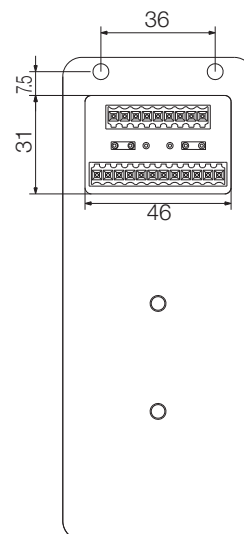
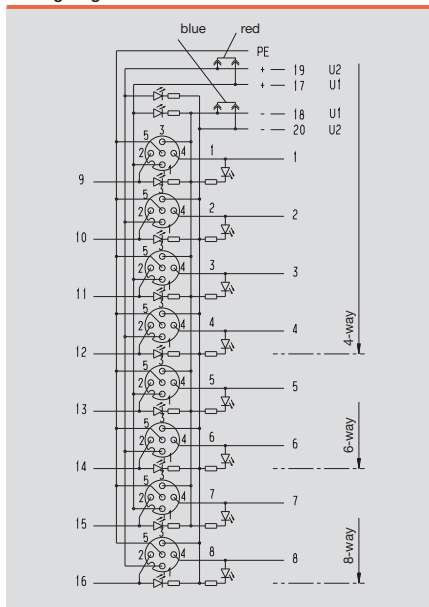
5-pole

Type	Qty.	Order No.
SAI-8-B 5P M12 SL	1	1847560000
BL 3.5 connector included in delivery		

Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	3 A
Total current	10 A
Pollution severity	3
Protection class	IP 65
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



Overview

Distributors for system cabling

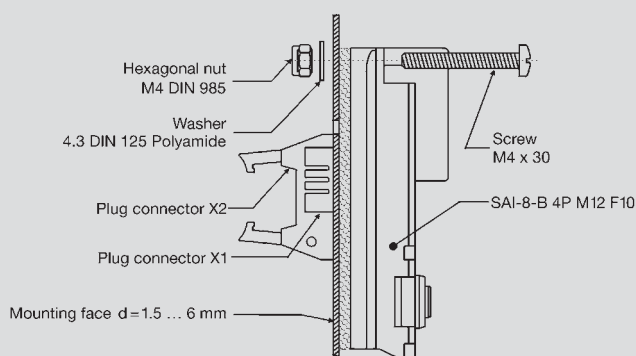
On site distribution is becoming more important. For example, in some places the IP 20 I/O module has to be mounted in housings directly on the machine. This is where a simplified form of wiring is essential.

Weidmüller now offers two simple solutions

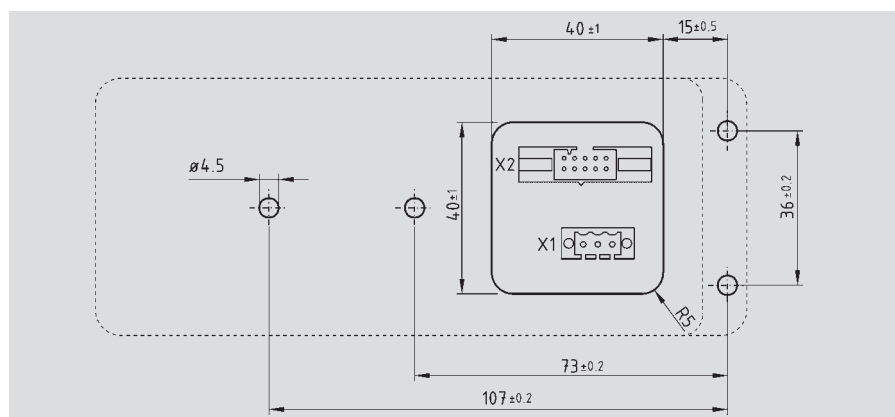
- A distributor equipped at the rear with a standardised ribbon cable connector, which is compatible with the Weidmüller PLC system interface.
- Weidmüller also offers a unique solution for feeding bus cables through panels that can be plugged in from both sides.

Advantages

- Sensors and actuators can be plugged in from outside
- Through-panel version can be mounted in cut outs in steel panels
- Standardised ribbon cable connector inside
- Plus: M12 through-panel feed that can be plugged in from both sides



Drilling template



Advantages of system cabling

Fast

- Time saving installation
- Reduces commissioning and troubleshooting times
- On site wiring cuts wiring costs

Safe

- Reduces installation errors
- Using system cables instead of individual wires improves clarity in control cabinets
- Direct marking corresponding to the PLC

Variability

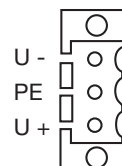
- Additional I/O modules available
- Cable length options
- Easy replacement of I/O interfaces provides flexibility

Contact assignment

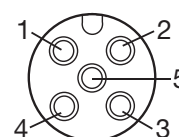
Male connector X1

M12 socket		Male connector X1
1 ... 8	Pin 1	U +
1 ... 8	Pin 3	U -
1 ... 8	Pin 5	PE

Male connector X1



M12 socket

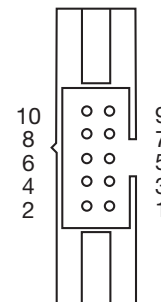


Contact assignment

Male connector X2

M12 socket		Male connector X2
1	Pin 4	1
2	Pin 4	2
3	Pin 4	3
4	Pin 4	4
5	Pin 4	5
6	Pin 4	6
7	Pin 4	7
8	Pin 4	8
1 - 8	Pin 1	9
1 - 8	Pin 3	10

Male connector X2



Note:

You will find further products for Interface units and PLC solutions in the Electronic catalogue 4.5.

Technical data

Operating voltage	
Outputs	
Inputs	
Mounting conditions	
Mounting surface	
Surface temperature	
Ingress protection class	
Fixings	
Note:	

10 - 30 V (DC)
max. 1 A per channel / max. 8 A in total
max. 1 A in total
sheet steel, flat, min. 1.5 mm thick, or panels with at least equivalent stability, max. 6 mm thick
max. 40 °C
IP67/IP68 only in conjunction with control cabinets with equivalent class of protection
4 screws + washers + nuts / torque: 0.8 Nm
Connect the male connector 3.5 (X1) when using actuators

Ordering data

Type	Qty.	Order No.
SAI-8-B 4P M12 F10	1	1812170000
BL 3.50/07/180 SN DKGX BX	50	1606550000

Distributor	
Male connector X1	

Pre-assembled hood version

In some instances it is helpful to order the hoods pre-assembled.



SAI distributor with pre-assembled hood Colour-coded cable

Ordering data		4-pole
Type	Length	Order No.
8-channel		
SAI-8-MF 4P PUR 5M	5 m	1799960000
SAI-8-MF 4P PUR 10M	10 m	1789190000

Ordering data		5-pole
Type	Length	Order No.
4-channel		
SAI-4-MF 5P PUR 5M	5 m	1804600000
SAI-4-MF 5P PUR 10M	10 m	1804580000
8-channel		
SAI-8-MF 5P PUR 5M	5 m	1804590000
SAI-8-MF 5P PUR 10M	10 m	9457430000
8-channel, without initiator LED		
SAI-8-MF 5P PUR 5M OL	5 m	9457350000

Pre-assembled hood Colour-coded cable

Ordering data		4-pole
Type	Length	Order No.
SAI-4/6/8-MHF 4P PUR 4M	4 m	1791450400
SAI-4/6/8-MHF 4P PUR 6M	6 m	1791450600
SAI-4/6/8-MHF 4P PUR 9M	9 m	1791450900
SAI-4/6/8-MHF 4P PUR14M	14 m	1791451400
SAI-4/6/8-MHF 4P PUR20M	20 m	1791452000
SAI-4/6/8-MHF 4P PUR28M	28 m	1791452800
SAI-4/6/8-MHF 4P PUR34M	34 m	1791453400

Matching base module

Type	Qty.	Order No.
SAI-4-M-4PM12UT	1	1705921000
SAI-6-M-4PM12UT	1	1705931000
SAI-8-M-4PM12UT	1	1705941000

Pre-assembled hood

Ordering data		5-pole
Type	Length	Order No.
SAI-4/6/8-MHF 5P PUR 4M	4 m	1791460400
SAI-4/6/8-MHF 5P PUR 6M	6 m	1791460600
SAI-4/6/8-MHF 5P PUR 9M	9 m	1791460900
SAI-4/6/8-MHF 5P PUR14M	14 m	1791461400
SAI-4/6/8-MHF 5P PUR16M	16 m	1791461600
SAI-4/6/8-MHF 5P PUR20M	20 m	1791462000
SAI-4/6/8-MHF 5P PUR28M	28 m	1791462800
SAI-4/6/8-MHF 5P PUR34M	34 m	1791463400
SAI-4/6/8-MHF 5P PUR40M	40 m	1791464000
SAI-4/6/8-MHF 5P PUR50M	50 m	1791465000
SAI-4/6/8-MHF 5P PUR55M	55 m	1791465500

Matching base module

Type	Qty.	Order No.
SAI-4-M-5PM12UT	1	1701231000
SAI-6-M-5PM12UT	1	1701241000
SAI-8-M-5PM12UT	1	1701251000

SAI M8

Weidmüller offers two different series for the M8 range. Both of these series offer key advantages: while one is optimised for size, the other has a patented shape and protected design that make it easy to handle. The SAI M8 product line is available with up to 12 plug-in slots (as a fixed-cable version) and with up to 10 plug-in slots (as a pluggable version). The housings can be screwed on from the side or from the top which makes them more versatile. They are durable and well-sealed with a sturdy, fully encapsulated construction. These single row distributors

are easy to handle; their compact shape makes them one of the smallest product solutions available on the market. The hooded distributor is a favourite from the line or ergonomic distributors (also known as the hedgehog distributor). The cable outlet is customisable and can exit from the top or from the back. These distributors are of course also fully encapsulated.



**Easily accessible**

The side-mounted M8 connector ensures very convenient handling

**Directly on the PCB**

Custom versions are also available. This is the PCB connection module.

**Space-saving**

The line version has a very small size.

Overview

Fixed cable version



Compact dimensions, readily accessible M8 connections, eye-catching design

The unconventional design of this generation of SAI M8 distributors catches the eye immediately. Their shape is helpful because in this patented design the sockets are no longer arranged in simple rows. Instead, some are on 45° bevelled surfaces. That considerably improves the accessibility of the screw connections for the sensor and actuator cables. Ease of use, compact dimensions and the eye catching design are the obvious advantages of this M8 generation.

The following variations are available:

- SAI M8 distributor with removable connection hood; the bus cable can be connected either vertically or horizontally
- SAI M8 distributor with permanently attached, pre-assembled bus cable, 5 or 10 m long; this version is particularly slim and is therefore ideal for mounting in confined spaces
- SAI M8 distributor with metal plated M23 thread

Hood version



M23 version



SAI-M8-Line

M8 distributor with M12 outlet



M8 distributor line / fixed-cable version



M8 distributor with solder pins



n

Extra-narrow M8 distributor for confined spaces

Single-row M8 distributors are the smallest sensor-actuator modules currently available with this thread size and it is precisely their size that is decisive for applications. Therefore, this form has become very popular. It is important to maintain the widest possible range of options. The SAI-M8-Line products can provide many interesting solutions:

- 4 and 6 channel modules with 8 pole M12 bus connection
- 8 and 10 channel modules with 12 pole bus connection
- 4, 10 and 12 channel distributors with fixed cable connection, the 4 and 8 channel modules also with 4 poles

It is important to note that the distributors can be labelled with the same markers as the Weidmüller 5 mm modular terminals. Therefore, no new tags had to be introduced. The modules can also be mounted sideways and are completely encapsulated.

Consequently, Weidmüller SAI distributors represent stability, robustness, flexibility and compactness in one unit.

PCB version of a complete SAI distributor

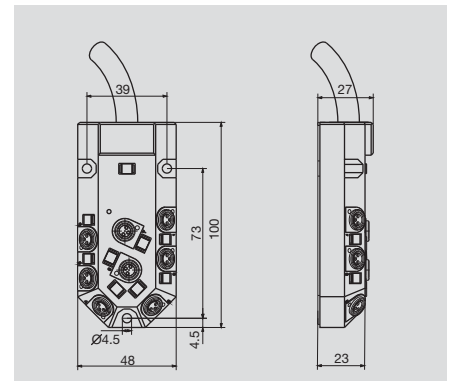
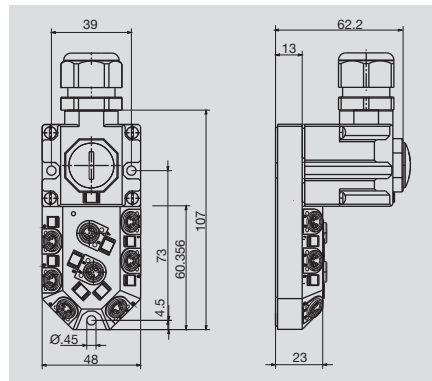
During the design of PCBs, it is often necessary to plug in different external data lines. There are a variety of connectors available for this purpose. For machine construction, the M8 and M12 connectors have become established as the standard solutions for sensor and actuator wiring. When attempting to mount these PCB-type connectors to the PCB, there is a significant risk that they will not be firmly attached to the board. Now, the SL version of the SAI distributor series solves this problem. The distributor can be completely mounted onto a PCB. It features soldering pins for the electrical connection to the PCB. The distributor itself should be slightly raised up during assembly by means of washers. This provides some clearance under the box. Naturally, the power supply channels are bridged in the distributor. This saves space on the PCB since there is no need for holes on any assembly surface. Thus the reverse side can be used for other purposes.

M8 distributors

Hooded/fixed cable version

SAI-4/8-M

SAI-4/8-F



Ordering data

3-pole	
Cable length 5 m (with fixed cable version)	4 channel 8 channel
Cable length 10 m (with fixed cable version)	4 channel 8 channel
4-pole	
Cable length 5 m (with fixed cable version)	4 channel 8 channel
Cable length 10 m (with fixed cable version)	4 channel 8 channel
Note	

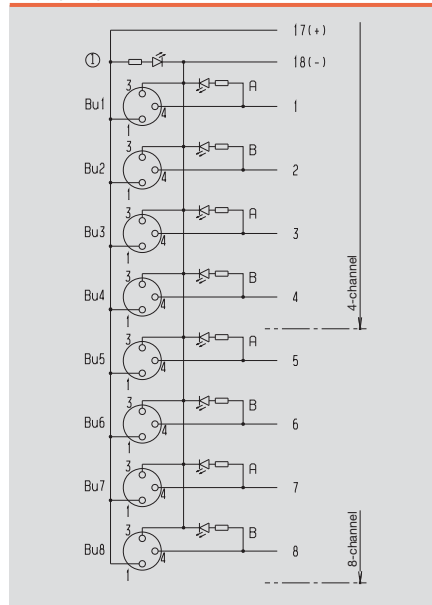
SAI-4/8-M	M8	
Type	Qty.	Order No.
SAI-4-M 3P M8	1	1784680000
SAI-8-M 3P M8	1	1784670000
SAI-4-M 4P M8	1	1784700000
SAI-8-M 4P M8	1	1784690000
Other versions on request		

SAI-4/8-F	M8	
Type	Qty.	Order No.
SAI-4-F 3P M8 PUR 5M	1	1784640000
SAI-8-F 3P M8 PUR 5M	1	1784620000
SAI-4-F 3P M8 PUR 10M	1	1784630000
SAI-8-F 3P M8 PUR 10M	1	1784610000
SAI-4-F 4P M8 PUR 5M	1	1784600000
SAI-8-F 4P M8 PUR 5M	1	1784580000
SAI-4-F 4P M8 PUR 10M	1	1784590000
SAI-8-F 4P M8 PUR 10M	1	1784570000
Other versions on request		

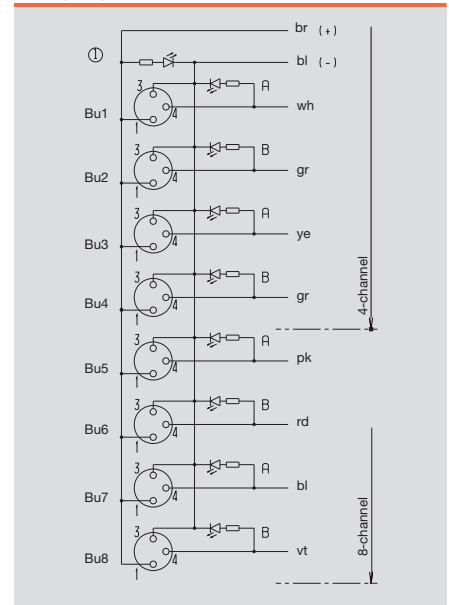
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	2 A
Total current	8 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08...1 mm ²
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram



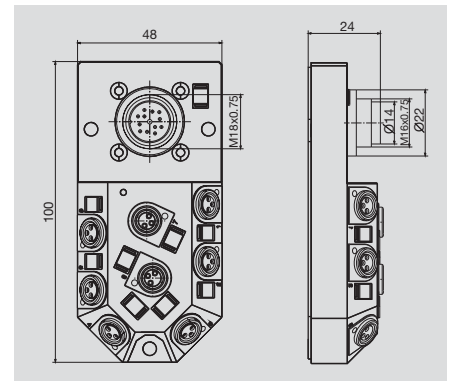
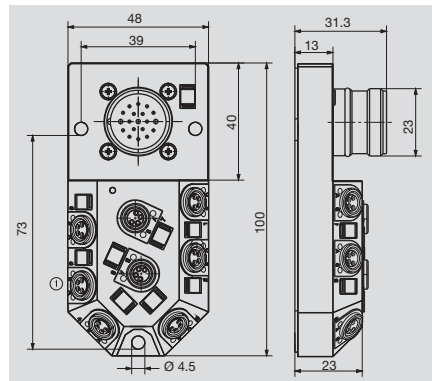
Wiring diagram



With M23/ M16 outlet

SAI-4/8-M23

SAI-8-M16



Ordering data

3-pole	8 channel
4-pole	4 channel
	8 channel
Note	

SAI-4/8-M23

M23

Type	Qty.	Order No.
SAI-4-M23 4P M8	1	1784660000
SAI-8-M23 4P M8	1	1784650000
Other versions on request		

SAI-8-M16

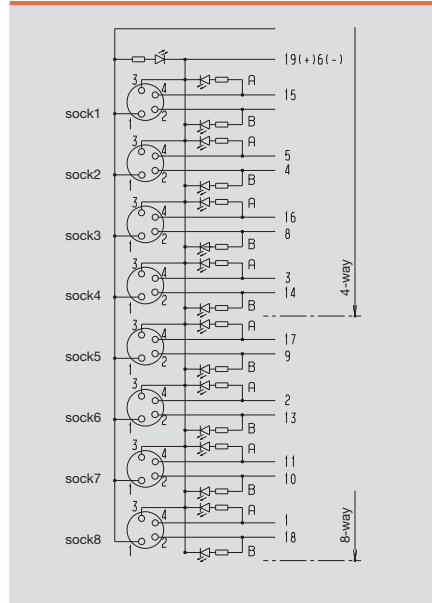
M16

Type	Qty.	Order No.
SAI-8-M16 3P M8	1	1795900000
Other versions on request		

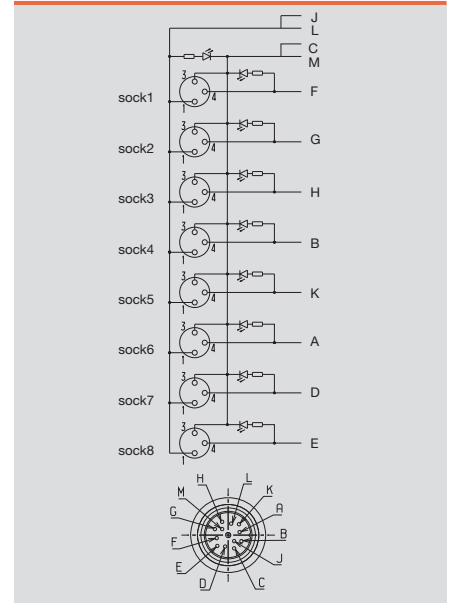
Technical data

Operating voltage	10...30 V
Current of continuous busbars	2 A
max. current-carrying capacity per slot	2 A
Total current	8 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+90 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



Wiring diagram

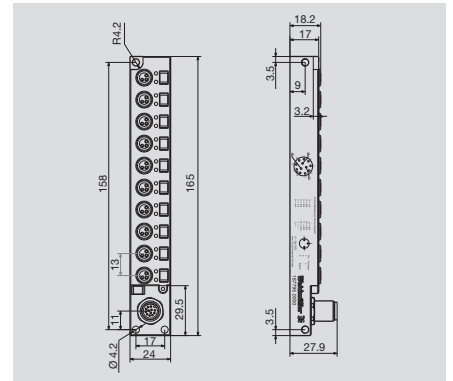
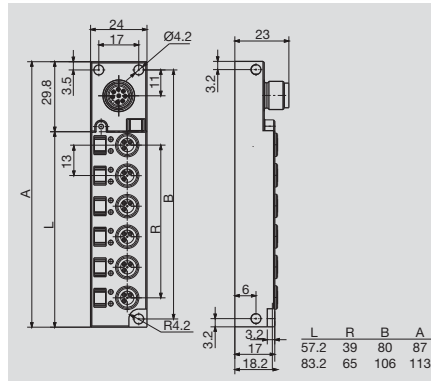


M8 distributors

Line

SAI-4/6-S

SAI-5/8-S



Ordering data

3-pole	
4 channel	
6 channel	
8 channel	
10 channel	
3-pole without LED	
4 channel	
6 channel	

Note

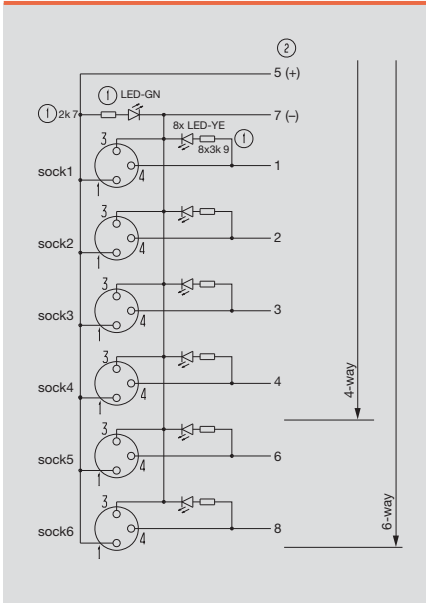
SAI-4/6-S	M12	
Type	Qty.	Order No.
SAI-4-S 3P M8 L	1	1828740000
SAI-6-S 3P M8 L	1	1828730000
SAI-4-S 3P M8 L OL	1	1051760000
SAI-6-S 3P M8 L OL	1	1932380000
Other versions on request		

SAI-5/8-S	M12	
Type	Qty.	Order No.
SAI-8-S12 3P M8 L	1	1871680000
SAI-10-S12 3P M8 L	1	1877950000

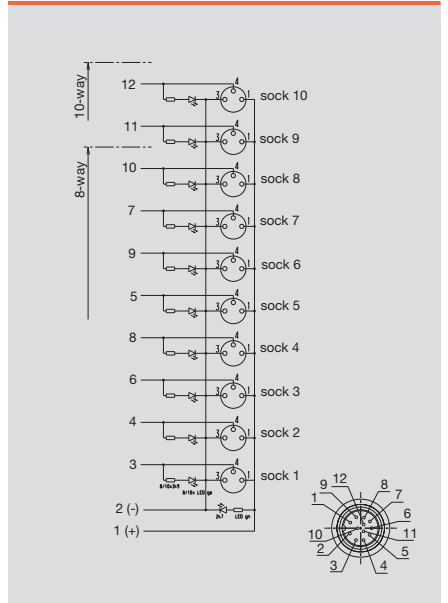
Technical data

Operating voltage	10...30 V
Current of continuous busbars	1 A
max. current-carrying capacity per slot	2 A
Total current	6 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-25...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram

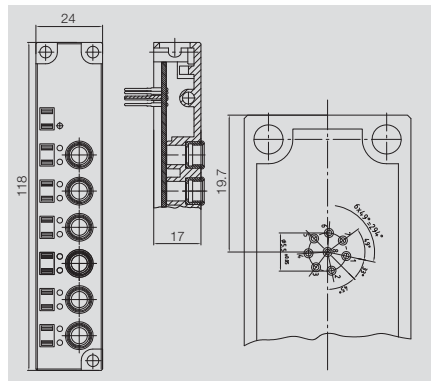


Wiring diagram



Line
PCB version

SAI-6-S M8 L SL



Ordering data

3-pole	6 channel
Note	

SAI-6-S M8 L SL

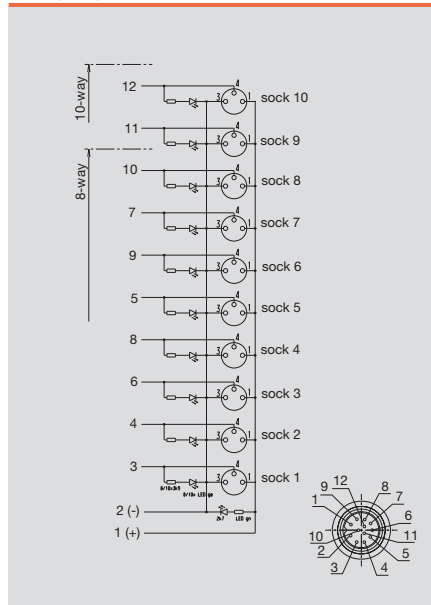
3-pole

Type	Qty.	Order No.
SAI-6-S 3P M8 L SL	1	1057720000
Other versions on request		

Technical data

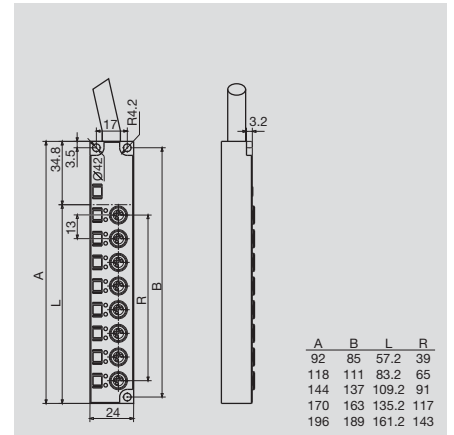
Operating voltage	10...30 V
Current of continuous busbars	1 A
max. current-carrying capacity per slot	2 A
Total current	6 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-25...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram



M8 distributors

Line / Fixed cable version



Ordering data

Cable length 5 m (with fixed cable version)	
4 channel	SAI-4-F 3P M8 L 5M
6 channel	SAI-6-F 3P M8 L 5M
8 channel	SAI-8-F 3P M8 L 5M
10 channel	SAI-10-F 3P M8 L 5M
12 channel	SAI-12-F 3P M8 L 5M
Cable length 10 m (with fixed cable version)	
4 channel	SAI-4-F 3P M8 L 10M
6 channel	SAI-6-F 3P M8 L 10M
8 channel	SAI-8-F 3P M8 L 10M
10 channel	SAI-10-F 3P M8 L 10M
12 channel	SAI-12-F 3P M8 L 10M

Note

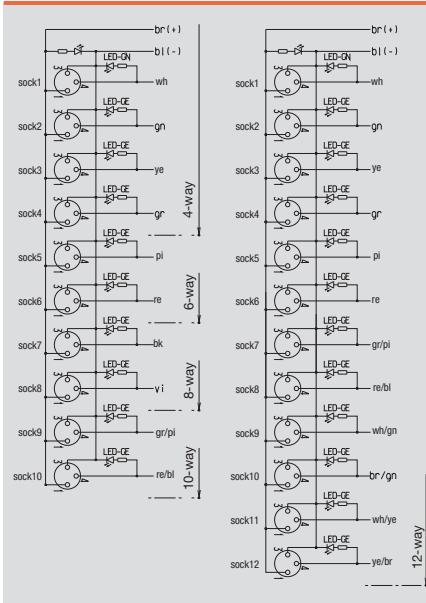
SAI-4/6/8/10/12-L		3-pole	
Type	Qty.	Order No.	
SAI-4-F 3P M8 L 5M	1	1828720000	
SAI-6-F 3P M8 L 5M	1	1828700000	
SAI-8-F 3P M8 L 5M	1	1828680000	
SAI-10-F 3P M8 L 5M	1	1828660000	
SAI-12-F 3P M8 L 5M	1	1828640000	

SAI-4/6/8/10/12-L		4-pole	
Type	Qty.	Order No.	
SAI-4-F 4P M8 L 5M	1	1849680000	
SAI-6-F 4P M8 L 5M	1	1849700000	
SAI-8-F 4P M8 L 5M	1	1828620000	

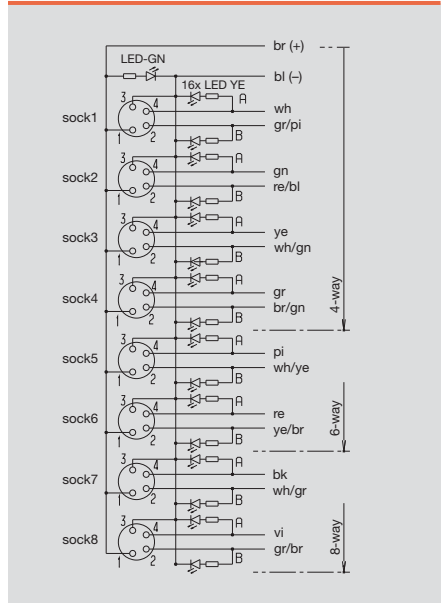
Technical data

Operating voltage	10...30 V
Current of continuous busbars	1 A
max. current-carrying capacity per slot	2 A
Total current	6 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-25...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram



Wiring diagram



Overview

M5-Line with M12 outlet



The Weidmüller SAI-M5 distributors are currently the smallest SAI distributors in the world

Whether mobile phones or computers as the functionality increases so the size of the components decreases! Today, machine designers face the same problem. Space is at a premium here as well, even in large machines, particularly where the sensor components are located. In the past the M8 distributor solved these problems. However, these units are now considered to be too large. The first move was to make the sensors smaller. Then it was the turn of the cables and distributors.

These extremely small units are surprisingly easy to handle. M5 plug in connectors have three or four poles and are thus equivalent to M8 plug-in connectors.

Fixed cable version



But in contrast to the M8 plug in connectors, the different pole numbers here are compatible with each other. The advantage is obvious: 4 pole units which are required, for example, for antivalent sensors can now be plugged into one and the same distributor with standard NOC applications. In the M8 system special adapters are required. Besides their actual size, in some applications module weight is critical too.

For example, the speed of a handling machine is influenced by the weight of the moving parts. Here again, the M5 system offers outstanding advantages, with its almost unrivalled small size and light weight.

M5-Line with M16 outlet



There is no version for custom bus cable assembly for this SAI distributor, which is delivered with a plug in connection and a fixed cable connection. A compact 12 pole M12 plug in connector has been developed as a plug in connection specifically for this distributor.

This ratio of surface area to number of connections is reminiscent of the computer industry. The M16 bus connection is also integrated in the module as an option, so the SAI M5 can be used as a combined SAI system as well. A Y-configuration is possible in conjunction with the M16 splitter.

The fixed cable version is particularly suitable for standard applications where the distributor is permanently installed and the electrical installation does not have to be disconnected after installation. The bus cable is reduced in cross section to save weight here too.

M5 distributors



Quality comes in little packages...

This is the motto with which Weidmüller developed its distributor with M5 plug in connectors. The outstanding feature of these connectors is their size. Attention has also been given to stability and good conductivity.

For a comparison of sizes, take a look at the photos on the left.

These products are ideal for handling machines where light weight and small size are vital.

Comparing the sizes



M12 M8 M5



M12 M8 M5

Marking

Each channel is marked with the channel number. Each initiator LED can be exactly allocated with the letters A and B. In addition, the distributor and every channel can be marked.

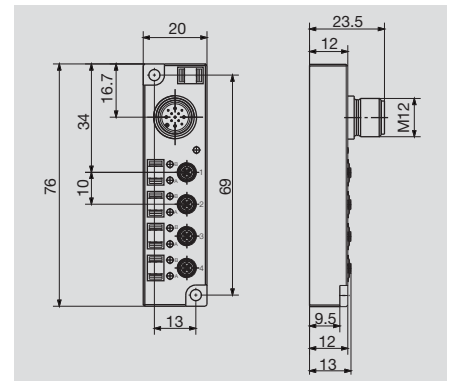
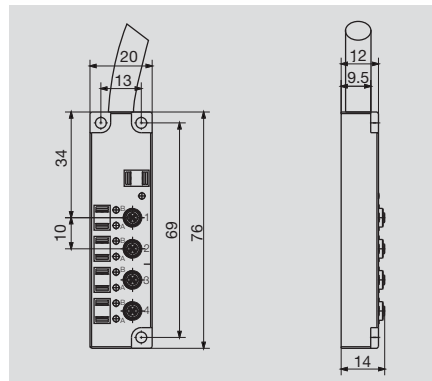


M5 distributors

Line

SAI-4/8-F

SAI-4/8-S



Ordering data

3-pole	
Cable length 5 m (with fixed cable version)	4 channel 8 channel
Cable length 10 m (with fixed cable version)	4 channel 8 channel
4-pole	
Cable length 5 m (with fixed cable version)	4 channel 8 channel
Cable length 10 m (with fixed cable version)	4 channel 8 channel
Note	

SAI-4/8-F

M5

Type	Qty.	Order No.
SAI-4-F 3P M5 L5M	1	1851740000
SAI-8-F 3P M5 L5M	1	1851760000
SAI-4-F 3P M5 L10M	1	1845820000
SAI-8-F 3P M5 L10M	1	1845830000
SAI-4-F 4P M5 L5M	1	1851770000
SAI-8-F 4P M5 L5M	1	1851750000
SAI-4-F 4P M5 L10M	1	1845800000
SAI-8-F 4P M5 L10M	1	1845810000
Other versions on request		

SAI-4/8-S

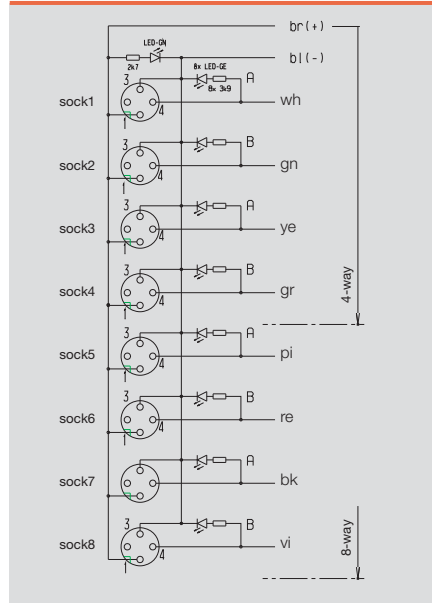
M5

Type	Qty.	Order No.
SAI-8-S 3P M5	1	1845850000
SAI-4-S 4P M5	1	1845840000
Other versions on request		

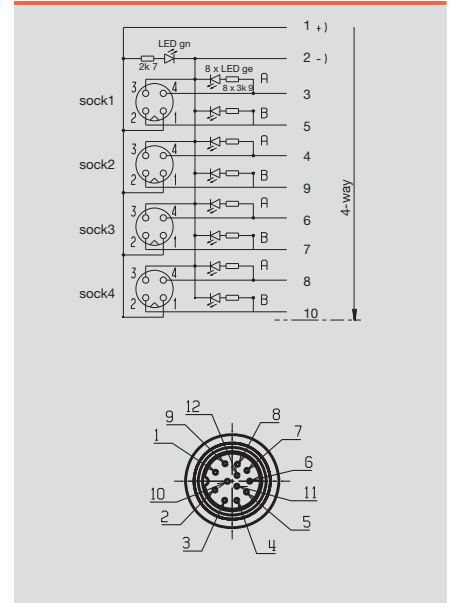
Technical data

Operating voltage	10...30 V
Current of continuous busbars	1 A
max. current-carrying capacity per slot	3 A
Total current	3 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	CuZn, nickel-plated
Base material of contacts	Au (Gold)
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	Yes

Wiring diagram

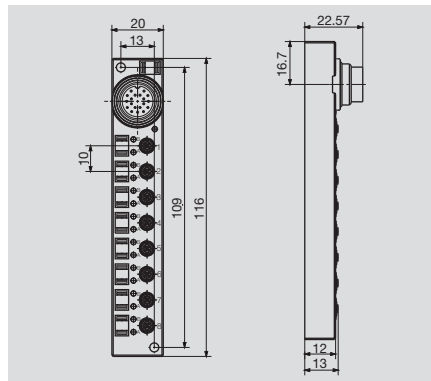


Wiring diagram



Line

SAI-4/8-S16



Ordering data

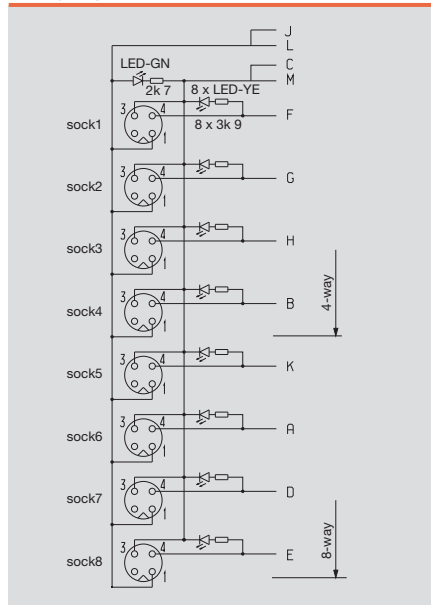
3-pole	4 channel
	8 channel
4-pole	4 channel
	8 channel
Note	

SAI-4/8-S16	M5	
Type	Qty.	Order No.
SAI-4-S16 3P M5	1	1845890000
SAI-8-S16 3P M5	1	1845880000
SAI-4-S16 4P M5	1	1845870000
SAI-8-S16/19P 4P M5	1	1845860000
1845870000, 1845880000 and 1845890000 with M16 / 12-pole 1845860000 with M16 / 19-pole		

Technical data

Operating voltage	10...30 V
Current of continuous busbars	1 A
max. current-carrying capacity per slot	3 A
Total current	3 A
Pollution severity	3
Protection class	IP 67
Ambient temperature range	-25...+80 °C
Housing main material	PA 6 GF
Contact carrier material	CuZn, nickel-plated
Base material of contacts	Au (Gold)
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



SAI Ex i distributor for Ex i zone 1

Hooded version with 4 plug-in slots



SAI distributor for Ex i zone 1

Available for the first time: passive SAI distributors with M12 connection technology in IP 68 ingress protection classification for Ex i hazardous area applications.

SAI Ex i distributor certified for zone 1 of potentially explosive areas, even for G and D zones.

The SAI Ex i distributors are available with four or eight connections for simple connection of NAMUR sensors. Distribution boxes with costly certification are thus a thing of the past. These modules are suitable for process engineering, but also for “standard” machine applications. The versions are available with or without yellow LEDs.

Hooded version with 8 plug-in slots



The distributors are provided with a removable connection hood. This detail also helps to reduce costs because only the defective bus cable needs to be replaced and not the entire distributor.

SAI Ex i distributor for Ex i zone 22



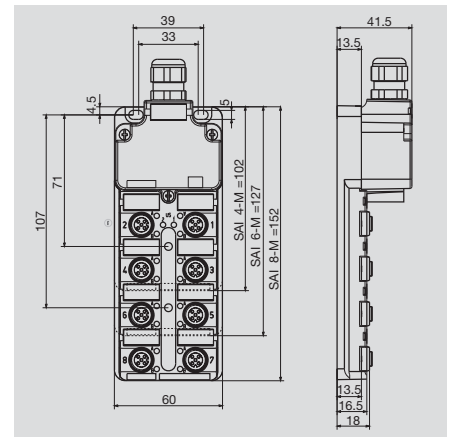
World first: SAI distributor for Ex i zone 22

In some areas of machine design only Ex i certified devices are permitted.

The wiring of these modules corresponds to that of standard SAI distributors. However, these components were specially developed, manufactured, checked and certified for zone 22 modules. All zone 22 modules are therefore provided with suitable printing.

Hood version

Zone 1



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Without initiator LED	4 channel
Without initiator LED	8 channel
Note	

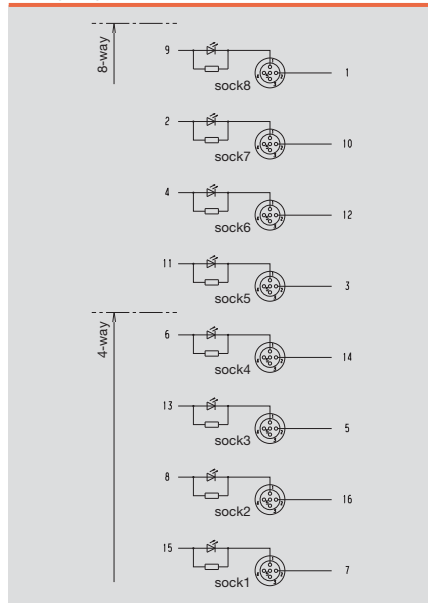
SAI-4/8-M Ex i		4-pole	
Type	Qty.	Order No.	
SAI-4-M 4P Exi Z1 IL	1	1868360000	
SAI-8-M 4P Exi Z1 IL	1	1868370000	
SAI-4-M 4P Exi Z1 OL	1	1868350000	
SAI-8-M 4P Exi Z1 OL	1	1894380000	

SAI-4/8-M Ex ia		5-pole	
Type	Qty.	Order No.	
SAI-4-M 5P M12 Ex ia	1	1896050000	
SAI-6-M 5P M12 Ex ia	1	1896070000	
SAI-8-M 5P M12 Ex ia	1	1896090000	

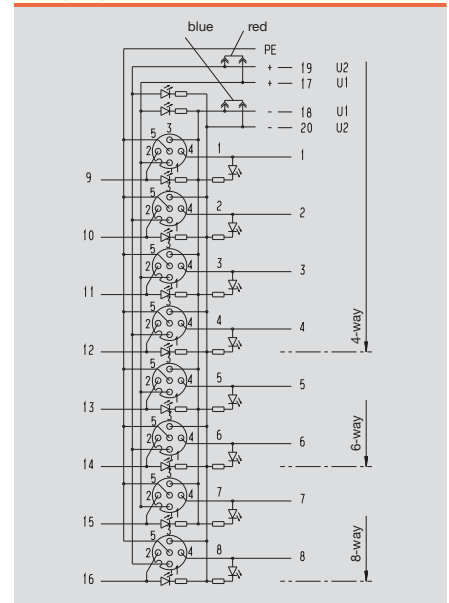
Technical data

Operating voltage	10...30 V
Current of continuous busbars	100 mA
max. current-carrying capacity per slot	100 mA
Total current	2.3 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+40 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.1...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	

Wiring diagram



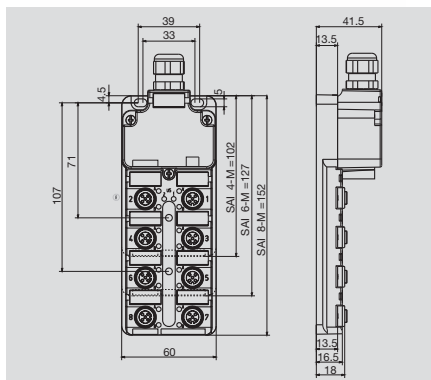
Wiring diagram



M12 Ex i distributors

Ex i distributor for the Ex i zone 22

SAI-4/6/8-M



Ordering data

Complete modules	
	4 channel
	6 channel
	8 channel
Note	

SAI-4/6/8-M		5-pole
Type	Qty.	Order No.
SAI-4-M 5P Ex Z22	1	1861850000
SAI-6-M 5P Ex Z22	1	1861840000
SAI-8-M 5P Ex Z22	1	1861530000

Technical data

Operating voltage	10...30 V
Current of continuous busbars	100 mA
max. current-carrying capacity per slot	100 mA
Total current	2.3 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20...+80 °C
Housing main material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
screw socket	CuZn, nickel-plated
Housing colour	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.1...1.5 mm ²
Suitable for dragline cable (fixed cable connection)	

A higher current is allowed when using a lower voltage. A total capacity of 3W per plug-in station should not be exceeded.

Wiring diagram

