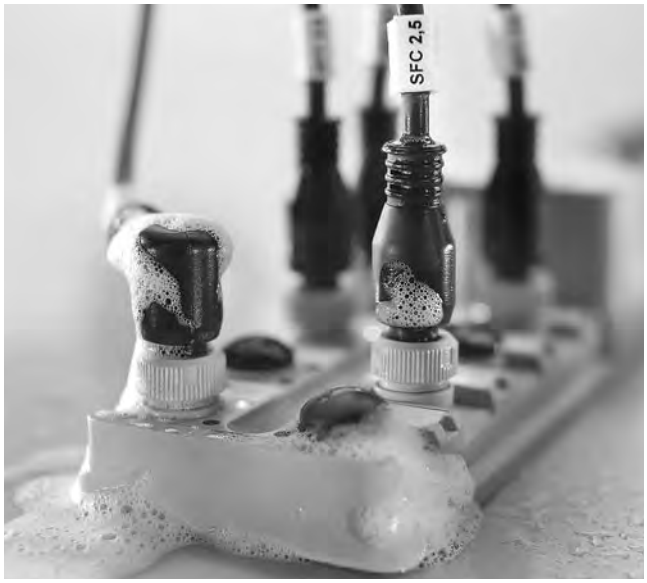
Sensor-Actuator-Interface(SAI) Cable with Plastic Coupling Nuts for Harsh Environment Applications

NEW



Weidmuller's plastic coupling nuts are designed for harsh environment applications where aggressive cleaning agents are used or corrosive elements are present. Plastic coupling nuts are an economical alternative to expensive stainless steel solutions often used in corrosive environments.

Weidmuller's plastic coupling nuts are resistant to corrosion, ensuring safe and reliable connections in wash-down, high humidity and chemically aggressive environments. They can help optimize machine up time through decreased product failures and maintenance time.

SAI M12 connecting cables with plastic coupling nuts are water- and dust-tight. Their IP67 rating and chemical resistance make them suitable for applications outside of the cabinet directly on the machine in a broad range of industries and harsh environments including packaging, water/wastewater and other processing applications.

Weidmuller offers SAI M12 single and double ended cables with plastic coupling nuts in 3-, 4- and 5-pole with high flex PUR/PVC cable for continuous flex applications.

- Excellent resistance against fats, oils, diluted acids, organic solvents and cleaning agents
- Economical alternative to stainless steel
- Self securing ratchet coupling nut
- High flex PUR/PVC cable rated for over 20 Million bending cycles
- Water- and dust-tight IP67 rating

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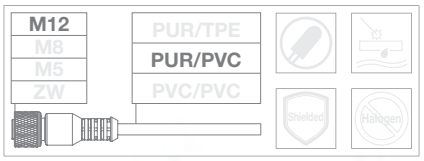
Weidmüller

M12, single ended cables with plastic coupling nuts PUR / PVC A-Coded



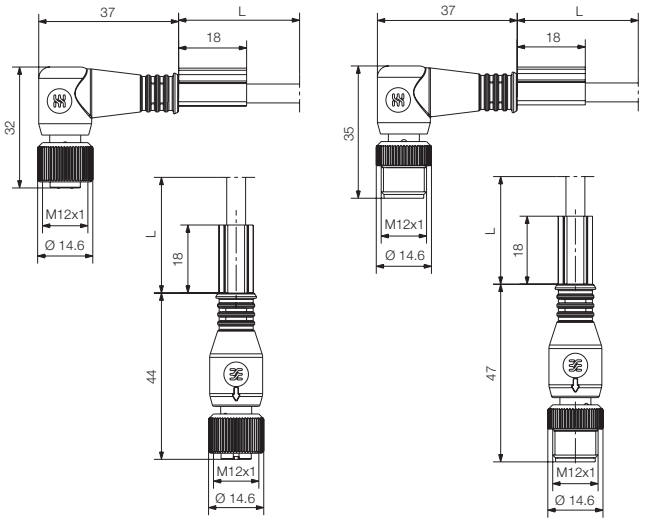
Ordering Data

	3-Pole		4-Pole		5-Pole	
Male, Straight	**Type**	**Part No.**	**Type**	**Part No.**	**Type**	**Part No.**
1.5 m	SAIP-M12G-3-1.5U	**1108800150**	SAIP-M12G-4-1.5U	**1108810150**	SAIP-M12G-5-1.5U	**1108820150**
3.0 m	SAIP-M12G-3-3.0U	**1108800300**	SAIP-M12G-4-3.0U	**1108810300**	SAIP-M12G-5-3.0U	**1108820300**
5.0 m	SAIP-M12G-3-5.0U	**1108800500**	SAIP-M12G-4-5.0U	**1108810500**	SAIP-M12G-5-5.0U	**1108820500**
10.0 m	SAIP-M12G-3-10U	**1108801000**	SAIP-M12G-4-10U	**1108811000**	SAIP-M12G-5-10U	**1108821000**
Male, Angled						
1.5 m	SAIP-M12W-3-1.5U	**1108670150**	SAIP-M12W-4-1.5U	**1108680150**	SAIP-M12W-5-1.5U	**1108690150**
3.0 m	SAIP-M12W-3-3.0U	**1108670300**	SAIP-M12W-4-3.0U	**1108680300**	SAIP-M12W-5-3.0U	**1108690300**
5.0 m	SAIP-M12W-3-5.0U	**1108670500**	SAIP-M12W-4-5.0U	**1108680500**	SAIP-M12W-5-5.0U	**1108690500**
10.0 m	SAIP-M12W-3-10U	**1108671000**	SAIP-M12W-4-10U	**1108681000**	SAIP-M12W-5-10U	**1108691000**
Socket, Straight						
1.5 m	SAIP-M12BG-3-1.5U	**1108730150**	SAIP-M12BG-4-1.5U	**1108740150**	SAIP-M12BG-5-1.5U	**1108750150**
3.0 m	SAIP-M12BG-3-3.0U	**1108730300**	SAIP-M12BG-4-3.0U	**1108740300**	SAIP-M12BG-5-3.0U	**1108750300**
5.0 m	SAIP-M12BG-3-5.0U	**1108730500**	SAIP-M12BG-4-5.0U	**1108740500**	SAIP-M12BG-5-5.0U	**1108750500**
10.0 m	SAIP-M12BG-3-10U	**1108731000**	SAIP-M12BG-4-10U	**1108741000**	SAIP-M12BG-5-10U	**1108751000**
Socket, Angled						
1.5 m	SAIP-M12BW-3-1.5U	**1108770150**	SAIP-M12BW-4-1.5U	**1108780150**	SAIP-M12BW-5-1.5U	**1108790150**
3.0 m	SAIP-M12BW-3-3.0U	**1108770300**	SAIP-M12BW-4-3.0U	**1108780300**	SAIP-M12BW-5-3.0U	**1108790300**
5.0 m	SAIP-M12BW-3-5.0U	**1108770500**	SAIP-M12BW-4-5.0U	**1108780500**	SAIP-M12BW-5-5.0U	**1108790500**
10.0 m	SAIP-M12BW-3-10U	**1108771000**	SAIP-M12BW-4-10U	**1108781000**	SAIP-M12BW-5-10U	**1108791000**
Notes						
	Other versions on request		Other versions on request		Other versions on request	

Technical Data

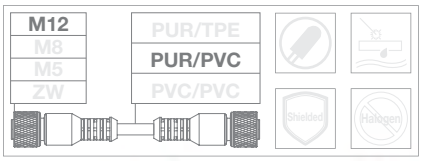
Specifications	
Jacket color	black
Rated current	4A
Jacket material	PUR/ PVC
Coupling nut material	Pocan
Protection class	IP 67
Core cross-section	0.34 mm²
Bending radius	approx. 10 x cable OD for flexible application
Speed	max. 1.75 m/s at 2.1 m horizontal path length
Acceleration	max. 50 m/s²
Cycles	> 20 million
Contact surface	gold plated
Temperature range (moving)	-5°C ... 80 °C
Rated voltage (acc. to VDE standard 0110 ISO group C)	250V (3- and 4-pole) / 125V (5-pole)

Dimensional Drawing



L in the drawing is the cable length

M12, double ended cables with plastic coupling nuts M12 to M12 PUR / PVC A-Coded



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	3-Pole		4-Pole		5-Pole	
Male, Straight - Socket, Straight	**Type**	**Part No.**	**Type**	**Part No.**	**Type**	**Part No.**
1.5 m	SAIP-M12GM12G-3-1.5U	**1108830150**	SAIP-M12GM12G-4-1.5U	**1108840150**	SAIP-M12GM12G-5-1.5U	**1108850150**
3.0 m	SAIP-M12GM12G-3-3.0U	**1108830300**	SAIP-M12GM12G-4-3.0U	**1108840300**	SAIP-M12GM12G-5-3.0U	**1108850300**
5.0 m	SAIP-M12GM12G-3-5.0U	**1108830500**	SAIP-M12GM12G-4-5.0U	**1108840500**	SAIP-M12GM12G-5-5.0U	**1108850500**
10.0 m	SAIP-M12GM12G-3-10U	**1108831000**	SAIP-M12GM12G-4-10U	**1108841000**	SAIP-M12GM12G-5-10U	**1108851000**
Male, Straight - Socket, Angled						
1.5 m	SAIP-M12GM12W-3-1.5U	**1108870150**	SAIP-M12GM12W-4-1.5U	**1108880150**	SAIP-M12GM12W-5-1.5U	**1108890150**
3.0 m	SAIP-M12GM12W-3-3.0U	**1108870300**	SAIP-M12GM12W-4-3.0U	**1108880300**	SAIP-M12GM12W-5-3.0U	**1108890300**
5.0 m	SAIP-M12GM12W-3-5.0U	**1108870500**	SAIP-M12GM12W-4-5.0U	**1108880500**	SAIP-M12GM12W-5-5.0U	**1108890500**
10.0 m	SAIP-M12GM12W-3-10U	**1108871000**	SAIP-M12GM12W-4-10U	**1108881000**	SAIP-M12GM12W-5-10U	**1108891000**
Male, Angled - Socket, Angled						
1.5 m	SAIP-M12WM12W-3-1.5U	**1108700150**	SAIP-M12WM12W-4-1.5U	**1108710150**	SAIP-M12WM12W-5-1.5U	**1108720150**
3.0 m	SAIP-M12WM12W-3-3.0U	**1108700300**	SAIP-M12WM12W-4-3.0U	**1108710300**	SAIP-M12WM12W-5-3.0U	**1108720300**
5.0 m	SAIP-M12WM12W-3-5.0U	**1108700500**	SAIP-M12WM12W-4-5.0U	**1108710500**	SAIP-M12WM12W-5-5.0U	**1108720500**
10.0 m	SAIP-M12WM12W-3-10U	**1108701000**	SAIP-M12WM12W-4-10U	**1108711000**	SAIP-M12WM12W-5-10U	**1108721000**
Notes						
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Technical Data

Specifications	
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Rated current	4A
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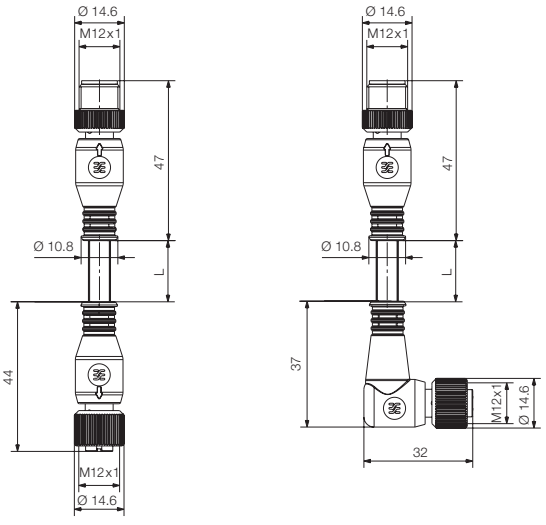
Cycles	> 20 million
Contact surface	gold plated
Temperature range (moving)	-5°C ... 80 °C
Rated voltage (acc. to VDE standard 0110 ISO group C)	250V (3- and 4-pole) / 125V (5-pole)

Dimensional Drawing

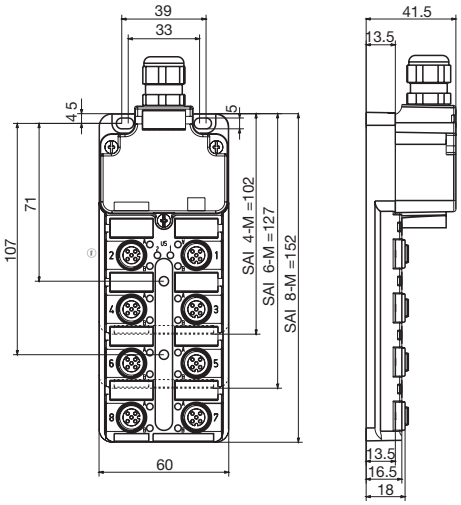


L in the drawing is the cable length

M12 ECO module with molded plastic ports and plug-in connection hood

- **Non-metallic module for use in corrosive environments**
- **Plug-in connection hood with screw connection**
- **Optional electrical isolation via solder bridges**

SAI-4/6/8-M
5-pole



Ordering Data

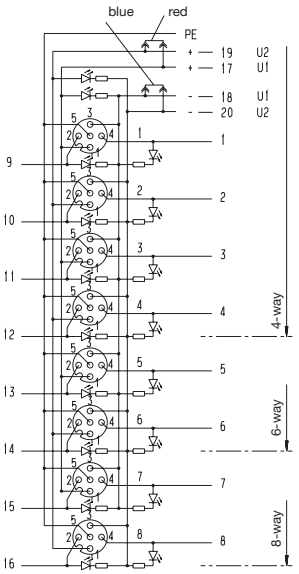
Complete modules		Type	Qty.	Order No.
	4 channel	SAI-4-M 5P M12 ECO	1	**1892100000**
	6 channel	SAI-6-M 5P M12 ECO	1	**1892090000**
	8 channel	SAI-8-M 5P M12 ECO	1	**1892080000**
NPN	4 channel	SAI-4-M 5P M12 NPN ECO	1	**1892100005**
NPN	8 channel	SAI-8-M 5P M12 NPN ECO	1	**1892080005**
Base unit				
	4 channel	SAI-4-M 5P M12 ECO UT	2	**1892101000**
	6 channel	SAI-6-M 5P M12 ECO UT	2	**1892091000**
	8 channel	SAI-8-M 5P M12 ECO UT	2	**1892081000**
Mounting hood				
	Tension clamp connection	SAI-4/6/8-MH BLZF3.5 SV	50	**1752080050**
	Screw connection	SAI-4/6/8-MH BL3.5 SV	50	**1724750050**
Note		These distributors are supplied without protective caps and markers.		

Technical Data

Specifications	
Rated voltage	32 V DC
Operating voltage	10 ... 30 V DC
Current carrying capacity per I/O signal	2 A
Current-carrying capacity per slot	3 A
Total current max.	10 A
Pollution severity	3
Protection class	IP 68
Ambient temperature range	-20 ... 90 °C
Housing material	Pocan
Contact carrier material	PBT UL 94 V0
Base material of contacts	CuZn, pre-nickeled, gold-plated
Threaded sockets	Pocan
Housing color	grey, RAL 7032
Flammability class UL 94	V-0
Clamping range of hood-version	0.08 ... 1.5 mm²

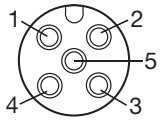
With dual power supply: 2x8 = 16A total current
Clamping range up to 2.5 mm² with screw connection

Wiring Diagram



Contact Assignment

M12 5-pole socket



Contact	Color Code	Assignment
1	brown	+ 24VDC
2	white	input/output 2
3	blue	0VDC
4	black	input/output 1
5	green/yellow	PE

Chemical resistance of Pocan® (PBT)

Pocan offers good resistance to chemicals. Organic solvents, such as aliphatic hydrocarbons, alcohols, ether, long-chain ester as well as fats, oils and perchlorinated hydrocarbons do not corrode Pocan.

This is also true for water and aqueous solutions, neutral and acid salts, as well as diluted acids.

On the other hand, it is susceptible to alkalis, oxidizing acids, ketones and phenols.

Susceptibility to universal alcohols, aromatics and ketones increases as the ambient temperature rises above 60°C.

In the presence of water and aqueous solutions, hydrolytic degradation at higher temperatures increasingly leads to a decline in stability.

Substances like motor and transformer oils, petrol and brake fluids do not corrode Pocan, even at higher temperatures.

Medium	23 °C	60 °C
Acetic acid 10%	±	±
Acetone	+	-
Ammonia 10%	+	-
Ammonia, concentrated	±	-
Benzene	+	-
Brake fluid	+	+
Butane	+	+
Butanol	+	±
Butyl acetate	+	+
Calcium chloride 10%	+	+
Carbon disulphide	+	±
Carbon tetrachloride	+	±
Chlorobenzene	-	-
Chloroform	-	-
Chromic acid hydride 10%	+	+
Citric acid 10%	+	±
Cresol	-	-
Curd soap	+	+
Dibutyl phthalate	+	±
Diesel oil	+	+
Diethyl ether	+	±
Dioxan	+	-
Ethanol	+	+
Ethyl acetate	±	-
Ethyl dichloride	-	-
Ethylene glycol	+	±
Formic acid 10%	+	±
Freon 11	+	+
Frigen 113	+	+
Glacial acetic acid 10%	-	-
Glycerine	+	+
Heptane	+	+
Hexane	+	+
Hydraulic oil	+	+
Hydrochloric acid 10%	+	-
Hydrochloric acid, concentrated	-	-
Hydrofluoric acid 10%	+	+
Hydrogen peroxide 20%	+	±
Isopropyl alcohol	+	±
Kerosene	+	+

Medium	23 °C	60 °C
Linseed oil	+	+
Lubricating greases	+	+
Methanol	+	±
Methyl ethyl ketone	+	±
Methylene chloride	-	-
Mineral oils	+	+
Motor oils	+	+
Nitric acid 10%	+	±
Nitric acid, concentrated	-	-
Octane	+	+
Olive oil	+	+
Paraffin oil	+	+
Perchloroethylene	±	-
Petrol, normal and lead-free	+	+
Petrol, super	+	+
Petrol/methanol 85/15	+	+
Petroleum	+	+
Phenol 10%	-	-
Phosphoric acid 20%	+	±
Potassium chloride 10%	+	+
Potassium dichromate 10%	+	+
Potassium hydroxide 10%	-	-
Potassium permanganate 10%	+	±
Soap suds 10%	+	±
Sodium bisulphite 10%	+	+
Sodium carbonate 10%	+	+
Sodium chloride 10%	+	+
Sodium hydroxide 10%	-	-
Sulphuric acid 10%	+	±
Sulphuric acid, concentrated	-	-
Tetrahydrofuran	-	-
Toluene	±	-
Transformer oil	+	+
Trichlorethene/chloroform 1/1	±	-
Turpentine oil	+	+
Vegetable oils	+	+
Washing liquid	+	+
Washing powder, synthetic	+	+
Water	+	+
Xylol	±	-

The above values are for guidance only.
A definite statement can only be made when based on the respective case in question.

\+ = resistant
\- = not resistant
± = partly resistant