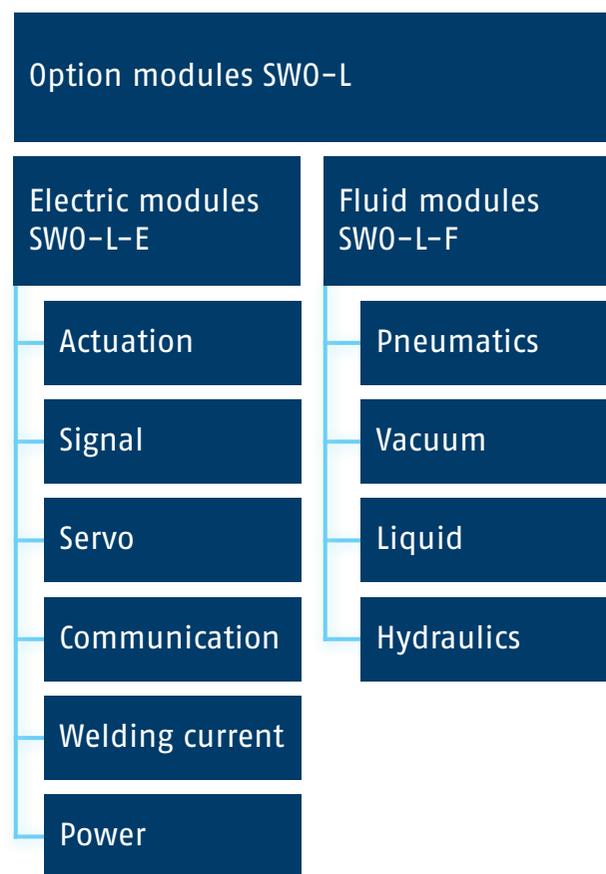


## Option Modules SWO-L

The flexibility of SCHUNK quick-change system is characterized by the large number of different modules offered, making it possible to transmit a broad range of media. Due to the wide variety of available modules, only a few of the most important modules will be featured in the following chapter. On request, we can assist you in finding the right module for your application's requirements. If a standard

module is not available, special designs are also offered.

The following overview divides the modules into different groups consisting of electric modules SWO-L-E and fluid modules SWO-L-F:



Depending on the size of the quick-change system, various modules are available due to the different screw connection diagrams. You can find an overview of the screw connection diagrams individual sizes in the following table.

Adapters are available for the heavy load quick-change system SWS-L for mounting all SWO modules with screw connection diagram J:

Description of the screw connection diagram	Suitable for sizes
L	all sizes for SWS-L sides B/-C/-D/-E/-F
L1	SWS-L 210 side A
L2	SWS-L 310, SWS-L 510, SWS-L 1210, side A for each
J	all sizes via adapter plates

## Electric Modules SWO-L-E

In the following tables you can find a selection of the most important electric modules, which make a variety of electric energy transmission options possible via the quick-change

system. In addition, SCHUNK offers a range of different plug connectors for a large selection of modules.

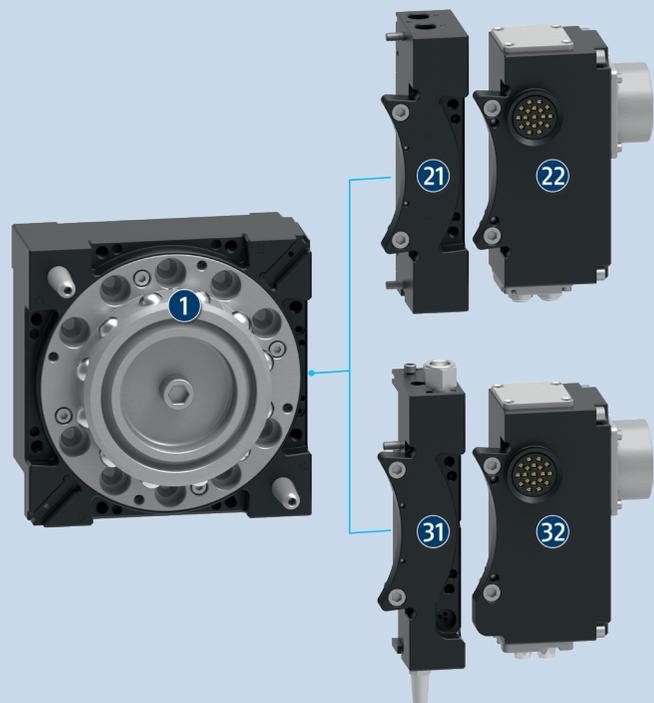


### Modules for Control

The control of heavy load quick-change systems SWS-L takes place via pneumatic supply modules. In addition, the locking and unlocking of the quick-change master can be done via a control module option.

The pneumatic supply modules supply the locking mechanism of the quick-change master (SWK-L) with pneumatics. Depending on the module used, control is carried out via a customer-side valve or via an integrated mono- or bi-stable magnetic valve. Depending on the module used, the valve can be connected to the control unit by a customer-supplied cable or by a suitable control module, which can be screwed directly into the pneumatic supply modules on the outlet side.

- ① Heavy load quick-change master SWK-L
- ②① Pneumatic supply module without valve and with 2x G1/4" connections for locking and unlocking the SWK-L
- ②② Signal module
- ③① Pneumatic supply module with integrated valve
- ③② Control module for locking and unlocking the SWK-L



## Pneumatic Supply Modules

Designation	Screw connection diagram	Plug connection	Connection	Remark
SWO-L-20-1192 Adapter	L1 and L2			Spacer on tool side when using all other pneumatic supply modules.
SWO-L-JB11 Adapter	L1 and L2			Spacer on tool side when using a pneumatic supply module JB10 or JB13 on the SWK-L.
SWO-L-JR4 Adapter	L1 and L2			Spacer on tool side when using a pneumatic supply module JU4 or JU5 on the SWK-L.
SWO-L-JB2 Master	L1		2x G1/4"	Pneumatic connection when using with external, customer-side valve.
SWO-L-JB3 Master	L2			
SWO-L-JB10 Master	L1		2x G1/4"	Pneumatic connection when using with external, customer-side valve. Integrated sensor distributor combines the connections of the integrated proximity switches of the SWK. Additional mounting surface for modules with mounting surface J.
SWO-L-JB13 Master	L2			
SWO-L-JD2 Master	L1	M8 3 Pin	1x G1/4"	Valve module with mono-stable directional control valve for controlling the SWK. M8 3-pin connection for control via suitable control module or direct connection with customer-side interface.
SWO-L-JD3 Master	L2			
SWO-L-JF2 Master	L1	M8 3 Pin	1x G1/4"	Valve module with bi-stable directional control valve for controlling the SWK. M8 3-pin connection for control via suitable control module or direct connection with customer-side interface.
SWO-L-JF3 Master	L2			
SWO-L-JU2 Master	L1		1x G1/4"	Valve module with bi-stable directional control valve for controlling the SWK. Integrated pin block for control via appropriate control module.
SWO-L-JU3 Master	L2			
SWO-L-JU4 Master	L1		1x G1/4"	Valve module with redundant, bi-stable directional control valves for controlling the SWK. Integrated pin block for control via appropriate control module.
SWO-L-JU5 Master	L2			

## Control Modules

Designation	Screw connection diagram	Plug connection	Connection	Remark
SWO-L-VA6 Master	L	5 A/250 VAC	Amphenol MS threaded cap	Control module for use with SWO-L-JU2 Master and SWO-L-JU3 Master, 19 pins can be used by the customer.
SWO-L-VB7Z1 Master				Control module for use with SWO-L-JU2 Master and SWO-L-JU3 Master, 14 pins can be used by the customer.
SWO-L-DKL Adapter	L	5 A/24 VDC	M12 and 7/8" threaded cap	Transmission of EtherNet/IP, tool coding from 0 to 99999 via EtherNet/IP, connection option for non-contact safety switch (detection of the tool-side storage position).
SWO-L-DKL Master				Control module for use with SWO-L-JU4 Master and SWO-L-JU5 Master, feed-through and control of the SWK via EtherNet/IP (including various diagnostic and safety functions) possible.
SWO-L-DL4 Adapter	L	10 A/24 VDC	AIDA Push Pull	Transmission of PROFINET, tool coding from 0 to 99999 via PROFINET, connection option for safety switch for detecting the storage position (TSI tool side).
SWO-L-DL4 Master		5 A/24 VDC		Control module for use with SWO-L-JU2 Master and SWO-L-JU3 Master, feed-through and control of the SWK via PROFINET (including various diagnostic and safety functions) possible.
SWO-L-DL9 Adapter	L	10 A/24 VDC	AIDA Push Pull	Transmission of PROFINET, tool coding from 0 to 99999 via PROFINET, connection option for contactless safety switch for detecting the storage position (TSI tool side).
SWO-L-DL9 Master		5 A/24 VDC		Control module for use with SWO-L-JU4 Master and SWO-L-JU5 Master, feed-through and control of the SWK via PROFINET (including various diagnostic and safety functions) possible.

## Modules for Signal Transmission

The following modules are used for transmitting electrical signals. They feature easily replaceable, spring-loaded pins,

making them suitable for a wide range of change cycles. There is a large selection of different mechanical plug connectors.

Designation	ID	Screw connection diagram	Electric data	Plug connection	Remark
SWO-L-SA2 Adapter	9948555	L	5 A/250 VAC	Amphenol MS threaded cap	19 pins can be used by the customer, compatible with control modules from the VA series.
SWO-L-SA2 Master	9948563				19 pins can be used by the customer (4 proximity switch from the piston stroke monitoring system detachable).
SWO-L-SA3 Adapter	9948556				15 pins can be used by the customer, integrated binary tool coding 0 to 9, compatible with control modules from the VA series.
SWO-L-SA4 Adapter	9948557				11 pins can be used by the customer, integrated binary tool coding 0 to 99, compatible with control modules from the VA series.
SWO-L-SA5 Adapter	9948558				7 pins can be used by the customer, integrated binary tool coding 0 to 999, compatible with control modules from the VA series.
SWO-L-VB2 Adapter	9948560				16 pins can be used by the customer, compatible with control modules from the VB series, storage position sensor detachable (TSI tool side).
SWO-L-VB3 Adapter	9948561				12 pins can be used by the customer, binary tool coding 0 to 9, compatible with control modules from the VB series, storage position sensor detachable (TSI tool side).
SWO-L-VB4 Adapter	9948562				8 pins can be used by the customer, binary tool coding 0 to 99, compatible with control modules from the VB series, storage position sensor detachable (TSI tool side).

## Module for Servo Signal Transmission

Servo signal modules from SCHUNK offer the option of transmitting power and encoder signals that are electrically isolated from one another via the same module.

Designation	ID	Screw connection diagram	Electric data	Plug connection	Remark
SWO-L-ED8 Adapter	30084159	L	3 A/160 VAC 13 A/630 VAC	M23	18 pins can be used by the customer (6 pins for each 13 A/630 VAC and 12 pins for each 3 A/160 VAC)
SWO-L-ED8 Master	30084158				

## Modules for Communication Transmission

A variety of electric modules are available for enabling various bus communication types by default across the SCHUNK change systems.

Designation	ID	Screw connection diagram	Electric data	Plug connection	Remark
SWO-L-VG3 Adapter	9900056	L	10 A/24 VDC	M12 and 7/8" threaded cap	5 pins for the transmission of PROFIBUS signals and 5 pins for auxiliary power supply
SWO-L-VG3 Master	9900055				

## Modules for Welding Current Transmission

Especially for welding applications, SCHUNK offers suitable modules for transmitting particularly high currents and voltages.

Designation	ID	Screw connection diagram	Electric data	Plug connection	Remark
SWO-L-PA2 Adapter	9948900	L	200 A/600 VAC	lead terminal up to 35 mm <sup>2</sup>	3 pins for welding applications
SWO-L-PA2 Master	9948899				
SWO-L-PA15 Adapter	9961034	L	200 A/600 VAC	2 lead terminal up to 35 mm <sup>2</sup> and one up to 25 mm <sup>2</sup>	2 pins for welding applications and 1 pin for grounding
SWO-L-PA15 Master	9961029				

## Module for Power Transmission

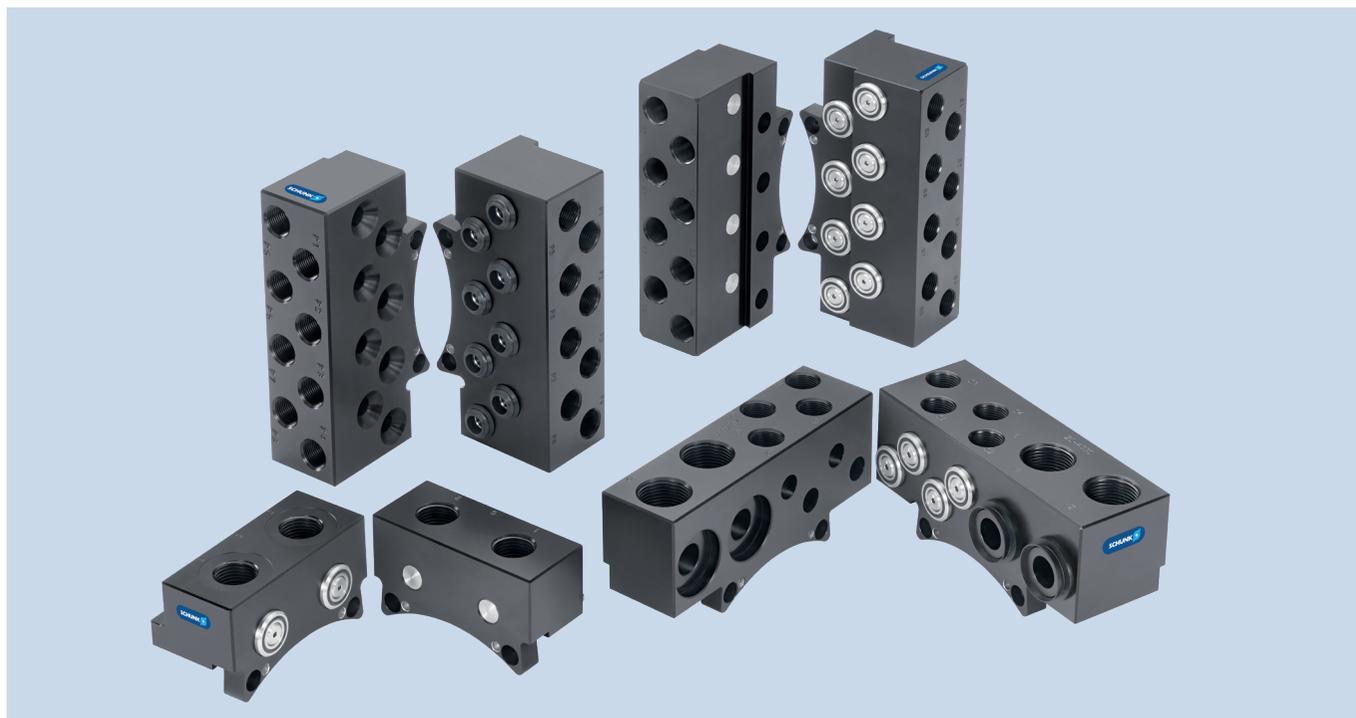
For the SWS-L heavy load change system, the SWO-E modules can be used with a number of mechanical plug connections to transmit electric power. These can be

easily mounted via an adapter plate and feature easily replaceable, spring-loaded pins, making them suitable for a wide range of changing cycles.

## Fluid Modules SWO-L-F

In the following tables, you can find an overview of available fluid modules that make transmitting various kinds of fluid

media possible via the SCHUNK quick-change system. All modules are available as standard, also in the Viton version.



### Module for Pneumatic Feed-through

The following modules are used for the process-reliable feed-through of compressed air and feature a reliable and durable seal, especially for a very high number of

changing cycles. A variety of pneumatic modules with self-sealing or open ports are available.

Designation	ID	Screw connection diagram	Connection	Cv value	Note
SWO-L-AK2 Adapter	9948573	L	10x G1/4"	1.40	Self-sealing ports for compressed air.
SWO-L-AK2 Master	9948572				
SWO-L-AF2 Adapter	9948565	L	8x G3/8"	2.45	Open ports for compressed air and vacuum.
SWO-L-AF2 Master	9948564				
SWO-L-AH3-Adapter	9948570	L	8x G3/8"	1.60	Open ports for compressed air.
SWO-L-AH2 Adapter	9948569		4x + 4x G3/8"		4 x self-sealing and 4 x open ports for compressed air.
SWO-L-AH2 Master	9948568		8x G3/8"		Self-sealing ports for liquids and compressed air.
SWO-L-AG2 Adapter	9948567	L	2x G3/4" + 4x G3/8"	1.60	4 x self-sealing ports for compressed air, 2 x ports for vacuum.
SWO-L-AG2 Master	9948566				
SWO-L-AQ2 Adapter	9948894	L	4x G1/2"	3.10	Self-sealing ports for compressed air.
SWO-L-AQ2 Master	9954327				
SWO-L-FC3 Adapter	9948580	L	8x G3/8"	1.60	Open ports for compressed air, stainless steel housing.
SWO-L-FC2 Adapter	9948579		4x + 4x G3/8"		4 x self-sealing ports for liquids and 4 x open ports for compressed air, stainless steel housing.
SWO-L-FC2 Master	9948578		8x G3/8"		Self-sealing ports for liquids and compressed air, stainless steel housing.
SWO-L-AP5 Adapter	1378146	L	1x G1/2"	1.60	Self-sealing ports for liquids.
SWO-L-FH12 Adapter	1378141		4x G1/2"		Self-sealing ports for liquids, stainless steel housing.
SWO-L-FH12 Master	1378135				

## Modules for Liquid Feed-through

The following modules are used for process-reliable liquid feed-through and feature a robust stainless steel housing

and self-sealing connections. This is a precaution preventing virtually all fluid loss and possible corrosion.

Designation	ID	Screw connection diagram	Connection	Cv value	Remark
SWO-L-AH4 Adapter	9948571	L	8x G3/8"	1.60	Self-sealing ports for liquids and compressed air.
SWO-L-AH2 Master	9948568				
SWO-L-AM2-Adapter	9948577	L	2x G1/2"	1.60	Self-sealing ports for liquids.
SWO-L-AM2 Master	9948576				
SWO-L-FC2 Adapter	9948579	L	8x G3/8"	1.60	4x self-sealing ports for liquids and 4x open ports for compressed air, stainless steel housing. Self-sealing ports for liquids and compressed air. Stainless steel housing.
SWO-L-FC2 Master	9948578				
SWO-L-AP5 Adapter	1378146	L	1x G1/2"	1.60	Self-sealing ports for liquids.
SWO-L-FH12 Adapter	1378141		4x G1/2"		
SWO-L-FH12 Master	1378135				

## Module for Hydraulic Feed-through

The following modules are used for hydraulic feed-through and feature self-sealing ports.

Designation	ID	Screw connection diagram	Connection	Max. operating pressure	Cv value	Remark
SWO-L-HB3 Adapter	9948585	L	2x G3/8"	158 bar	1.23	Hydraulic module for the transmission of hydraulic fluid up to 158 bar operating pressure
SWO-L-HB3 Master	9948584					
SWO-L-HB6 Adapter	9965174	L	2x G3/8"	496 bar	1.23	Hydraulic module for the transmission of hydraulic fluid up to 496 bar operating pressure
SWO-L-HB6 Master	9965463					
SWO-L-HB9 Adapter	1313100	L	2x G1/2"	496 bar	2.26	Hydraulic module for the transmission of hydraulic fluid up to 496 bar operating pressure
SWO-L-HB9 Master	1313099					

## Module for Vacuum Feed-through

For the SWS-L heavy-duty change system, the appropriate modules from chapter SWO-F can be used for process-reliable vacuum feed-through. These can be mounted easily via an

adapter plate and feature an axial feed-through and vacuum-optimized seals for high volumetric flow.