



Superior Clamping and Gripping



Product Information

Universal gripper EGI

Intelligent. Sensitive. Reliable.

Gripper for small components EGI

Servo-electric 2-finger parallel gripper with sensitive gripping force control and long stroke

Field of application

Versatile, highly flexible gripper for great part variety and sensitive components in clean environments

Advantages – Your benefits

Gripping force control for the delicate gripping of sensitive workpieces

Long and freely programmable stroke for flexible workpiece handling

Almost complete gripping force maintenance with minimal brake retardation for a high process reliability

Browser-based integrated web server For easy and intuitive commissioning, parameterization, and functional testing of the gripper

Fully integrated control and power electronics for creating a decentralized control system

Connectors in industrial standard for easy electrical connection



Sizes
Quantity: 1



Weight
1.55 kg



Gripping force
100 N



Stroke per jaw
57.5 mm

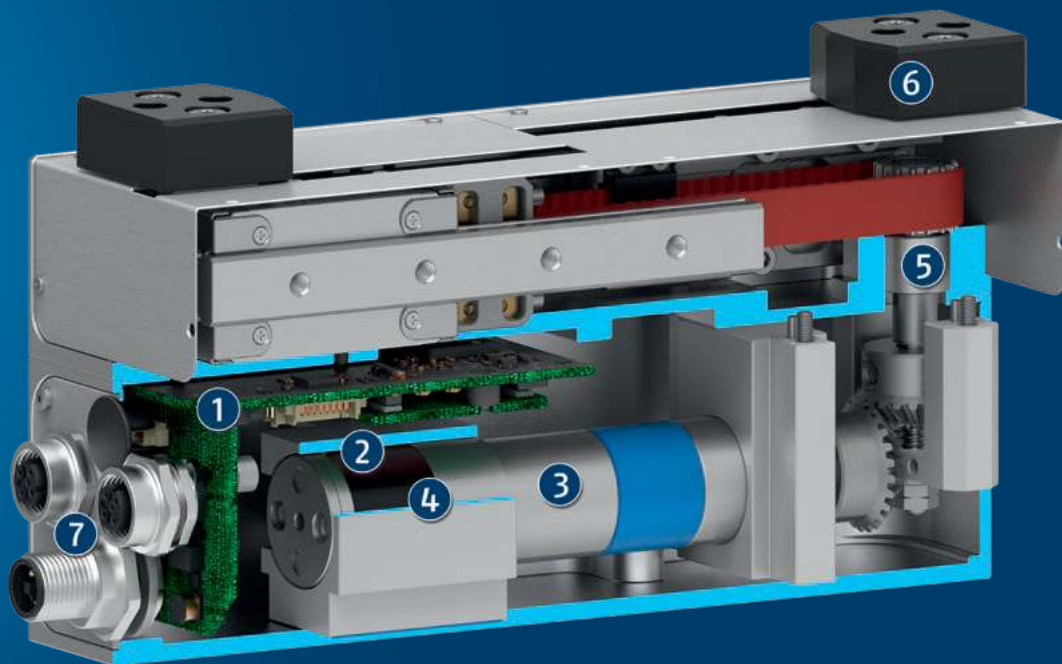


Workpiece weight
0.5 kg

Functional description

The brushless servomotor drives the toothed belt drive via the bevel gear. The base jaws mounted on the profiled rail guides are connected to the toothed belt. The rotary movement is transferred into a linear movement of the

base jaws via the gear and the toothed belt.



- ① **Integrated electronics**
Integrated control and power electronics for decentralized control of the servomotor
- ② **Encoder**
for gripper positioning and position evaluation
- ③ **Drive**
DC servomotor with planet gear
- ④ **Brake**
for maintaining gripping force and position in the event of shutdowns and power failures
- ⑤ **Kinematics**
Power transmitted by servo motor via bevel gear and synchronization via toothed belt
- ⑥ **Finger connection**
for the connection of workpiece-specific gripper fingers
- ⑦ **Electrical connection**
for connection of power supply and communication

General notes about the series

Actuation: servo-electric, via brushless DC servomotors

Warranty: 24 months

Scope of delivery: DVD with assembly- and operation manual, declaration of incorporation, accessory kit with centering sleeves.

Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

Repeat accuracy (gripping): defined as the spread of the actual position at 100 consecutive closing or opening movements on a rigid workpiece or a fixed workpiece stop under constant conditions.

Repeat accuracy (positioning, unidirectional): defined as the spread of the actual position of the base jaws after 100 consecutive movements to a target position from the same direction under constant conditions.

Repeat accuracy (positioning, bi-directional): defined as the spread of the actual position of the base jaws after 100 consecutive movements to a target position from both directions under constant conditions.

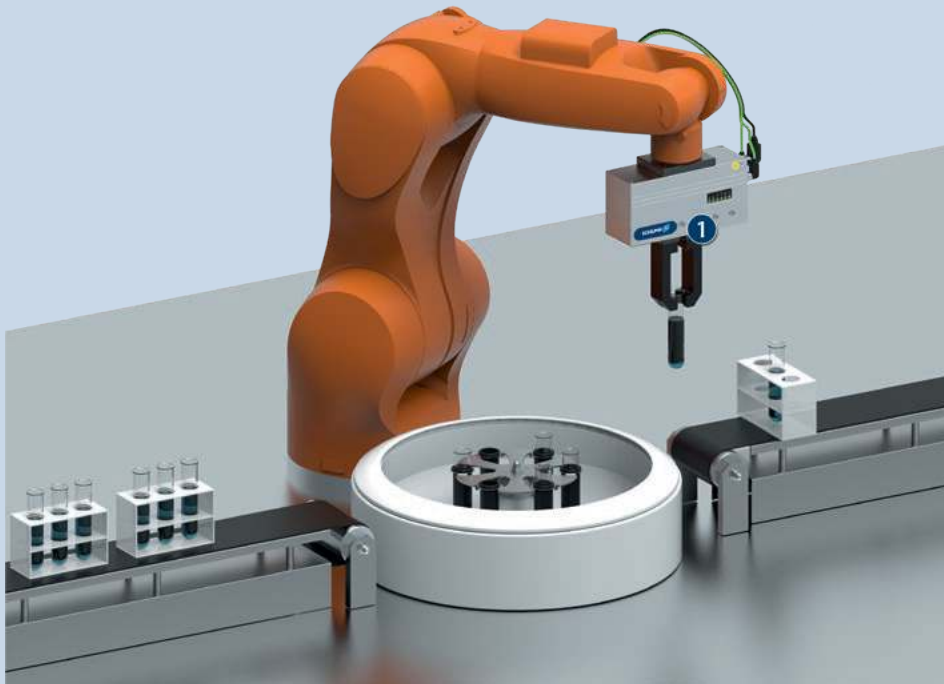
Finger length: is measured from the reference surface as the distance P in direction to the main axis.

Workpiece weight: is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

Closing and opening times: Minimum closing and opening times are merely the movement times of the base jaws or fingers at max. speed, max. acceleration, without current limitation (maximum current), and observance of the maximum permissible mass per finger.

Typical cycle time: is the time of a typical gripping cycle with pre-positioned gripper fingers; this includes time intervals for closing and opening the gripper and for holding the workpiece. Rest periods and times for locking and releasing the brake are also taken into account.

Nominal currents: can be permanently actuated. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



Application example

Electric gripping unit for loading and unloading a centrifuge with test tubes and simultaneously transferring the workpiece carrier in a laboratory.

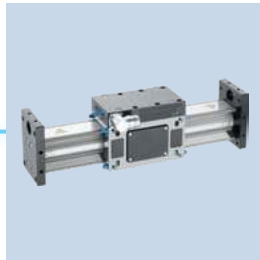
- ① Gripper for small components EGI

SCHUNK offers more ...

The following components make the product EGI even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Rotation unit



Linear module



Quick change system



Jaw quick-change system



Power cable



Communication cables



Finger blank

For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special information

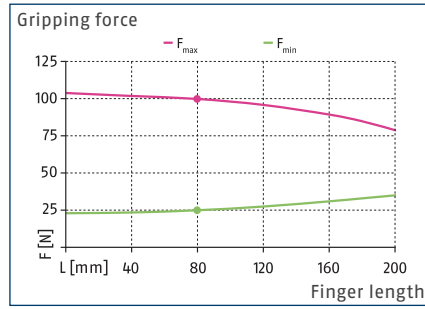
Gripping force maintenance: In the event of a voltage drop, more than 90% of the originally applied gripping force can be reliably maintained due to a combination of electrical holding brake and the preliminary clamping of the elastic element. However, the gripping force maintenance cannot cover any safety functions.

EGI 80

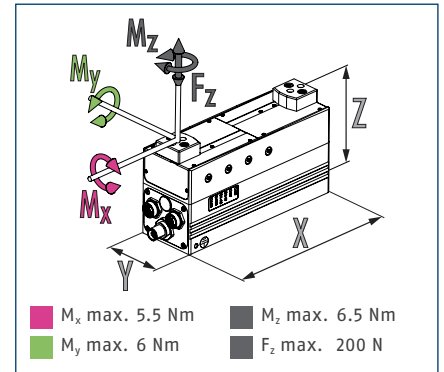
Universal gripper



Gripping force



Dimensions and maximum loads

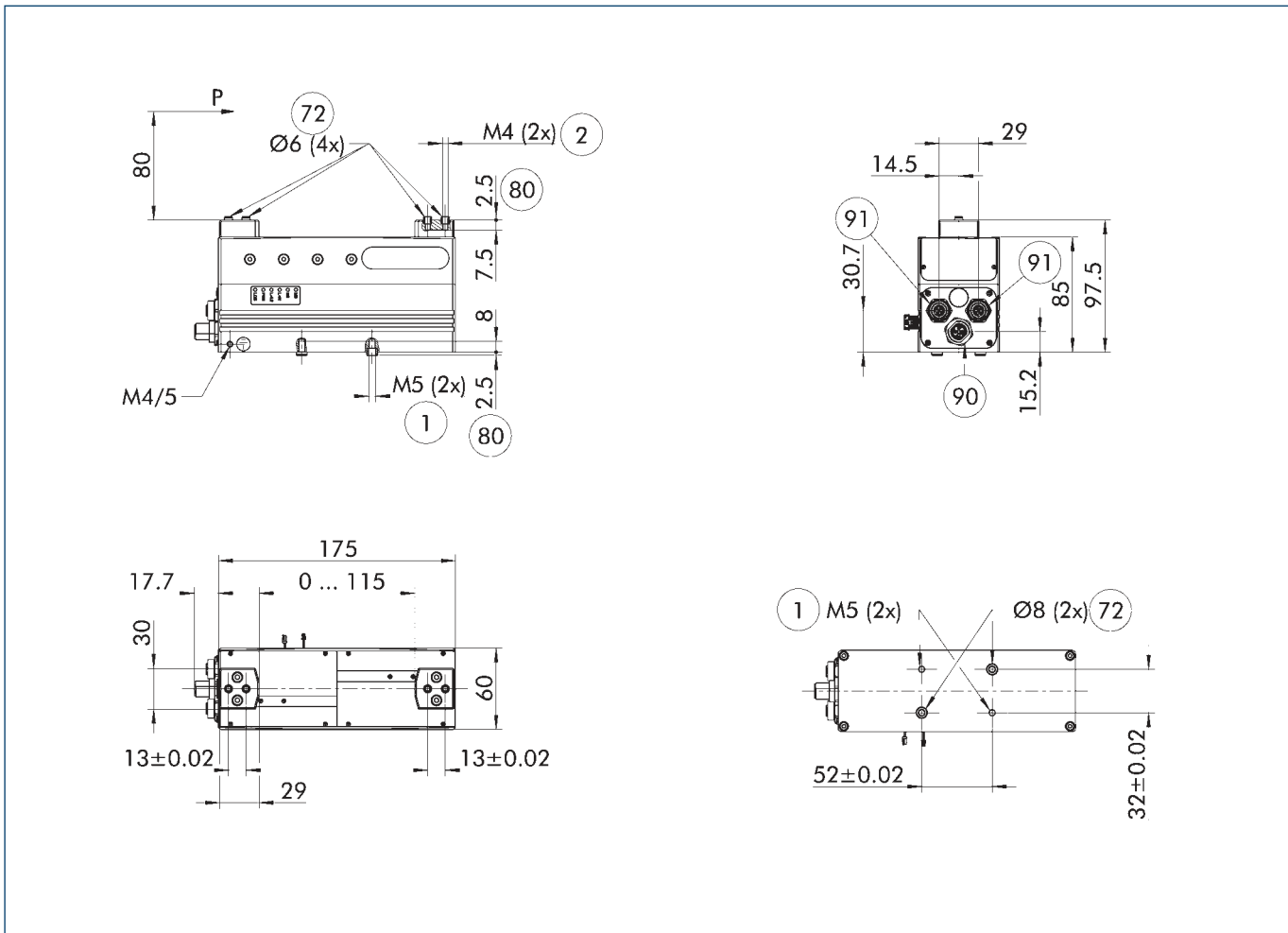


① The indicated torques and forces are static values, apply for each base jaw, and may occur simultaneously.

Technical data

Description		EGI 080-PN
ID		1328836
General operating data		
Stroke per jaw	[mm]	57.5
Min./max. gripping force	[N]	25/100
Gripping force maintenance	[%]	>90
Recommended workpiece weight	[kg]	0.5
Max. permissible finger length	[mm]	200
Max. permissible mass per finger	[kg]	0.3
Repeat accuracy (gripping)	[mm]	0.03
Repeat accuracy (positioning, unidirectional)	[mm]	0.06
Repeat accuracy (positioning, bi-directional)	[mm]	0.3
Closing/opening time	[s]	1.1/1.1
Typical cycle time	[s]	0.7
Max. speed	[mm/s]	200
Max. acceleration	[mm/s ²]	3000
Weight	[kg]	1.55
Min./max. ambient temperature	[°C]	5/55
Protection class IP		20
Noise emission	[dB(A)]	<70
Dimensions X x Y x Z	[mm]	175 x 60 x 97.5
Electrical operating data		
Controller electronics		integrated
Nominal voltage	[V]	24
Communication interface		PROFINET
Performance class		IRT
Max. current power	[A]	1.5
Max. current logic	[A]	0.25

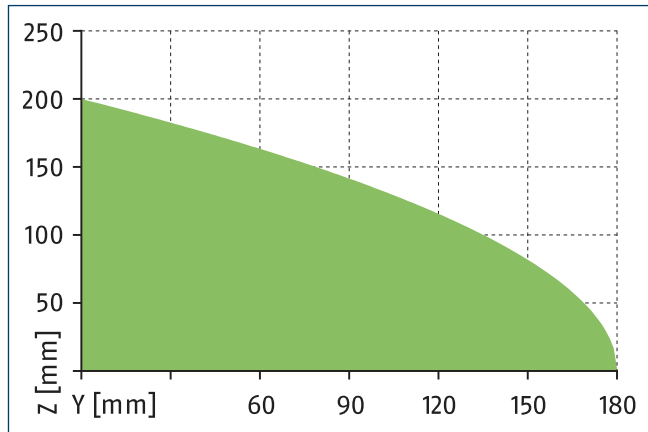
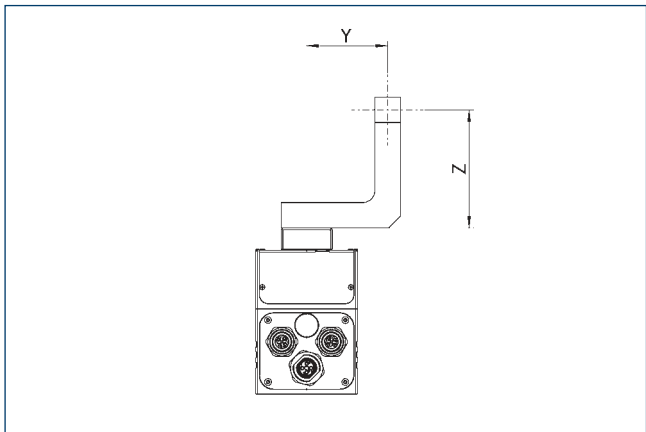
Main view



The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

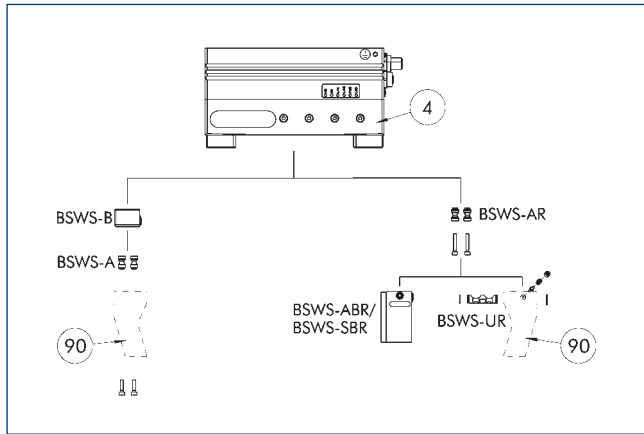
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 M12 connector, T-coded (voltage supply)
- 91 M12 connector, D-coded (communication)

Maximum permitted finger projection



L^{max} is equivalent to the maximum permitted finger length, see the technical data table.

BSWS jaw quick-change jaw systems



④ Grippers

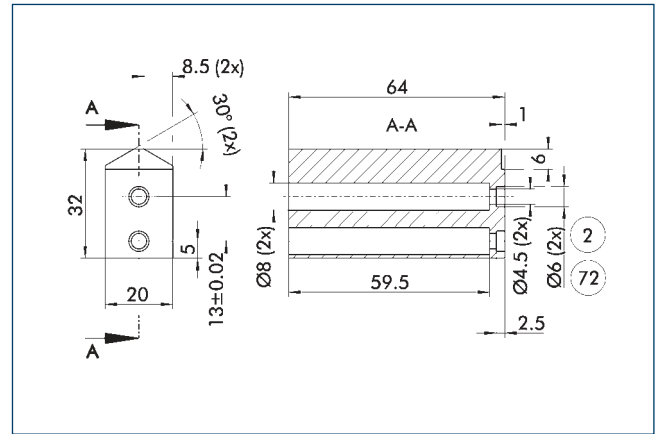
⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 64	0300072	1
BSWS-SBR-PGZN-plus 64	0300082	1
Jaw quick-change system adapter plate		
BSWS-A 64	0303022	2
BSWS-AR 64	0300092	2
Quick-change jaw system base		
BSWS-B 64	0303023	1
Jaw quick-change system locking mechanism		
BSWS-UR 64	0302991	1

① When using the BSWS in combination with the finger blanks BSWS-ABR or BSWS-SBR, this will result in a limitation of stroke for size 80 of 9 mm. We recommend machining the tapered side of the blanks in order to achieve the overall stroke.

Finger blanks ABR- / SBR-PGZN-plus 64



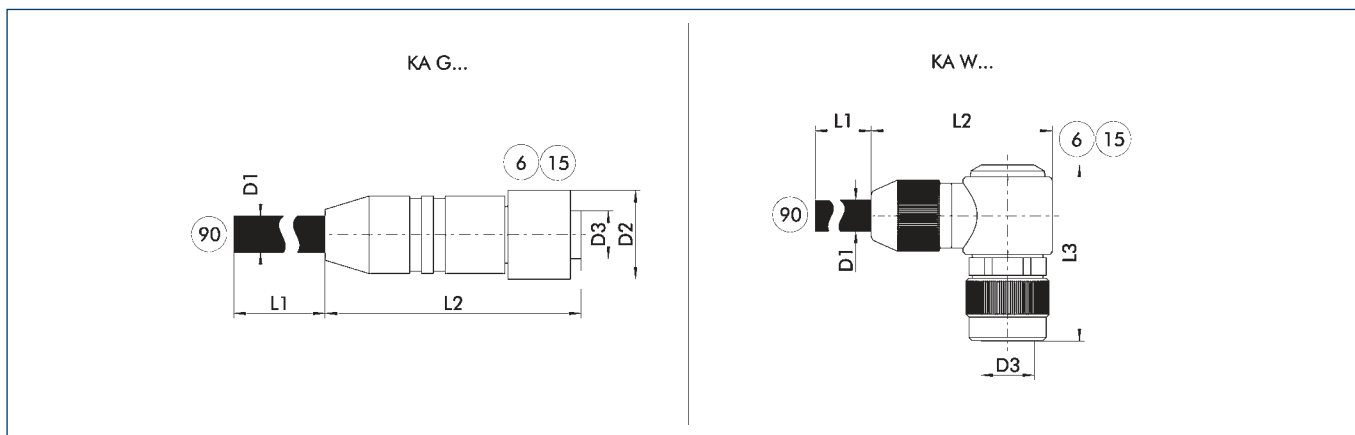
② Finger connection

⑦② Fit for centering sleeves

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 64	0300010	Aluminum	1
SBR-PGZN-plus 64	0300020	Steel	1

Voltage supply connection cable



KA G... Connection cable with straight plug connector
 KA W... Connection cable with angled plug connector

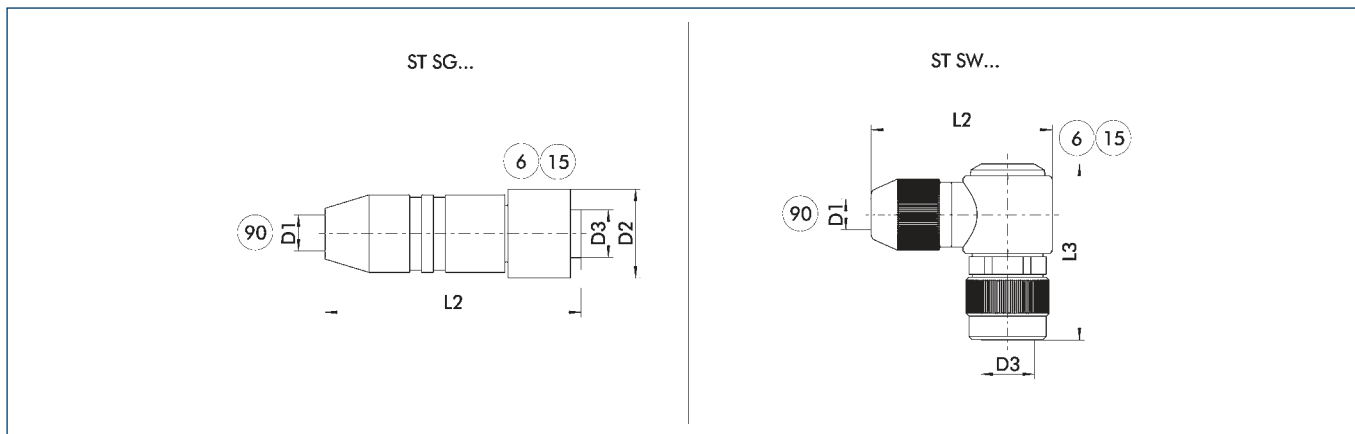
6 Connection module side
 15 Socket
 90 Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	L3 [mm]	D3	Wire- ϕ [mm ²]
Voltage supply connection cable - cable track compatible								
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded	1.5
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded	1.5
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded	1.5
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded	1.5

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector



ST SG... Connection plug with straight outlet
 ST SW... Connection plug with angular outlet

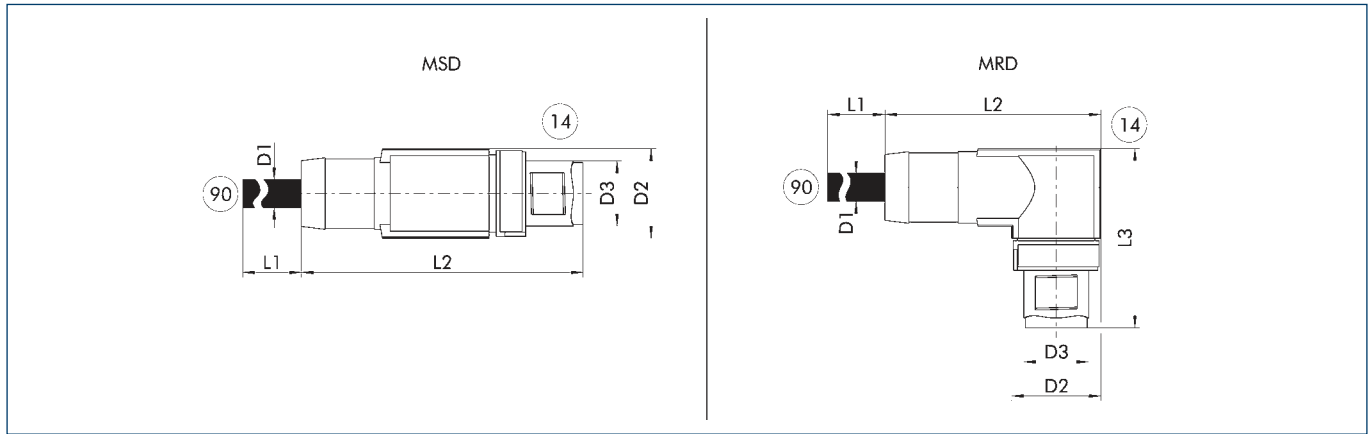
6 Connection module side
 15 Socket
 90 D1 - max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

Description	ID	D1 (max.) [mm]	L2 [mm]	D2 [mm]	L3 [mm]	D3
Power supply connecting plug						
ST SG-1204-LK-K-T	0310260	10	58	20.2		M12 T-coded
ST SW-1204-LK-K-T	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm² is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Communication cables PROFINET



MSD Straight plug connector
MRD Angular plug connector

14 Connector

90 Cable ends with second plug connector

The communication cables are ready for use for the mechatronic SCHUNK products. They always have an M12 plug connection on the module side (D-coded, connector). On the second side, the cables either have M12 plug connections (D-coded, connector) or RJ45 plug connectors (R4AC). The M12 plug connectors have a straight (MSD) or angular (MRD) design.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
PROFINET communication cable - torsion compatible							
NBC-MRD-R4AC SCO-PN/93R/5.000	1354692	5	6.5	36.3	14.8	30	M12
NBC-MSD-MRD SCO-PN/93R/5.000	1354674	5	6.5	47.8	14.8		M12
NBC-MSD-MSD SCO-PN/93R/5.000	1354668	5	6.5	47.8	14.8		M12
NBC-MSD-R4AC SCO-PN/93R/5.000	1354677	5	6.5	47.8	14.8		M12
PROFINET communication cable - drag chain suitable							
NBC-MRD-R4AC SCO-PN/93C/5.000	1354688	5	6.5	36.3	14.8	30	M12
NBC-MSD-MRD SCO-PN/93C/5.000	1354661	5	6.5	47.8	14.8		M12
NBC-MSD-MSD SCO-PN/93C/5.000	1354659	5	6.5	47.8	14.8		M12
NBC-MSD-R4AC SCO-PN/93C/5.000	1354681	5	6.5	47.8	14.8		M12

ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.
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