



Superior Clamping and Gripping



Product Information

Compact drive PDU 2

PDU 2

Compact drive

Bus capable. Precise. Robust.

Drive PDU 2

Servo-electric drive with angle of rotation $> 360^\circ$, precision gear and integrated electronics

Field of application

Servo-driven for linear and rotary axes as well as axis motor for applications in measuring and testing technology

Advantages – Your benefits

Brushless DC servomotor for flexible use by controlled position, velocity, and torque

High torque, velocity, and precision for fast acceleration and short cycle times at a high precision

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

Versatile actuation options for simple integration into existing control concepts via PROFIBUS-DP, or CAN

Standard connecting elements and integrated control concept for extensive combination possibilities with other mechatronic modules

Service interface: USB Host and USB Device for comfortable parameter setting and firmware updates by USB flash drive or PC

Rotary encoding switch and DIP switch for manual fieldbus addressing, baud rate setting and service functions

Digital inputs for easy and integrated query of sensor signals



Sizes
Quantity: 3



Weight
1.9 .. 6.1 kg



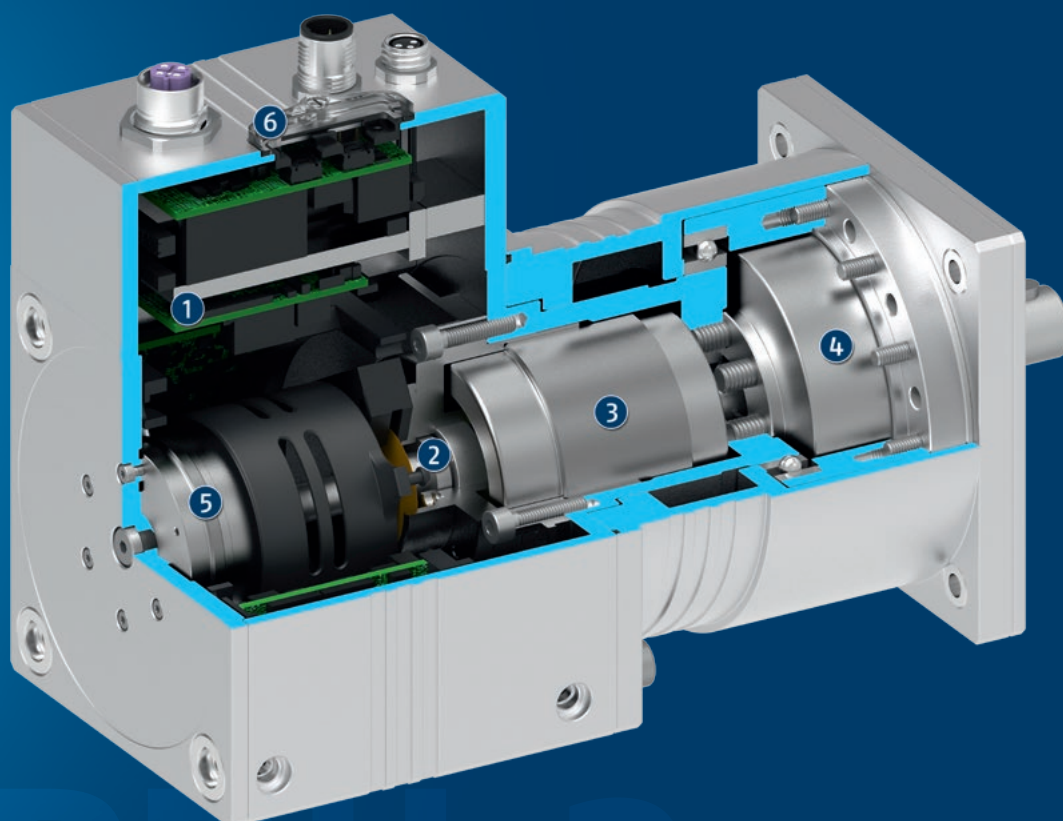
Torque
4.3 .. 98 Nm



Repeat accuracy
0.03°

Functional description

The electric drive has a Harmonic Drive® precision gear, which is directly driven by a brushless DC servomotor. A conventional motor shaft is used for connection.



- ① **Control electronics**
integrated control and power electronics
- ② **Encoder**
for position evaluation
- ③ **Motor**
Brushless DC servomotor for maximum torques
- ④ **Harmonic Drive® gears**
for different gear ratios and high rigidity
- ⑤ **Brake**
for maintaining position on shutdown and power failure
- ⑥ **Service window**
with customer interface for service functions, altering bus address, USB connection and LED status indicator

General notes about the series

Housing material: Aluminum alloy, coated

Actuation: servo-electric, via brushless DC servomotor and incremental encoder for controlling position and velocity.

Operating principle: Harmonic drive® gear driven directly via brushless DC servomotor

Scope of delivery: DVD with SCHUNK software and commissioning assistant, includes assembly and operating manual, declaration of incorporation, functional module for control via Siemens S7.

Warranty: 24 months

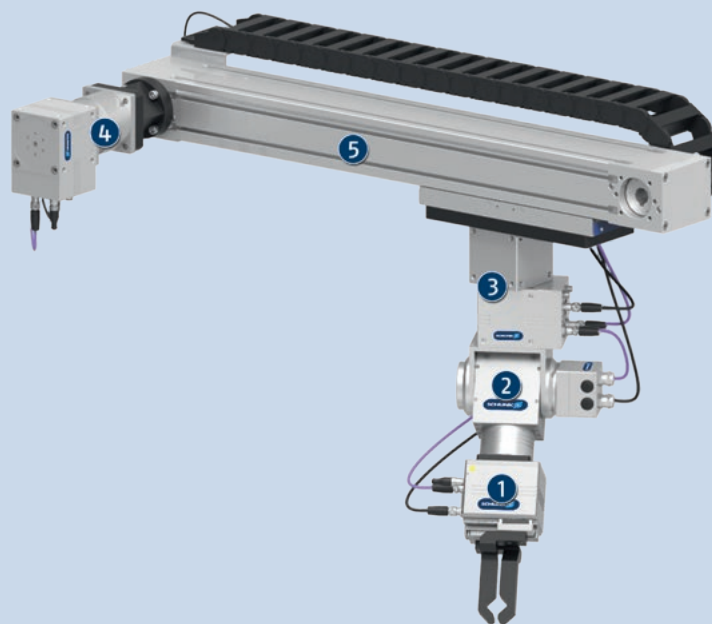
Swiveling times: are purely the times of the module to rotate from rest position to rest position. Relay switching times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times. Load-dependent rest periods may have to be included in the cycle time.

Repeat accuracy: Is defined as the spread of the target position after 100 consecutive positioning cycles.

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.

Electrical brake: The installed, electric holding brake serves to fix and hold the position in case of power failure up to the rated torque. It cannot cover any complete safety functions.

Peak torque: The peak torques serve as short-term drive reserves when accelerating and delaying.



Application example

Highly flexible handling unit for gripping and transporting different workpieces with random positional orientation

- | | |
|--|--|
| ① Universal gripper EGL | ④ 2 servo-electric drive PDU |
| ② Servo-electric rotary pan tilt actuator PW | ⑤ Linear module Beta with toothed-belt drive |
| ③ 2 servo-electric rotary module PR | |

SCHUNK offers more ...

The following components make the product PDU 2 even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Linear module



Long-stroke gripper



Universal gripper



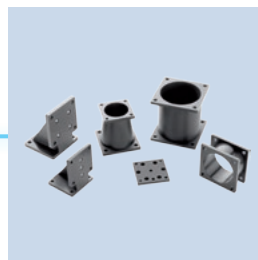
Rotation unit



Communication cables



Connection cables



Connecting element



Pan-tilt actuator

① 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

Integrated electronics: The electrical control of the PDU is carried out by the fully integrated control and power electronics. Hence, the module does not require any additional external control units.

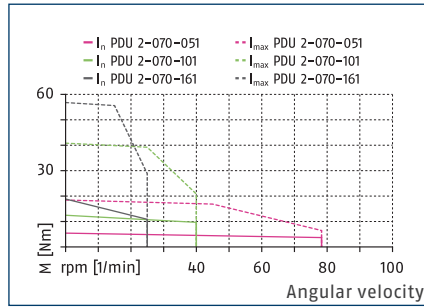
Easy integration: There is a varied range of interfaces available, such as PROFIBUS DP or CAN as types of communication. This enables the assembly of industrial bus networks and ensures easy integration into existing control concepts. For transmission of power supply and data communications, we offer various cables.

Control types: Position control, rotational speed control, power control

Monitoring functions: I²t monitoring, current monitoring, power failure detection, contouring error monitoring, software end position monitoring, position monitoring

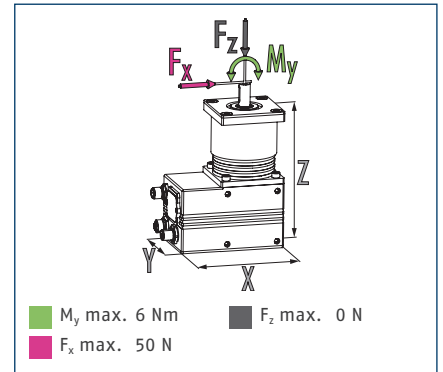


Torque characteristic



① The values were determined at room temperature after a certain warm-up time.

Dimensions and maximum loads



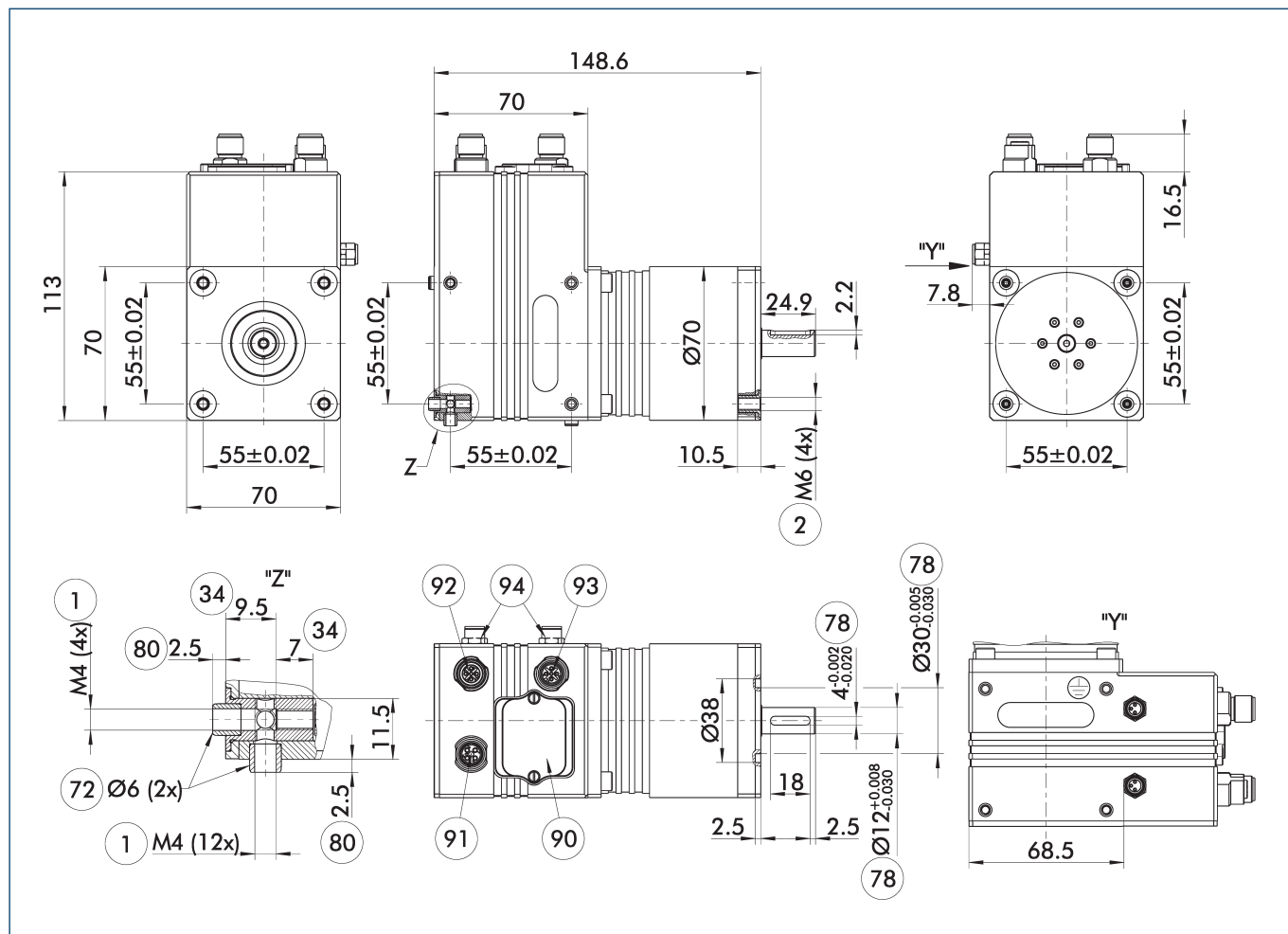
① Moments and forces may occur simultaneously.

Technical data

Description		PDU 2-070-051-PB-I	PDU 2-070-101-PB-I	PDU 2-070-161-PB-I
ID		0360550	0360570	0360590
Mechanical operating data				
Nominal torque	[Nm]	4.3	10.6	14
Max. torque	[Nm]	16.8	39	55.8
Standstill torque	[Nm]	5.3	12.4	18.8
Nominal speed	[1/min]	45	25	15
Max. RPM	[1/min]	78	40	25
Repeat accuracy	[°]	0.03	0.03	0.03
Transmission		51:1	101:1	161:1
General operating data				
Brake		yes	yes	yes
Weight	[kg]	1.9	1.9	1.9
Min./max. ambient temperature	[°C]	5/50	5/50	5/50
Protection class IP		40	40	40
Dimensions X x Y x Z	[mm]	113 x 70 x 148.6	113 x 70 x 148.6	113 x 70 x 148.6
Electrical operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	5	5	5
Max. current	[A]	16	16	16
Integrated control electronics				
Power supply	[V]	24	24	24
Encoder system		Encoder (incremental)	Encoder (incremental)	Encoder (incremental)
PROFIBUS interface	[Mbit/s]	12	12	12
USB interface		Host/device	Host/device	Host/device
Number of digital I/O		2/-	2/-	2/-
Options and their characteristics				
CAN version		PDU 2-070-051-CN-I	PDU 2-070-101-CN-I	PDU 2-070-161-CN-I
ID		0360551	0360571	0360591
Data rate	[Mbit/s]	1	1	1

① The "maximum current" value refers to the peak current during overload operation, the nominal current is an effective current. Depending on the ambient temperature, speed, acceleration and inertia, the appropriate idle times are to be provided.

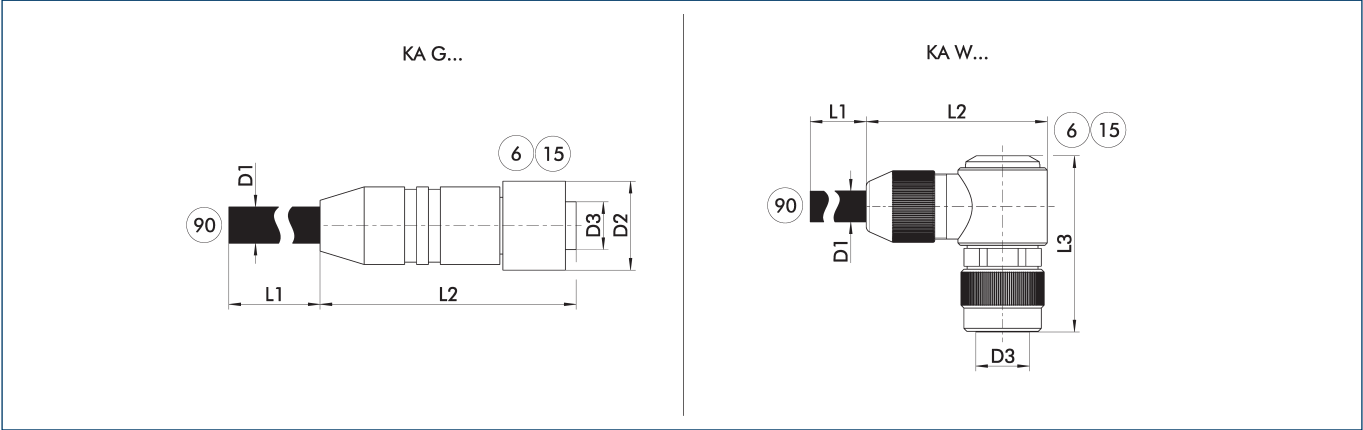
Main view



The drawing shows the basic version of the rotary unit without dimensional consideration of the options described below.

- | | |
|---|--|
| ① Connection swivel unit | ⑨0 Service window |
| ② Attachment connection | ⑨1 M12 connector T-coded power supply |
| ③4 On both connection faces | ⑨2 M12 socket for CAN or PROFIBUS |
| ⑦2 Fit for centering sleeves | ⑨3 M12 plug for CAN or PROFIBUS |
| ⑦8 Fit for centering | ⑨4 Digital input connection, M8 3-pole |
| ⑧0 Depth of the centering sleeve hole in the counter part | |

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

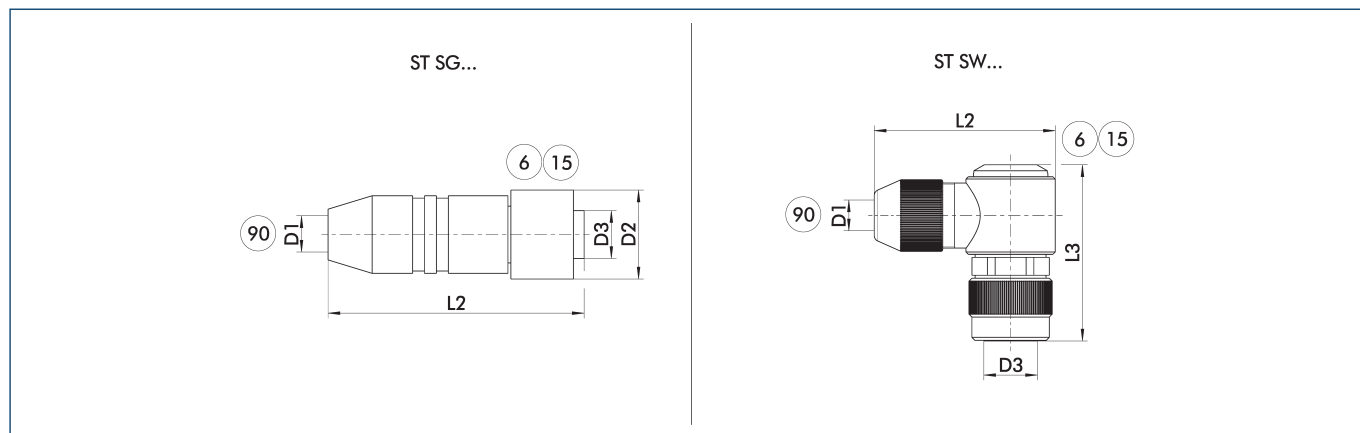
⑨⑩ Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply. For each product, cable track compatible (KA) and torsion compatible (KAR) models are available.

Description	ID	L1	D1	L2	D2	L3	D3	Wire-Ø
		[m]	[mm]	[mm]	[mm]	[mm]		[mm²]
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 GLN12T0250-LK-00500-A	0310266	5	11	51	15		M12 T-coded	2.5
KA GLN12T0250-LK-01000-A	0310268	10	11	51	15		M12 T-coded	2.5
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
KA WLN12T0250-LK-00500-A	0310267	5	11	47.5		35	M12 T-coded	2.5
KA WLN12T0250-LK-01000-A	0310269	10	11	47.5		35	M12 T-coded	2.5

① 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

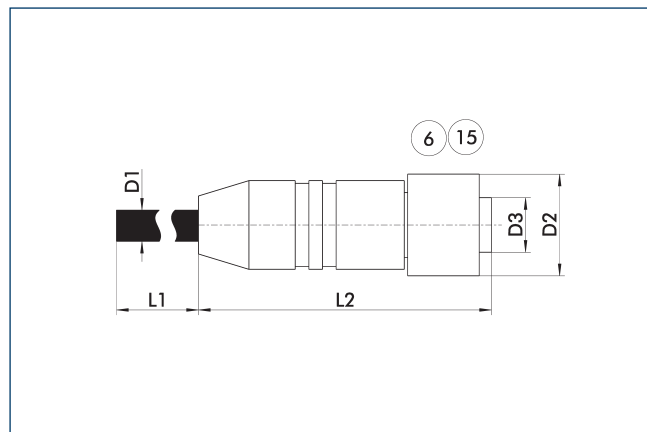
⑨⑩ D1 – max. diameter connection cable

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

① 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.

PROFIBUS communication cables



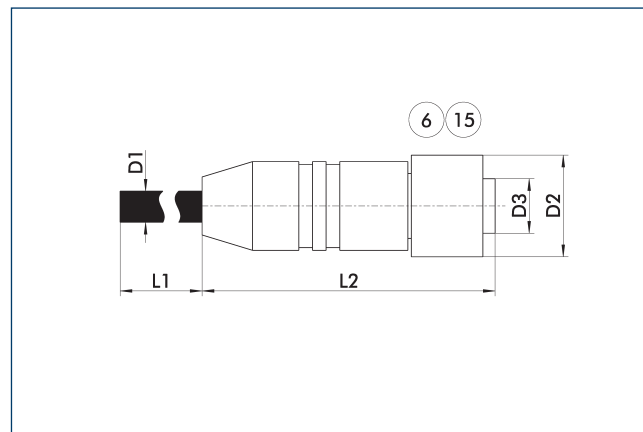
⑥ Connection module side ⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	D3
PROFIBUS communication cable – drag chain suitable						
KA GGN1204-PB-00150-A	0349750	1.5	8	47	15	M12
KA GGN1204-PB-00300-A	0349751	3	8	47	15	M12
KA GGN1204-PB-00500-A	0349752	5	8	47	15	M12
KA GGN1204-PB-01000-A	0349753	10	8	47	15	M12

① 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.

CAN communication cables



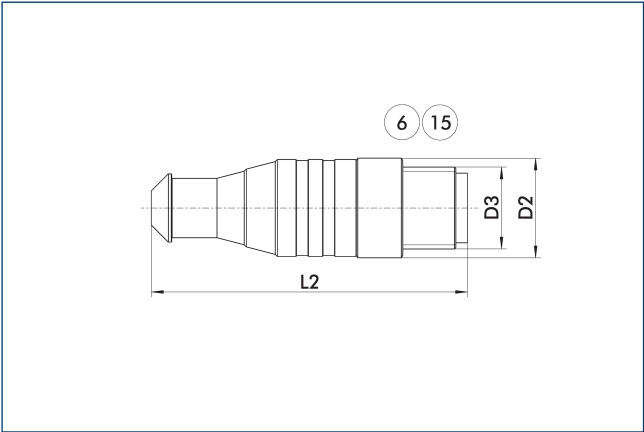
⑥ Connection module side ⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	D3
CAN communication cable – drag chain suitable						
KA GGN1204-CN-00150-A	0349770	1.5	7	47	15	M12
KA GGN1204-CN-00300-A	0349771	3	7	47	15	M12
KA GGN1204-CN-00500-A	0349772	5	7	47	15	M12
KA GGN1204-CN-01000-A	0349773	10	7	47	15	M12

① 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.

Termination resistor



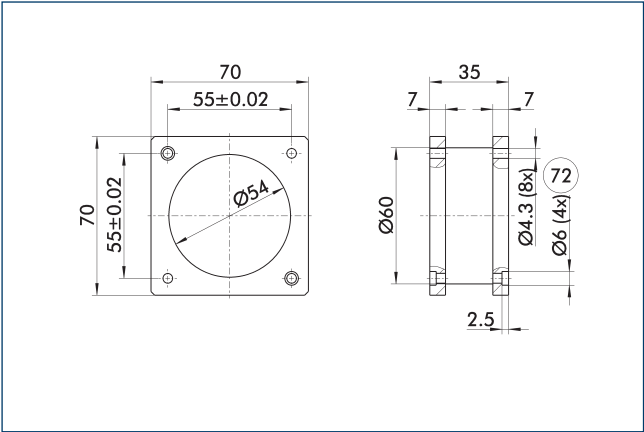
⑥ Connection module side ⑮ Socket

The terminating resistors are provided for terminating the bus string directly at the SCHUNK module.

Description	ID	L2	D2	D3
		[mm]	[mm]	
Termination resistor – CAN				
ST SG1204-CN-A-A	0349660	47	15	M12
Termination resistor – PROFIBUS				
ST SG1204-PB-A-A	0349650	47	15	M12

① An appropriate terminating resistor must be installed on the last module in the CAN or PROFIBUS string.

PAM 100 – straight

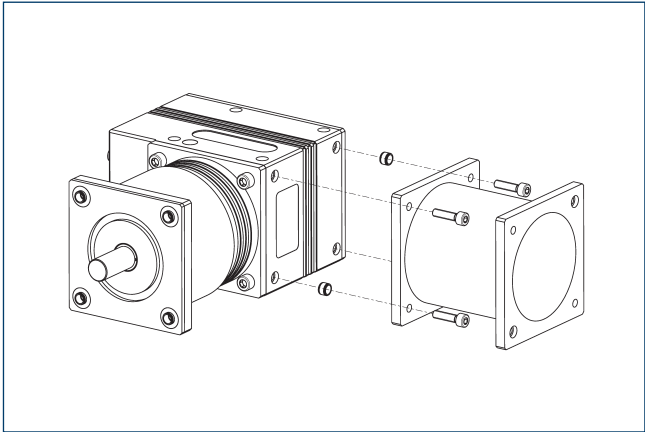


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 70

Description	ID	Dimensions
Connecting element		
PAM 100	0307800	70x70/35/70x70 mm

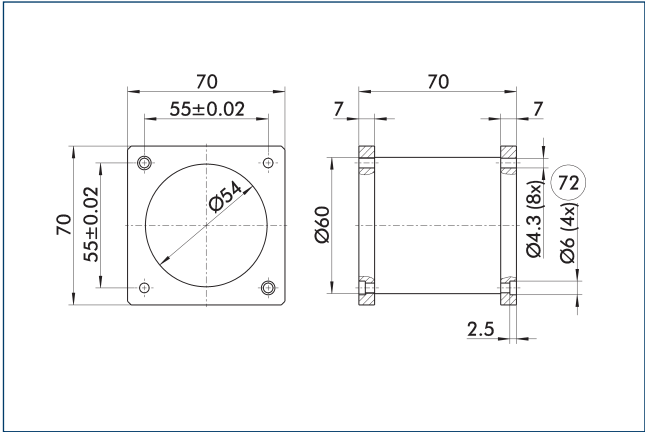
Connecting element – straight



Description	ID	Dimensions
Connecting element		
PAM 100	0307800	70x70/35/70x70 mm
PAM 101	0307801	70x70/70/70x70 mm

① An adaptation is required for size PR 270 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 101 – straight

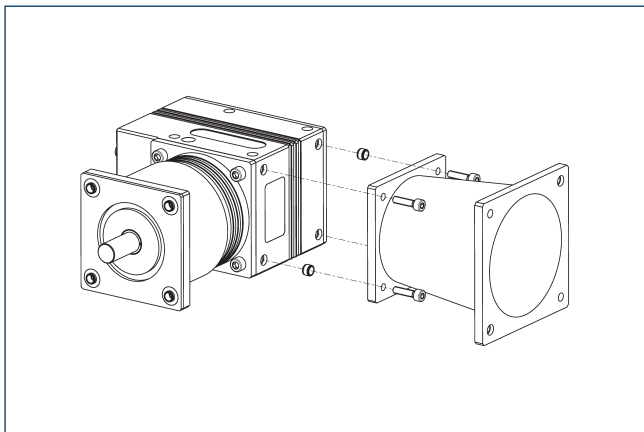


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 70

Description	ID	Dimensions
Connecting element		
PAM 101	0307801	70x70/70/70x70 mm

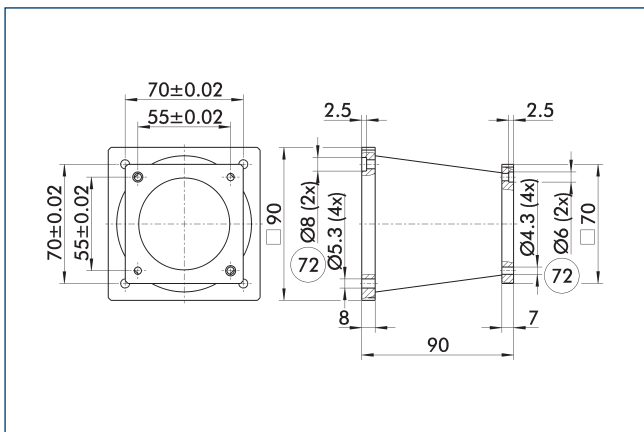
Connecting element - conical



Description	ID	
Connecting element		
PAM 110	0307810	
PAM 111	0307811	

- ① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 111 - conical

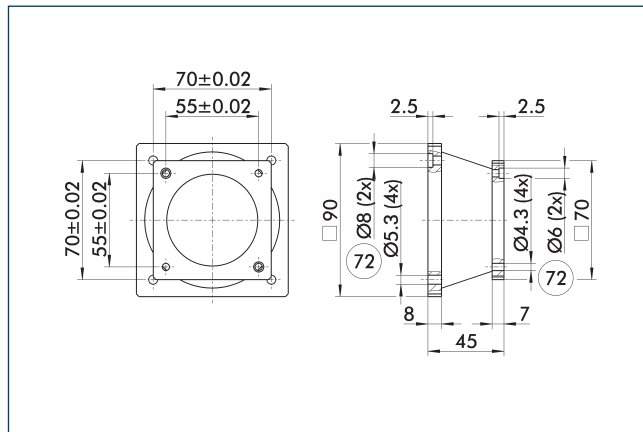


- ⑦ Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 70/90.

Description	ID	
Connecting element		
PAM 111	0307811	

PAM 110 - conical

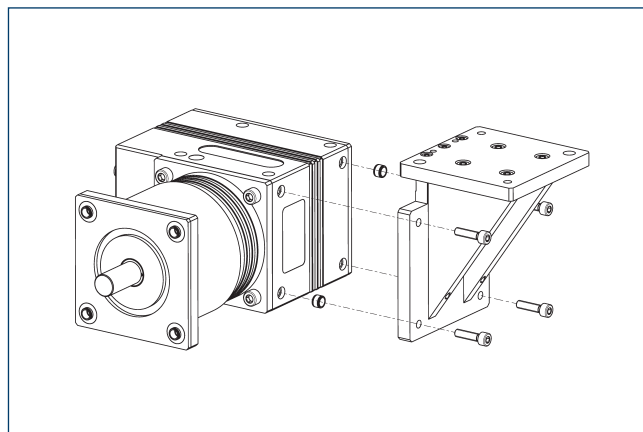


- ⑦ Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 70/90.

Description	ID	
Connecting element		
PAM 110	0307810	

Connecting element - angle



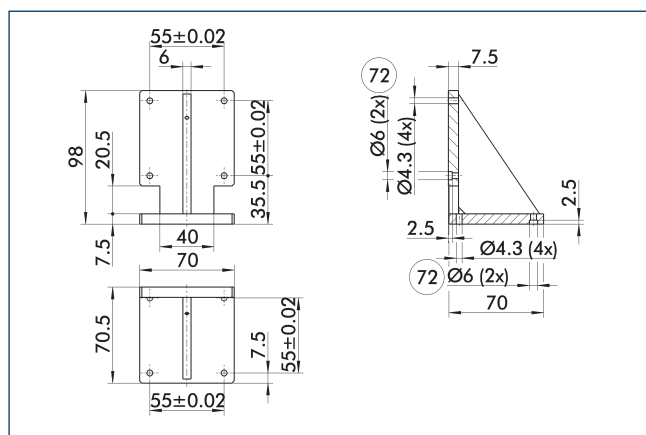
Description	ID	
Connecting element		
PAM 120	0307820	

- ① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PDU 2 70

Compact drive

PAM 120 – angle



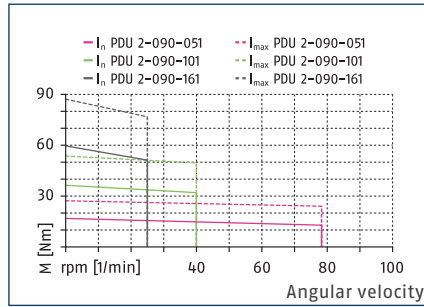
⑦② Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 70

Description	ID	
Connecting element		
PAM 120	0307820	

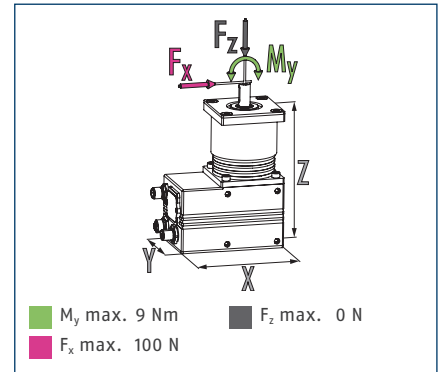


Torque characteristic



① The values were determined at room temperature after a certain warm-up time.

Dimensions and maximum loads



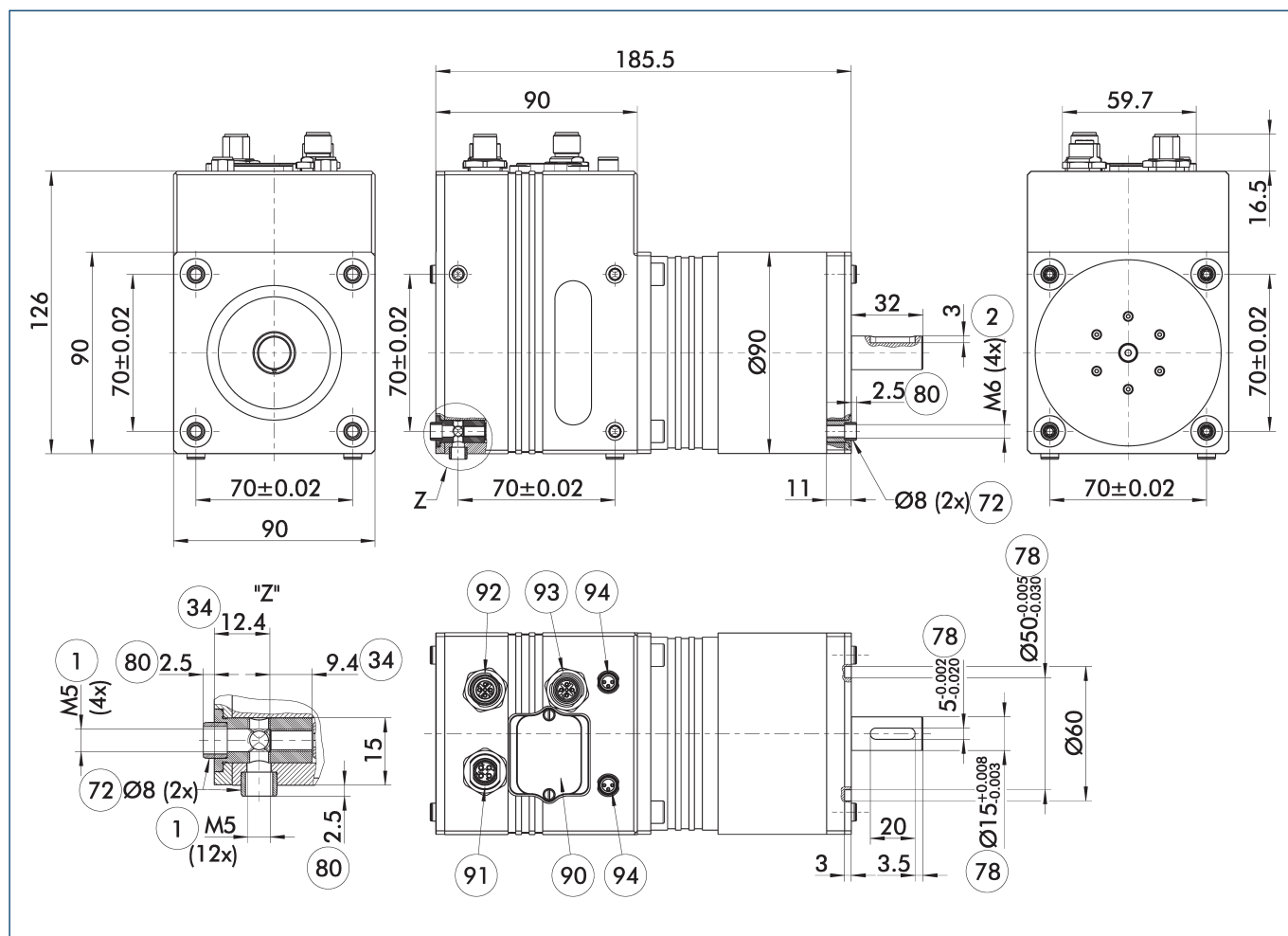
① Moments and forces may occur simultaneously.

Technical data

Description		PDU 2-090-051-PB-I	PDU 2-090-101-PB-I	PDU 2-090-161-PB-I
ID		0360610	0360630	0360650
Mechanical operating data				
Nominal torque	[Nm]	12.8	32	51.2
Max. torque	[Nm]	24	49.6	76.8
Standstill torque	[Nm]	16.8	36.4	59.6
Nominal speed	[1/min]	78	40	25
Max. RPM	[1/min]	78	40	25
Repeat accuracy	[°]	0.03	0.03	0.03
Transmission		51:1	101:1	161:1
General operating data				
Brake		yes	yes	yes
Weight	[kg]	3.5	3.5	3.5
Min./max. ambient temperature	[°C]	5/50	5/50	5/50
Protection class IP		40	40	40
Dimensions X x Y x Z	[mm]	126 x 90 x 185.5	126 x 90 x 185.5	126 x 90 x 185.5
Electrical operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	13	13	13
Max. current	[A]	23	23	23
Integrated control electronics				
Power supply	[V]	24	24	24
Encoder system		Encoder (incremental)	Encoder (incremental)	Encoder (incremental)
PROFIBUS interface	[Mbit/s]	12	12	12
USB interface		Host/device	Host/device	Host/device
Number of digital I/O		2/-	2/-	2/-
Options and their characteristics				
CAN version		PDU 2-090-051-CN-I	PDU 2-090-101-CN-I	PDU 2-090-161-CN-I
ID		0360611	0360631	0360651
Data rate	[Mbit/s]	1	1	1

① The "maximum current" value refers to the peak current during overload operation, the nominal current is an effective current. Depending on the ambient temperature, speed, acceleration and inertia, the appropriate idle times are to be provided.

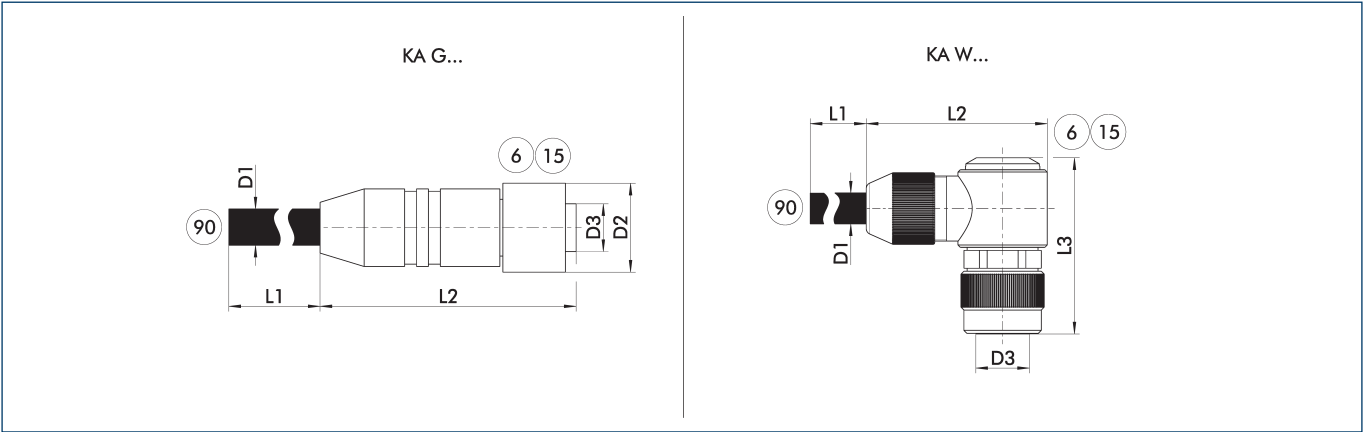
Main view



The drawing shows the basic version of the rotary unit without dimensional consideration of the options described below.

- | | |
|---|--|
| ① Connection swivel unit | ⑨⑩ Service window |
| ② Attachment connection | ⑨⑩ M12 connector T-coded power supply |
| ③④ On both connection faces | ⑨⑩ M12 socket for CAN or PROFIBUS |
| ⑦⑧ Fit for centering sleeves | ⑨⑩ M12 plug for CAN or PROFIBUS |
| ⑦⑧ Fit for centering | ⑨⑩ Digital input connection, M8 3-pole |
| ⑧⑩ Depth of the centering sleeve hole in the counter part | |

Voltage supply connection cable



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

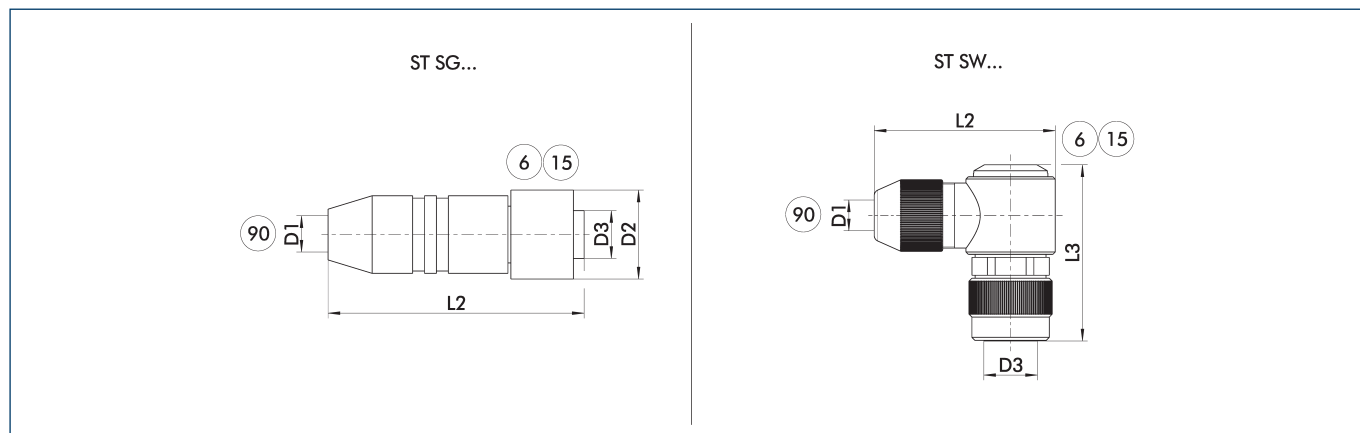
6 Connection module side
15 Socket
90 Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply. For each product, cable track compatible (KA) and torsion compatible (KAR) models are available.

Description	ID	L1	D1	L2	D2	L3	D3	Wire-Ø
		[m]	[mm]	[mm]	[mm]	[mm]		[mm²]
Voltage supply connection cable - cable track compatible								
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded	1.5
KA GLN12T0250-LK-00500-A	0310266	5	11	51	15		M12 T-coded	2.5
KA GLN12T0250-LK-01000-A	0310268	10	11	51	15		M12 T-coded	2.5
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded	1.5
KA WLN12T0250-LK-00500-A	0310267	5	11	47.5		35	M12 T-coded	2.5
KA WLN12T0250-LK-01000-A	0310269	10	11	47.5		35	M12 T-coded	2.5

① 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

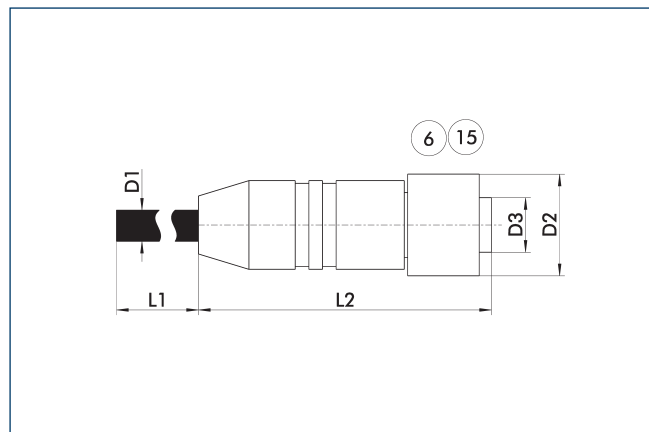
⑨⑩ D1 – max. diameter connection cable

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

① 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.

PROFIBUS communication cables



⑥ Connection module side

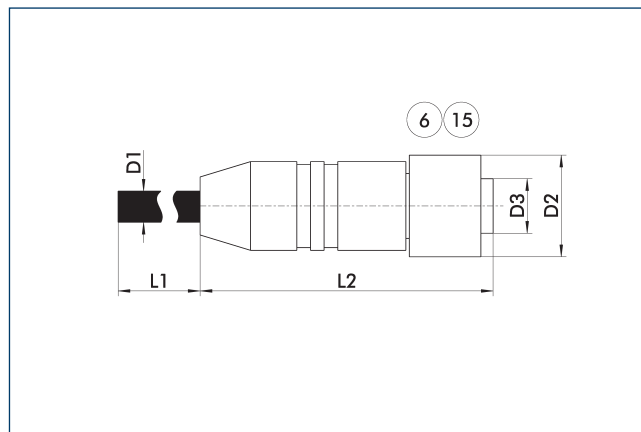
⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	D3
PROFIBUS communication cable – drag chain suitable						
KA GGN1204-PB-00150-A	0349750	1.5	8	47	15	M12
KA GGN1204-PB-00300-A	0349751	3	8	47	15	M12
KA GGN1204-PB-00500-A	0349752	5	8	47	15	M12
KA GGN1204-PB-01000-A	0349753	10	8	47	15	M12

① 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.

CAN communication cables



⑥ Connection module side

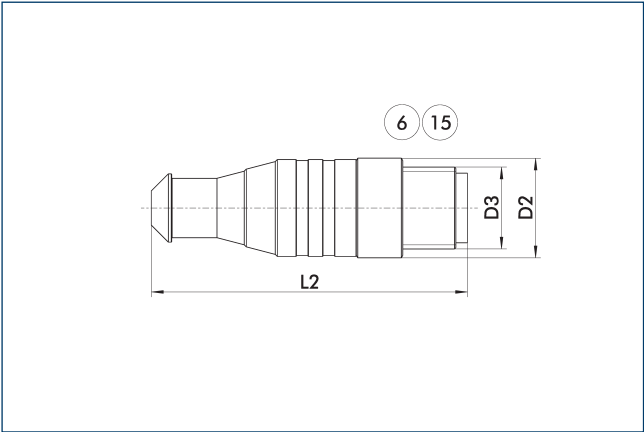
⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	D3
CAN communication cable – drag chain suitable						
KA GGN1204-CN-00150-A	0349770	1.5	7	47	15	M12
KA GGN1204-CN-00300-A	0349771	3	7	47	15	M12
KA GGN1204-CN-00500-A	0349772	5	7	47	15	M12
KA GGN1204-CN-01000-A	0349773	10	7	47	15	M12

① 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.

Termination resistor



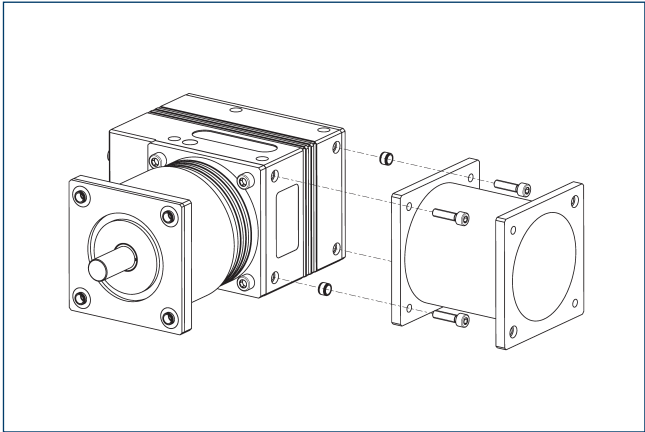
⑥ Connection module side ⑮ Socket

The terminating resistors are provided for terminating the bus string directly at the SCHUNK module.

Description	ID	L2	D2	D3
		[mm]	[mm]	
Termination resistor – CAN				
ST SG1204-CN-A-A	0349660	47	15	M12
Termination resistor – PROFIBUS				
ST SG1204-PB-A-A	0349650	47	15	M12

① An appropriate terminating resistor must be installed on the last module in the CAN or PROFIBUS string.

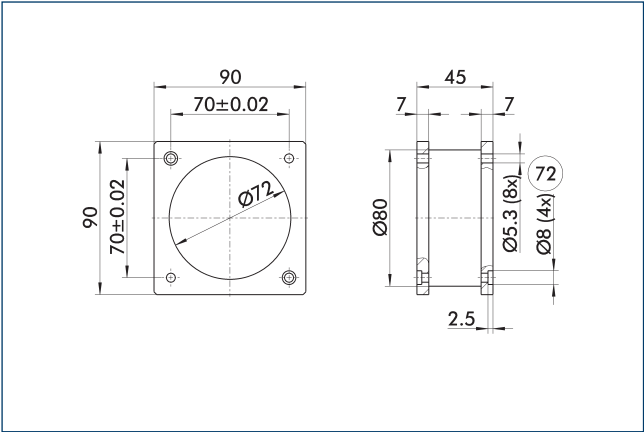
Connecting element – straight



Description	ID	Dimensions
Connecting element		
PAM 102	0307802	90x90/45/90x90 mm
PAM 103	0307803	90x90/90/90x90 mm

① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 102 – straight

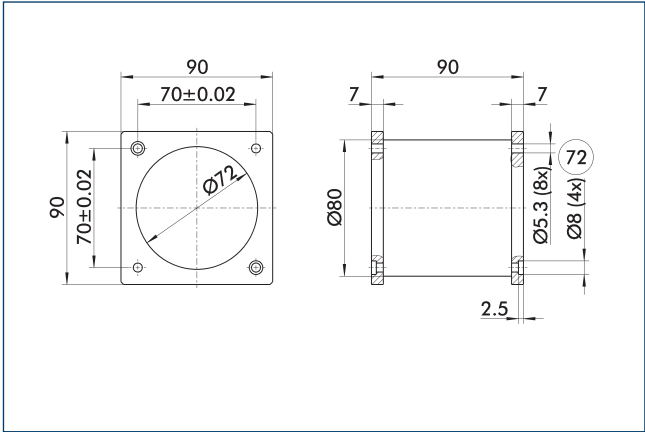


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 90.

Description	ID	Dimensions
Connecting element		
PAM 102	0307802	90x90/45/90x90 mm

PAM 103 – straight

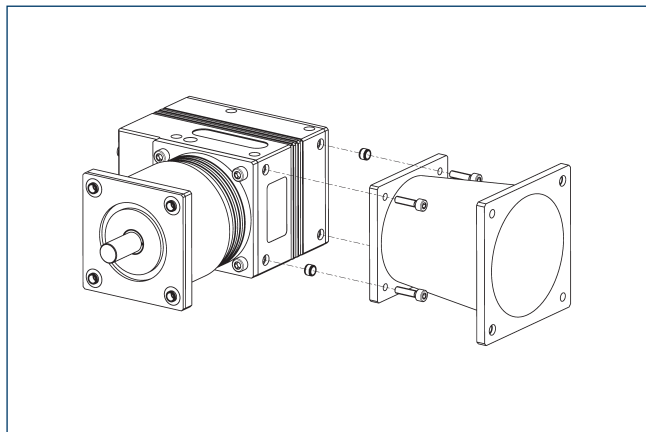


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 90.

Description	ID	Dimensions
Connecting element		
PAM 103	0307803	90x90/90/90x90 mm

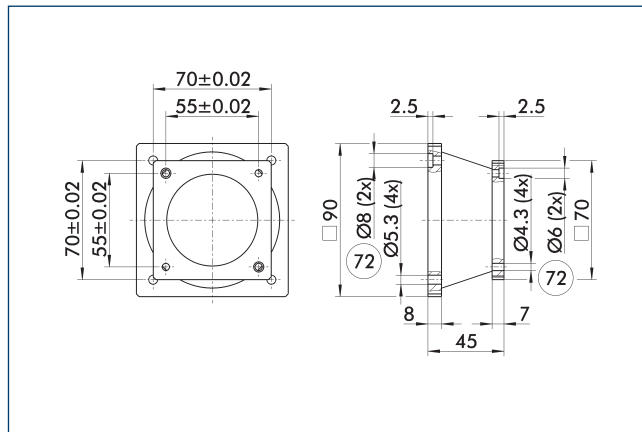
Connecting element - conical



Description	ID
Connecting element	
PAM 110	0307810
PAM 111	0307811
PAM 112	0307812
PAM 113	0307813

① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 110 – conical

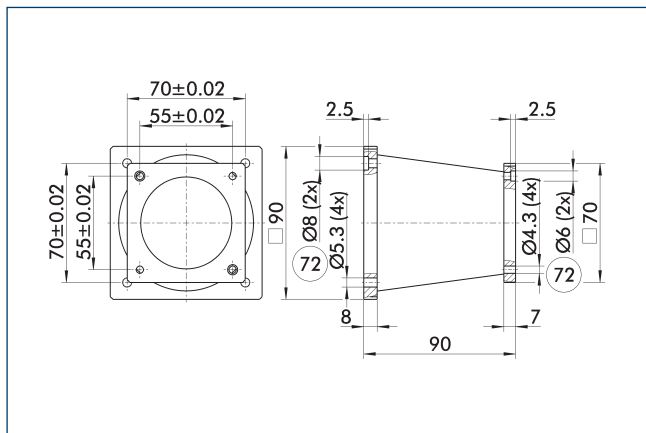


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 70/90.

Description	ID
Connecting element	
PAM 110	0307810

PAM 111 – conical

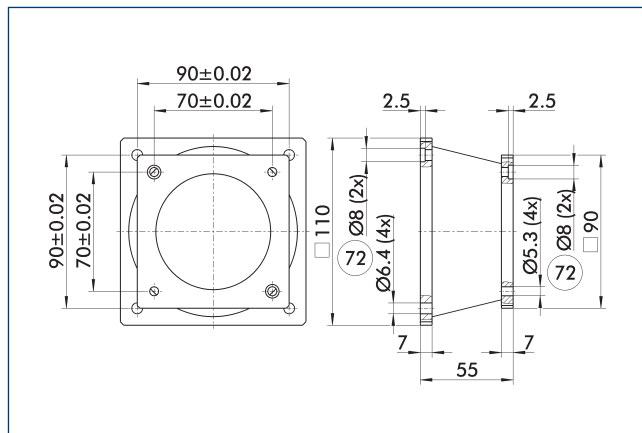


⑦② Fit for centering sleeves

Suitable for the mechatronic modules PG, PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 70/90.

Description	ID
Connecting element	
PAM 111	0307811

PAM 112 – conical



⑦② Fit for centering sleeves

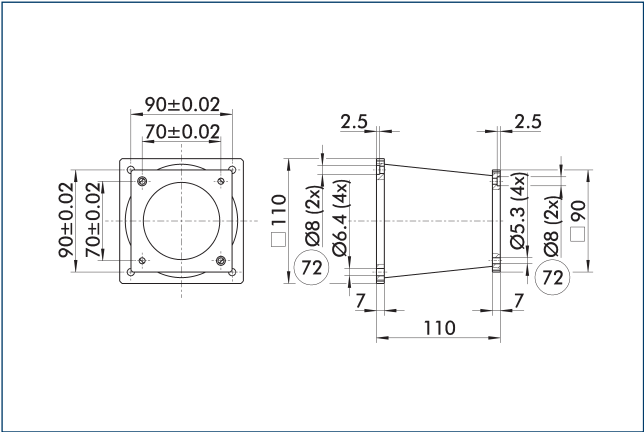
Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 90/110.

Description	ID
Connecting element	
PAM 112	0307812

PDU 2 90

Compact drive

PAM 113 - conical

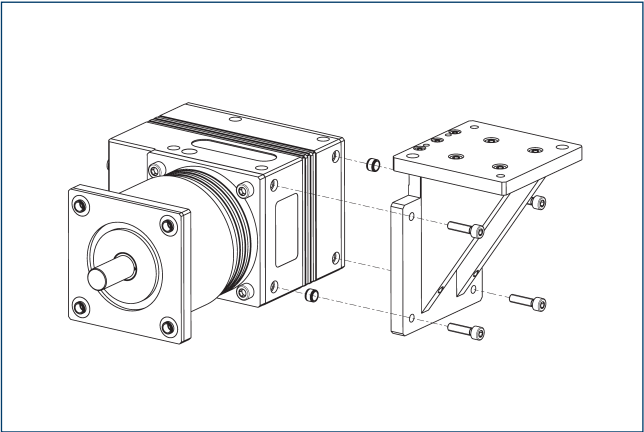


72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 90/110.

Description	ID
Connecting element	
PAM 113	0307813

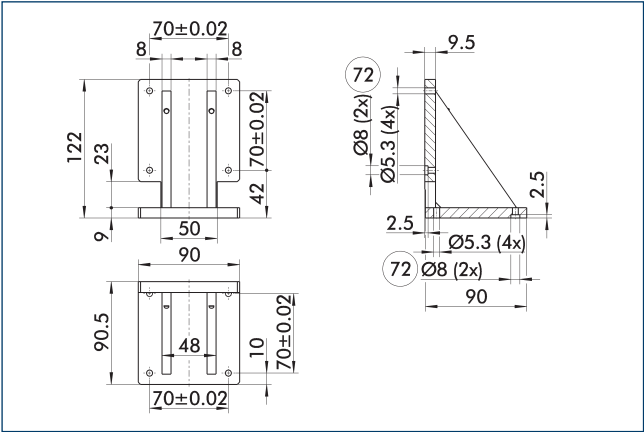
Connectiing element - angle



Description	ID
Connecting element	
PAM 121	0307821

① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 121 - angle



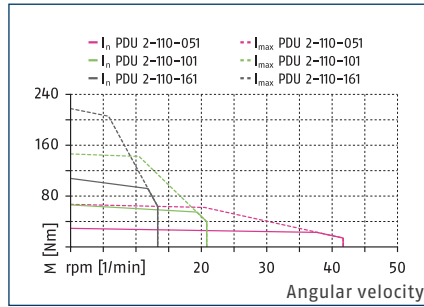
72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the size 90.

Description	ID
Connecting element	
PAM 121	0307821

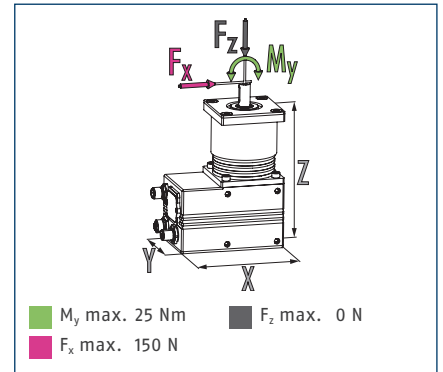


Torque characteristic



① The values were determined at room temperature after a certain warm-up time.

Dimensions and maximum loads



① Moments and forces may occur simultaneously.

Technical data

Description		PDU 2-110-051-PB-I	PDU 2-110-101-PB-I	PDU 2-110-161-PB-I
ID		0360670	0360690	0360710
Mechanical operating data				
Nominal torque	[Nm]	25.5	58.5	98
Max. torque	[Nm]	62.5	142.5	205
Standstill torque	[Nm]	29.6	66.4	108
Nominal speed	[1/min]	22.5	11.5	7
Max. RPM	[1/min]	41.5	21	13
Repeat accuracy	[°]	0.03	0.03	0.03
Transmission		51:1	101:1	161:1
General operating data				
Brake		yes	yes	yes
Weight	[kg]	6.1	6.1	6.1
Min./max. ambient temperature	[°C]	5/50	5/50	5/50
Protection class IP		40	40	40
Dimensions X x Y x Z	[mm]	140 x 110 x 225	140 x 110 x 225	140 x 110 x 225
Electrical operating data				
Nominal voltage	[V]	24	24	24
Nominal current	[A]	12	12	12
Max. current	[A]	22	22	22
Integrated control electronics				
Power supply	[V]	24	24	24
Encoder system		Encoder (incremental)	Encoder (incremental)	Encoder (incremental)
PROFIBUS interface	[Mbit/s]	12	12	12
USB interface		Host/device	Host/device	Host/device
Number of digital I/O		2/-	2/-	2/-
Options and their characteristics				
CAN version		PDU 2-110-051-CN-I	PDU 2-110-101-CN-I	PDU 2-110-161-CN-I
ID		0360671	0360691	0360711
Data rate	[Mbit/s]	1	1	1

① The "maximum current" value refers to the peak current during overload operation, the nominal current is an effective current. Depending on the ambient temperature, speed, acceleration and inertia, the appropriate idle times are to be provided.

Technical drawing of the 1000 series pressure washer, showing front, side, and top views with dimensions and callouts.

Front View: Overall width 110, height 140. Mounting holes are spaced 90±0.02 from the center and 90±0.02 from each other.

Side View: Overall length 225. Mounting holes are spaced 110 from the center and 90±0.02 from each other. The bottom flange has a diameter of Ø110 and a thickness of 14. The top flange has a diameter of Ø80 and a thickness of 3.5. The bottom flange has 2x Ø8 holes. The top flange has 4x M8 holes.

Top View: Overall width 110, height 140. Mounting holes are spaced 90±0.02 from the center and 90±0.02 from each other. The top flange has a diameter of Ø80 and a thickness of 3.5. The bottom flange has a diameter of Ø110 and a thickness of 14. The top flange has 4x M8 holes. The bottom flange has 2x Ø8 holes.

Detail View (Bottom Flange): Shows the bottom flange with a diameter of Ø80 and a thickness of 3.5. It has 2x Ø8 holes. The mounting holes are spaced 13 from the center and 17.5 from each other. The mounting holes are M6 (4x) and M6 (12x).

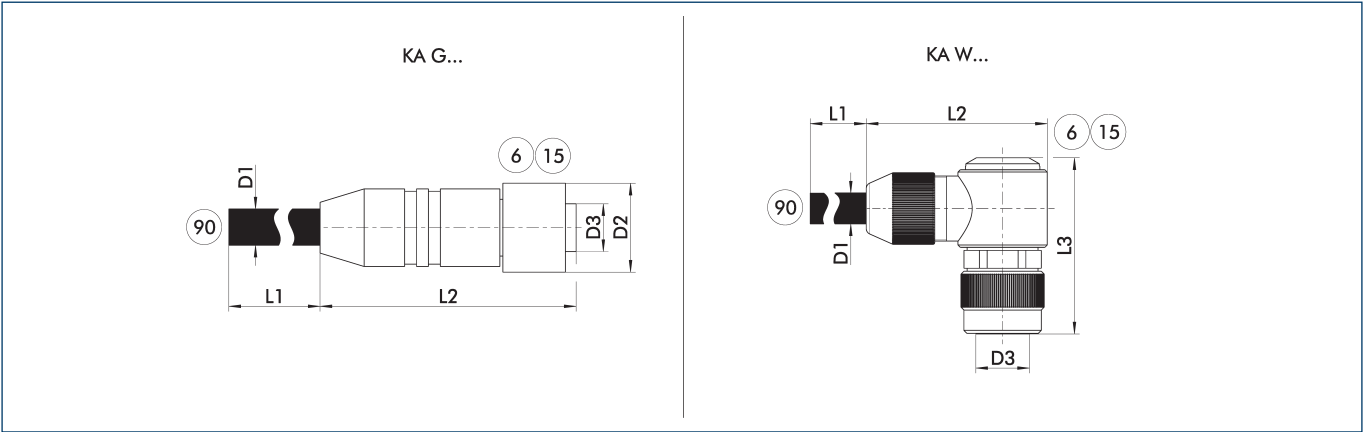
Detail View (Top Flange): Shows the top flange with a diameter of Ø80 and a thickness of 3.5. It has 4x M8 holes. The mounting holes are spaced 13 from the center and 17.5 from each other. The mounting holes are M6 (4x) and M6 (12x).

Detail View (Mounting Bracket): Shows the mounting bracket with a diameter of Ø80 and a thickness of 3.5. It has 2x Ø8 holes. The mounting holes are spaced 13 from the center and 17.5 from each other. The mounting holes are M6 (4x) and M6 (12x).

Detail View (Mounting Bracket): Shows the mounting bracket with a diameter of Ø80 and a thickness of 3.5. It has 2x Ø8 holes. The mounting holes are spaced 13 from the center and 17.5 from each other. The mounting holes are M6 (4x) and M6 (12x).

① Connection swivel unit	⑨0 Service window
② Attachment connection	⑨1 M12 connector T-coded power supply
③4 On both connection faces	⑨2 M12 socket for CAN or PROFIBUS
⑦2 Fit for centering sleeves	⑨3 M12 plug for CAN or PROFIBUS
⑦8 Fit for centering	⑨4 Digital input connection, M8 3-pole
⑧0 Depth of the centering sleeve hole in the counter part	

Voltage supply connection cable



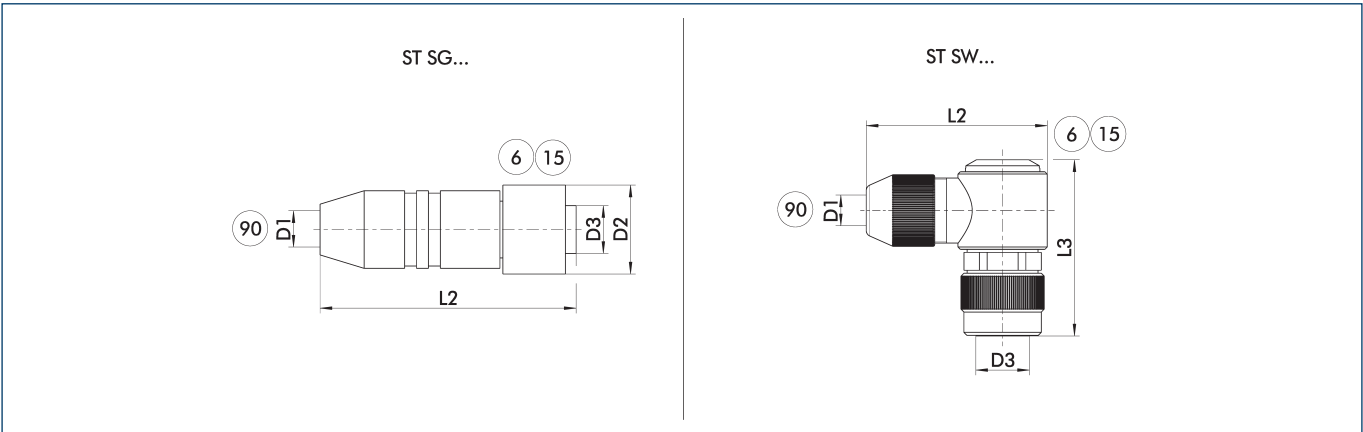
KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector
(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply. For each product, cable track compatible (KA) and torsion compatible (KAR) models are available.

Description	ID	L1	D1	L2	D2	L3	D3	Wire-Ø
		[m]	[mm]	[mm]	[mm]	[mm]		[mm²]
Voltage supply connection cable - cable track compatible								
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded	1.5
KA GLN12T0250-LK-00500-A	0310266	5	11	51	15		M12 T-coded	2.5
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded	1.5
KA WLN12T0250-LK-00500-A	0310267	5	11	47.5		35	M12 T-coded	2.5

ⓘ 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



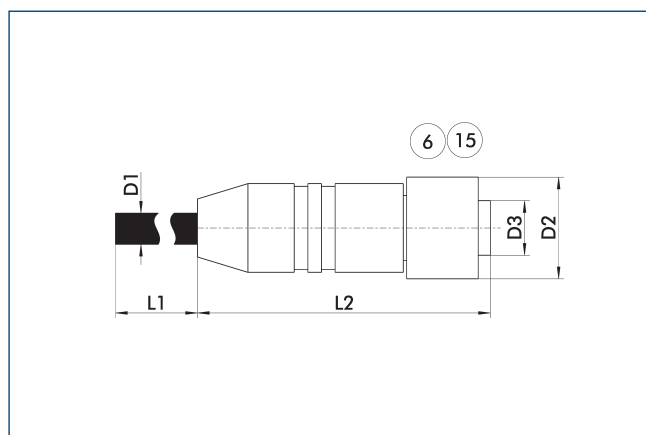
ST SG... Connection plug with straight outlet
ST SW... Connection plug with angular outlet
(6) Connection module side
(15) Socket
(90) D1 - max. diameter connection cable

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.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
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.

PROFIBUS communication cables



⑥ Connection module side

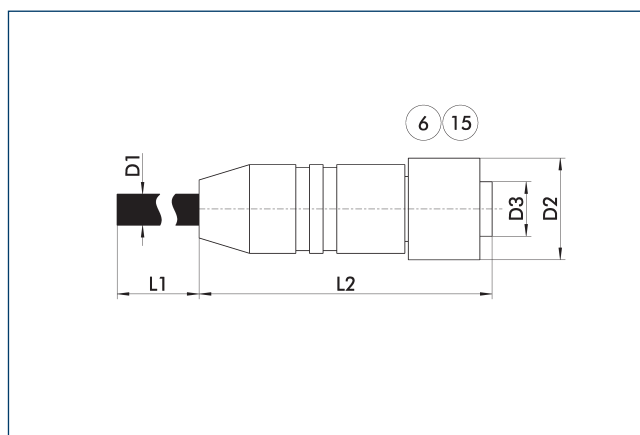
⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
PROFIBUS communication cable – drag chain suitable						
KA GGN1204-PB-00150-A	0349750	1.5	8	47	15	M12
KA GGN1204-PB-00300-A	0349751	3	8	47	15	M12
KA GGN1204-PB-00500-A	0349752	5	8	47	15	M12
KA GGN1204-PB-01000-A	0349753	10	8	47	15	M12

- ① 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 $\pm 180^\circ/\text{m}$.

CAN communication cables



⑥ Connection module side

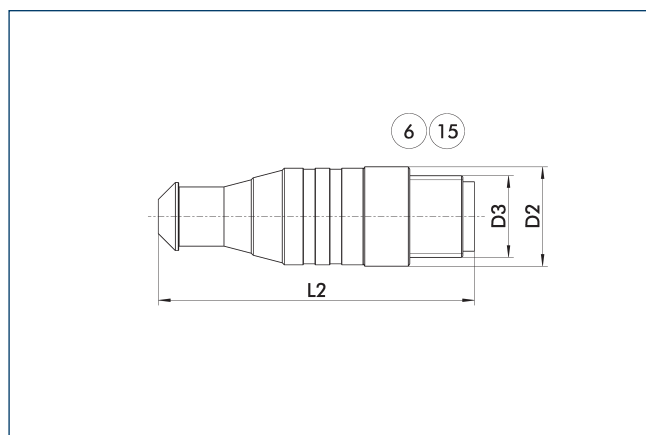
⑮ Socket

The communication cables are ready for use for the mechatronic SCHUNK products. They have M12 connectors on both sides.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
CAN communication cable – drag chain suitable						
KA GGN1204-CN-00150-A	0349770	1.5	7	47	15	M12
KA GGN1204-CN-00300-A	0349771	3	7	47	15	M12
KA GGN1204-CN-00500-A	0349772	5	7	47	15	M12
KA GGN1204-CN-01000-A	0349773	10	7	47	15	M12

- ① 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 $\pm 180^\circ/\text{m}$.

Termination resistor



⑥ Connection module side

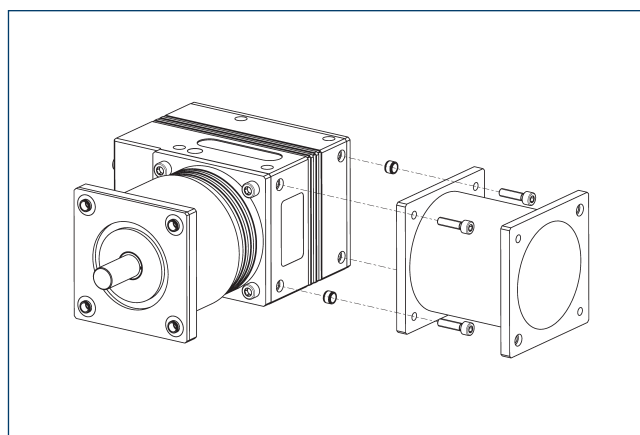
⑮ Socket

The terminating resistors are provided for terminating the bus string directly at the SCHUNK module.

Description	ID	L2	D2	D3
		[mm]	[mm]	
Termination resistor – CAN				
ST SG1204-CN-A-A	0349660	47	15	M12
Termination resistor – PROFIBUS				
ST SG1204-PB-A-A	0349650	47	15	M12

- ① An appropriate terminating resistor must be installed on the last module in the CAN or PROFIBUS string.

Connecting element – straight



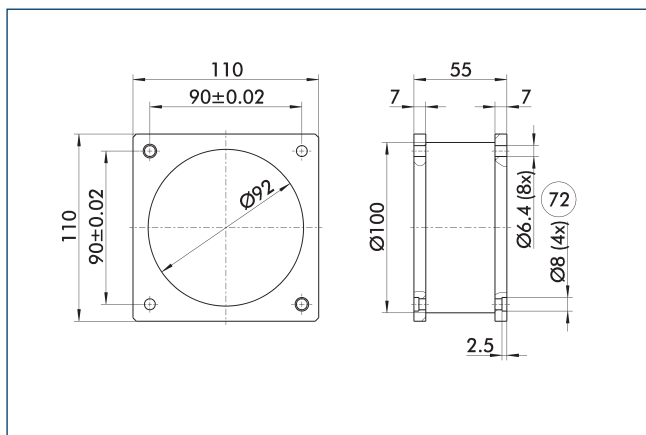
Description	ID	Dimensions
Connecting element		
PAM 104	0307804	110x110/55/110x110 mm
PAM 105	0307805	110x110/110/110x110 mm

- ① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PDU 2 110

Compact drive

PAM 104 – straight

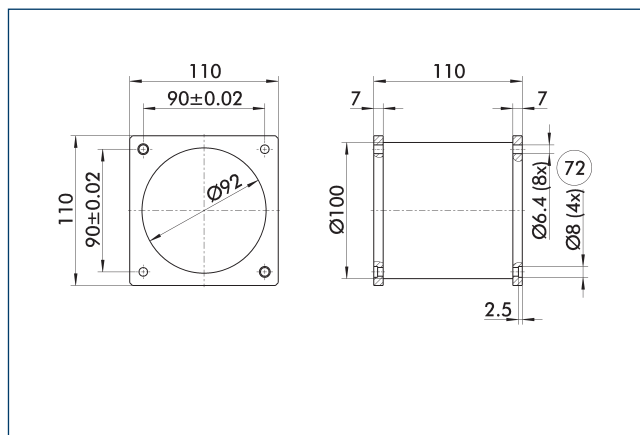


72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 110.

Description	ID	Dimensions
Connecting element		
PAM 104	0307804	110x110/55/110x110 mm

PAM 105 – straight

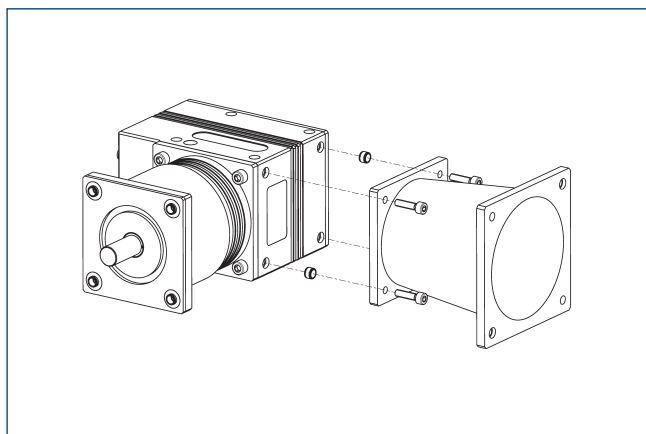


72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 110.

Description	ID	Dimensions
Connecting element		
PAM 105	0307805	110x110/110/110x110 mm

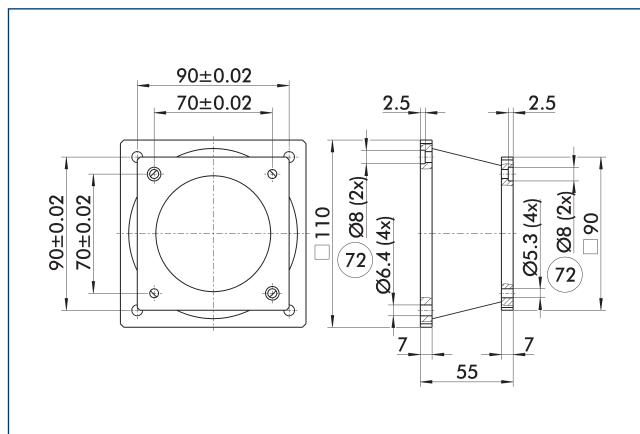
Connecting element - conical



Description	ID	
Connecting element		
PAM 112	0307812	
PAM 113	0307813	

① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 112 – conical

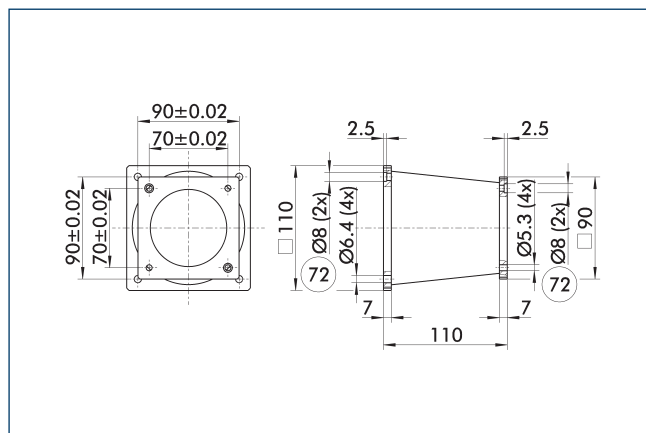


72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 90/110.

Description	ID	
Connecting element		
PAM 112	0307812	

PAM 113 - conical

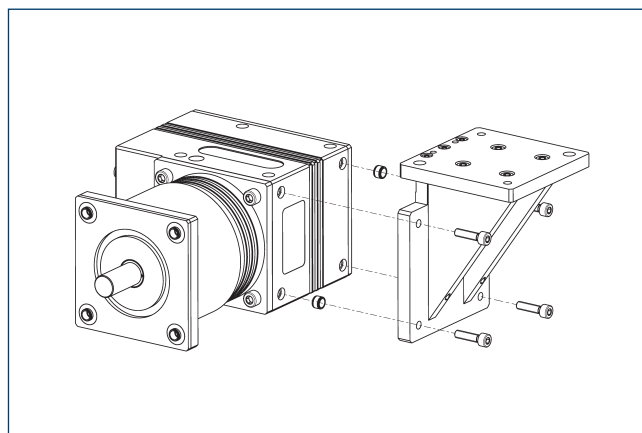


72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 90/110.

Description	ID
Connecting element	
PAM 113	0307813

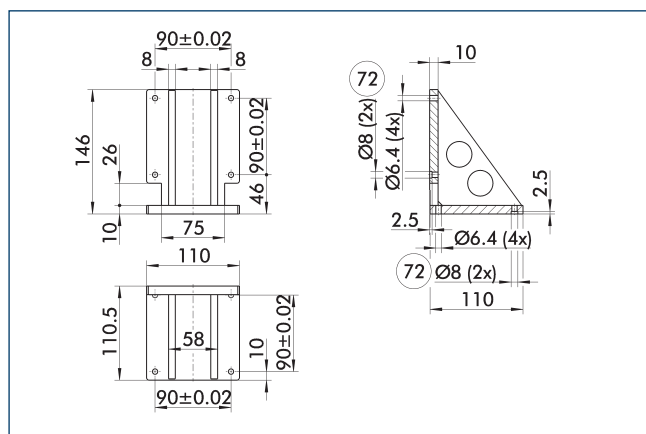
Connecting element - angle



Description	ID
Connecting element	
PAM 122	0307822

① An adaptation is required for size PR 2 70 and mounting connecting elements on the side of the digital inputs. Please contact us for details.

PAM 122 - angle



72 Fit for centering sleeves

Suitable for the mechatronic modules PW-V5, PW-V6, PR, PR2, PDU, PDU2, PSM and PSM2 of the sizes 110.

Description	ID
Connecting element	
PAM 122	0307822

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