Hand in hand for tomorrow

Product data sheet

Linear direct axis SLD

Dynamic. Loadable. Reliable.

Customized and configurable SLD linear direct axis

The dynamic axis all-rounder – perfectly tailored to your application.

Field of application

For use in clean and slightly dirty environments. For faster and precise movements or controlled press-in operation of workpieces in high-speed assembly, measurement and testing technology, electronics, e-mobility technology or in the Life-Science sector.

Advantages – Your benefits

Almost no wear parts For long service life and reliability of the system

No mechanical play between the drive components for flexible response behavior and high positioning accuracy

High basic load ratings for high bearing load capacity and long service life – especially in the heavy-duty version

Integrated motor and measuring system in the axis minimizes interfering contours and space requirements

Can be fitted with absolute stroke measuring system Less programming effort and time saving when commissioning and in operation

High dynamics for shorter cycle times therefore a high productivity is achieved

UL certification for use in the US and Canadian markets

Optional pneumatic safety holding brake as rod lock for high requirements on machines and personal safety

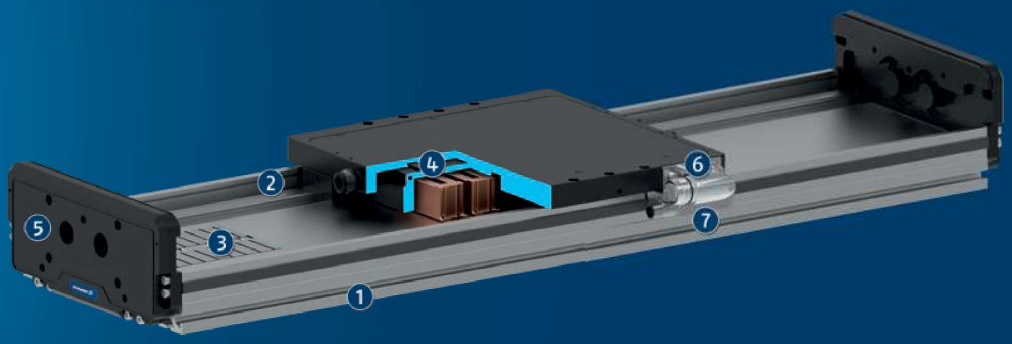
Optionally certified safety devices according to SIL2/PLd for applications with high requirements in the area of machine safety

Application-specific axis through diverse variants and options and individual configuration

Sizes	Max. stroke	Max. driving force	Repeat accuracy	Max. speed
Quantity: 3	2318 .. 5500 mm	300 .. 2400 N	0.01 mm	5 .. 10 m/s

Functional description

The electric drive consists of a primary part (motor coil) and a secondary part (permanent magnets). The phase and the amplitude of the applied electrical current are regulated in the controller. Depending on the application, this sets the profile fitted with magnets in motion or moves the slides of the axis.



① **Aluminum extruded profile**
Flat and weight-optimized

② **Pre-loaded profiled rail guide with recirculating ball-bearing guides**
for optimal guidance properties and speeds

③ **Integrated secondary parts**
with high power magnets

④ **Compact primary part slide**
with mounting surfaces, guidance adjusted without play and integrated measuring system

⑤ **End plates**
with integrated shock absorber elements

⑥ **Motor plug**
Position right/left can be selected

⑦ **Measuring system plug**
Position right/left can be selected

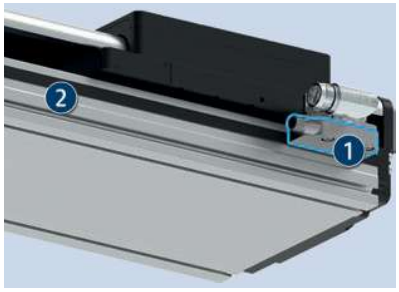
Detailed functional description

Design of the linear direct axis

The linear direct axis SLD consists of a motor slide with an integrated primary component and a measuring system. The secondary component consists of permanent magnets and is integrated into the aluminum extruded profile of the linear axis.

1. Aluminum extruded profile
2. Permanent magnets
3. Motor slide

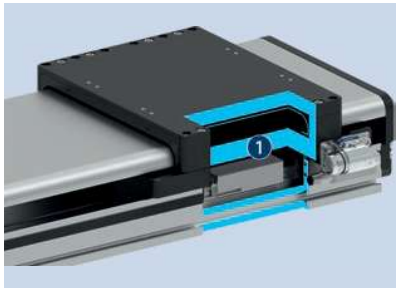
Modular transducer system



The linear module are available with different path measuring systems. The incremental stroke measuring system has a 1Vss interface. The absolute path measuring systems are optionally available with the HIPERFACE®, HIPERFACE DSL® or DRIVE-CLiQ interfaces. Other interfaces are available on request.

1. Measuring system reading head, fixed on the motor slide
2. Measuring tape of the measuring system, fixed on the aluminum extruded profile

Pneumatic holding brake



The linear module is optionally available with a safety holding brake. This holding brake is pneumatically actuated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless condition. The holding brake is also suitable for applications in the field of machine safety. Please feel free to contact us.

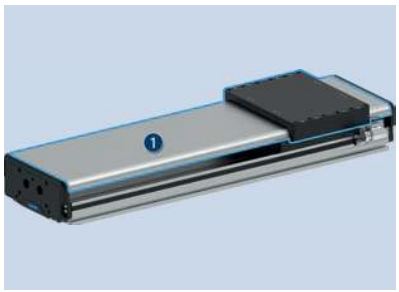
1. Holding brake, operated pneumatically

Drag chain

Matching cable tracks are available as accessories for the linear axes. (Similar to illustration). These are adapted to the respective effective stroke, supplied incl. mounting material, and if necessary, pre-assembled.

1. Drag chain

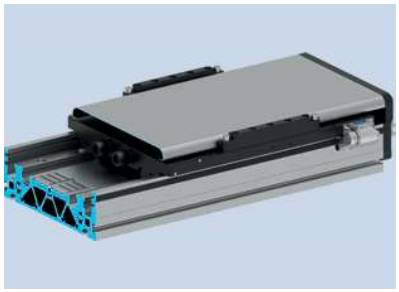
Covering tape



The linear module is optionally equipped with a covering tape. This prevents dirt from entering the inside of the axis and at the same time prevents grease from escaping when the axis is mounted horizontally or vertically.

1 Covering tape

Heavy-duty version/high-speed variant

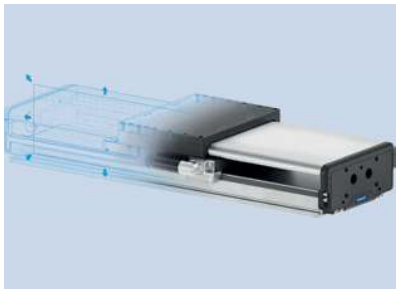


The SLD axis is available in a heavy-duty version for applications with increased requirements in terms of basic load ratings, rigidity and lubrication intervals. From size SLD 22 and up, the profiled rail is replaced by a larger version with higher basic load ratings, and both the extruded profile and the slides are adapted accordingly.Based on the heavy-duty version, a high-speed variant with speeds of up to 10 m/s is available.

UL certification

The motor of the linear direct axis is UL-certified as standard. The UL safety mark allows for rapid market access to North America and other countries. UL certifications are awarded on a product-by-product basis and are periodically reviewed by UL. Not only the final product is tested, but also the manufacturing of the product.

Sizing assistant and configuration for customized linear axes



The SCHUNK sizing assistants make it easy to reliably select the right specific products from the portfolio for each application. With our configurable standard products, we reduce complexity in system planning and offer a large number of individual adaptation options. In just a few clicks, linear modules can be adapted to individual requirements in less than 10 minutes, opening up an even wider range of applications. In addition to configurable standard products, SCHUNK Engineering offers customized solutions – feel free to contact us!

General notes about the series

Guidance: Rail guide

Drive: Linear direct drive based on a 3-phase, electronically commutated and permanently excited AC synchronous liner motor

Stroke measuring system: Contactless, magnetic measuring system with incremental and absolute versions; available with 1Vss, HIPERFACE®, HIPERFACE DSL®, and DRIVE-CLiQ interfaces. Other interfaces are available on request.

Profile: Aluminum extruded profile with profiled rail guide

Slide: Aluminum slide, primary part and measuring system reading head directly integrated

Scope of delivery: Accessory kit with centering sleeves, safety information (product-specific instructions are available online)

Drive controller: Consultation on parameter settings for drive controllers from BOSCH (EcoDrive CS, IndraDrive and IndraDrive CS) and Siemens (Sinamics S120). Provision of motor data sheets for other drive controllers. Commissioning support on request.

Warranty: 24 months

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

Ambient conditions: The modules are mainly designed for the use in clean ambient conditions. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases. Please contact us for assistance.

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

How to get to the online configurator: The configurator is either linked on the SCHUNK website via the appropriate linear unit or can https://schunk.com/de/de/konfigurator-linearmodule called up directly.

Application example

Highly flexible handling unit for fast and precise placement of hairpins in a stator for the automated production of electric motors.

1. Linear direct axis SLD
2. Universal linear module LDN
3. 2-finger parallel gripper PGN-plus-P

SCHUNK offers more ...

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

Gripper for small components

Universal gripper

Rotation unit

Rotary gripper module

Power and encoder cables

Drive controller

Drag chain

Pillar assembly system

ⓘ For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

Modular transducer system: The linear module are available with different path measuring systems. The incremental stroke measuring system has a 1Vss interface. The absolute path measuring systems are optionally available with the HIPERFACE®, HIPERFACE DSL® or DRIVE-CLiQ interfaces. Other interfaces are available on request.
Pneumatic holding brake: The linear module is optionally available with a safety holding brake. This holding brake is pneumatically actuated. Its function is activated in a non-ventilated state. The holding brake is used to maintain the position of the linear axis in a currentless condition. The holding brake is also suitable for applications in the field of machine safety. Please feel free to contact us.
Further motor slides: The linear axis can be equipped with multiple active motor slides. This allows special designs and customized axis solutions.
Certified encoder system: All encoder systems are certified according to SIL2/PLd. This means that even demanding applications with high requirements in the area of machine safety can be implemented. Please contact us for further information.
Version with food -compliant lubrication (H1G): on request as a solution for an easy entry into medical technology, lab automation,, pharmaceutical and food industry. The requirements of EN 1672-2:2020 are not fully met.
Version with increased number of days/longer service life: The SLD axis is available in a heavy-duty version from size SLD 22 and up for applications with increased requirements in terms of basic load ratings, rigidity and lubrication intervals.
High speed variant: Based on the heavy-duty version, a high-speed variant with speeds of up to 10 m/s is available.

Sizing assistant and configuration for linear axes

Sizing assistant

Find the right product for your specific application. Simple. Online. Customized.

Select the right product in just a few clicks

The SCHUNK linear axis sizing assistant make it easy to reliably select the right specific products from the portfolio for each application.

Go directly to the linear axes sizing assistant: https://calc.schunk.com/calc-a-e-frame-prod/

A customized linear axis in just three steps

Step 1: Linear axis configuration

incl. visualization of 3D preview in real time

- Selection of the drive concept, series, and size
- Configuration of the linear axis stroke
- Selection of the variant
- Selection of options

Step 2: Contact details

Online log in

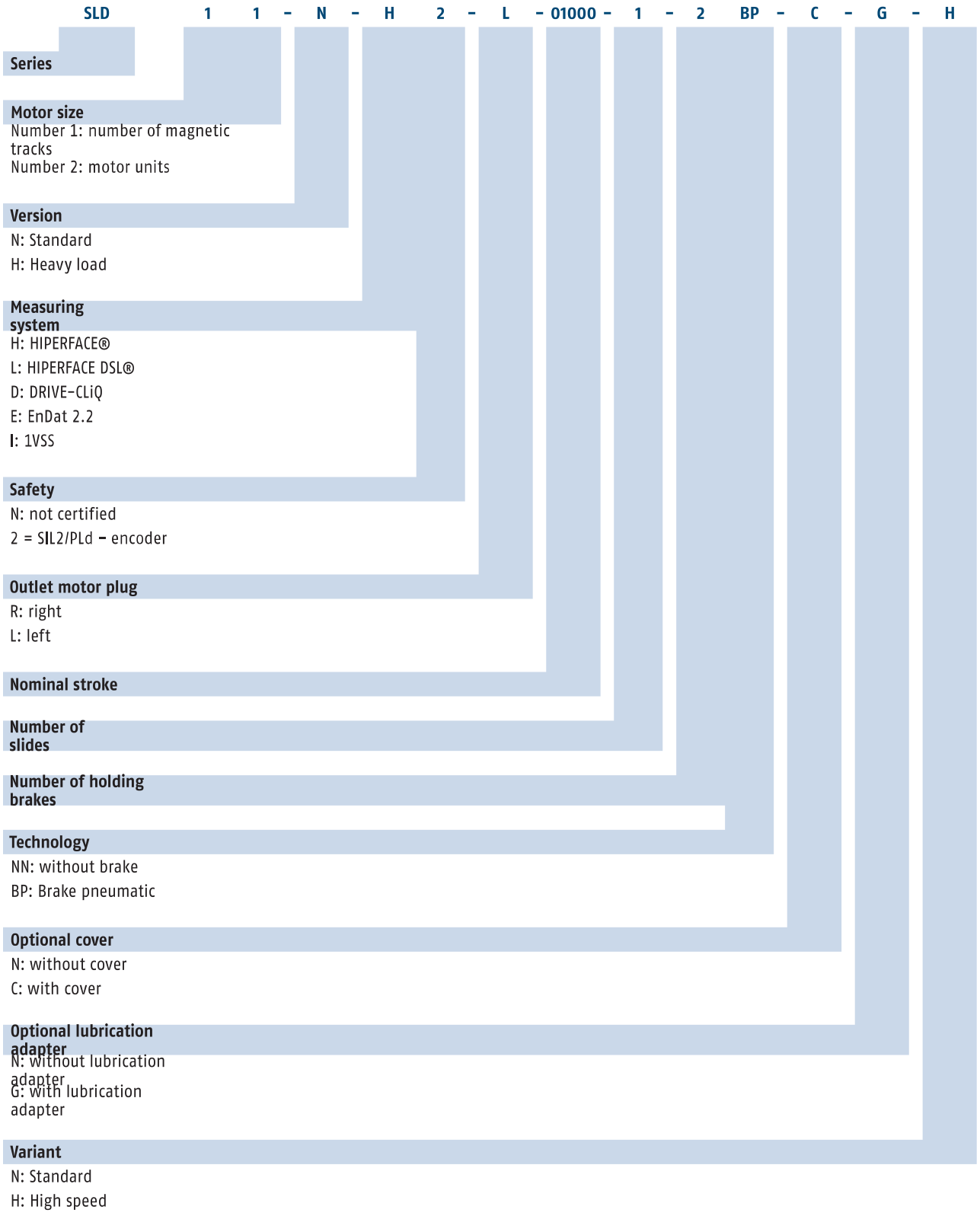
- Log in with SCHUNK shop user access or
- Log in as a guest

Step 3: Complete configuration

CAD download and request a quote for the configured linear axis

- Request a quote (to order from SCHUNK via the usual ordering processes)
- Send configuration as a ink
- Download the CAD-files

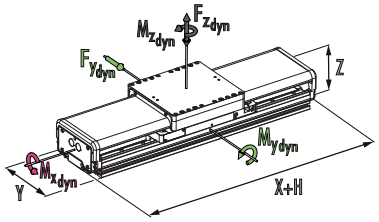
Ordering example



SLD 1

Linear direct axis

Dimensions and load data



For values see technical data table

Technical data – without cover

Description		SLD 11	SLD 12	SLD 13	SLD 14
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	5500	5440	5330	5190
Max. driving force	[N]	300	600	900	1200
Nominal force	[N]	165	265	375	495
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5	5
Max. acceleration	[m/s²]	100	100	100	100
Max. current	[A]	6	12	18	24
Max. standstill current (rated current)	[A]	2.2	3.6	5.1	6.7
Min./max. ambient temperature	[°C]	5/40	5/40	5/40	5/40
Weight slide and motor	[kg]	3.75	6.82	7.4	9.2
Weight of end plates	[kg]	0.95	0.95	0.95	0.95
Additional mass per 100 mm stroke	[kg]	1.205	1.205	1.205	1.205
Force Fy dyn	[N]	45079	45079	67619	67619
Force Fz dyn	[N]	45079	45079	67619	67619
Moment Mx dyn	[Nm]	2254	2254	3381	3381
Moment My dyn	[Nm]	3291	4621	7100	10256
Moment Mz dyn	[Nm]	3291	4621	7100	10256
Geometrical moment of inertia Iy	[mm⁴]	247000	247000	247000	247000
Geometrical moment of inertia Iz	[mm⁴]	5435000	5435000	5435000	5435000
Friction	[N]	40	40	60	60

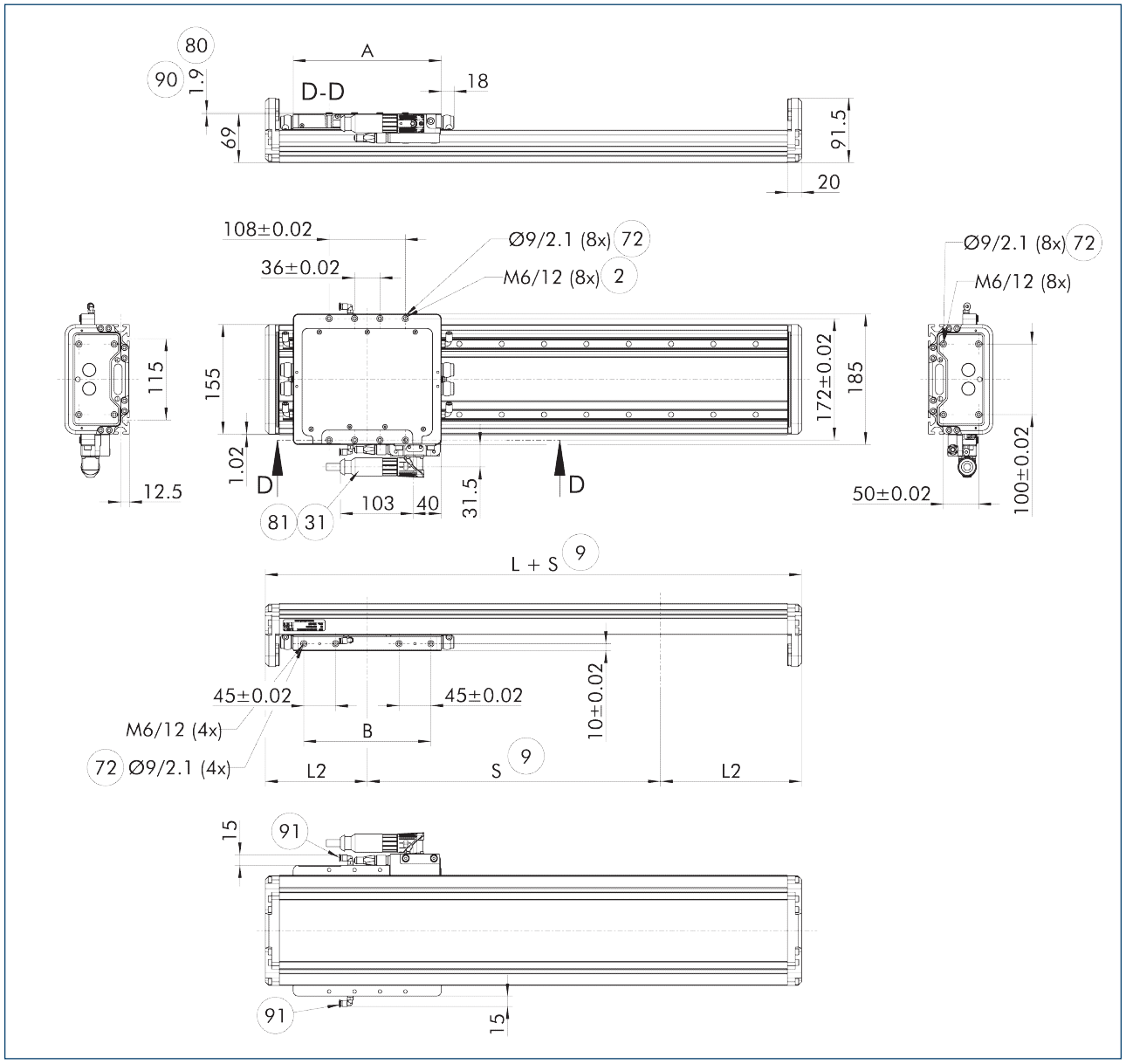
ⓘ The specified dynamic forces and moments refer to the nominal service life (L10) based on 100 km. Additional values for service life calculation can be found in our operating manual.

Technical data – with cover

Description		SLD 11-C	SLD 12-C	SLD 13-C	SLD 14-C
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	2689	2629	2519	2379
Max. driving force	[N]	300	600	900	1200
Nominal force	[N]	165	265	375	495
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5	5
Max. acceleration	[m/s²]	100	100	100	100
Max. current	[A]	6	12	18	24
Max. standstill current (rated current)	[A]	2.2	3.6	5.1	6.7
Min./max. ambient temperature	[°C]	5/40	5/40	5/40	5/40
Weight slide and motor	[kg]	4.85	7.92	8.5	10.3
Weight of end plates	[kg]	0.95	0.95	0.95	0.95
Additional mass per 100 mm stroke	[kg]	1.365	1.365	1.365	1.365
Force Fy dyn	[N]	45079	45079	67619	67619
Force Fz dyn	[N]	45079	45079	67619	67619
Moment Mx dyn	[Nm]	2254	2254	3381	3381
Moment My dyn	[Nm]	3291	4621	7100	10256
Moment Mz dyn	[Nm]	3291	4621	7100	10256
Geometrical moment of inertia Iy	[mm⁴]	247000	247000	247000	247000
Geometrical moment of inertia Iz	[mm⁴]	5435000	5435000	5435000	5435000
Friction	[N]	40	40	60	60

ⓘ The specified dynamic forces and moments refer to the nominal service life (L10) based on 100 km. Additional values for service life calculation can be found in our operating manual.

Main view: Version with one motor unit (SLD 11)

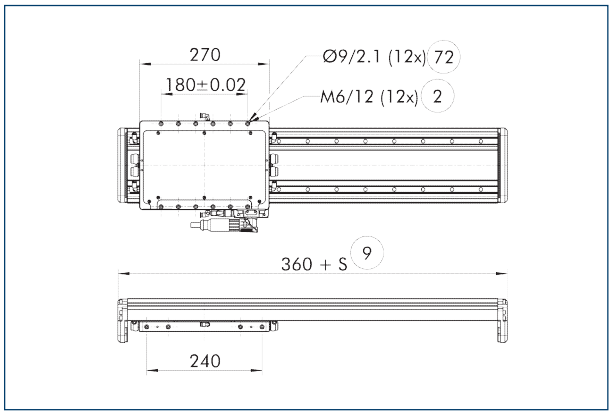


The linear module can be fastened either to the base body or the slide. The sturucture can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

(2) Attachment connection
(9) Nominal stroke
(31) Motor plug
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(81) Not included in the scope of delivery
(90) Applies to all centering sleeves
(91) Connection for pneumatic brake

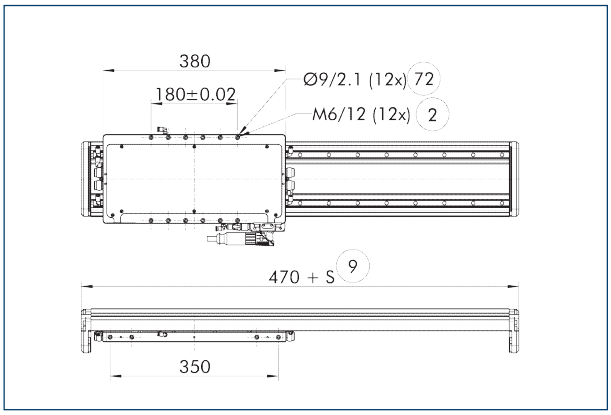
Description	ID	A	B	L	L2
		[mm]	[mm]	[mm]	[mm]
SLD 11		210	180	300	143
SLD 12		270	240	360	173
SLD 13		380	350	470	228
SLD 14		520	490	610	298

Version with two motor units (SLD 12)



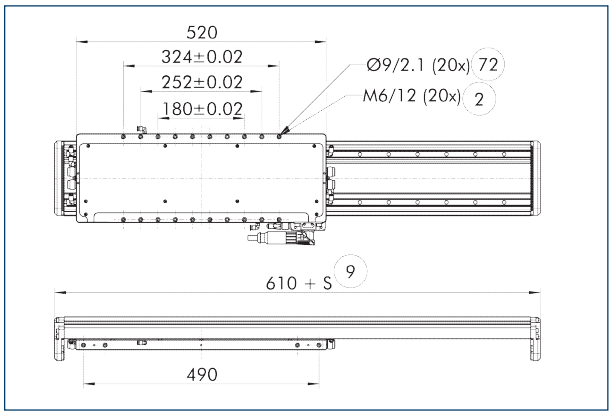
(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

Version with three motor units (SLD 13)



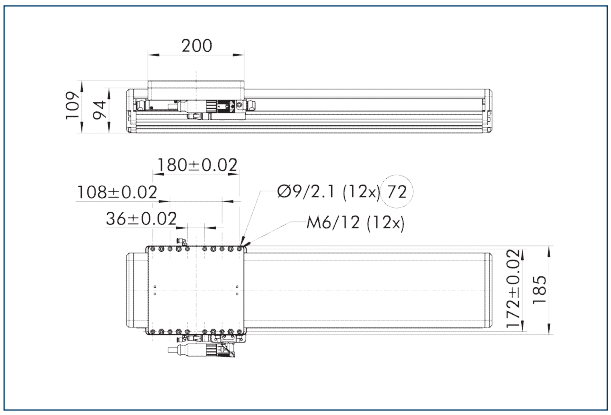
(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

Version with four motor units (SLD 14)



(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

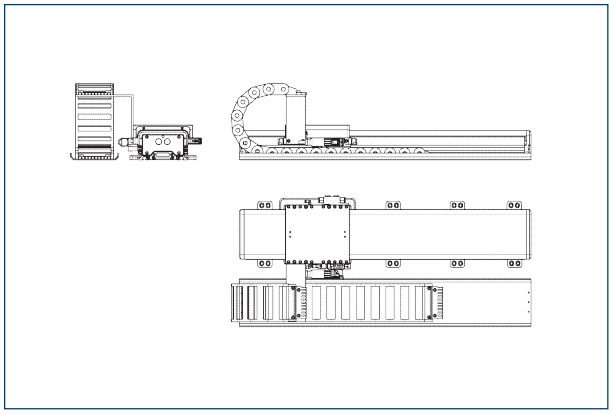
Version with cover



(72) Fit for centering sleeves

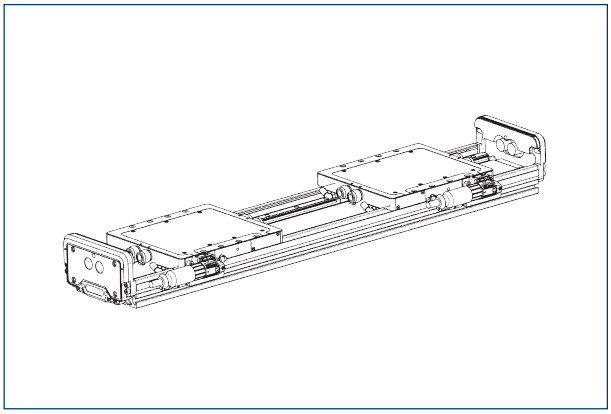
The view shows the height of the SLD axis and the screw connection diagram with the optionally available cover.

Drag chain



Matching cable tracks are available as accessories for the linear axes. (Similar to illustration). These are adapted to the respective effective stroke, supplied incl. mounting material, and if necessary, pre-assembled.

Second slide

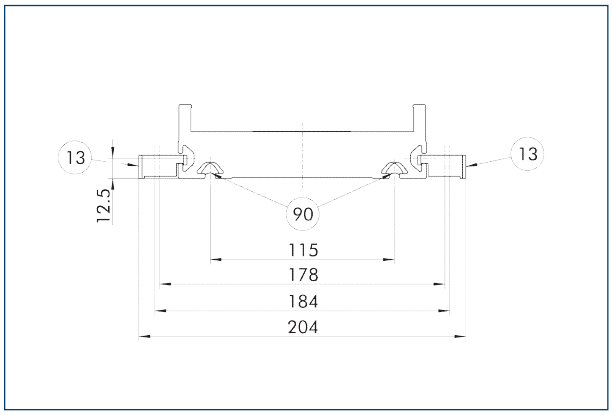


The linear module can be optionally equipped with several active slides. The motor plug outlet is on the left side as standard, but can optionally be selected on the right. Please ask for details.

SLD 1

Linear direct axis

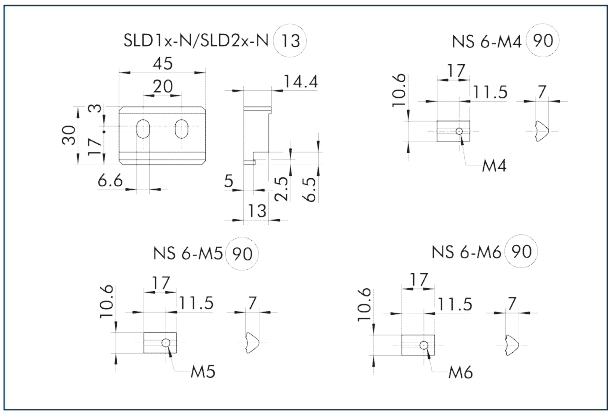
Mounting



13 Mounting strip 90 T-nut

The drawing shows the position of the mounting options.

Fastening elements

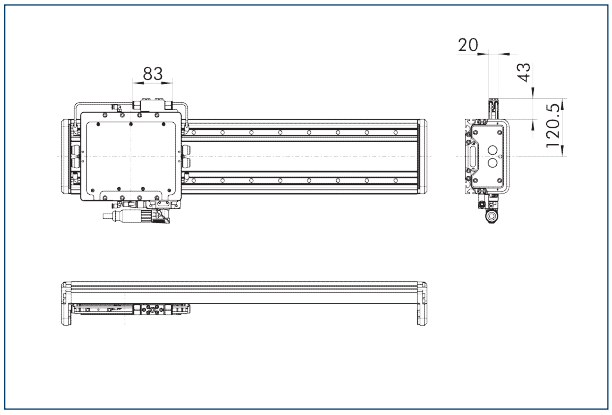


13 Mounting strip 90 T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

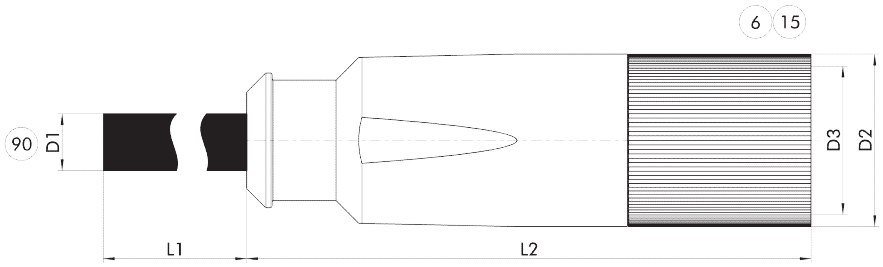
Description	ID	
Mounting strip		
SLD1x-N/SLD2x-N	1548171	
T-nut		
NS 6-M4	1548130	
NS 6-M5	1548166	
NS 6-M6	1548170	

Lubrication adapter



The view shows the dimensions of the optionally available attachment lubrication adapter.

Power cable



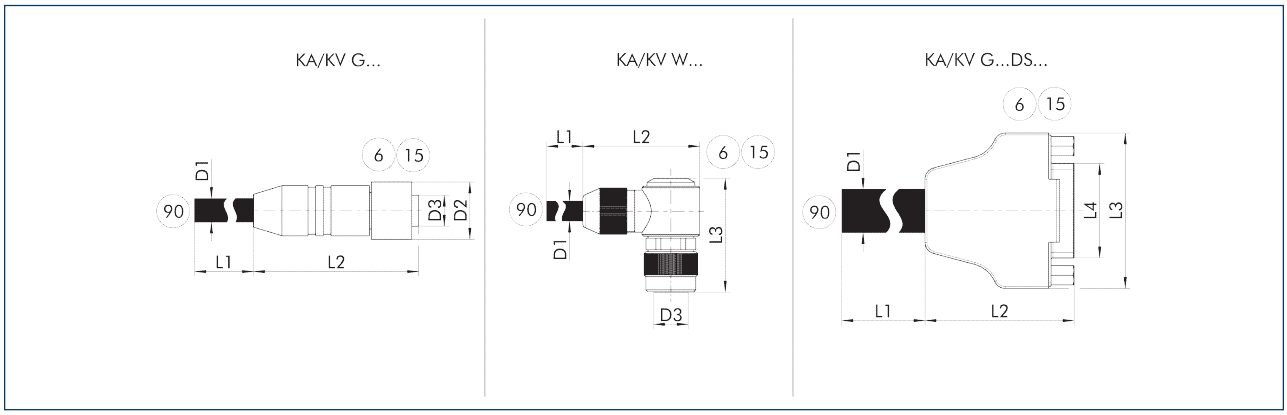
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
LDx100-300/SLD 11-14,21,22 DQ 05m	1315917	5	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 10m	1002467	10	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 15m	30702114	15	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 20m	1342496	20	10	78.5	27	M23

ⓘ 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.

Encoder cable



KA/KV G... encoder cable with straight plug

KA/KV W... encoder cable with angeled plug

KA/KV G...DS... Sub D encoder cable

(6) Connection module side

(15) Socket

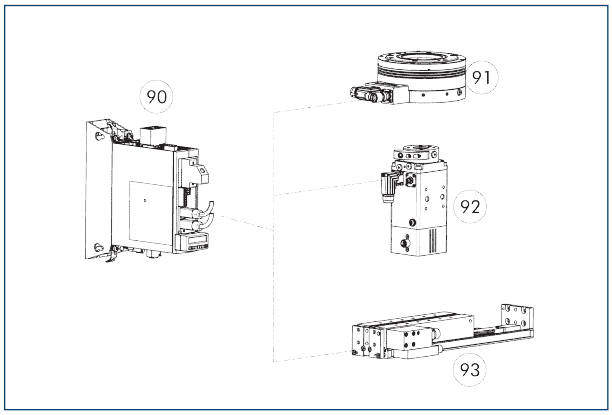
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Encoder cable for BOSCH IndraDrive A/B/Cs and HIPERFACE® encoder interface – drag chain compatible						
KA GWN1208-GK-00500-K	0349125	5	6	50	14.9	M12
KA GWN1208-GK-01000-K	0349126	10	6	50	14.9	M12
KA GWN1208-GK-01500-K	0349127	15	6	50	14.9	M12
KA GWN1208-GK-02000-K	0349128	20	6	50	14.9	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (CSx01) and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-R	0349138	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-R	0349139	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-R	0349140	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-R	0349141	20	7.3	50	14.65	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (Cxx02)/IndraDrive Cs and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-T	0349146	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-T	0349147	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-T	0349148	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-T	0349149	20	7.3	50	14.65	M12
Sensor cable for SIEMENS Sinamcis and encoder interface 1Vss – drag chain suitable						
KA GGN1208-GK-00100-U	0349597	1	7.3	50	14.65	M12
KA GGN1208-GK-00200-U	0349598	2	7.3	50	14.65	M12
KA GGN1208-GK-00300-U	0349599	3	7.3	50	14.65	M12
Sensor cable for Siemens SINAMICS and encoder interface DRIVE-CLiQ – cable track compatible						
ELB/SLD – DQ 05m	1327967	5	6	50	14.9	M12
ELB/SLD – DQ 10m	1327968	10	6	50	14.9	M12
ELB/SLD – DQ 15m	1327969	15	6	50	14.9	M12
ELB/SLD – DQ 20m	1327970	20	6	50	14.9	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.

Bosch Rexroth IndraDrive Cs controller



90 Controller
91 Rotary module ERS/ERT, electric
92 ERD Rotary unit
93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

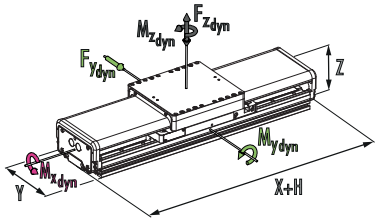
Description	Nominal current	Maximum current	Note
	[A]	[A]	
Controller			
HCS01.1E-W0008	2.7	8	
HCS01.1E-W0018	7.6	18	

ⓘ We will be happy to help you select the right controller. Please contact us for assistance.

SLD 2

Linear direct axis

Dimensions and load data



For values see technical data table

Technical data – without cover

Description		SLD 21	SLD 22	SLD 23	SLD 24
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	5470	5440	5330	5190
Max. driving force	[N]	600	1200	1800	2400
Nominal force	[N]	285	450	665	865
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5	5
Max. acceleration	[m/s²]	100	100	100	100
Max. current	[A]	12	24	36	48
Max. standstill current (rated current)	[A]	4.1	6.5	9.6	12.5
Min./max. ambient temperature	[°C]	5/40	5/40	5/40	5/40
Weight slide and motor	[kg]	6.78	8.38	12.2	16.5
Weight of end plates	[kg]	1.56	1.56	1.56	1.56
Additional mass per 100 mm stroke	[kg]	1.848	1.848	1.848	1.848
Force Fy dyn	[N]	70794	70794	106190	106190
Force Fz dyn	[N]	70794	70794	106190	106190
Moment Mx dyn	[Nm]	5805	5805	8708	8708
Moment My dyn	[Nm]	5876	6761	10654	15610
Moment Mz dyn	[Nm]	5876	6761	10654	15610
Geometrical moment of inertia Iy	[mm⁴]	464000	464000	464000	464000
Geometrical moment of inertia Iz	[mm⁴]	17220000	17220000	17220000	17220000
Friction	[N]	60	60	90	90

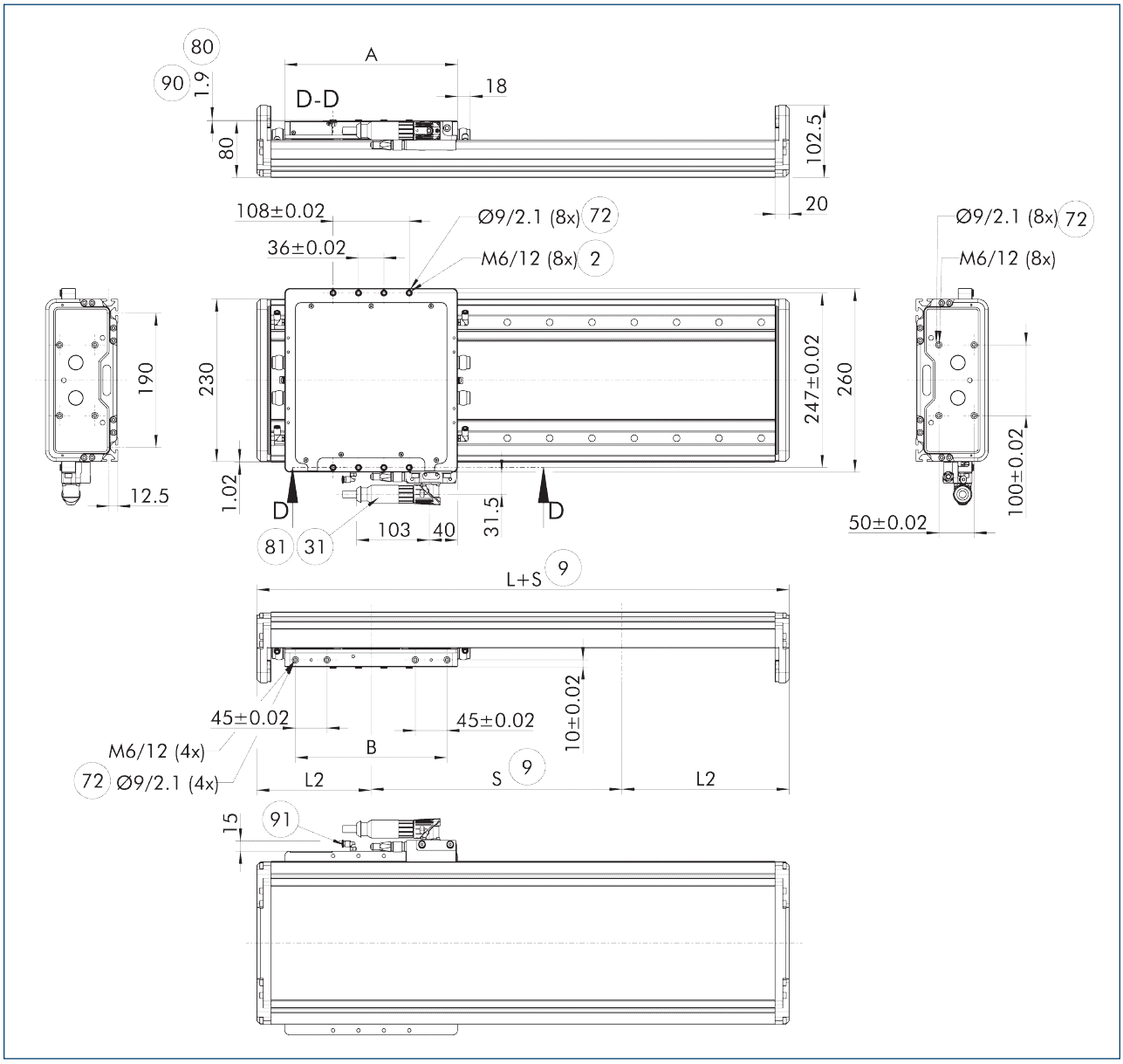
ⓘ The specified dynamic forces and moments refer to the nominal service life (L10) based on 100 km. Additional values for service life calculation can be found in our operating manual.

Technical data – with cover

Description		SLD 21-C	SLD 22-C	SLD 23-C	SLD 24-C
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	5470	2629	2519	2379
Max. driving force	[N]	600	1200	1800	2400
Nominal force	[N]	285	450	665	865
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5	5
Max. acceleration	[m/s²]	100	100	100	100
Max. current	[A]	12	24	36	48
Max. standstill current (rated current)	[A]	4.1	6.5	9.6	12.5
Min./max. ambient temperature	[°C]	5/40	5/40	5/40	5/40
Weight slide and motor	[kg]	8.28	9.88	13.7	18
Weight of end plates	[kg]	1.56	1.56	1.56	1.56
Additional mass per 100 mm stroke	[kg]	2.068	2.068	2.068	2.068
Force Fy dyn	[N]	70794	70794	106190	106190
Force Fz dyn	[N]	70794	70794	106190	106190
Moment Mx dyn	[Nm]	5805	5805	8708	8708
Moment My dyn	[Nm]	5876	6761	10654	15610
Moment Mz dyn	[Nm]	5876	6761	10654	15610
Geometrical moment of inertia Iy	[mm⁴]	464000	464000	464000	464000
Geometrical moment of inertia Iz	[mm⁴]	17220000	17220000	17220000	17220000
Friction	[N]	60	60	90	90

ⓘ The specified dynamic forces and moments refer to the nominal service life (L10) based on 100 km. Additional values for service life calculation can be found in our operating manual.

Main view: Version with one motor unit (SLD 21)

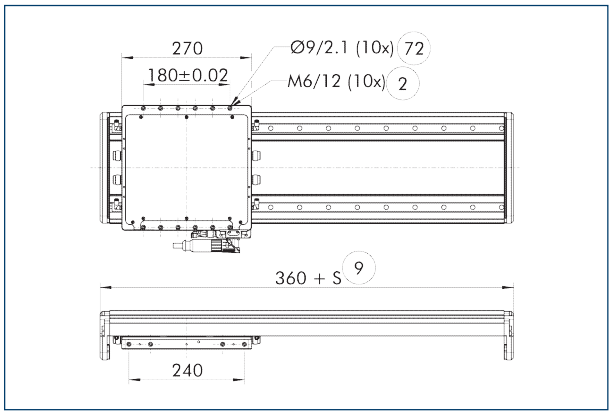


The linear module can be fastened either to the base body or the slide. The sturucture can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

(2) Attachment connection
(9) Nominal stroke
(31) Motor plug
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(81) Not included in the scope of delivery
(90) Applies to all centering sleeves
(91) Connection for pneumatic brake

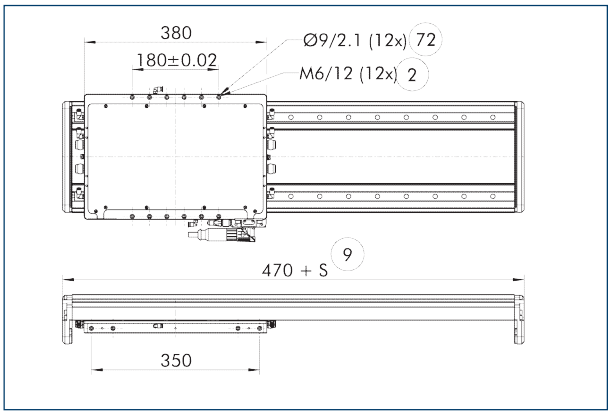
Description	ID	A	B	L	L2
		[mm]	[mm]	[mm]	[mm]
SLD 21		245	215	330	160.5
SLD 22		270	240	360	173
SLD 23		380	350	470	228
SLD 24		520	490	610	298

Version with two motor units (SLD 22)



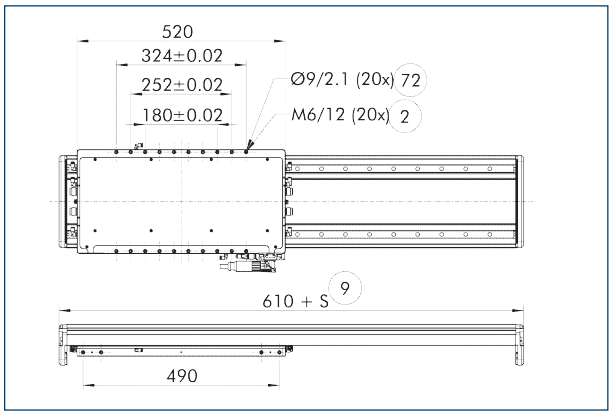
(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

Version with three motor units (SLD 23)



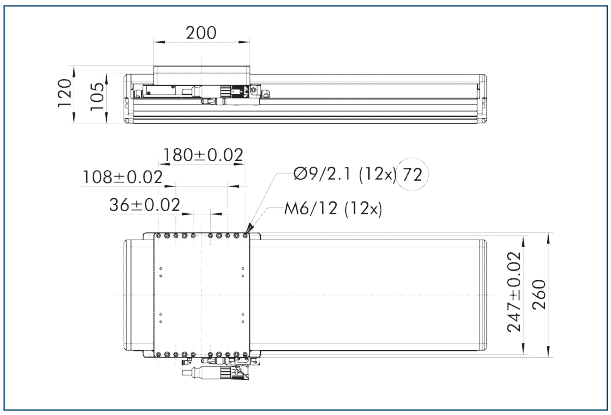
(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

Version with four motor units (SLD 24)



(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

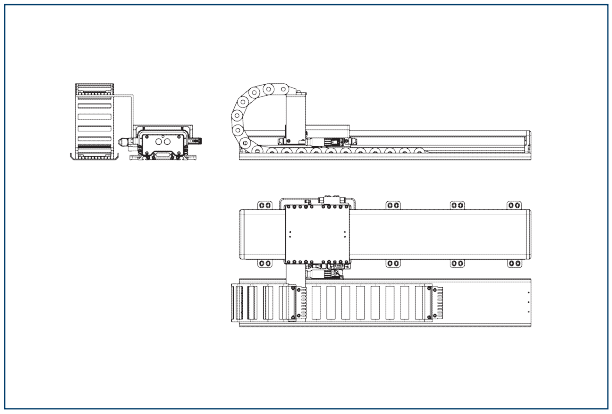
Version with cover



(72) Fit for centering sleeves

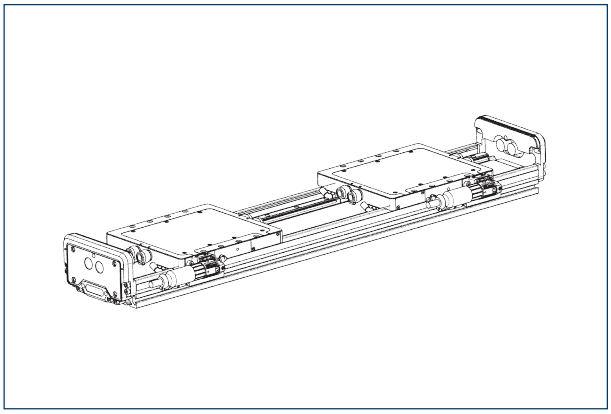
The view shows the height of the SLD axis and the screw connection diagram with the optionally available cover.

Drag chain



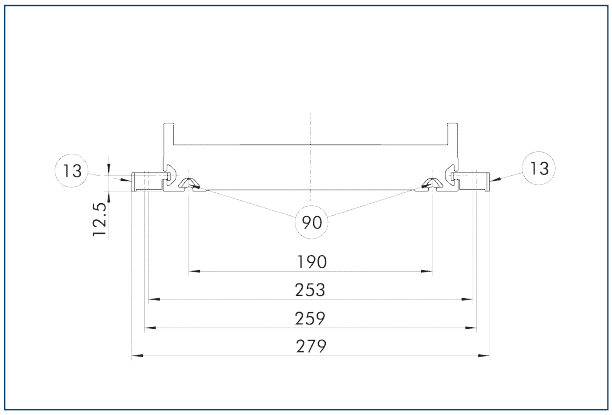
Matching cable tracks are available as accessories for the linear axes. (Similar to illustration). These are adapted to the respective effective stroke, supplied incl. mounting material, and if necessary, pre-assembled.

Second slide



The linear module can be optionally equipped with several active slides. The motor plug outlet is on the left side as standard, but can optionally be selected on the right. Please ask for details.

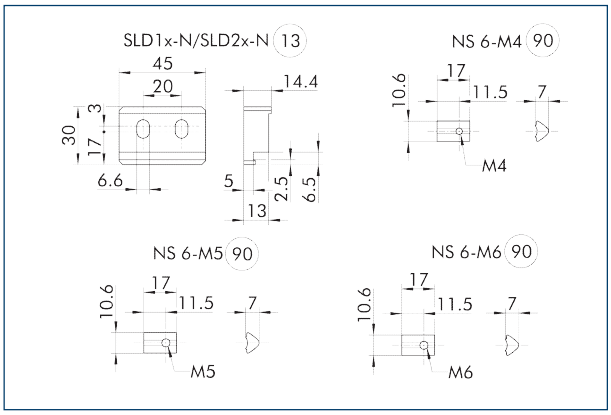
Mounting



(13) Mounting strip (90) T-nut

The drawing shows the position of the mounting options.

Fastening elements

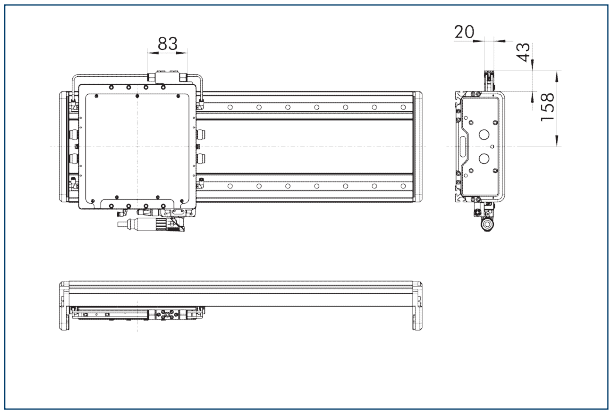


(13) Mounting strip (90) T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

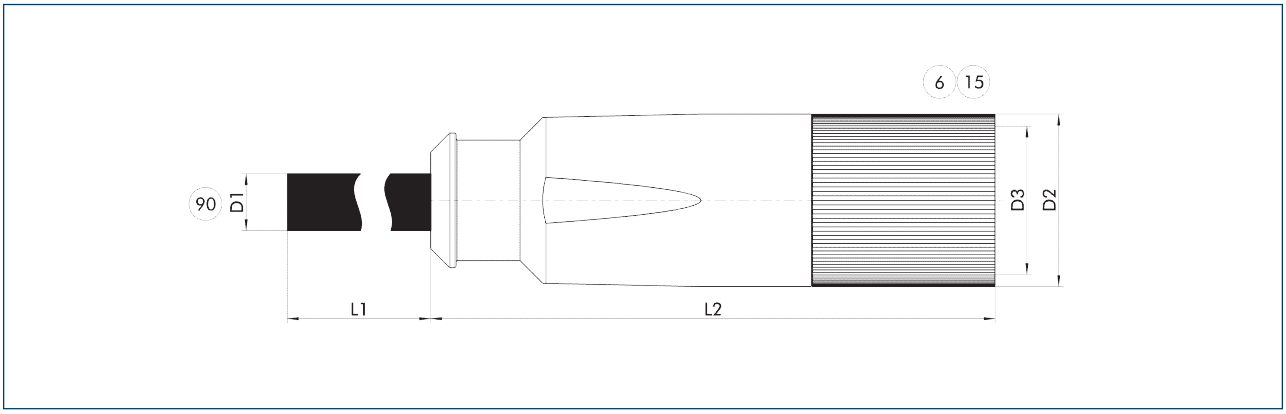
Description	ID	
Mounting strip		
SLD1x-N/SLD2x-N	1548171	
T-nut		
NS 6-M4	1548130	
NS 6-M5	1548166	
NS 6-M6	1548170	

Lubrication adapter



The view shows the dimensions of the optionally available attachment lubrication adapter.

Power cable



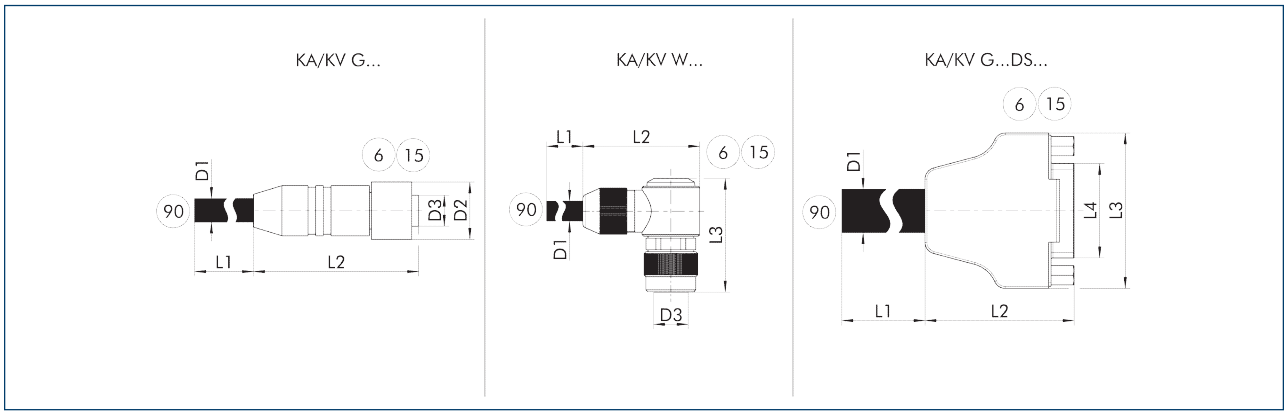
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
LDx100-300/SLD 11-14,21,22 DQ 05m	1315917	5	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 10m	1002467	10	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 15m	30702114	15	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 20m	1342496	20	10	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-Y	0349568	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-Y	0349569	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-Y	0349570	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-Y	0349571	20	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on BOSCH IndraDrive CS						
KA GLT2306-LK-00500-3	0349540	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-3	0349541	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-3	0349542	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-3	0349543	20	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on Siemens SINAMICS						
KA GGT2306-LK-00100-5	0349114	1	13.2	78.5	27	M23
KA GGT2306-LK-00200-5	0349115	2	13.2	78.5	27	M23
KA GGT2306-LK-00300-5	0349116	3	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
LDx400-600/SLD 23,24 DQ 05m	1330322	5	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 10m	1330326	10	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 15m	1330329	15	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 20m	1330330	20	13.2	78.5	27	M23

ⓘ 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.

Encoder cable



KA/KV G... encoder cable with straight plug
KA/KV W... encoder cable with angeled plug
KA/KV G...DS... Sub D encoder cable

(6) Connection module side
(15) Socket

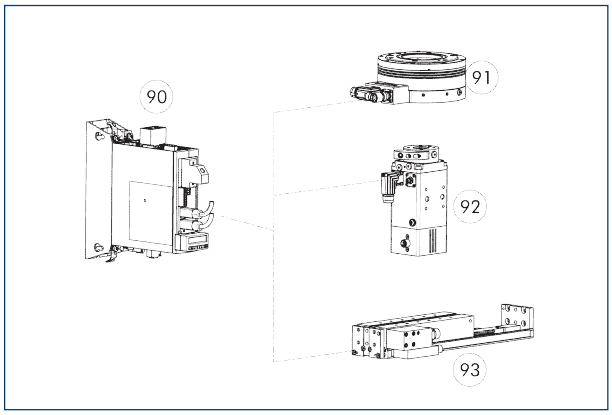
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Encoder cable for BOSCH IndraDrive A/B/Cs and HIPERFACE® encoder interface – drag chain compatible						
KA GWN1208-GK-00500-K	0349125	5	6	50	14.9	M12
KA GWN1208-GK-01000-K	0349126	10	6	50	14.9	M12
KA GWN1208-GK-01500-K	0349127	15	6	50	14.9	M12
KA GWN1208-GK-02000-K	0349128	20	6	50	14.9	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (CSx01) and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-R	0349138	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-R	0349139	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-R	0349140	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-R	0349141	20	7.3	50	14.65	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (Cxx02)/IndraDrive Cs and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-T	0349146	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-T	0349147	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-T	0349148	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-T	0349149	20	7.3	50	14.65	M12
Sensor cable for SIEMENS Sinamcis and encoder interface 1Vss – drag chain suitable						
KA GGN1208-GK-00100-U	0349597	1	7.3	50	14.65	M12
KA GGN1208-GK-00200-U	0349598	2	7.3	50	14.65	M12
KA GGN1208-GK-00300-U	0349599	3	7.3	50	14.65	M12
Sensor cable for Siemens SINAMICS and encoder interface DRIVE-CLiQ – cable track compatible						
ELB/SLD – DQ 05m	1327967	5	6	50	14.9	M12
ELB/SLD – DQ 10m	1327968	10	6	50	14.9	M12
ELB/SLD – DQ 15m	1327969	15	6	50	14.9	M12
ELB/SLD – DQ 20m	1327970	20	6	50	14.9	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.

Bosch Rexroth IndraDrive Cs controller



90 Controller
91 Rotary module ERS/ERT, electric
92 ERD Rotary unit
93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

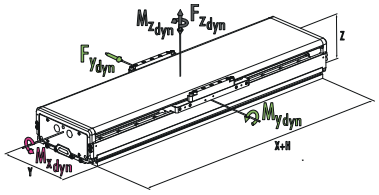
Description	Nominal current	Maximum current	Note
	[A]	[A]	
Controller			
HCS01.1E-W0018	7.6	18	
HCS01.1E-W0028	11.52	28	

ⓘ We will be happy to help you select the right controller. Please contact us for assistance.

SLD 2-H

Linear direct axis

Dimensions and maximum loads



For values see technical data table

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

Technical data – without cover

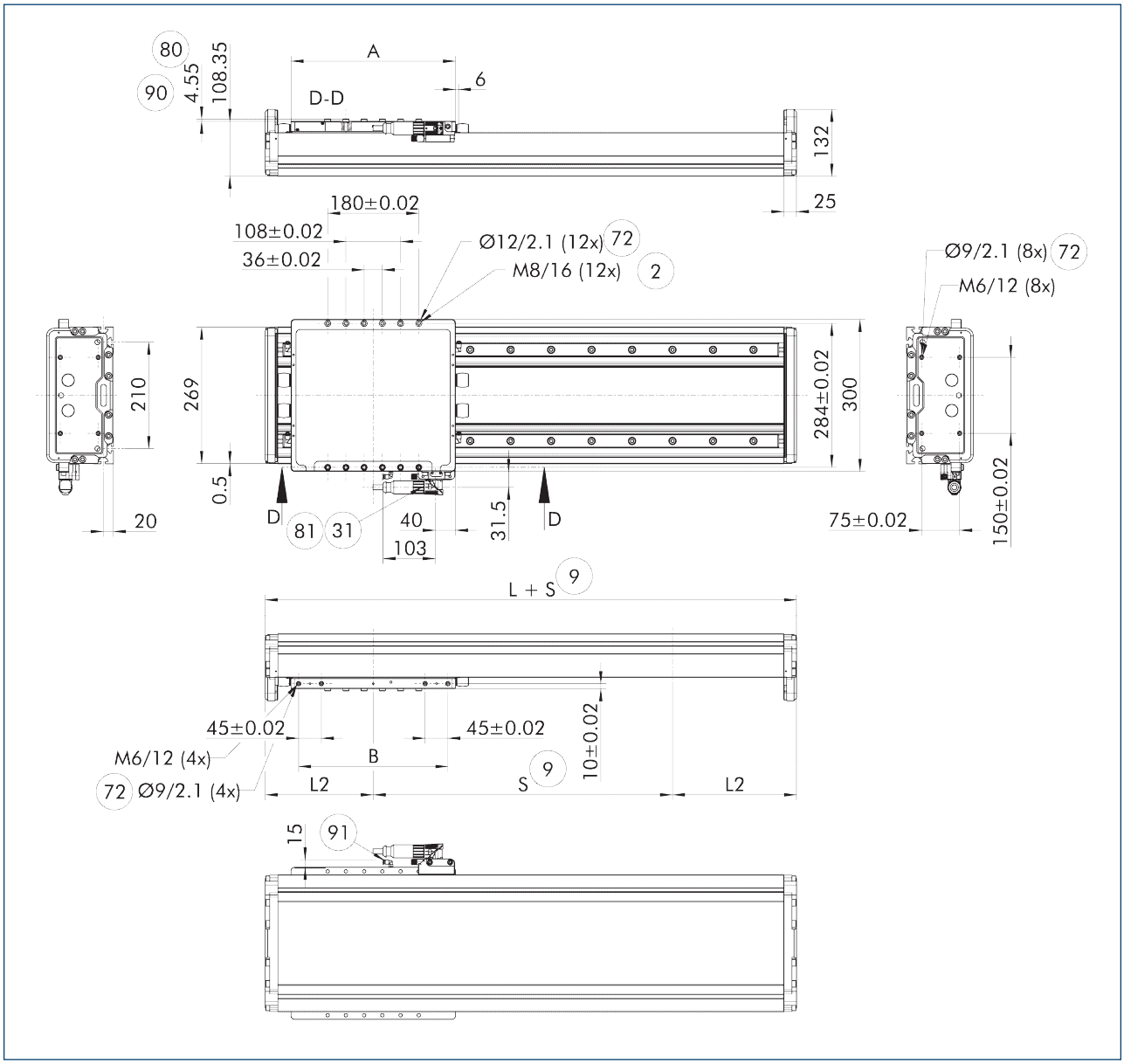
Description		SLD 22-H	SLD 23-H	SLD 24-H
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	5310	5210	5070
Max. driving force	[N]	1200	1800	2400
Nominal force	[N]	450	665	865
Repeat accuracy	[mm]	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5
Max. acceleration	[m/s²]	100	100	100
Max. current	[A]	24	36	48
Max. standstill current (rated current)	[A]	6.5	9.6	12.5
Min./max. ambient temperature	[°C]	5/40	5/40	5/40
Weight slide and motor	[kg]	12.5	16.5	23
Weight of end plates	[kg]	3.2	3.2	3.2
Additional mass per 100 mm stroke	[kg]	3.6	3.6	3.6
Force Fy dyn	[N]	146000	184000	276000
Force Fz dyn	[N]	146000	184000	276000
Moment Mx dyn	[Nm]	13140	16560	24840
Moment My dyn	[Nm]	15987	27232	40388
Moment Mz dyn	[Nm]	15987	27232	40388
Geometrical moment of inertia Iy	[mm⁴]	2905000	2905000	2905000
Geometrical moment of inertia Iz	[mm⁴]	55779000	55779000	55779000
Friction	[N]	50	50	75
Options and their characteristics				
High speed variant		SLD 22-H-H	SLD 23-H-H	SLD 24-H-H
Nominal force	[N]	353	512	688
Max. speed	[m/s]	10	10	10
Max. current	[A]	56	82	113
Max. standstill current (rated current)	[A]	15.1	21.9	29.4
Force Fy dyn	[N]	102000	128400	192600
Force Fz dyn	[N]	102000	128400	192600
Moment Mx dyn	[Nm]	9180	11556	17334
Moment My dyn	[Nm]	11169	19003	28183
Moment Mz dyn	[Nm]	11169	19003	28183

Technical data – with cover

Description		SLD 22-H-C	SLD 23-H-C	SLD 24-H-C
Drive concept		Linear direct drive	Linear direct drive	Linear direct drive
Max. nominal stroke H	[mm]	2558	2461	2318
Max. driving force	[N]	1200	1800	2400
Nominal force	[N]	450	665	865
Repeat accuracy	[mm]	0.01	0.01	0.01
Max. speed	[m/s]	5	5	5
Max. acceleration	[m/s²]	100	100	100
Max. current	[A]	24	36	48
Max. standstill current (rated current)	[A]	6.5	9.6	12.5
Min./max. ambient temperature	[°C]	5/40	5/40	5/40
Weight slide and motor	[kg]	13	17	23.5
Weight of end plates	[kg]	3.2	3.2	3.2
Additional mass per 100 mm stroke	[kg]	3.65	3.65	3.65
Force Fy dyn	[N]	146000	184000	276000
Force Fz dyn	[N]	146000	184000	276000
Moment Mx dyn	[Nm]	13140	16560	24840
Moment My dyn	[Nm]	15987	27232	40388
Moment Mz dyn	[Nm]	15987	27232	40388
Geometrical moment of inertia Iy	[mm⁴]	2905000	2905000	2905000
Geometrical moment of inertia Iz	[mm⁴]	55779000	55779000	55779000
Friction	[N]	50	50	75
Options and their characteristics				
High speed variant		SLD 22-H-C-H	SLD 23-H-C-H	SLD 24-H-C-H
Nominal force	[N]	353	512	688
Max. speed	[m/s]	10	10	10
Max. current	[A]	56	82	113
Max. standstill current (rated current)	[A]	15.1	21.9	29.4
Force Fy dyn	[N]	102000	128400	192600
Force Fz dyn	[N]	102000	128400	192600
Moment Mx dyn	[Nm]	9180	11556	17334
Moment My dyn	[Nm]	11169	19003	28183
Moment Mz dyn	[Nm]	11169	19003	28183

ⓘ The specified dynamic forces and moments refer to the nominal service life (L10) based on 100 km. Additional values for service life calculation can be found in our operating manual.

Main view: Version with one motor unit (SLD 22-H)

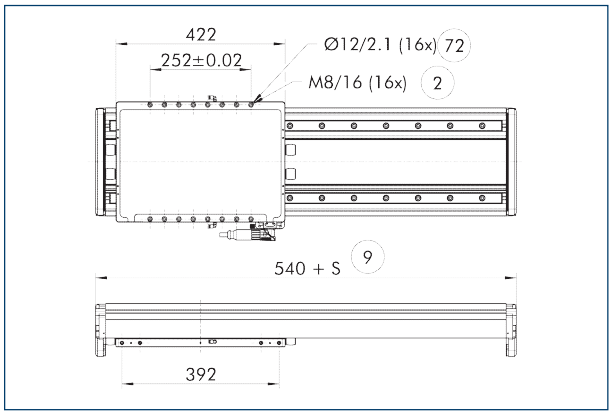


The linear module can be fastened either to the base body or the slide. The sturucture can also optionally be fastened to either the slide or the base body. This view shows the mounting of the module to the base body and the mounting of the structure to the slide.

(2) Attachment connection
(9) Nominal stroke
(31) Motor plug
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(81) Not included in the scope of delivery
(90) Applies to all centering sleeves
(91) Connection for pneumatic brake

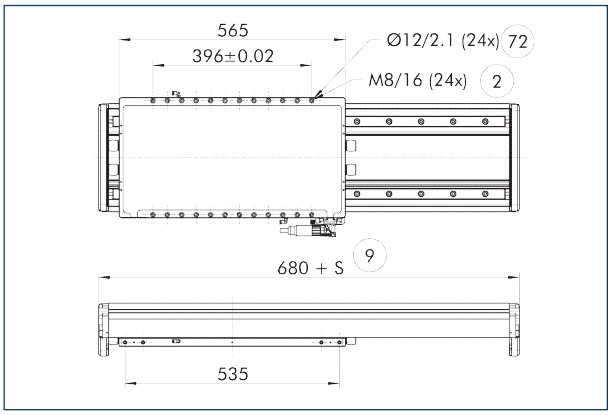
Description	ID	A	B	L	L2
		[mm]	[mm]	[mm]	[mm]
SLD 22-H		325	295	440	213.5
SLD 23-H		422	392	540	262
SLD 24-H		565	535	680	333.5

Version with three motor units (SLD 23-H)



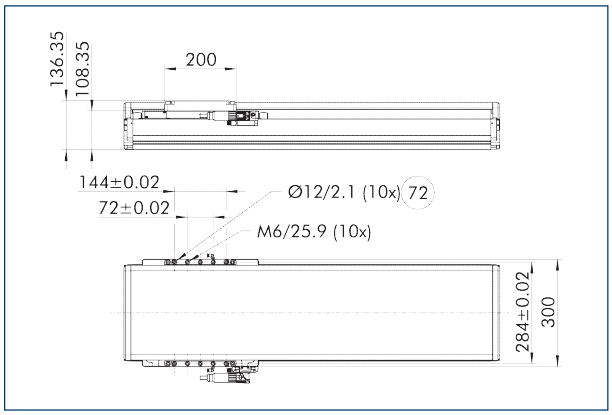
(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

Version with four motor units (SLD 24-H)



(2) Attachment connection
(72) Fit for centering sleeves
(9) Nominal stroke

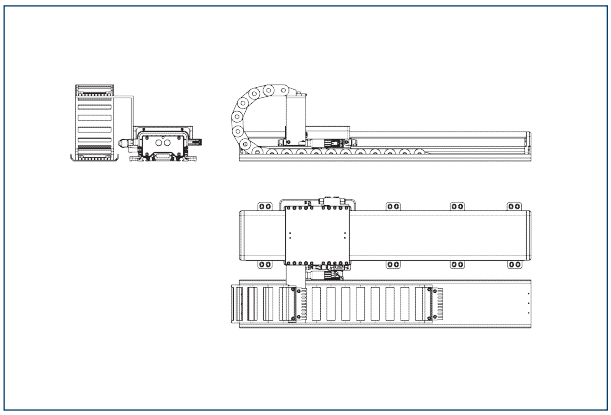
Version with cover



(72) Fit for centering sleeves

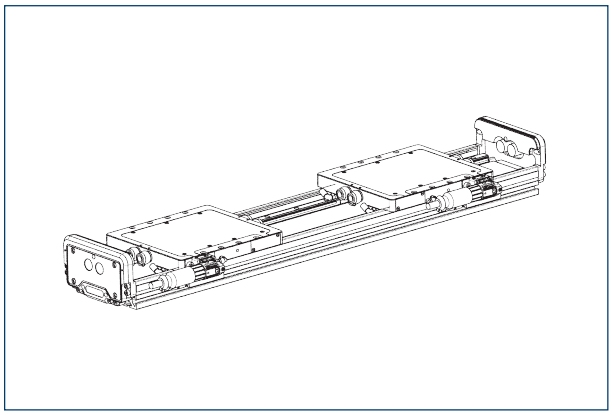
The view shows the height of the SLD axis and the screw connection diagram with the optionally available cover.

Drag chain



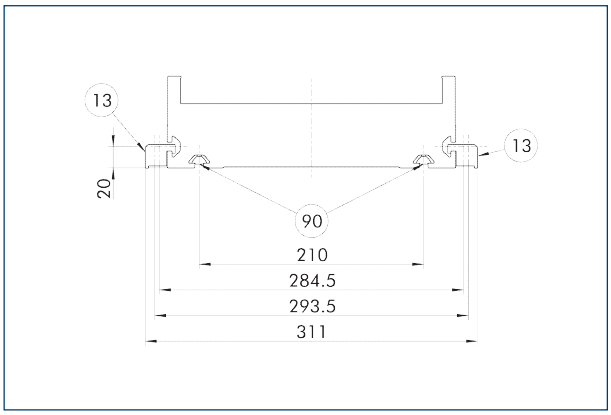
Matching cable tracks are available as accessories for the linear axes. (Similar to illustration). These are adapted to the respective effective stroke, supplied incl. mounting material, and if necessary, pre-assembled.

Second slide



The linear module can be optionally equipped with several active slides. The motor plug outlet is on the left side as standard, but can optionally be selected on the right. Please ask for details.

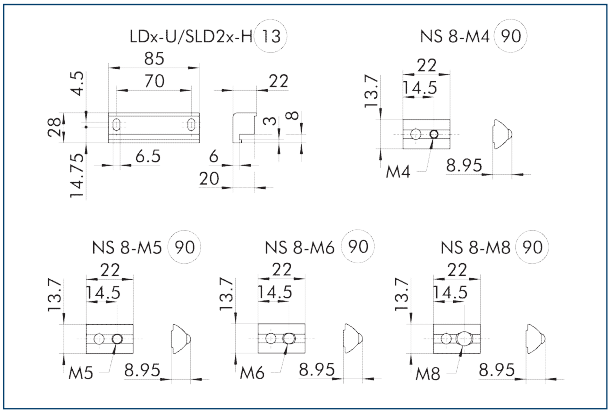
Mounting



(13) Mounting strip
(90) T-nut

The drawing shows the position of the mounting options.

Fastening elements



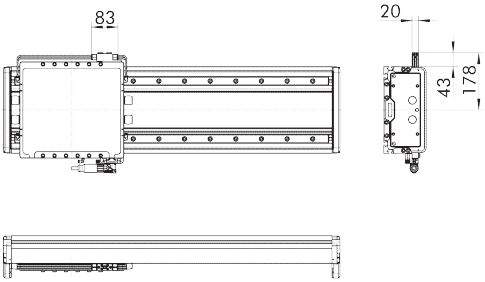
13 Mounting strip

90 T-nut

The unit can be secured either by using T-nuts or mounting strips. The exact mounting position is indicated on the adjacent attachment illustration.

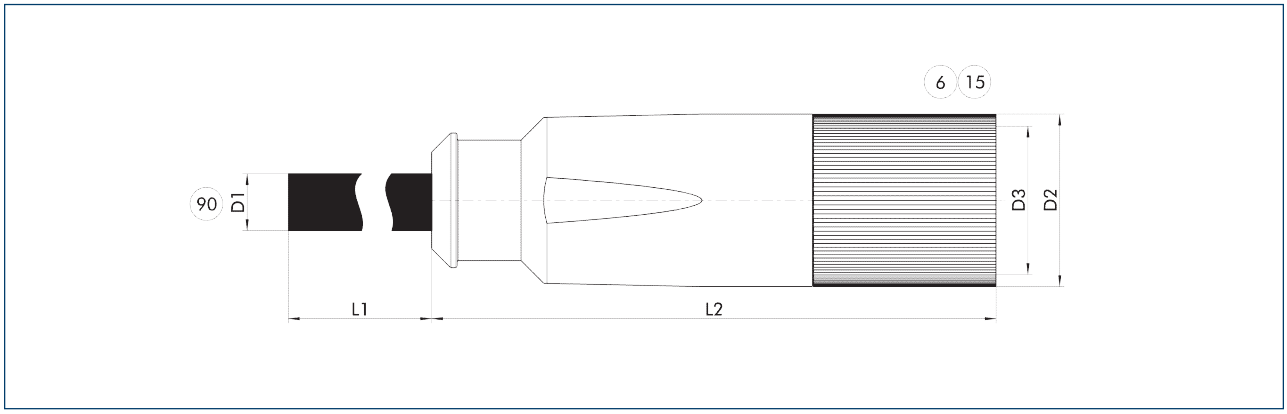
Description	ID	
Mounting strip		
LDx-U/SLD2x-H	30700231	
T-nut		
NS 8-S-M4	1646017	
NS 8-S-M5	1646019	
NS 8-S-M6	1646031	
NS 8-S-M8	1646033	

Lubrication adapter



The view shows the dimensions of the optionally available attachment lubrication adapter.

Power cable



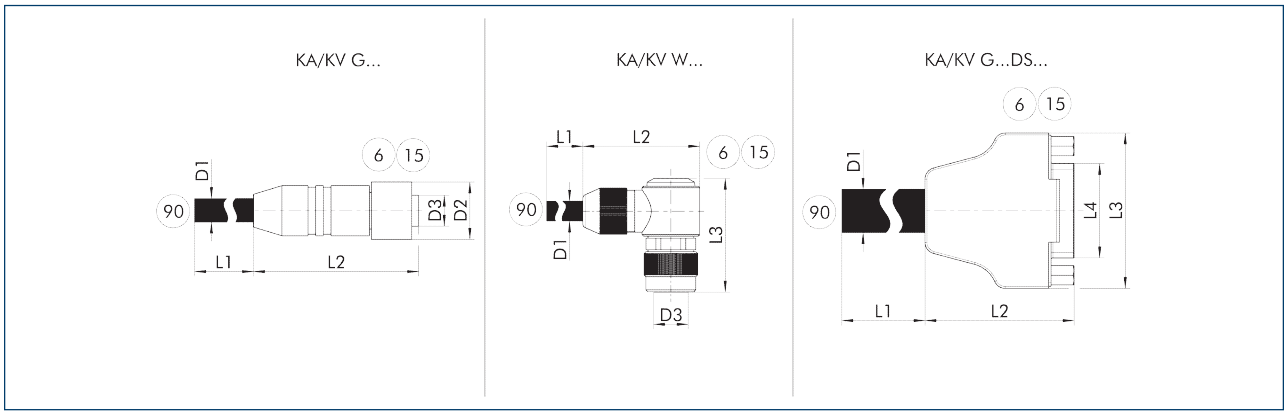
Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

(6) Connection module side
(15) Socket
(90) Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-X	0349564	5	10	78.5	27	M23
KA GLT2306-LK-01000-X	0349565	10	10	78.5	27	M23
KA GLT2306-LK-01500-X	0349566	15	10	78.5	27	M23
KA GLT2306-LK-02000-X	0349567	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 to BOSCH IndraDrive CS						
KA GLT2306-LK-00500-2	0349515	5	10	78.5	27	M23
KA GLT2306-LK-01000-2	0349516	10	10	78.5	27	M23
KA GLT2306-LK-01500-2	0349517	15	10	78.5	27	M23
KA GLT2306-LK-02000-2	0349518	20	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS						
KA GGT2306-LK-00100-4	0349111	1	10	78.5	27	M23
KA GGT2306-LK-00200-4	0349112	2	10	78.5	27	M23
KA GGT2306-LK-00300-4	0349113	3	10	78.5	27	M23
Power cable for LDx 100-300/SLD 11-14,21,22 on Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
LDx100-300/SLD 11-14,21,22 DQ 05m	1315917	5	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 10m	1002467	10	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 15m	30702114	15	10	78.5	27	M23
LDx100-300/SLD 11-14,21,22 DQ 20m	1342496	20	10	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on BOSCH IndraDrive A/B						
KA GLT2306-LK-00500-Y	0349568	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-Y	0349569	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-Y	0349570	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-Y	0349571	20	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on BOSCH IndraDrive CS						
KA GLT2306-LK-00500-3	0349540	5	13.2	78.5	27	M23
KA GLT2306-LK-01000-3	0349541	10	13.2	78.5	27	M23
KA GLT2306-LK-01500-3	0349542	15	13.2	78.5	27	M23
KA GLT2306-LK-02000-3	0349543	20	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on Siemens SINAMICS						
KA GGT2306-LK-00100-5	0349114	1	13.2	78.5	27	M23
KA GGT2306-LK-00200-5	0349115	2	13.2	78.5	27	M23
KA GGT2306-LK-00300-5	0349116	3	13.2	78.5	27	M23
Power cable for LDx 400-600/SLD 22-H-H,23,24 on Siemens SINAMICS with DRIVE-CLiQ – cable track compatible						
LDx400-600/SLD 23,24 DQ 05m	1330322	5	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 10m	1330326	10	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 15m	1330329	15	13.2	78.5	27	M23
LDx400-600/SLD 23,24 DQ 20m	1330330	20	13.2	78.5	27	M23

ⓘ 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.

Encoder cable



KA/KV G... encoder cable with straight plug

KA/KV W... encoder cable with angeled plug

KA/KV G...DS... Sub D encoder cable

(6) Connection module side

(15) Socket

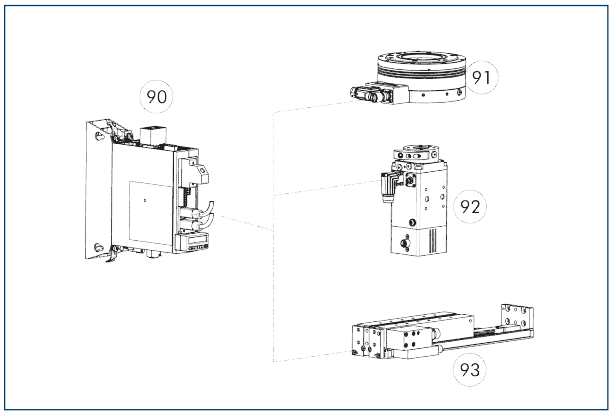
(90) Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Encoder cable for BOSCH IndraDrive A/B/Cs and HIPERFACE® encoder interface – drag chain compatible						
KA GWN1208-GK-00500-K	0349125	5	6	50	14.9	M12
KA GWN1208-GK-01000-K	0349126	10	6	50	14.9	M12
KA GWN1208-GK-01500-K	0349127	15	6	50	14.9	M12
KA GWN1208-GK-02000-K	0349128	20	6	50	14.9	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (CSx01) and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-R	0349138	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-R	0349139	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-R	0349140	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-R	0349141	20	7.3	50	14.65	M12
Sensor cable for BOSCH Rexroth IndraDrive A/B (Cxx02)/IndraDrive Cs and 1Vss encoder interface – drag chain suitable						
KA GWN1208-GK-00500-T	0349146	5	7.3	50	14.65	M12
KA GWN1208-GK-01000-T	0349147	10	7.3	50	14.65	M12
KA GWN1208-GK-01500-T	0349148	15	7.3	50	14.65	M12
KA GWN1208-GK-02000-T	0349149	20	7.3	50	14.65	M12
Sensor cable for SIEMENS Sinamcis and encoder interface 1Vss – drag chain suitable						
KA GGN1208-GK-00100-U	0349597	1	7.3	50	14.65	M12
KA GGN1208-GK-00200-U	0349598	2	7.3	50	14.65	M12
KA GGN1208-GK-00300-U	0349599	3	7.3	50	14.65	M12
Sensor cable for Siemens SINAMICS and encoder interface DRIVE-CLiQ – cable track compatible						
ELB/SLD – DQ 05m	1327967	5	6	50	14.9	M12
ELB/SLD – DQ 10m	1327968	10	6	50	14.9	M12
ELB/SLD – DQ 15m	1327969	15	6	50	14.9	M12
ELB/SLD – DQ 20m	1327970	20	6	50	14.9	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.

Bosch Rexroth IndraDrive Cs controller



90 Controller
91 Rotary module ERS/ERT, electric
92 ERD Rotary unit
93 Compact linear module ELB

The controller can be used to operate the rotary modules ERS, ERT and ERD as well as for SCHUNK linear motor axes. It is available with the PROFIBUS or Multi-Ethernet (Sercos III, PROFINET, EtherCAT, EtherNet/IP) communication interfaces.

Description	Nominal current	Maximum current	Note
	[A]	[A]	
Controller			
HCS01.1E-W0018	7.6	18	
HCS01.1E-W0028	11.52	28	
HCS01.1E-W0054	21	54	

ⓘ We will be happy to help you select the right controller. Please contact us for assistance.

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