

Accessories



ACCESSORIES

Series	Size	Page
Accessories		
Motion Controller electric		
MCS		1342
MCS	06	1344
MCS	12	1346
MEG-C		
MEG-C	40/50/64	1350
Inductive Proximity Switches IN		
IN	3	1354
IN	5	1356
IN	8	1358
IN	40	1360
IN	40-SA	1362
IN	60	1364
IN	65	1366
IN	80	1368
IN	80-SA	1370
IN	C-80/80SL	1372
IN	120	1374
Magnetic Switches MMS-P		
MMS-P	22	1378
Magnetic Switches MMS		
MMS	22	1382
MMS	22-SA	1384
MMS	30	1386
MMSK	65	1388
Reed Switches RMS		
RMS	22	1392
RMS	80	1394
Optical Switches ONS		
ONS	01	1398
Switch Accessories		
SST		1400
NHG		1404
Sensor Distributor		
Y-Distributor		1410
V 2		1412
V 4		1414
V 8		1418
Cable and Connector fluidic		
KV		1424
KA		1426
KST-M8/KBU-M8		1432
KST-M12/KBU-M12		1434

Series	Size	Page
Accessories		
Measuring Systems		
APS-M1		1436
FPS/FPS-S/FPS-F5/FPS-Software		1440
FMS/FMS-A/FMS-ZBA/-ZBP		1448
Transmission Systems		
RSS/RSS-T2/RSS-R1		1456
Fluidic Monitoring System		
PA3		1462
Finger Blanks and Intermediate Jaws		
ABR-plus/SBR-plus		1468
ABR for MPG		1472
ABR for PG		1474
ABR for MPZ		1476
RB for KTG		1478
RB for KGG		1480
ZBH for PFH		1482
Clamping Inserts for Gripper Fingers		
Quentes		1486
HM		1490
HKI		1496
Quick-change Jaw System		
BSWS		1500
Universal Intermediate Jaw		
UZB		1506
Dust Cover		
HUE for PGN-plus		1512
HUE for PZN-plus		1518
Fastening Elements		
ZHU		1524
PAM		1528
Valves and Screw Connections		
SDV-P		1538
VV-G		1539
SWV		1540
DSV		1541
Grease		
Grease		1542

Electric controller MCS

Electric controllers are used for actuating/controlling mechatronic modules and systems without integrated electronics. SCHUNK offers these controllers in the versions MCS06 for EVG grippers, and the MCS12 version for EGN/EZN/EVG grippers, and STM rotary modules.



Description of function

The MCS controller is an electronic device that is used to actuate/control mechatronic modules.

Your advantages and benefits

Mounting on DIN rail

for quick installation in the control cabinet

High accuracy and flexibility

for positioning processes with, for example, highly accurate positioning or exact force/torque control

MCDemo setup software

for simple and fast configuration

Field bus communication for Profibus-DP and CAN

for flexible integration into existing systems

Field of application

application in a clean environment in connection with the corresponding SCHUNK grippers or rotary modules



1 2-finger parallel gripper EVG

2 MCS06 controller

General information

Warranty
24 months

Notes

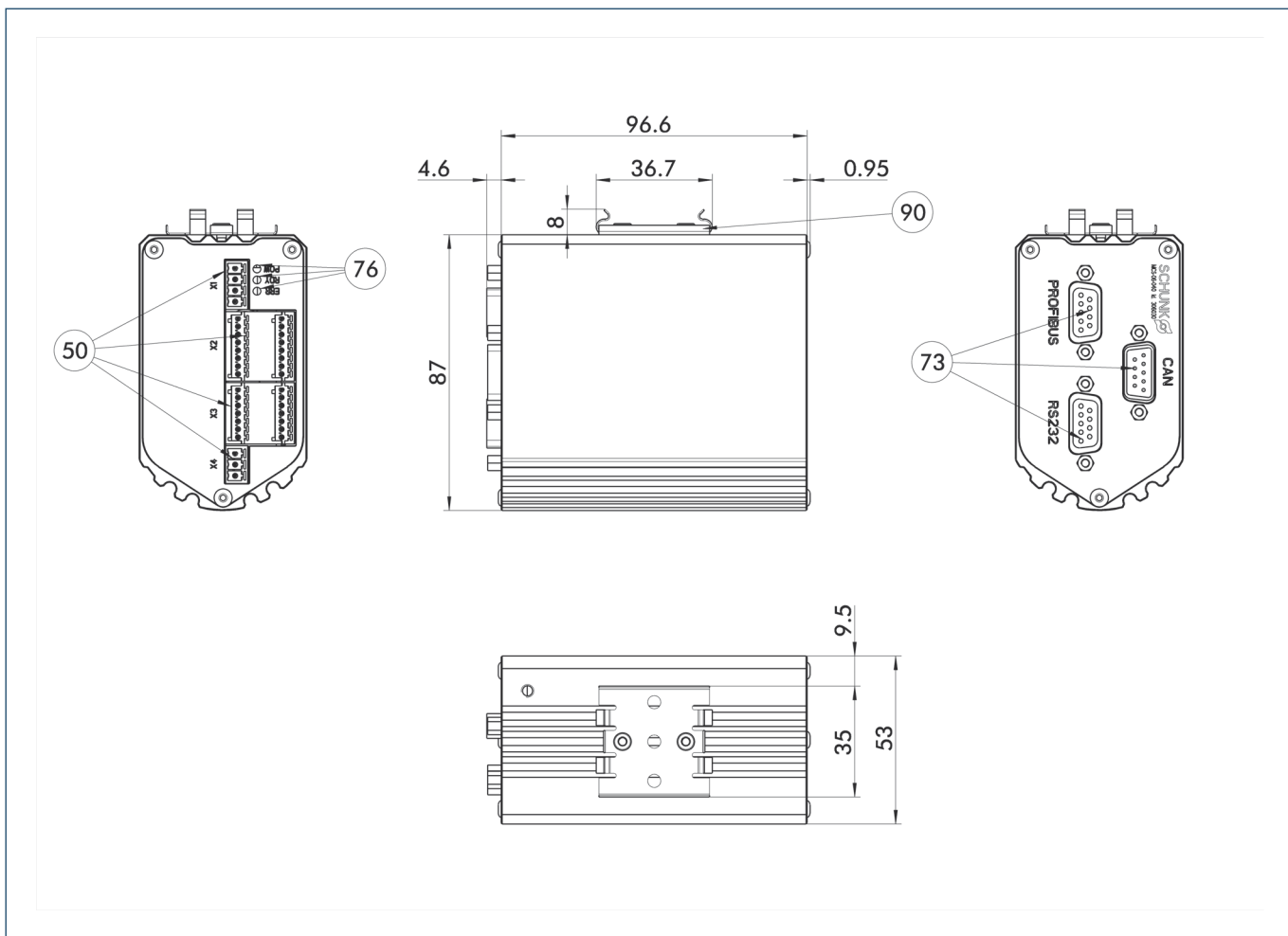
The MCS06/12 controllers are designed for installation in industrial control cabinets.



Technical data

Description	MCS06	
Version	EVG 55-40	EVG 55-100
ID	0306030	0306031
General technical data		
Protection class	IP30	
Power supply (logic) [VDC]	24	
Power supply (load) [VDC]	24	
Nominal/max. current (load) [A]	4.0/8.5	5.0/8.5
Weight [kg]	0.46	
Dimensions (W x H x D) [mm]	53/97/87	
Min./max. ambient temperature [°C]	5/45	
Type of mounting	DIN rail	
Motors/modules/systems	EVG	
Supported types of encoder	Encoder, resolver	
Control types/functions		
Position control	Yes	
Speed control	Yes	
Current control	Yes	
Force control	Yes, via value of current	
Technological functions	Pseudo absolute-value transducer function, freely programmable operations can be saved, actuation directly or using operations by means of digital I/Os or field bus interface	
Safety functions	-	
Interfaces		
Number of digital inputs/outputs	4/4	
Number of analogue inputs/outputs	-/-	
Type/number/connection of field bus	Profibus-DP/1/SUB-D	
Type/number/connection of field bus	CAN/1/SUB-D	
Type/number/connection of parameterisation	RS232/1/SUB-D	
Type/number/connection of parameterisation	Profibus-DP/-/via field bus connection	
Type/number/connection of parameterisation	CAN/-/via field bus connection	
Tools		
Software	MCDemo setup tool, function block for S7-300/400 for actuation	

Main view



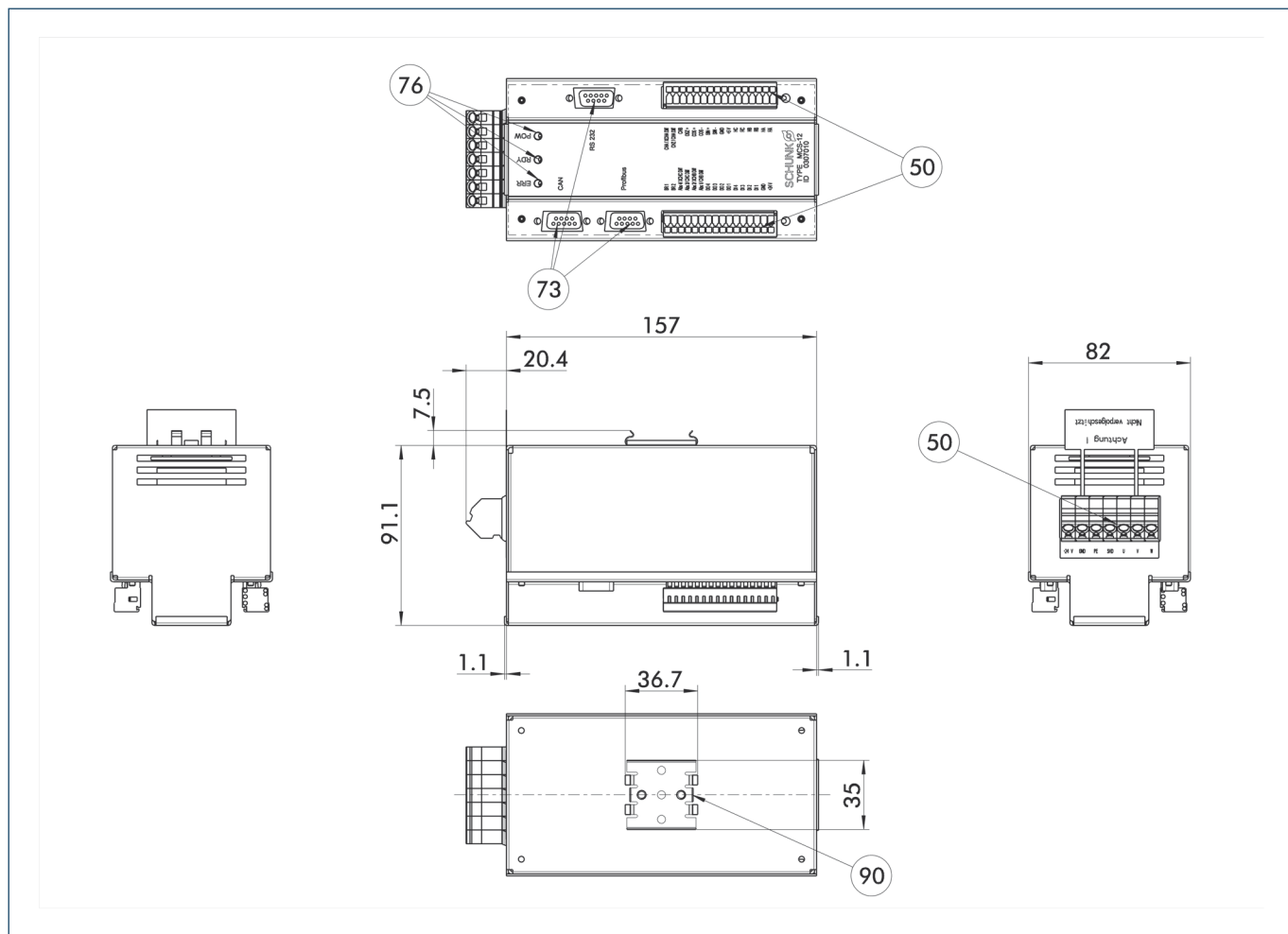
- 50 Terminal strips
- 73 Communication interfaces
- 76 LEDs
- 90 DIN rail for mounting



Technical data

Description	MCS12			
Version	EGN/EZN	STM 130	STM 170	STM 210
ID	0307010	0307015	0307016	0307017
General technical data				
Protection class	IP30			
Power supply (logic) [VDC]	24			
Power supply (load) [VDC]	24	48	48	48
Nominal/max. current (load) [A]	6.0/8.0	4.2/13.0	6.7/18.8	6.2/24.0
Weight [kg]	0.98			
Dimensions (W x H x D) [mm]	82/157/92			
Min./max. ambient temperature [°C]	5/45			
Type of mounting	DIN rail			
Motors/modules/systems	EGN, EZN, STM (48V DC)			
Supported types of encoder	Encoder, Resolver			
Control types/functions				
Position control	Yes			
Speed control	Yes			
Current control	Yes			
Force control	Yes, using current value			
Technological functions	Pseudo absolute-value transducer function, freely programmable operations can be saved, actuation directly or using operations by means of digital I/Os or field bus interface			
Safety functions	-			
Interfaces				
Number of digital inputs/outputs	4/4			
Number of analogue inputs/outputs	-/-			
Type/number/connection of field bus	Profibus-DP/1/SUB-D			
Type/number/connection of field bus	CAN/1/SUB-D			
Type/number/connection of parameterisation	RS232/1/SUB-D			
Type/number/connection of parameterisation	Profibus-DP/-/via field bus connection			
Type/number/connection of parameterisation	CAN/-/via field bus connection			
Tools				
Software	MCDemo setup tool, function block for S7-300/400 for actuation			

Main view



- 50 Terminal strips
- 73 Communication interfaces
- 76 LEDs
- 90 DIN rail for mounting

Electric controller MEG-C

Electric controllers are used for actuating/controlling mechatronic modules and systems without integrated electronics. The MEG-C controllers are offered by SCHUNK in the versions MEG-C40, MEG-C50, and MEG-C64 for MEG EC grippers.



Description of function

The MEG-C controller is an electronic device that is used to actuate/control the MEG-EC mechatronic grippers.

Your advantages and benefits

Mounting on DIN rail

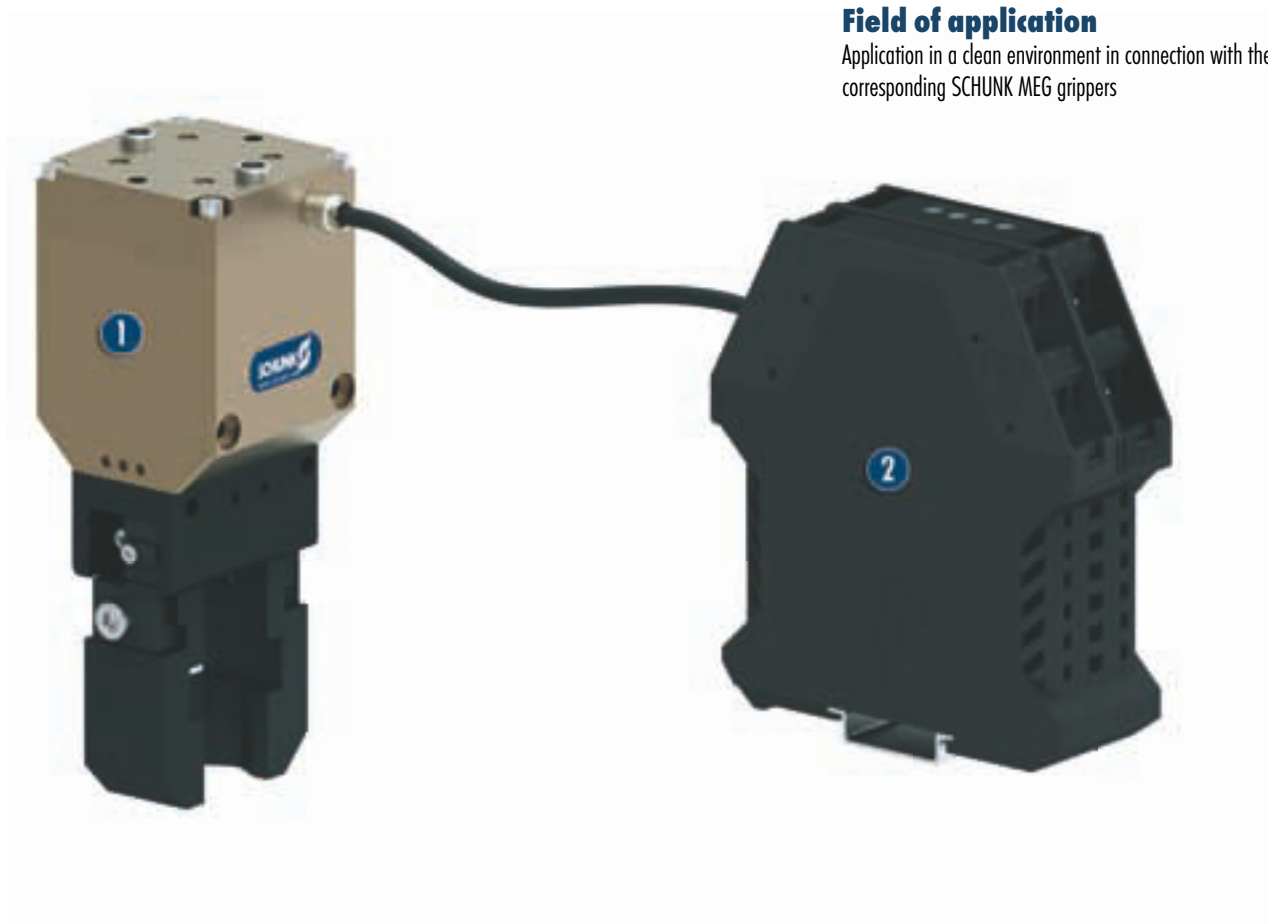
for quick installation in the control cabinet

High accuracy and flexibility

for positioning processes with, for example, accurate positioning or exact force control

Easy actuation

Actuation via digital inputs/outputs, analogue value specification

**Field of application**

Application in a clean environment in connection with the corresponding SCHUNK MEG grippers

① 2-finger parallel gripper MEG-EC

② MEG-C controller

General information

Warranty
24 months

Notes

The MEG-C controllers are designed for installation in industrial control cabinets.

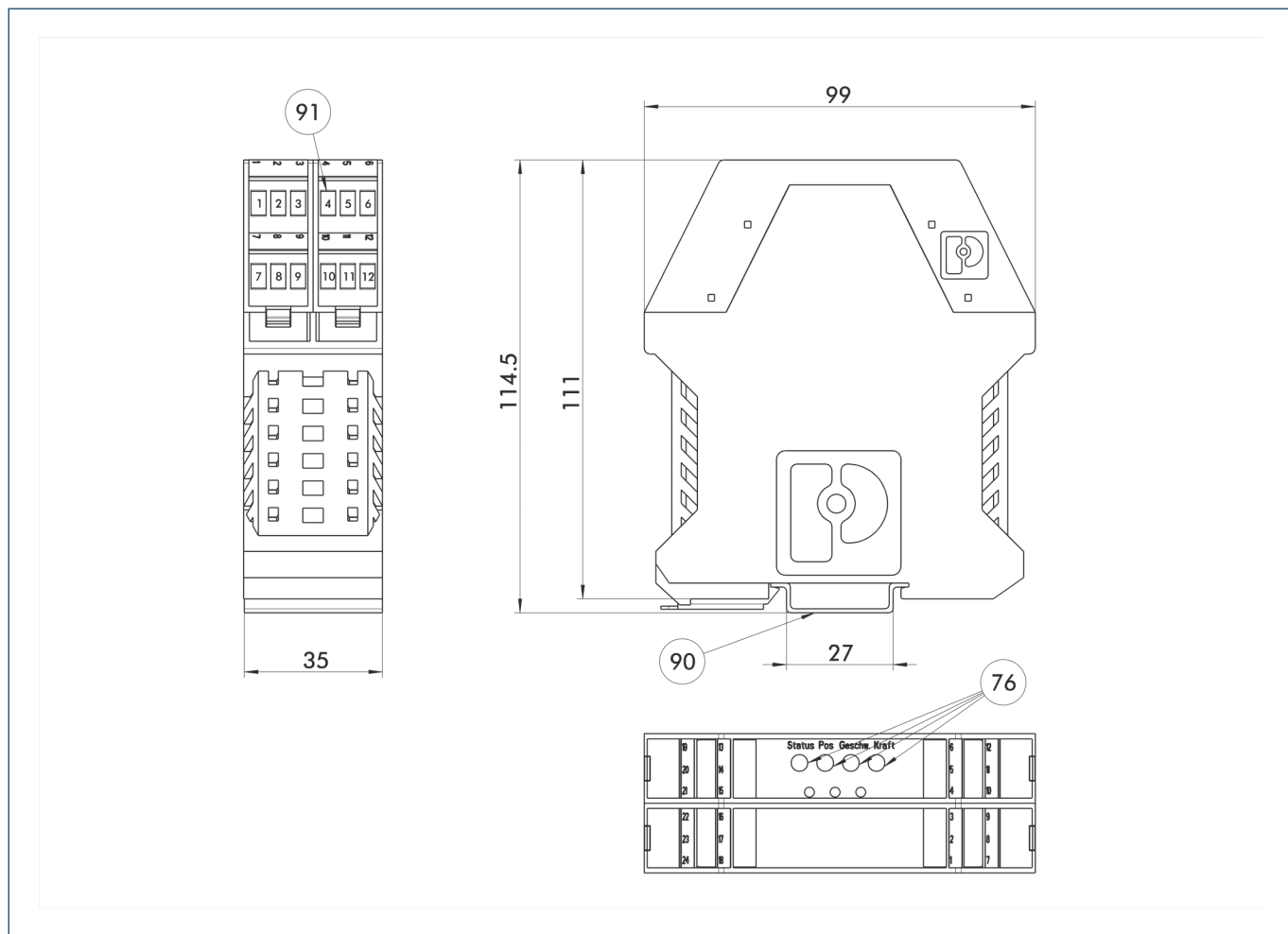




Technical data

Description	MEG-C		
Version	MEG-40 EC	MEG-50 EC	MEG-64 EC
ID	0307004	0307005	0307006
General technical data			
Protection class		IP30	
Power supply (logic)	[VDC]	24	
Power supply (load)	[VDC]	24	
Nominal/max. current (load)	[A]	1.0/1.5	2.0/5.0
Weight	[kg]	0.3	
Dimensions (W x H x D)	[mm]	35/99/114,5	
Min./max. ambient temperature	[°C]	-10/65	
Type of mounting		DIN rail	
Motors/modules/systems		MEG	
Supported types of encoder		-	
Control types/functions			
Position control		Yes	
Speed control		No	
Current control		Yes	
Force control		Yes, using current value	
Technological functions	Actuation directly via digital I/Os, parameter specificatino via analogue values		
Safety functions		-	
Interfaces			
Number of digital inputs/outputs		4/3	
Number of analogue inputs/outputs		3/1	
Type/number/connection field bus		-	
Type/number/connection field bus		-	
Type/number/connection of parameterisation		-	
Type/number/connection of parameterisation		-	
Type/number/connection of parameterisation		-	
Tools			
Software		-	

Main view



- 76 LEDs
- 90 DIN rail for mounting
- 91 Terminal strips

Inductive Proximity Switches

Inductive proximity switches are used to monitor the current position of automation components. They are available from SCHUNK in the versions IN (sensor with 30 cm molded cable and cable connector) or INK (sensor with 2 m long feeder cable and litz wires for wiring).



Function description

With their oscillator coil, inductive proximity switches produce a high-frequency, alternating magnetic field. This field occurs on the active surface of the sensor. If a metal object enters the field, it draws energy from the magnetic field, thereby reducing the oscillation amplitude. This change is detected, and the sensor switches.

Your advantages and benefits

Mounting through bracket

for simple, fast assembly

Version with LED display

for checking the switching state directly at the sensor

Version with connector

for easy, rapid replacement of extension cable

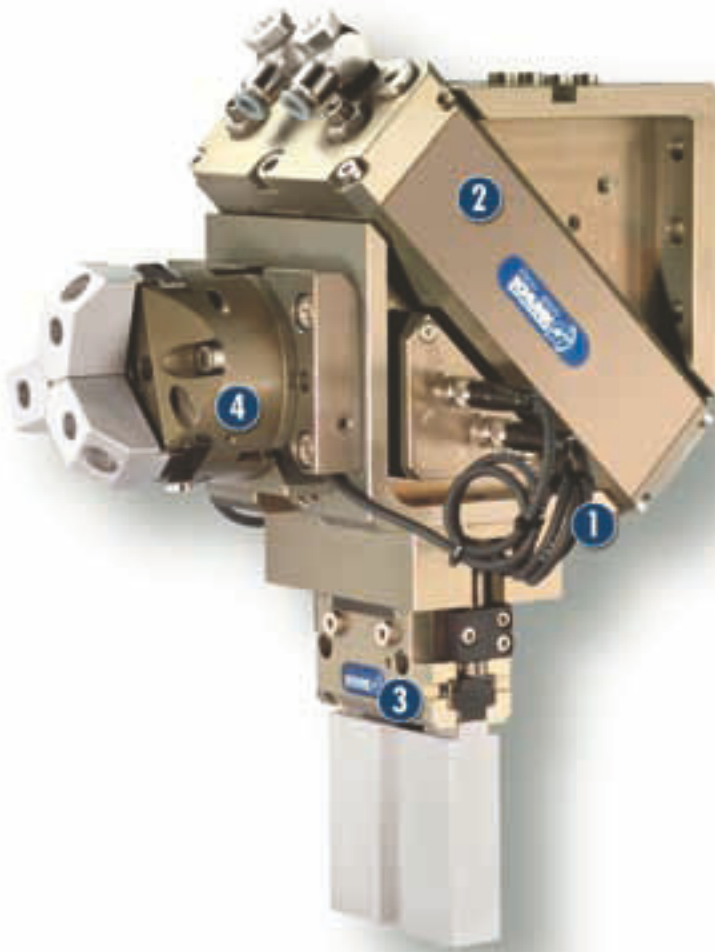
Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Proximity switch can be installed flush

for minimal interfering contours in the application

Application example



1 Plug-in IN Sensors

2 PSK Swivel Head

3 PGN 2-Finger Parallel Gripper
with ABR finger blanks

4 PZN 3-Finger Centric Gripper
with workpiece-specific
gripper fingers

Aera of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust and humidity.

Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

General information

Protection class according to DIN 40050

IP 67 in plugged condition for the use in clean or dusty environments, or in case of contact with water. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Voltage

10 - 30 V DC, residual ripple < 15%

Switching method

PNP switching

Warranty

24 months

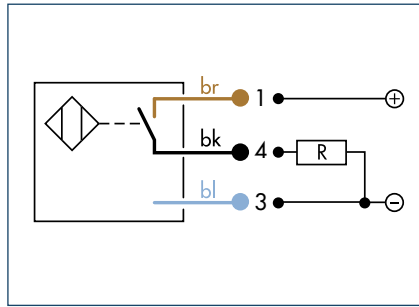
Notes

SCHUNK gripping, rotary and linear modules and robot accessory components must always be ordered from SCHUNK with the matching sensors, as these are ideally adapted to work together.

If major characteristics such as switching distance, switching function, hysteresis and voltage are largely the same, then proximity switches from other manufacturers may be used instead of inductive proximity switches (IN, INK) from SCHUNK.

However, if proximity switches from other manufacturers are used, SCHUNK cannot guarantee either their function or their functional reliability.

Wiring diagram closer

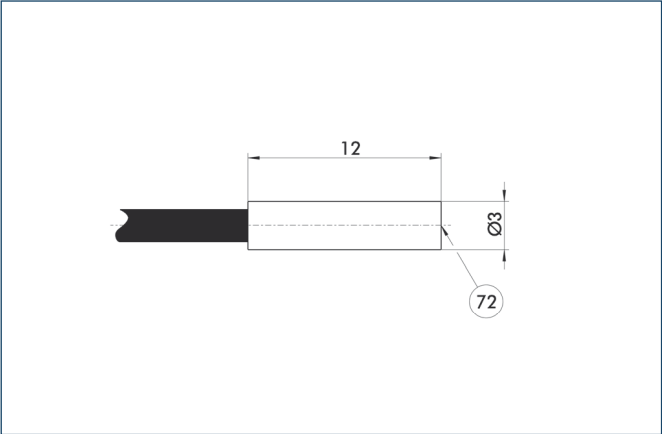


Technical data

Description	IN 3-S-M8-PNP
ID	0301466
Switching function	Closer
Switching distance [mm]	0.6
Switching hysteresis from the nominal switching distance	< 5%
Type of switching	PNP
Cable length [cm]	20
Cable connector/cable end	M8
Type of voltage	DC
Nominal voltage [V]	24
Min. voltage [V]	10
Max. voltage [V]	30
Power failure [V]	1.5
Max. switching current [A]	0.1
Min./max. ambient temperature [°C]	-25/75
Max. switching frequency [Hz]	1000
Typical switching time [s]	0
Tightness IP (sensor)	67
Tightness IP (sensor plugged)	67
LED display at the sensor	Yes
Cable diameter [mm]	2.5
Min. bending radius (dynamically) [mm]	25
Min. bending radius (statically) [mm]	12.5
Number of cores	3
Wire cross section [mm ²]	0.14

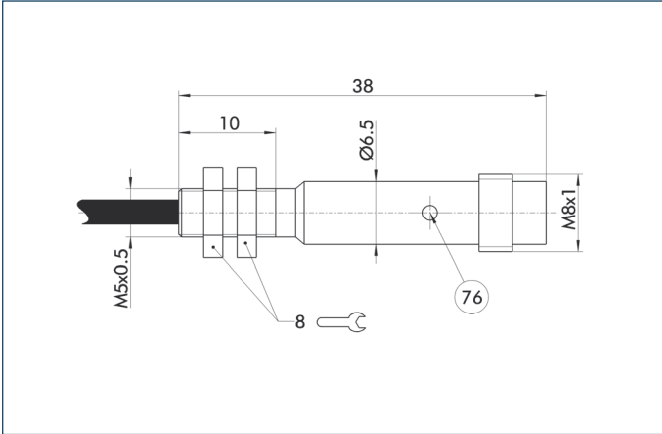
ⓘ Never separate the cable between the sensor and the plug connector.

IN 3 sensor



72 Active sensor surface

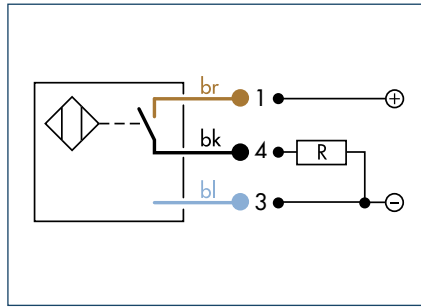
M8 connector



76 LED



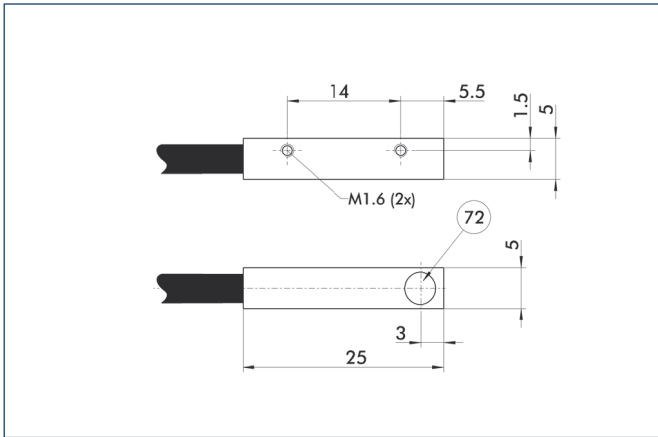
Wiring diagram closer



Technical data

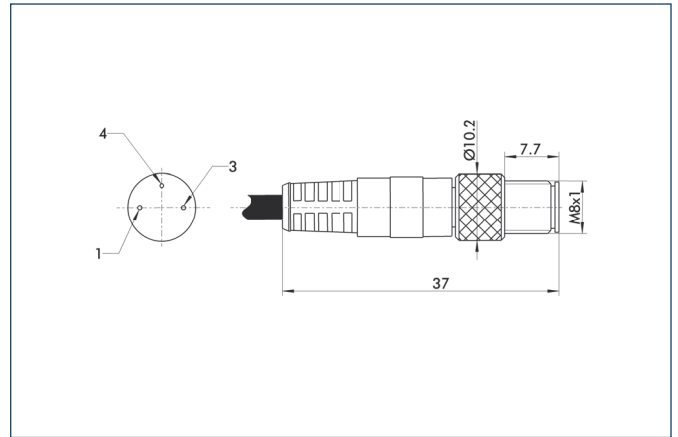
Description	IN 5-S-M8	IN 5-S-M12	IN 5-S
ID	0301469	0301569	0301501
Switching function	Closer	Closer	Closer
Switching distance [mm]	1	1	1
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 5-S sensor

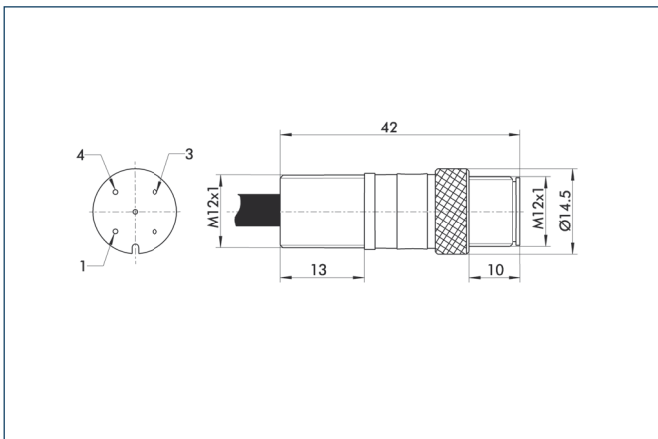


72 Active sensor surface

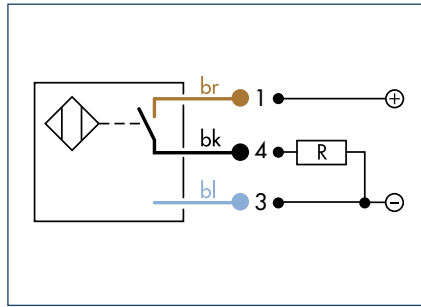
M8 connector



M12 connector



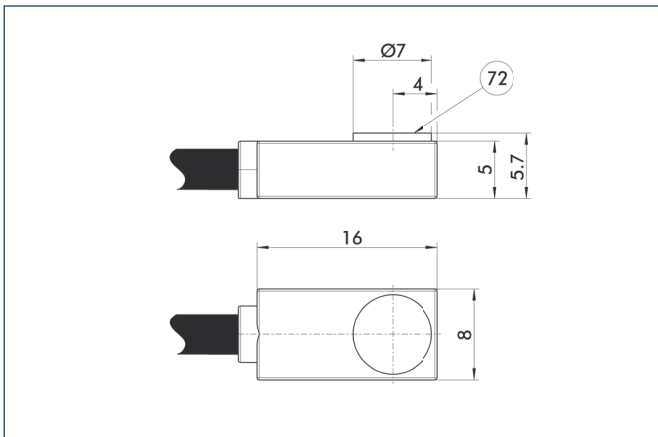
Wiring diagram closer



Technical data

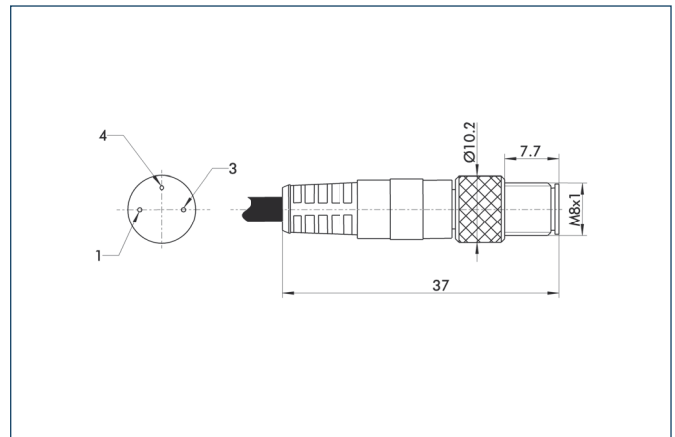
Description	IN 8-S-M8	IN 8-S-M12	IN 8-S
ID	0301481	0301581	9700052
Switching function	Closer	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 8-S sensor

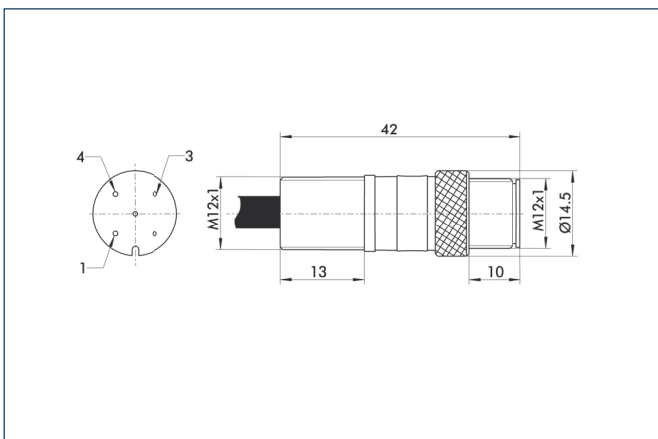


72 Active sensor surface

M8 connector

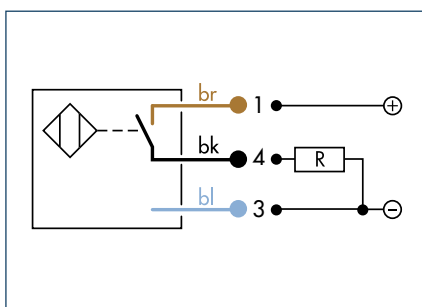


M12 connector

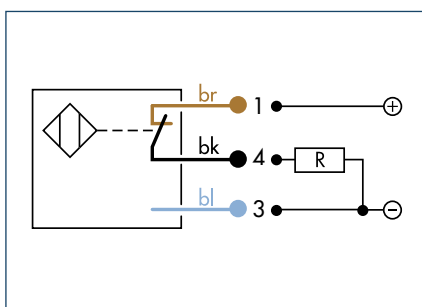




Wiring diagram closer



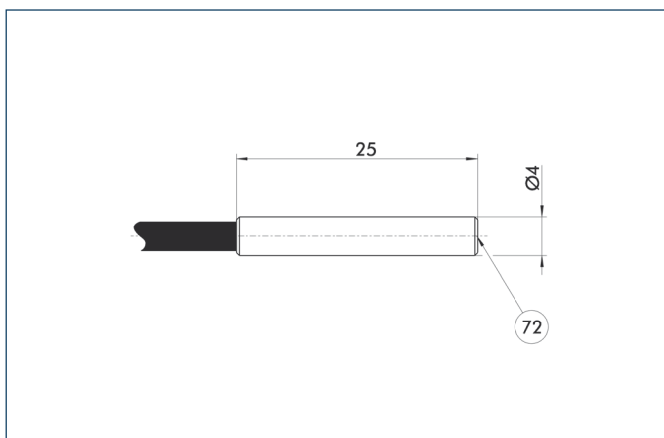
Wiring diagram opener



Technical data

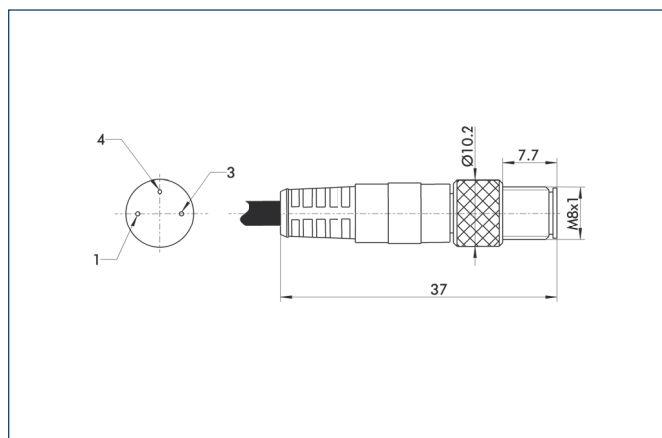
Description	IN 40-S-M8	IN 40-S-M12	INK 40-S	IN 40-O-M8	IN 40-O-M12	INK 40-O	IN 40-S-M5-PNP	IN 40-S-M5-NPN
ID	0301474	0301574	0301555	0301484	0301584	0301556	0301491	0301492
Switching function	Closer	Closer	Closer	Opener	Opener	Opener	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP	PNP	PNP	PNP	NPN
Cable length [cm]	30	30	200	30	30	200	30	30
Cable connector/cable end	M8	M12	open wires	M8	M12	open wires	M5	M5
Type of voltage	DC	DC	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24	24	24	24	24
Min. voltage [V]	10	10	10	10	10	10	10	10
Max. voltage [V]	30	30	30	30	30	30	30	30
Power failure [V]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000	1000	1000	1000	1000	1000
Tightness IP (sensor)	67	67	67	67	67	67	67	67
Tightness IP (sensor plugged)	67	67	67	67	67	67	67	67
LED display at the sensor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

IN 40 sensor

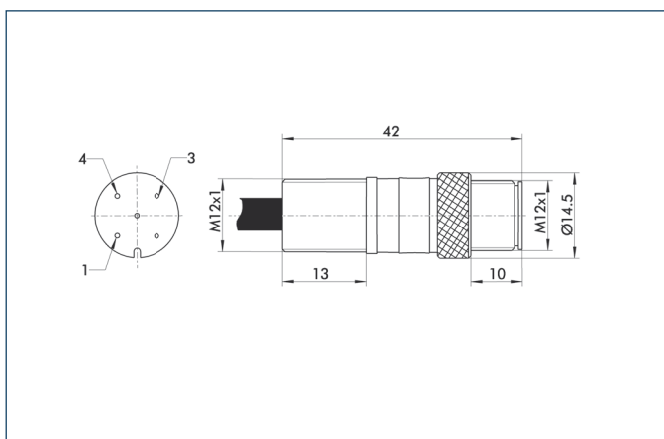


72 Active sensor surface

M8 connector

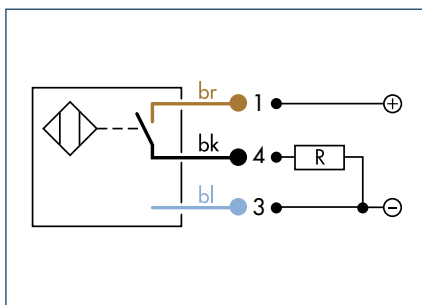


M12 connector

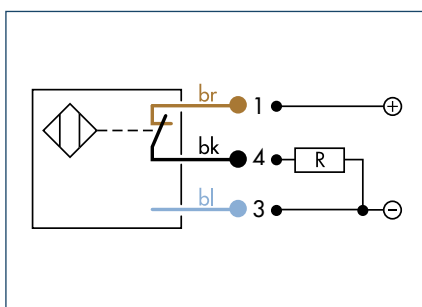




Wiring diagram closer



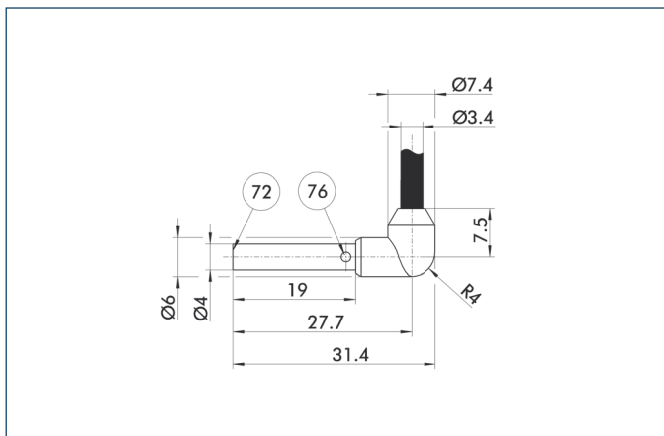
Wiring diagram opener



Technical data

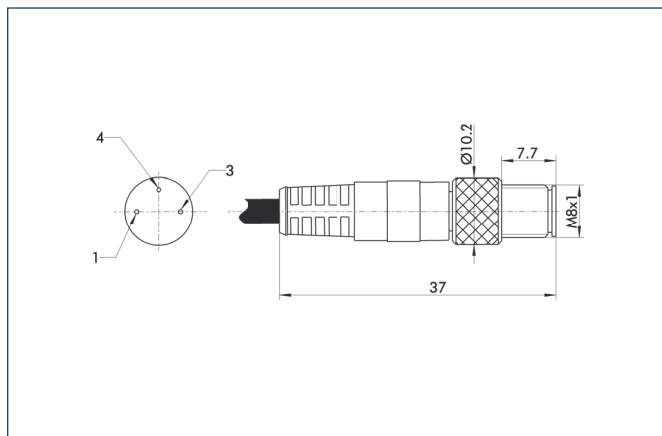
Description	IN 40-S-M12-SA	IN 40-S-M8-SA	INK 40-S-SA
ID	0301577	0301473	0301565
Switching function	Closer	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M12	M8	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 40-SA sensor

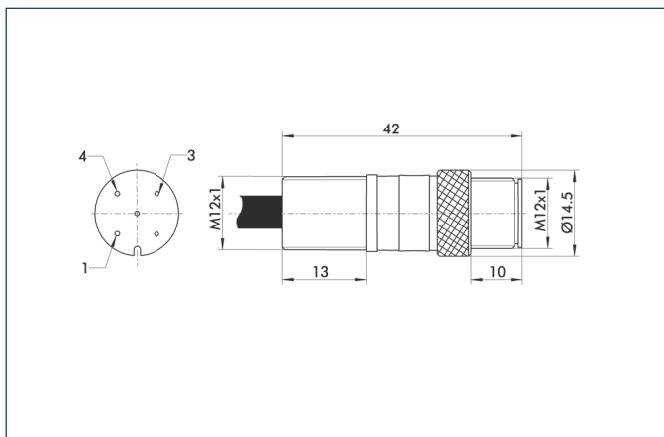


- 72 Active sensor surface
- 76 LED

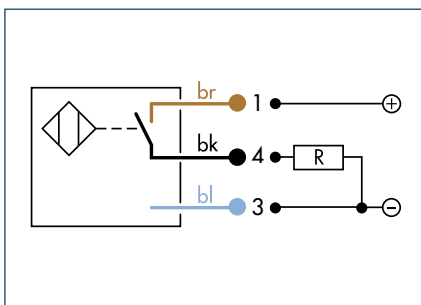
M8 connector



M12 connector



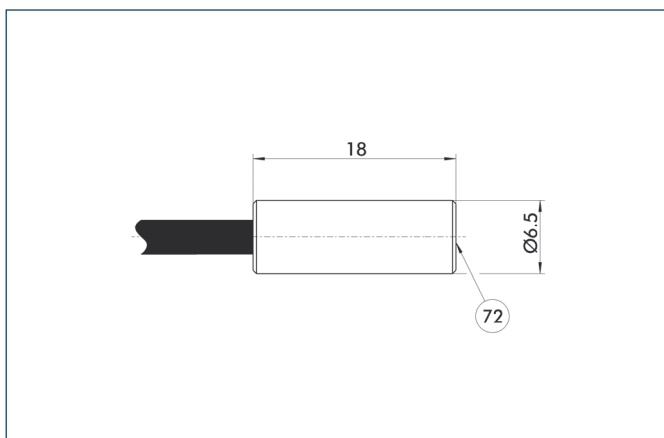
Wiring diagram closer



Technical data

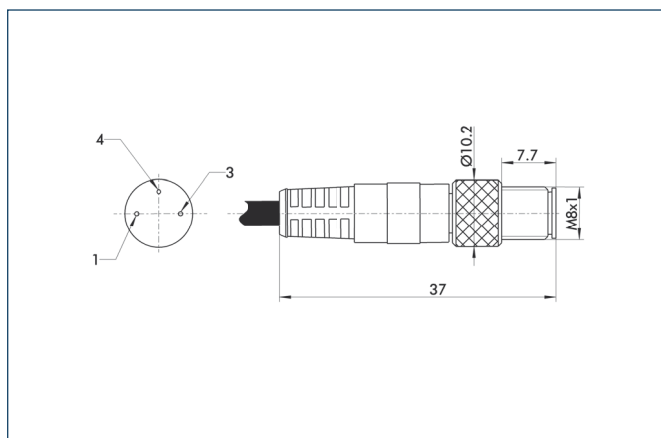
Description	IN 60-S-M8	IN 60-S-M12	INK 60-S
ID	0301485	0301585	0301553
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 60-S sensor

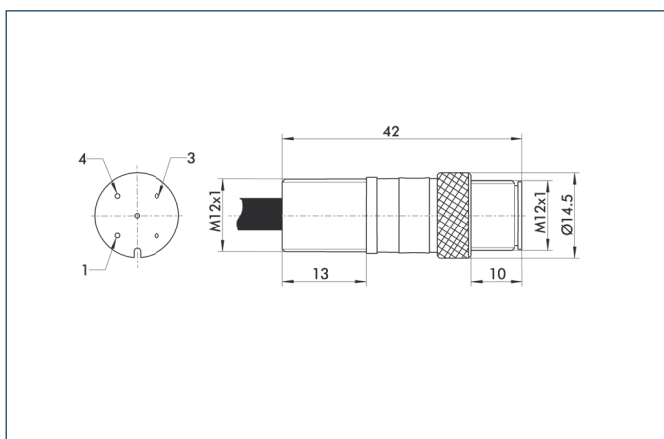


72 Active sensor surface

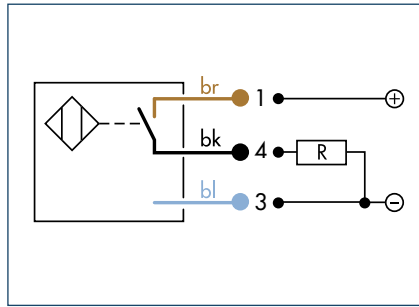
M8 connector



M12 connector



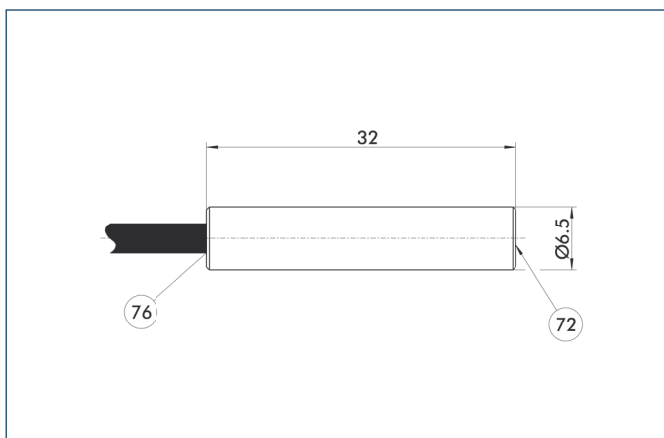
Wiring diagram closer



Technical data

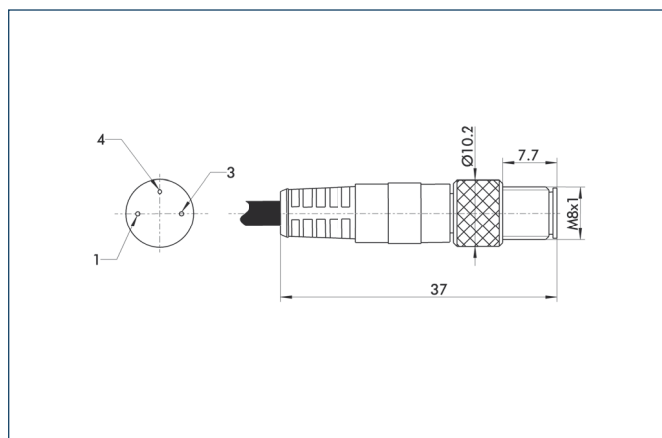
Description	IN 65-S-M8	IN 65-S-M12	IN K 65-S
ID	0301476	0301576	0301554
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 65-S sensor

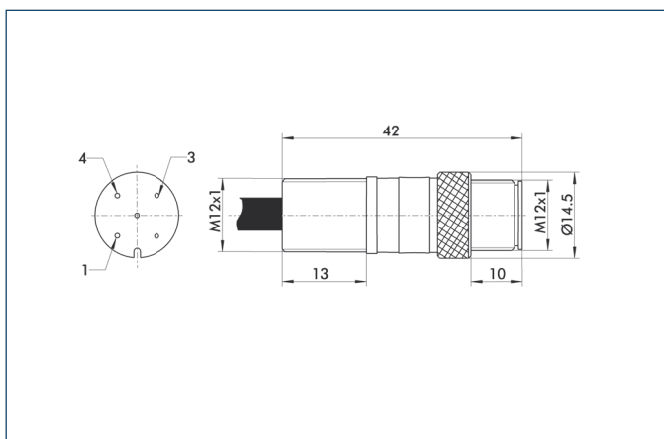


- 72 Active sensor surface
- 76 LED

M8 connector

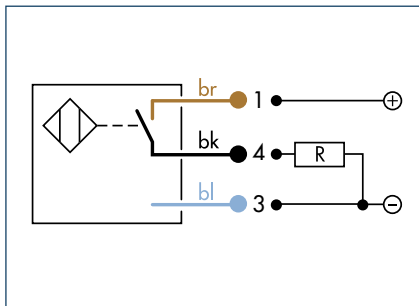


M12 connector

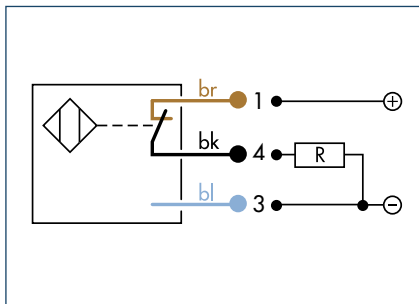




Wiring diagram closer



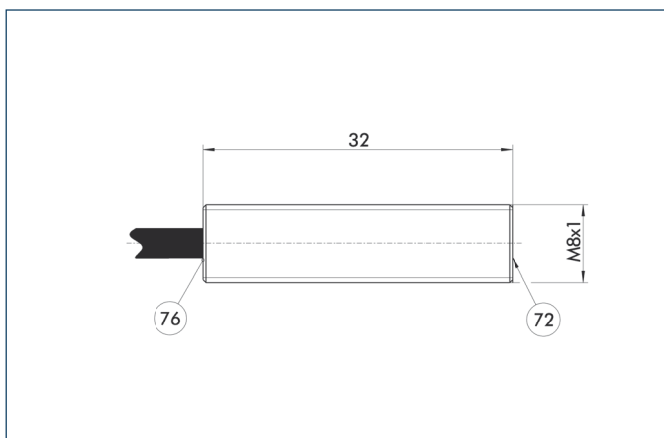
Wiring diagram opener



Technical data

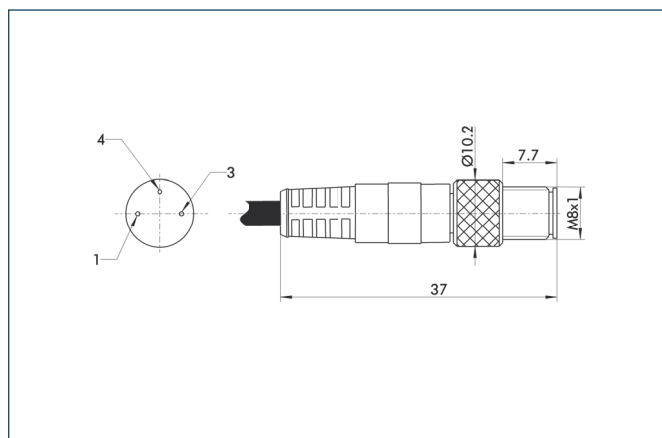
Description	IN 80-S-M8	IN 80-S-M12	INK 80-S	IN 80-O-M8	IN 80-O-M12	INK 80-O
ID	0301478	0301578	0301550	0301488	0301588	0301551
Switching function	Closer	Closer	Closer	Opener	Opener	Opener
Switching distance [mm]	1.5	1.5	1.5	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP	PNP	PNP
Cable length [cm]	30	30	200	30	30	200
Cable connector/cable end	M8	M12	open wires	M8	M12	open wires
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24	24	24
Min. voltage [V]	10	10	10	10	10	10
Max. voltage [V]	30	30	30	30	30	30
Power failure [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000	1000	1000	1000
Tightness IP (sensor)	67	67	67	67	67	67
Tightness IP (sensor plugged)	67	67	67	67	67	67
LED display at the sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

IN 80 sensor

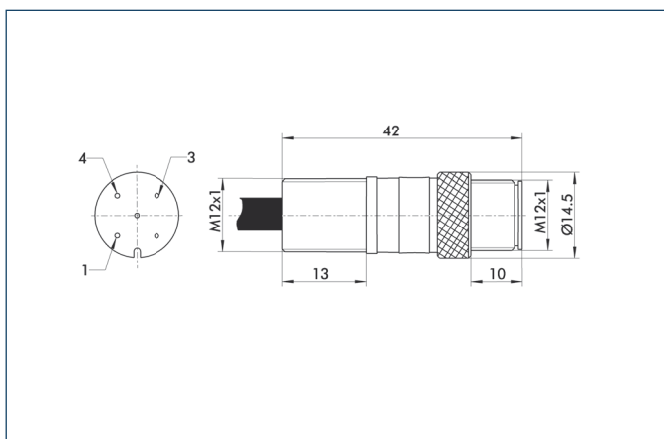


- 72 Active sensor surface
- 76 LED

M8 connector

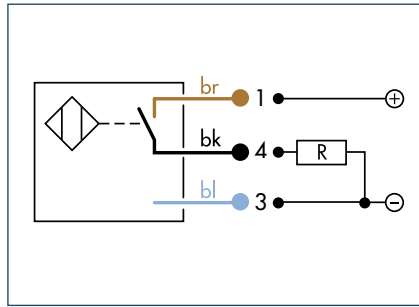


M12 connector

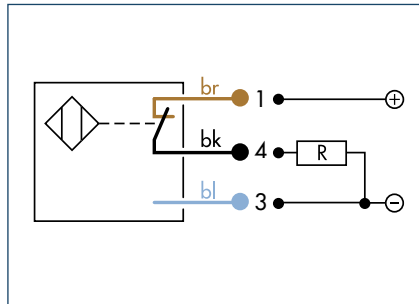




Wiring diagram closer



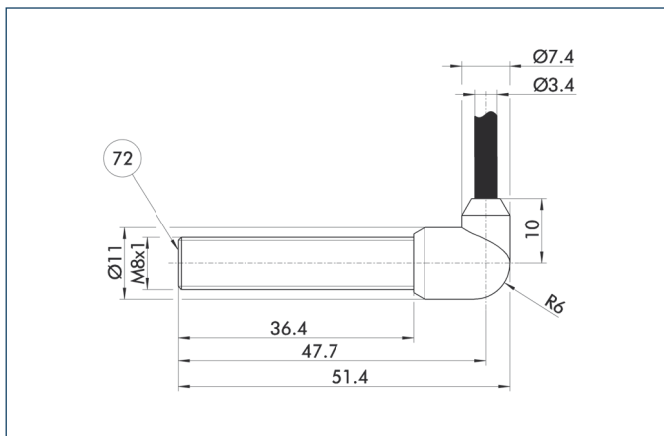
Wiring diagram opener



Technical data

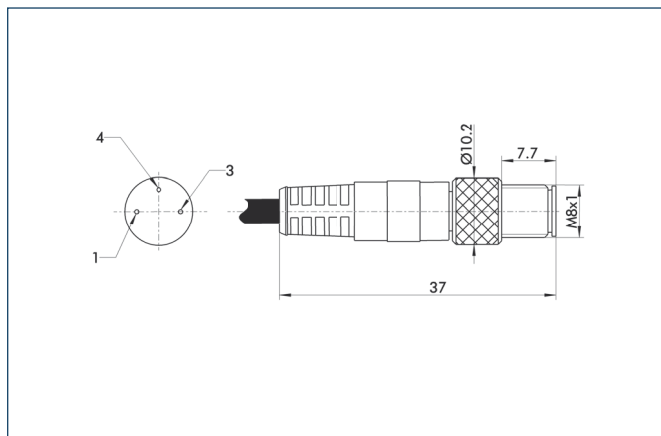
Description	IN 80-S-M12-SA	IN 80-S-M8-SA	INK 80-S-SA
ID	0301587	0301483	0301566
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M12	M8	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 80-SA sensor

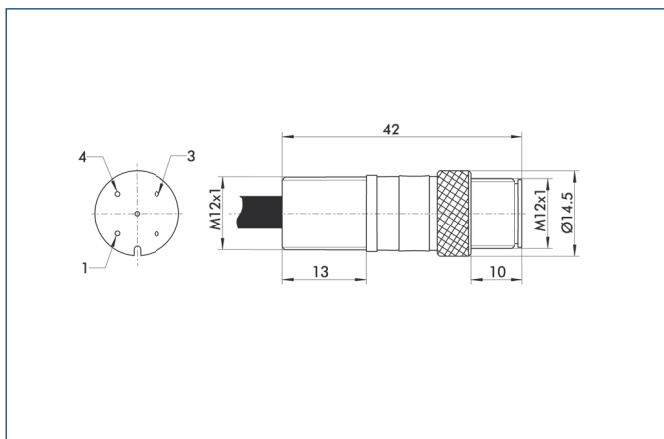


72 Active sensor surface

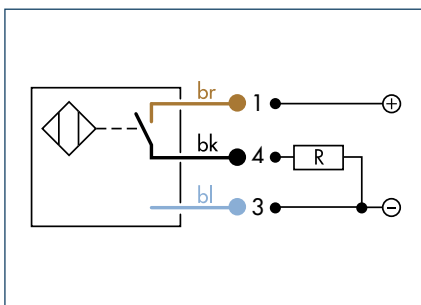
M8 connector



M12 connector



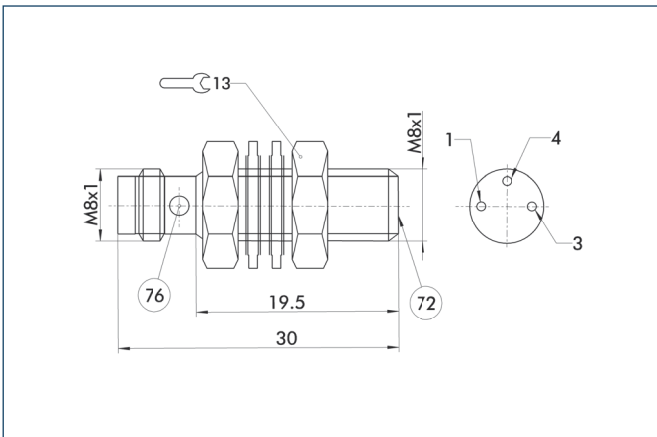
Wiring diagram closer



Technical data

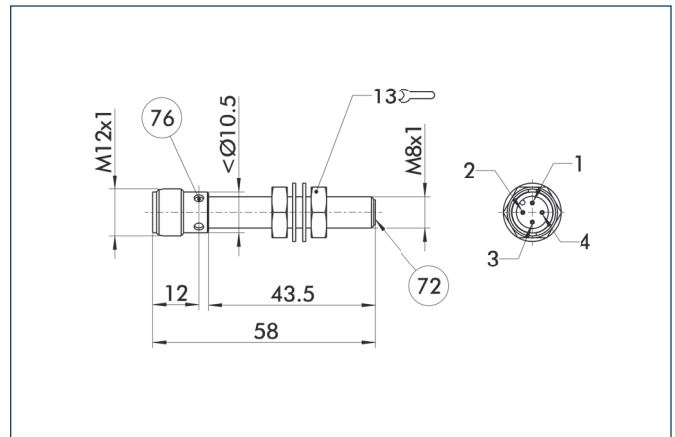
Description	IN-B 80-S-M12	IN-C 80-S-M8	IN 80-SL-M12	INK 80-SL
ID	0301479	0301475	0301529	0301579
Switching function	Closer	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	3	3
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP
Cable length [cm]			30	200
Cable connector/cable end	M12	M8	M12	open wires
Type of voltage	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24
Min. voltage [V]	10	10	10	10
Max. voltage [V]	30	30	30	30
Power failure [V]	2.5	2.5	2.5	2.5
Max. switching current [A]	0.2	0.1	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1500	3000	1000	1000
Tightness IP (sensor)	68	68	67	67
Tightness IP (sensor plugged)	68	68	67	67
LED display at the sensor	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14

IN-C 80-S-M8 sensor



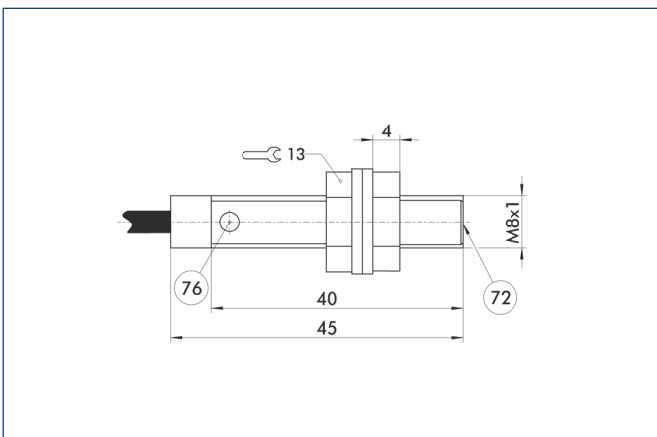
- ⑦② Active sensor surface
- ⑦⑥ LED

IN-B 80-S-M12 sensor



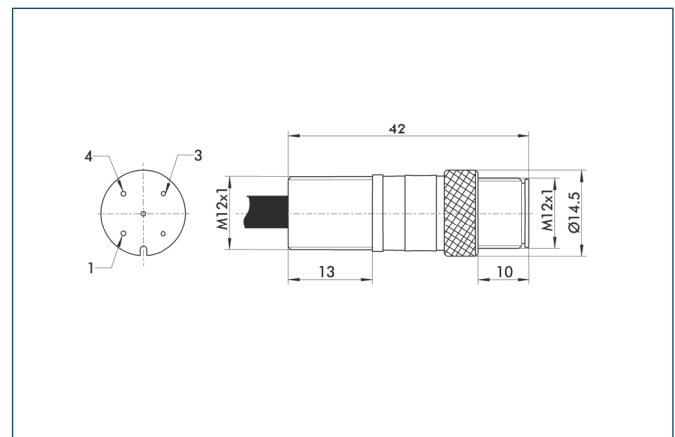
- ⑦② Active sensor surface
- ⑦⑥ LED

IN 80-SL sensor

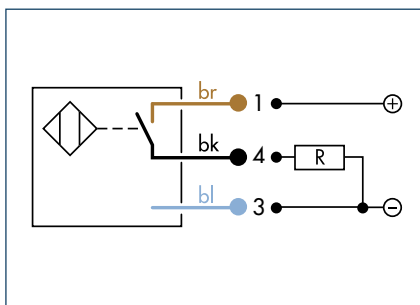


- ⑦② Active sensor surface
- ⑦⑥ LED

M12 connector



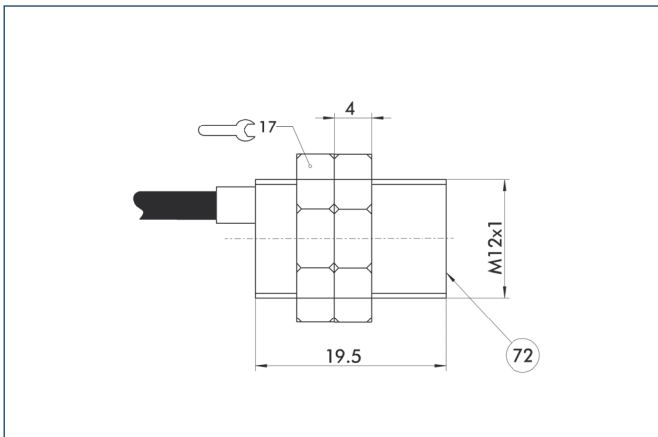
Wiring diagram closer



Technical data

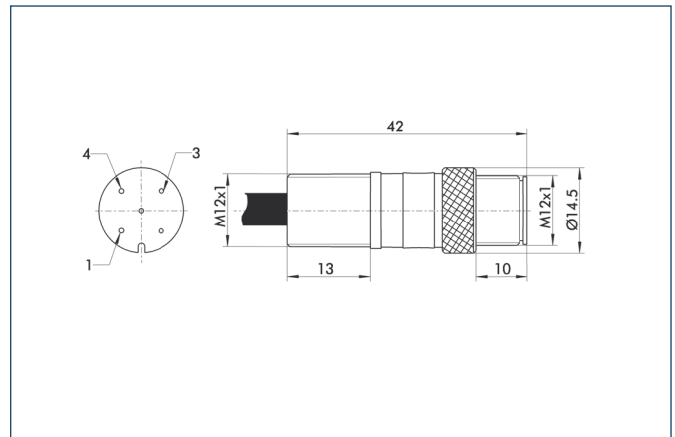
Description	IN 120-S-M12	IN 120-S
ID	0301592	0301562
Switching function	Closer	Closer
Switching distance [mm]	2	2
Switching hysteresis from the nominal switching distance	< 15%	< 15%
Type of switching	PNP	PNP
Cable length [cm]	30	200
Cable connector/cable end	M12	open wires
Type of voltage	DC	DC
Nominal voltage [V]	24	24
Min. voltage [V]	10	10
Max. voltage [V]	30	30
Power failure [V]	1.5	1.5
Max. switching current [A]	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000
Tightness IP (sensor)	67	67
Tightness IP (sensor plugged)	67	67
LED display at the sensor	No	No
Cable diameter [mm]	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35
Min. bending radius (statically) [mm]	17.5	17.5
Number of cores	3	3
Wire cross section [mm ²]	0.14	0.14

IN 120-S sensor



72 Active sensor surface

M12 connector



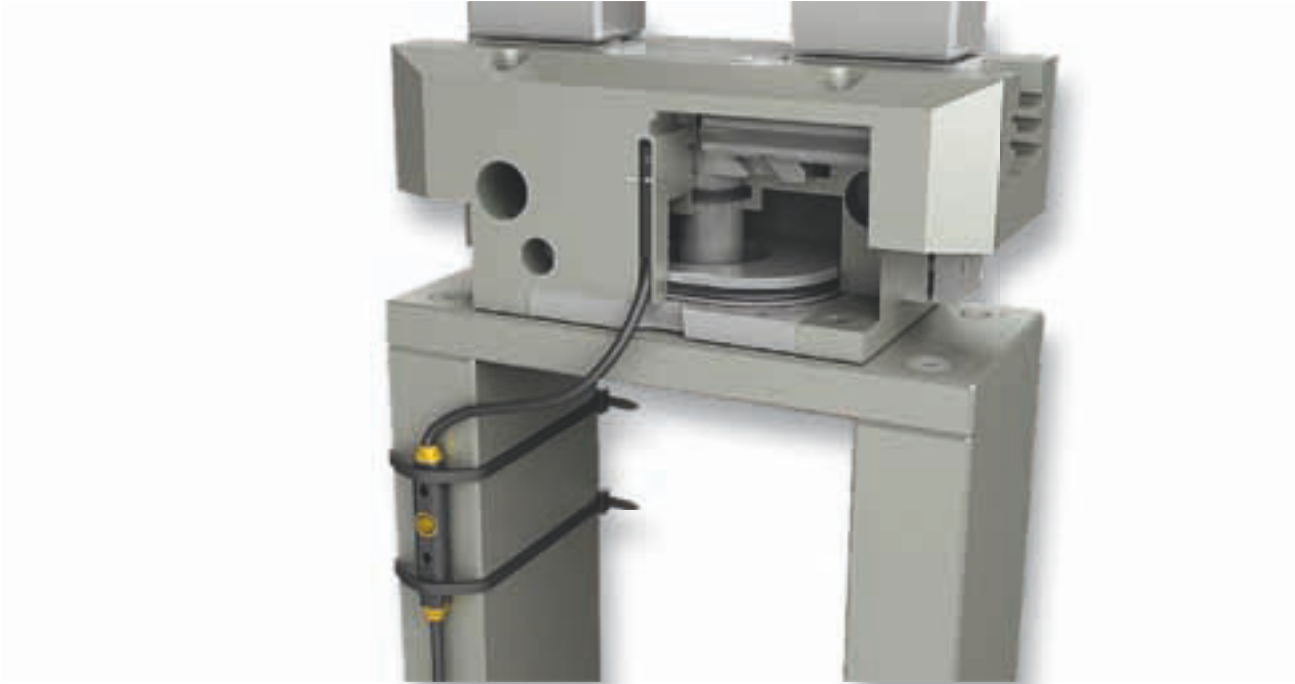
Magnetic Switch MMS-P

Accessories • Sensor System • Programmable Magnetic Switch

Programmable magnetic switch

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.

Application example



Functional description

One switch detects the two conditions "open" and "closed" - Therefore the costs for one switch can be saved.

In contrast to conventional solutions, the switching point of the sensor is taught by pushing the button at the current piston position.

If the automatically determined standard switching hysteresis should be optimized, it can be newly programmed.

Your advantages and benefits

Installation into the sensor groove

for space-saving, easy and fast assembly

Very flexible cable in PUR-version

for a long service lifetime and resistance against many chemicals

Version with plug connectors

for an easy and fast exchangeability of the extension cable

A programmable C-slot switch

for two switching points

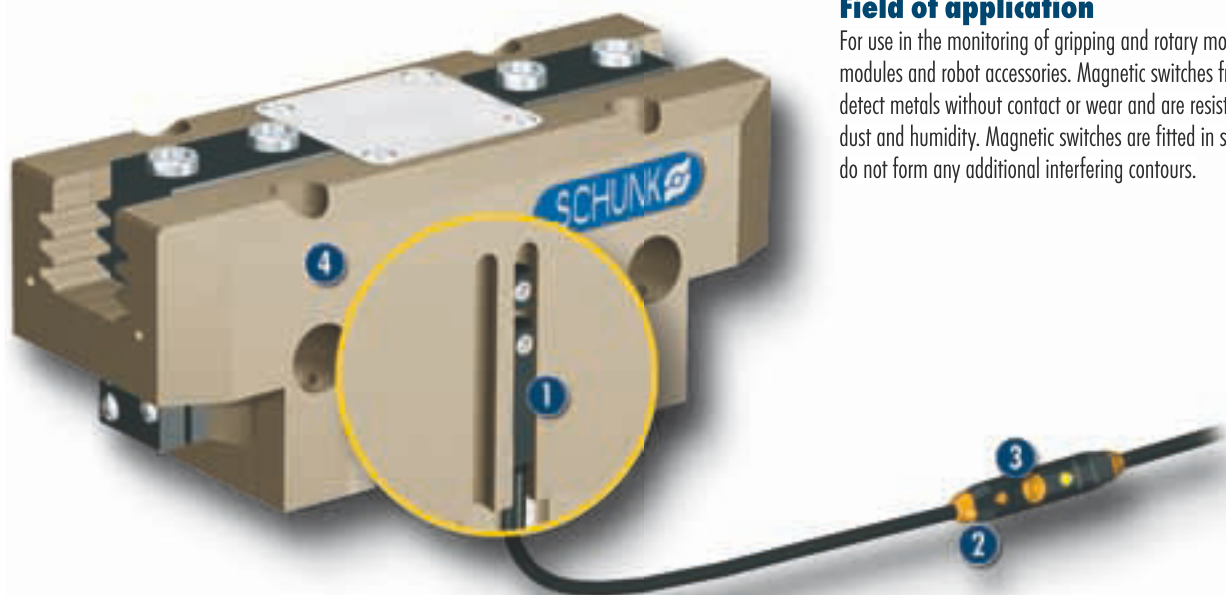
Programmable switching off hysteresis

for exact positions

Version with LED-display

for control of the switching status directly at the sensor

Sectional diagram



Field of application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours.

- 1 Sensor of the MMS-P 22
- 2 Electronic of the MMS-P 22
- 3 Key button for programming
- 4 Actuator with preset stop

General note to the series

SCHUNK gripping modules, rotary actuators and linear modules, as well as robot accessories should be monitored with the suitable sensors from SCHUNK, since everything is adjusted to each other.

Adjustment of sensor and product is characterized by the interplay of the parameter type and strength of the magnet, clearance, wall thickness and wall material between magnet and sensor, and by alignment and sensitivity of the sensor.

Sensors of other manufacturers which are integrated into SCHUNK products, seldom provide excellent switching results. Moreover, we cannot guarantee proper function or functional safety of them.

General information

Housing material

PA

Material of the cable coating

PUR

Mounting

clamped in the sensor groove, fixed with a socket head screw

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Options and special information

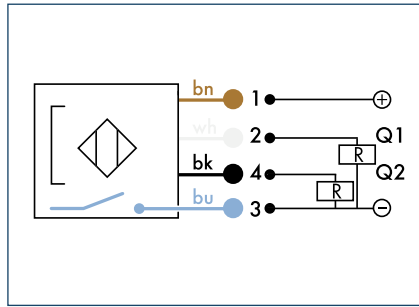
Protection class as per DIN 40050

IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply

10 - 30 V DC at < 10 % residual ripple

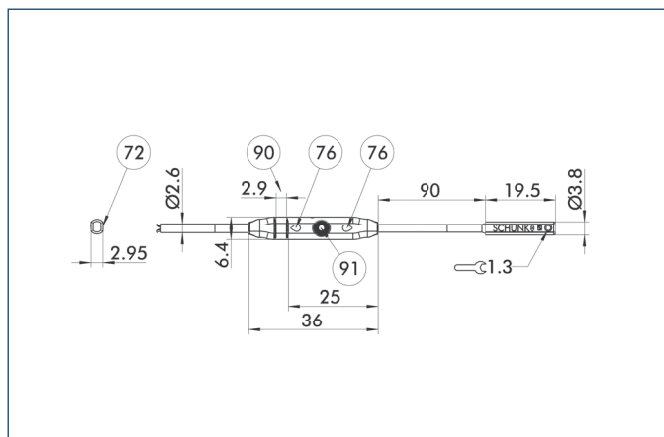
Wiring diagram closer



Technical data

Description	MMS-P 22-S-M8-PNP	MMSK-P 22-S-PNP
ID	0301370	0301371
Switching function	Closer	Closer
Type of switching	PNP	PNP
Cable length [cm]	30	200
Cable connector/ cable end	M8	open wires
Type of voltage	DC	DC
Nominal voltage [V]	24	24
Min. voltage [V]	10	10
Max. voltage [V]	30	30
Power failure [V]	2.2	2.2
Max. switching current [A]	0.15	0.15
Min./max. ambient temperature [°C]	-5/55	-5/55
Max. switching frequency [Hz]	1000	1000
Typical switching time [s]	0.001	0.001
Tightness IP (sensor)	67	67
Tightness IP (sensor plugged)	67	67
LED displac at the sensor	Yes	Yes
Cable diameter [mm]	2.6	2.6
Min. bending radius (dynamically) [mm]	39	39
Min. bending radius (statically) [mm]	26	26
Number of cores	4	4
Wire cross section [mm ²]	0.08	0.08

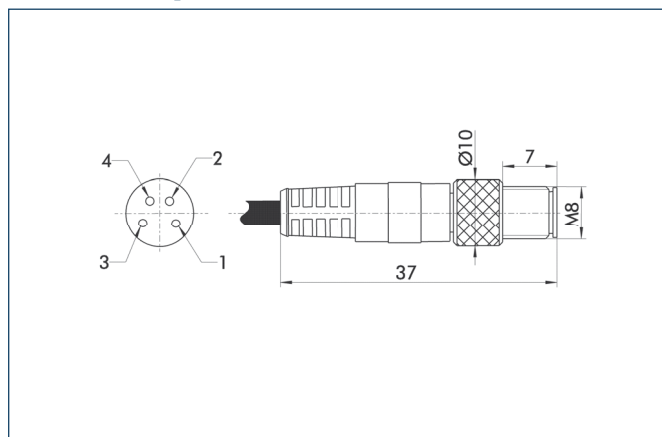
MMS-P 22 sensor



72 Active sensor surface
76 LED

90 Rib for cable connector
91 Key button

M8 4PIN Trapez connector



Magnetic Switches

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.



Function description

Magnetic switches react to magnetic fields. The resistors in the sensor consist of several ferromagnetic and non-magnetic layers. Two shielded and two non-shielded resistors are combined in a bridge circuit, which produces a signal proportional to the magnetic field when one is present. Above a threshold value, an output signal is switched via a comparator, and the sensor reacts.

Your advantages and benefits

Installation in the sensor slot

for space-saving, simple and fast assembly

Version with LED display

for checking the switching position directly at the sensor

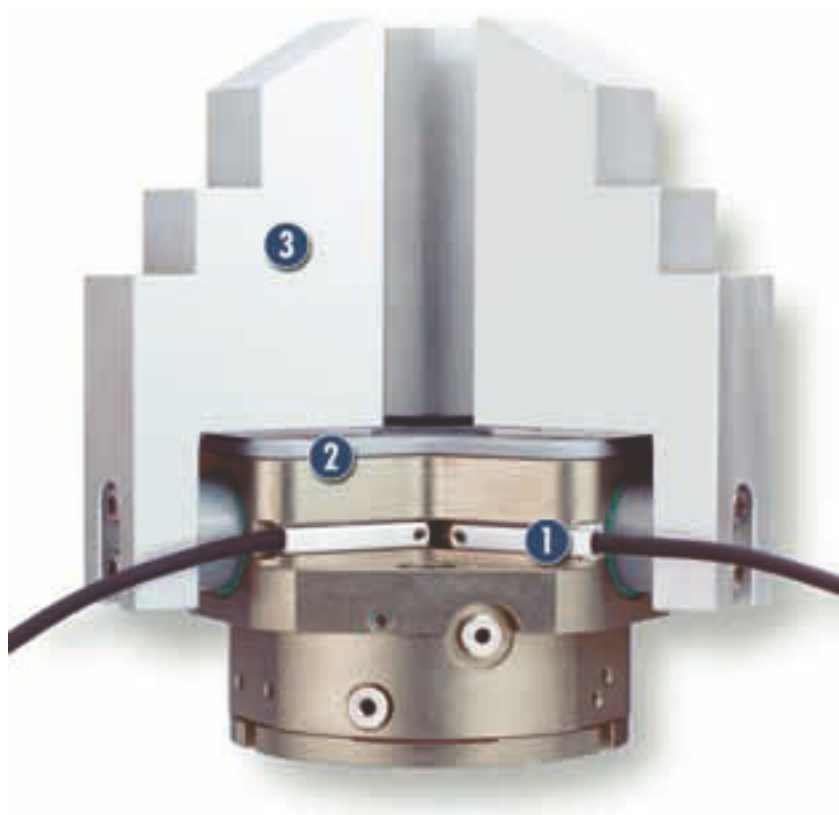
Version with connector

for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Application example



1 MMS Electronic Magnetic Switches for mounting in the C-slot of the gripper

2 Sealed 3-Finger Centric Gripper

3 Workpiece-specific Gripper Fingers

Area of application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours.

General information

Material

Sensor housing: PA in the MMS 22, aluminum in the MMS 30; Cable: with PUR sheath

Fastening

Clamps in the sensor slot

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

Voltage

10 – 30 V DC at < 10 % residual ripple

Switching method

PNP switching / NPN switching

Warranty

24 months (details, general terms and conditions and operating manuals can be downloaded under www.schunk.com)

Notes

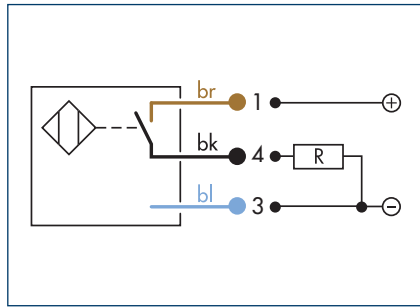
SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored with electromagnetic slot-fitted switches can generally only be reliably monitored with the appropriate electromagnetic switches from SCHUNK.

Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself.

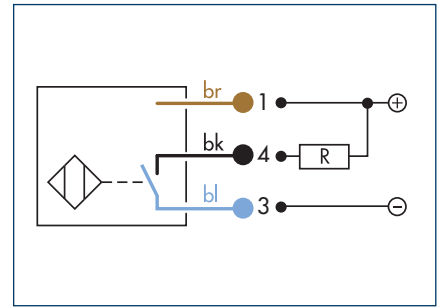
For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.



Circuit diagram of PNP closer



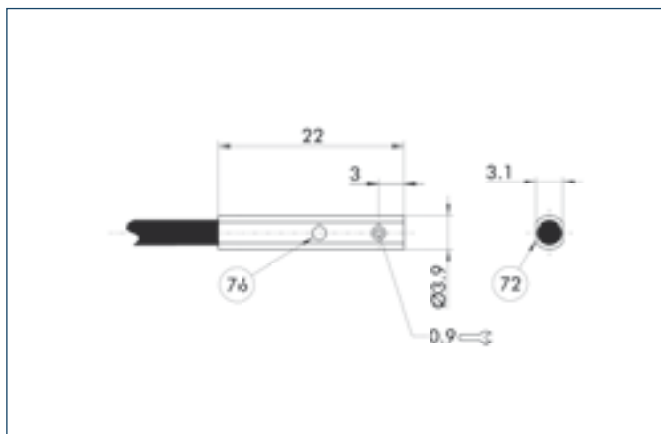
Circuit diagram of NPN closer



Technical data

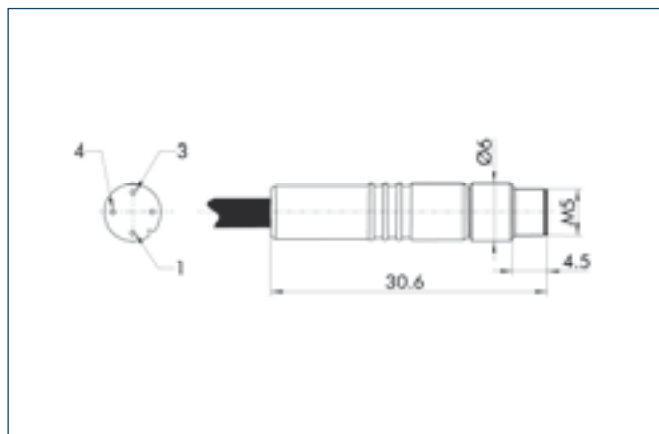
Description	MMS 22-S-M5-PNP	MMS 22-S-M5-NPN	MMS 22-S-M8-PNP	MMS 22-S-M8-NPN	MMSK 22-S-PNP	MMSK 22-S-NPN
ID	0301438	0301439	0301032	0301433	0301034	0301435
Switching function	Closer	Closer	Closer	Closer	Closer	Closer
Switching method	PNP	NPN	PNP	NPN	PNP	NPN
Cable length [cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end	M5	M5	M8	M8	Open wire	Open wire
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature [°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature [°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001	0.001	0.001	0.001
IP class (sensor)	67	67	67	67	67	67
IP class (connector, plugged in)	67	67	67	67	67	67
LED display on sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic) [mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static) [mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

MMS 22 sensor

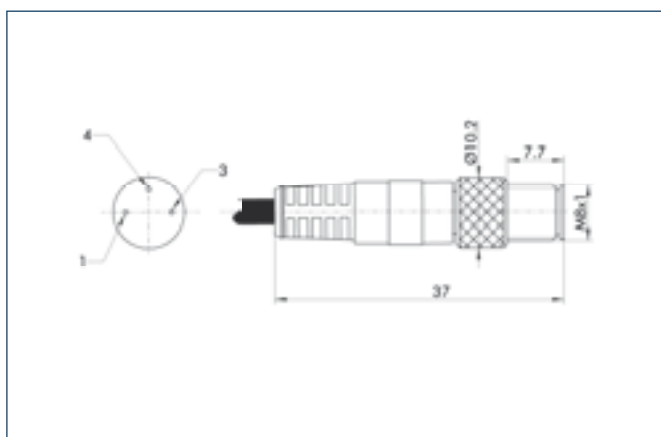


- 72 Active sensor surface
- 76 LED

M5 connector

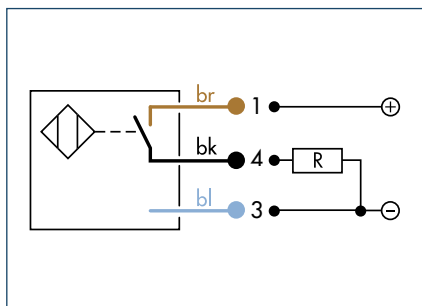


M8 connector

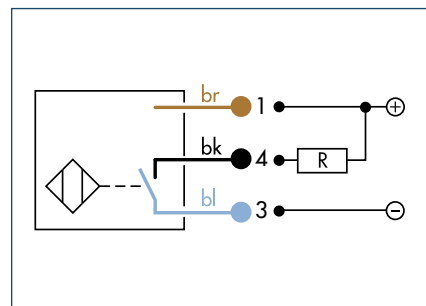




Circuit diagram of PNP closer



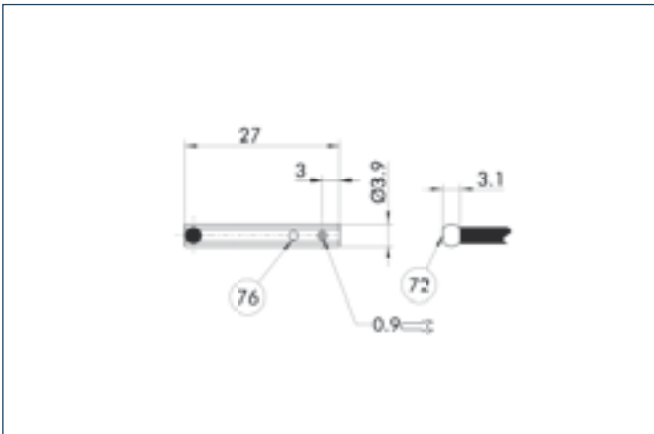
Circuit diagram of NPN closer



Technical data

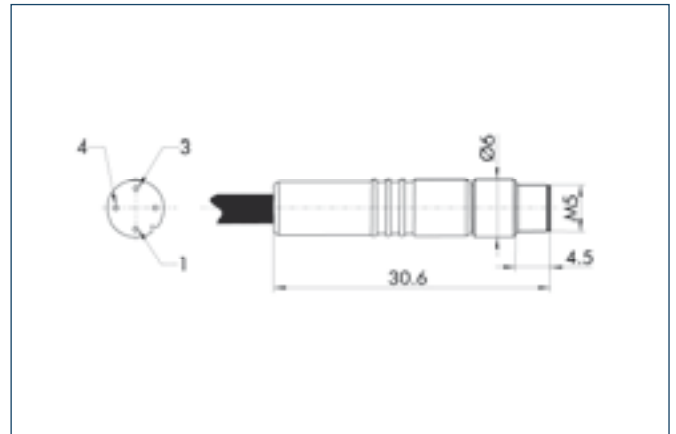
Description	MMS 22-S-M5-PNP-SA	MMS 22-S-M5-NPN-SA	MMS 22-S-M8-PNP-SA	MMS 22-S-M8-NPN-SA	MMSK 22-S-PNP-SA	MMSK 22-S-NPN-SA
ID	0301448	0301449	0301442	0301443	0301444	0301445
Switching function	Closer	Closer	Closer	Closer	Closer	Closer
Switching method	PNP	NPN	PNP	NPN	PNP	NPN
Cable length [cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end	M5	M5	M8	M8	Open wire	Open wire
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature [°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature [°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001	0.001	0.001	0.001
IP class (sensor)	67	67	67	67	67	67
IP class (connector, plugged in)	67	67	67	67	67	67
LED display on sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic) [mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static) [mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

MMS 22-SA sensor

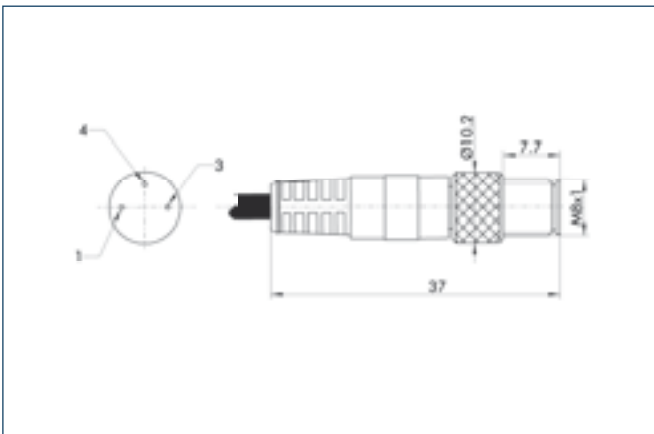


- 72 Active sensor surface
- 76 LED

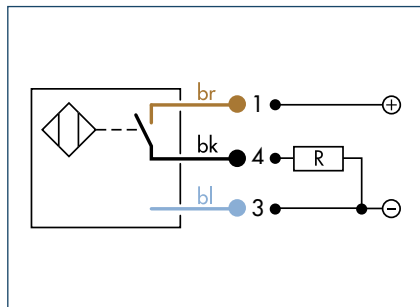
M5 connector



M8 connector



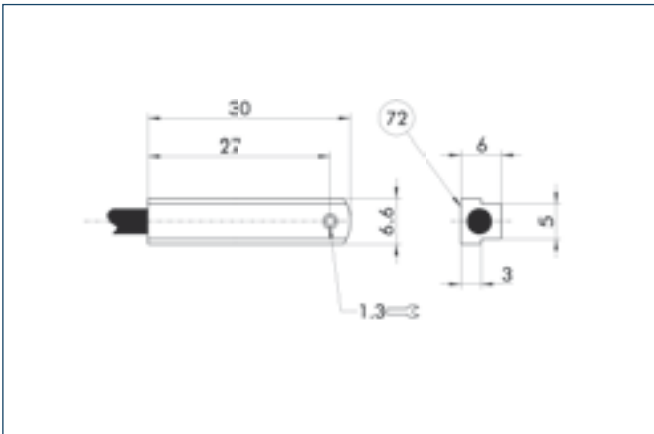
Circuit diagram of PNP closer



Technical data

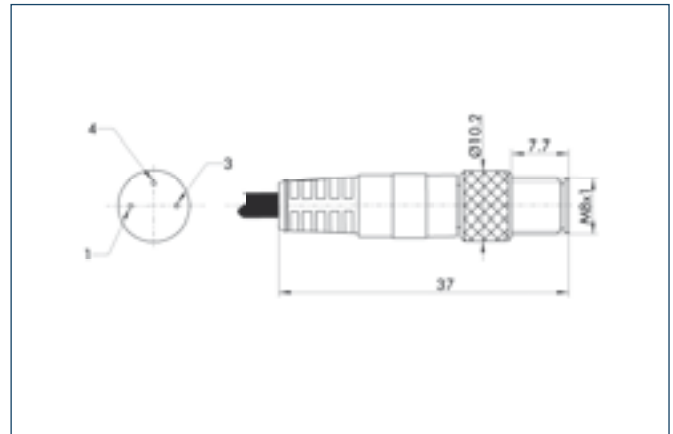
Description	MMS 30-S-M8-PNP	MMS 30-S-M12-PNP	MMSK 30-S-PNP
ID	0301471	0301571	0301563
Switching function	Closer	Closer	Closer
Switching method	PNP	PNP	PNP
Cable length [cm]	30.0	30.0	200.0
Cable connector/cable end	M8	M12	Open wire
Type of voltage	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2
Min. ambient temperature [°C]	-25.0	-25.0	-25.0
Max. ambient temperature [°C]	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001
IP class (sensor)	67	67	67
IP class (connector, plugged in)	67	67	67
LED display on sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamic) [mm]	35.0	35.0	35.0
Min. bending radius (static) [mm]	17.5	17.5	17.5
No. of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

MMS 30 sensor

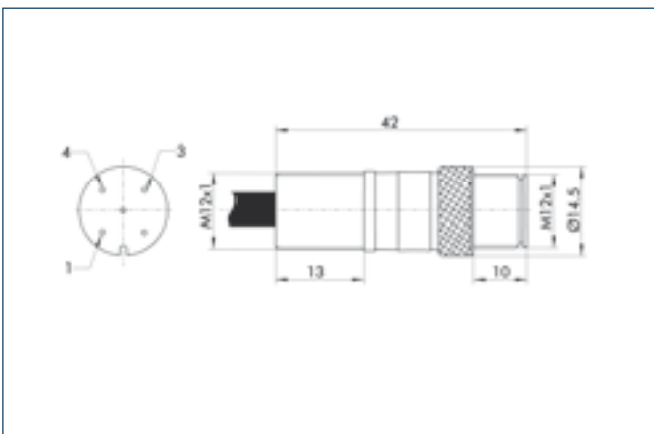


72 Active sensor surface

M8 connector

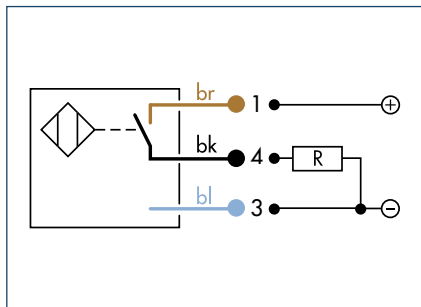


M12 connector

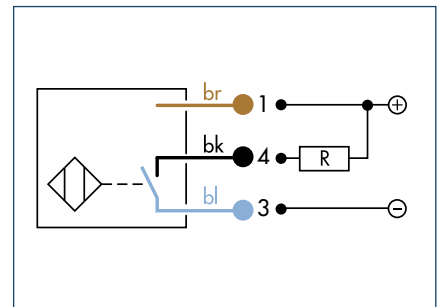




Circuit diagram of PNP closer

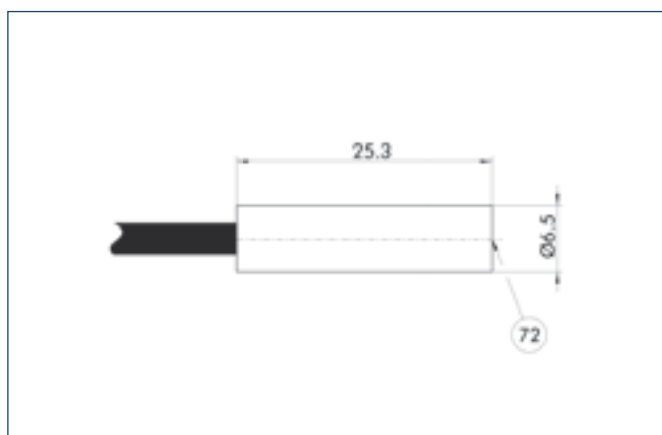


Circuit diagram of NPN closer



Description	MMS-K 65-5-PNP	MMS-K 65-5-NPN
ID	0301423	0301424
Switching function	Closer	Closer
Switching method	PNP	NPN
Cable length [cm]	200.0	200.0
Type of voltage	DC	DC
Nominal voltage [V]	24.0	24.0
Min. voltage [V]	10.0	10.0
Max. voltage [V]	30.0	30.0
Max. power on contact [A]	0.2	0.2
Min. ambient temperature [°C]	-20.0	-20.0
Max. ambient temperature [°C]	70.0	70.0
IP class (sensor)	67	67
IP class (connector, plugged in)	67	67
No. of wires	3	3
Wire cross section [mm ²]	0.14	0.14

MMSK 65/S sensor



72 Active sensor surface



Reed Switches

Reed switches are mechanical switches that react to the presence of magnetic fields (magnets). They are frequently used as low-price alternatives to electronic magnetic switches (MMS).



Function description

Reed switches consist of tiny, metal contacts (reeds). Under the influence of a magnetic field, they bend and touch one another, closing the contact.

Your advantages and benefits

Economical

for cost-saving applications

Installed in the sensor slot

for space-saving, simple and fast assembly

Version with connector

for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Application example



1 RMS Reed Switches for mounting in the C-slot of the gripper

2 Sealed 3-Finger Centric Gripper

3 Workpiece-specific Gripper Fingers

Area of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Reed switches from SCHUNK detect metals without contact or wear and are resistant to dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours. Please note that not all SCHUNK products with sensor slot can be monitored using low-cost reed switches.

General information

Material

Sensor housing: PA in the RMS 22, stainless steel in the RMS 80
Cable: PUR sheath

Fastening

Clamps in sensor slot (RMS 22) / brackets (RMS 80)

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

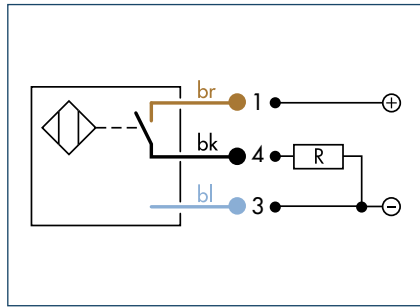
Warranty

24 months

Notes

SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored by slot-fitted reed switches can generally only be reliably monitored with the appropriate reed switches from SCHUNK. Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself. For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.

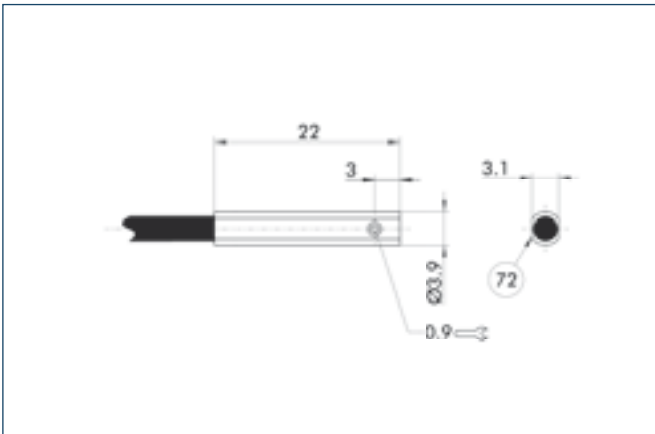
Circuit diagram of closer



Technical data

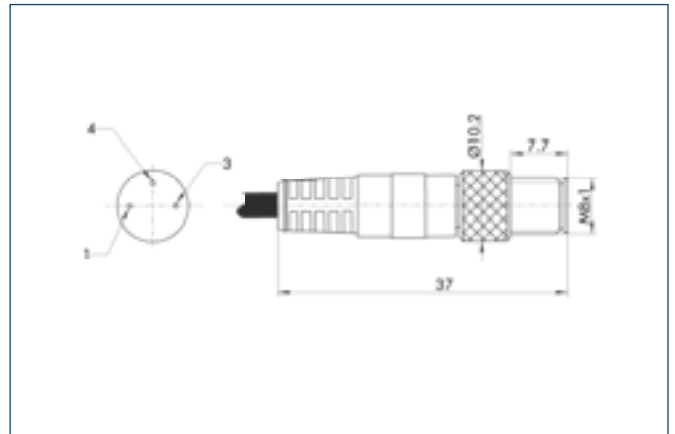
Description	RMS 22-S-M8
ID	0377720
Switching function	Closer
Switching method	PNP, NPN
Cable length [cm]	30.0
Cable connector/cable end	M8
Type of voltage	DC
Max. voltage DC [V]	120.0
Voltage drop DC [V]	0.0
Max. power on contact DC [A]	0.4
Type of voltage	AC
Max. voltage AC [V]	120.0
Voltage drop AC [V]	0.0
Max. power on contact AC [A]	0.4
Min. ambient temperature [°C]	-5.0
Max. ambient temperature [°C]	70.0
Typical switching time [s]	0.01
IP class (sensor)	67
IP class (connector, plugged in)	67
LED display on sensor	No
Cable diameter [mm]	2.1
Min. bending radius (dynamic) [mm]	21.0
Min. bending radius (static) [mm]	10.5
No. of wires	2
Wire cross section [mm ²]	0.14

RMS 22 sensor

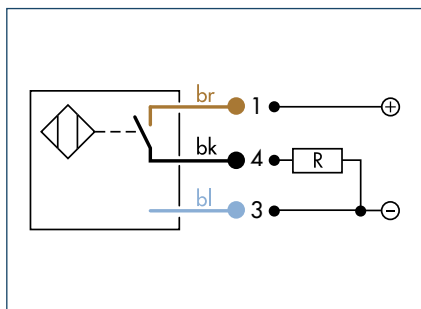


72 Active sensor surface

M8 connector



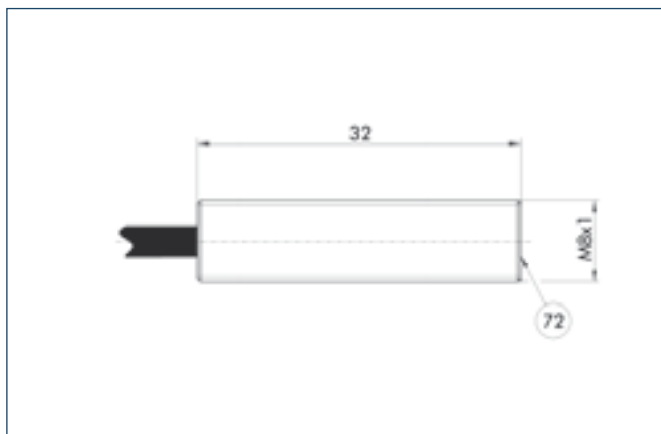
Circuit diagram of closer



Technical data

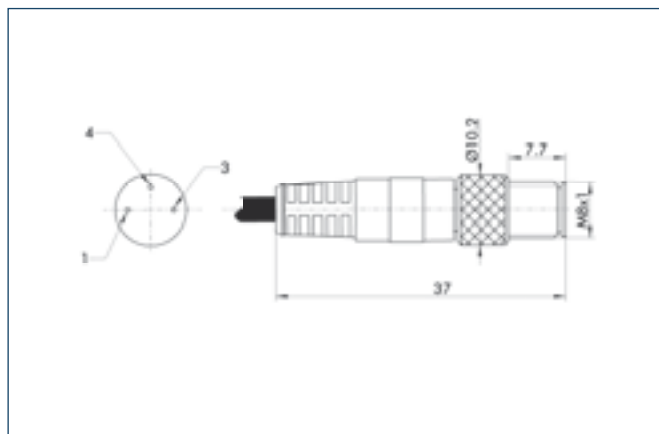
Description	RMS 80-S-M8
ID	0377721
Switching function	Closer
Switching method	PNP, NPN
Cable length [cm]	30.0
Cable connector/cable end	M8
Type of voltage	DC
Max. voltage DC [V]	120.0
Voltage drop DC [V]	0.0
Max. power on contact DC [A]	0.4
Type of voltage	AC
Max. voltage AC [V]	120.0
Voltage drop AC [V]	0.0
Max. power on contact AC [A]	0.4
Min. ambient temperature [°C]	-5.0
Max. ambient temperature [°C]	70.0
Typical switching time [s]	0.01
IP class (sensor)	67
IP class (connector, plugged in)	67
LED display on sensor	No
Cable diameter [mm]	2.1
Min. bending radius (dynamic) [mm]	21.0
Min. bending radius (static) [mm]	10.5
No. of wires	2
Wire cross section [mm ²]	0.14

RMS 80 sensor



72 Active sensor surface

M8 connector



Optical Switch



Function description

The optical sensor ONS emits light via the optical wave guide ONS-LWL. By analyzing the quantity of reflected light, the ONS can detect positions of the gripper being monitored and set or delete its output based on the programming.

Your advantages and benefits

Easy programming
for short commissioning times

LED display
for fast and easy functional checks

Light optical wave guide
for low weight on the gripper

Application example



Area of application

Use in clean environments in connection with the corresponding SCHUNK grippers.

- 1 Gripper
- 2 Optical wave guide
- 3 Force/torque sensor system controller

General information

Warranty
24 months

Notes

The ONS sensor is attractive due to its low sales price. It is based on the product FS-V31P from Keyence. By specifying the hardware and software, the user friendliness was increased for use with SCHUNK grippers and the functions optimized. For technical details see the operating manual.

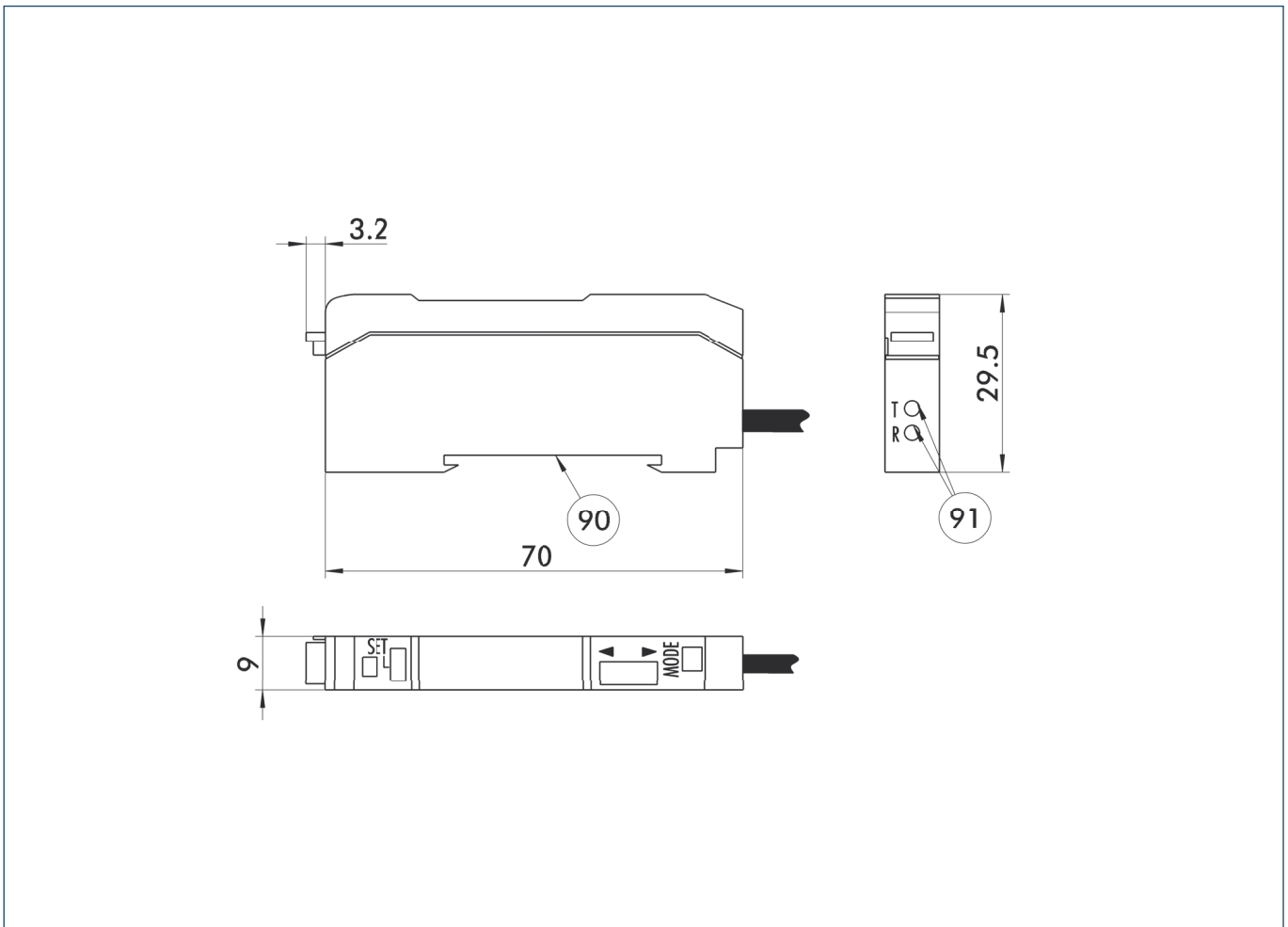


Technical data

Description		ONS 01
ID		301390
Voltage supply		DC
Min. voltage	[V]	12
Max. voltage	[V]	24
Number of digital switching outputs		1
Max. power on contact	[mA]	100
Min. ambient temperature	[°C]	-10
Max. ambient temperature	[°C]	55
IP class		20

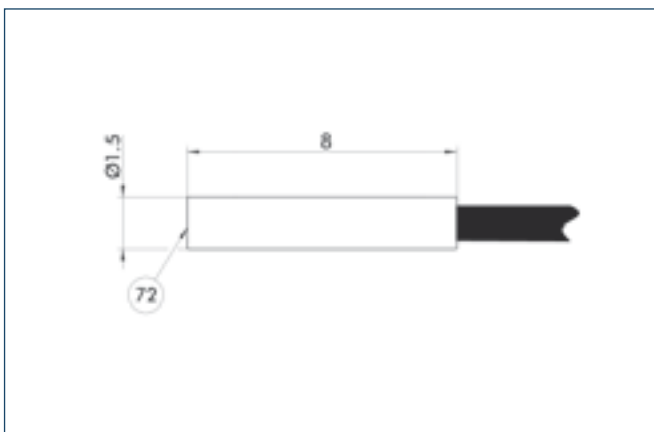
Description		ONS 01-LWL
ID		301391
Cable diameter	[mm]	1
Diameter of cable end	[mm]	1.5
Cable length	[m]	1
Min. bending radius (dynamic)	[mm]	40
Min. bending radius (static)	[mm]	30

Main view of the ONS 01



- ⑨⑩ Assembly rail
- ⑨① Connection for sensor

ONS 01-LWL



- ⑦② Active sensor surface
- ① One optical wave guide ONS 01-LWL is needed for each ONS 01.

Sensor Tester

The SST sensor tester enables the rapid testing and adjustment of inductive sensors, magnetic switches and reed contacts. The necessary power is supplied by a 9 V compound battery.



Function description

The sensor is connected to the M8, M12 or terminal connection of the sensor tester and the ON button pressed. The sensor position is displayed visually by LEDs and output acoustically via a signal buzzer.

Your advantages and benefits

Visual and acoustic signal

for simple function checking and adjustment

For 2- and 3-wire DC technology

enabling the connection of reed contacts, capacitive and inductive sensors

Tests possible without dismantling sensors

for short maintenance times

Connections for M8 and M12 or open cable ends possible

ensuring suitability for all SCHUNK sensors

PNP and NPN sensors can be tested

Operating voltage with 9 V compound battery

for mobile use

Automatic cut-off function

for an extended battery life

Application example

Area of application

Sensor testing and adjustment of the switching point
(sensor calibration)



1 Sensor tester SST

2 Inductive proximity switches
IN 80

3 Metal plate

General information

Scope of delivery

Sensor tester incl. assembly and operating manual with manufacturer's declaration,
9 V compound battery

Notes

Please note that only one SST input (M8 or M12 or cable terminal input) can be
used at once.
If the toggle switch is towards the sticker (nameplate), PNP is selected, if not, NPN.

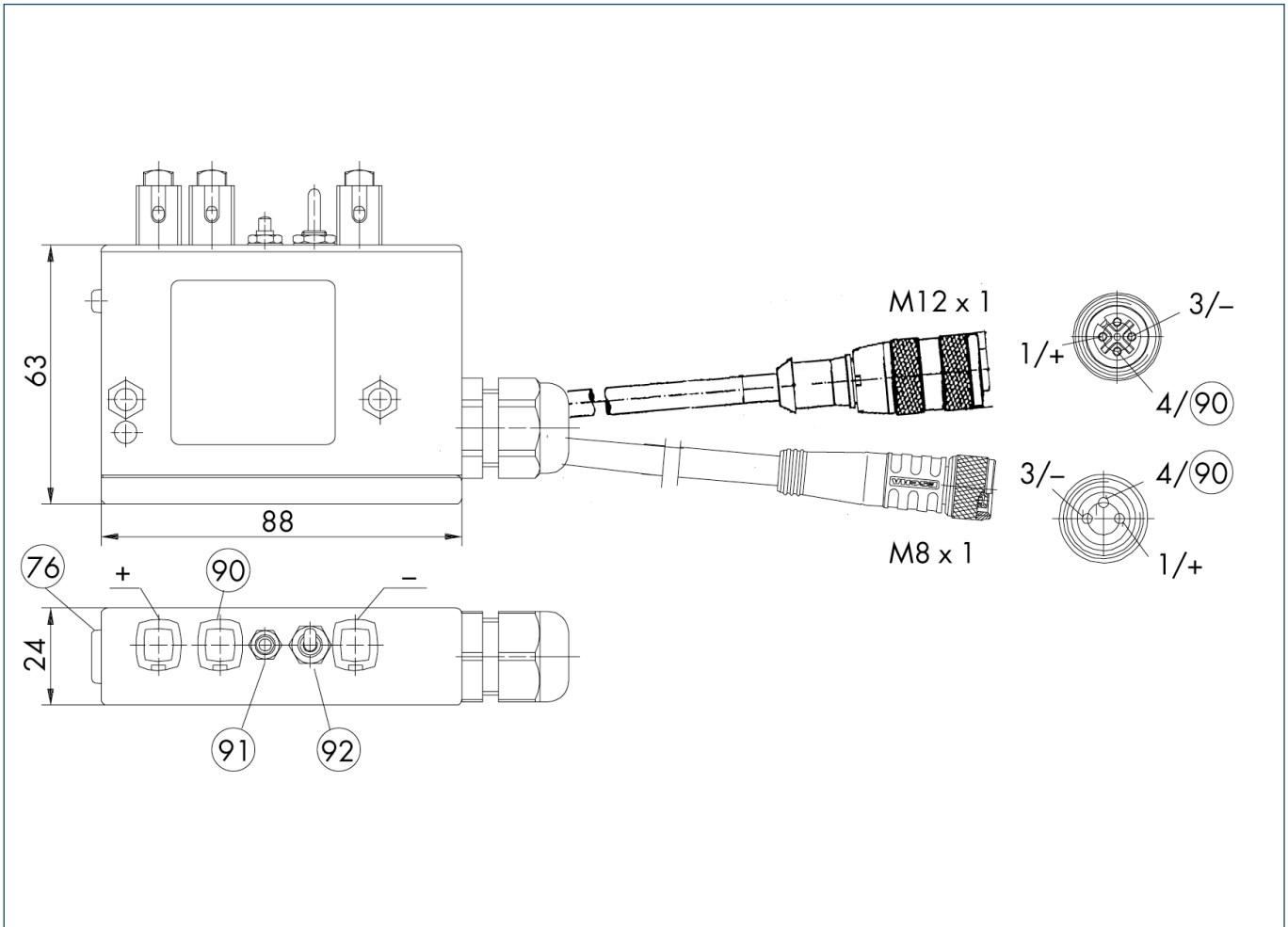


Technical data

Description	SST
ID	0301400
Battery	9 V DC (compound battery Type LR 61)
Connection 1	M12*1
Connection 2	M8*1
Connection 3	direct clamping
Housing material	plastic
IP class	20



Main view



- 76 LED
- 90 Output
- 91 ON button
- 92 PNP / NPN changeover switch



Adjustable housing for proximity switch

The adjustable housings enable the position of the sensor to be set once only. If the sensor is changed, the sensor position is retained.



Function description

The sensor is inserted in the adjustable housing and fastened with the coupling ring. Next, the switching position is set. When the sensor is changed, the adjustable housing remains in the same location – only the sensor is changed by removing the coupling ring.

Your advantages and benefits

Setting has to be carried out only once
for rapid sensor replacement without recalibration

Corrosion-free material
for a long service life

Switches are protected against shocks
preventing mechanical destruction

Application example

Area of application

For universal use in the monitoring of automation modules with proximity switches



1 NHG adjustable housing

2 SRU 63 Flat Rotary Actuator

General information

Warranty
24 months

Notes

The coupling ring is slotted for fitting onto the cable.

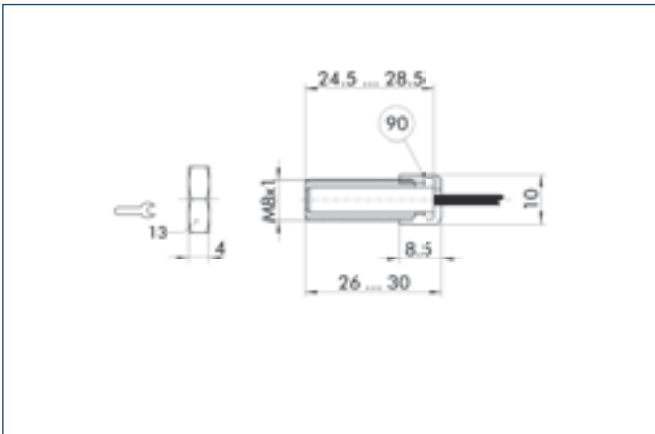




Technical data

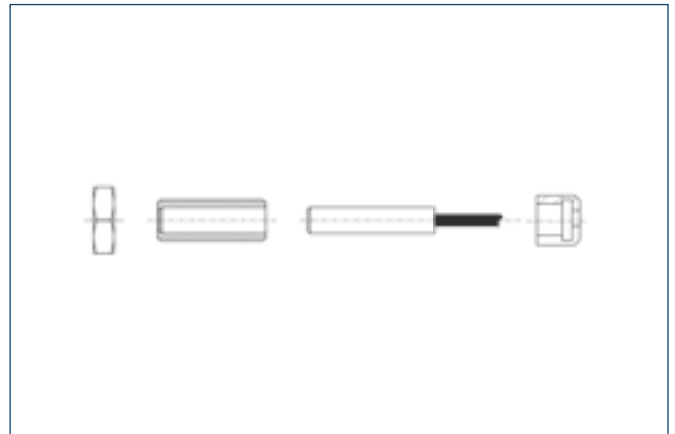
Description		NHG 5	NHG 8
ID		9646006	9646007
Suitable sensor Ø		M5	M8
Min. sensor length	[mm]	24.5	31.5
Max. sensor length	[mm]	28.5	35.5
Weight	[kg]	0.006	0.008
Material		Steel	Steel

NHG 5

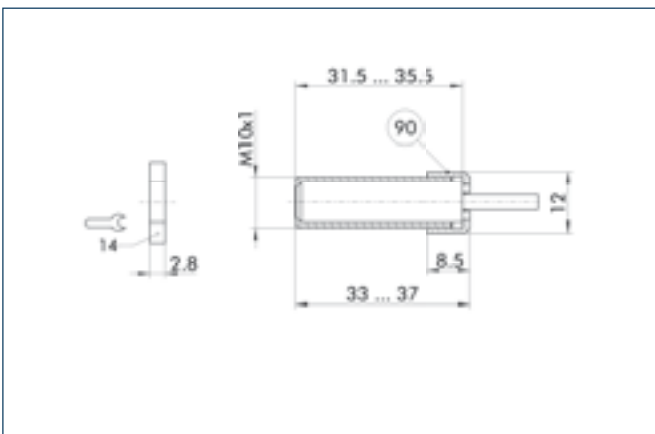


⑨ Coupling ring is slotted for fitting onto the cable

NHG 5 assembly

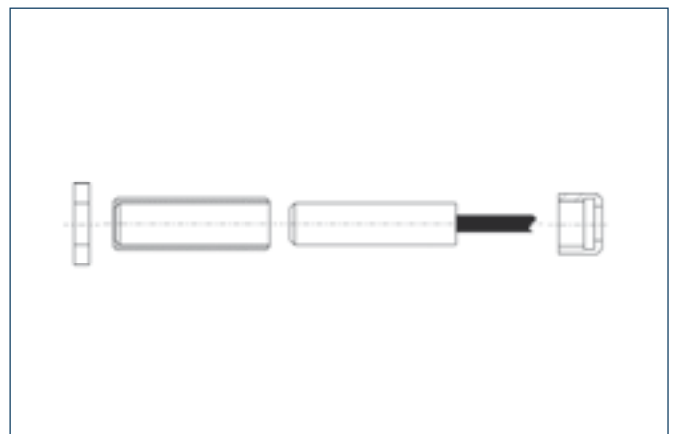


NHG 8



⑨ Coupling ring is slotted for fitting onto the cable

NHG 8 assembly



Sensor Distributor

For connecting all SCHUNK sensors and sensor systems (IN/INK/MMS/APS-M1, etc.). In the versions 2 (V2), 4 (V4) and 8 (V8).



Functional description

Distributors collect incoming signals and forward them in a single cable. This dispenses with unnecessary cables.

The switching position of the closed component can be controlled by the LEDs, which are integrated into the distributor.

Your advantages and benefits

Operating display and shift indicator by LED

for direct control of the switching status

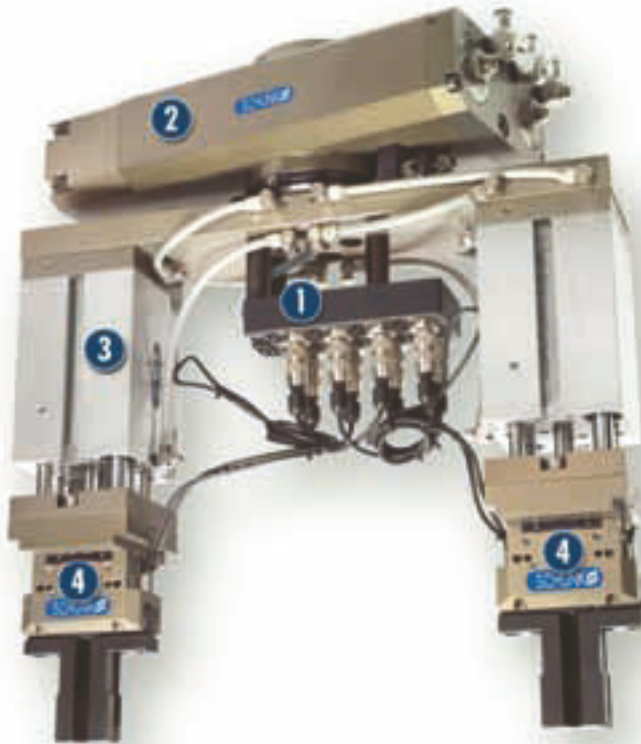
A feed line

therefore it is ideal for signal feed through

Robust PA housing

for a long service lifetime and resistance against many chemicals

Application example



- 1 V 8 Sensor Distributor
- 2 Rotary Actuator SRU-plus
- 3 PHE Stroke Module

- 4 PGN-plus 2-Finger Parallel Gripper with workpiece-specific gripper fingers

Field of application

Sensor distributors from SCHUNK are all-rounders, insensitive against vibrations, dust and humidity. They are suitable for applications in clean and dirty environments.

General note to the series

Housing material

PA 6 GF 30, black

Material of the cable coating

PUR

Mounting

by fastening with screws

Protection class according to DIN 40050

IP 67 in plugged condition for the use in clean or dusty environments, or in case of contact with water. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Scope of delivery

Complete incl. sealing plugs for sealing unused connections, 1 set of labels

Warranty

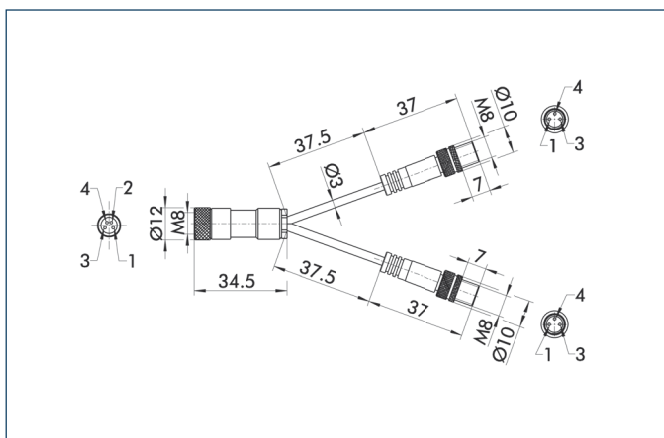
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)



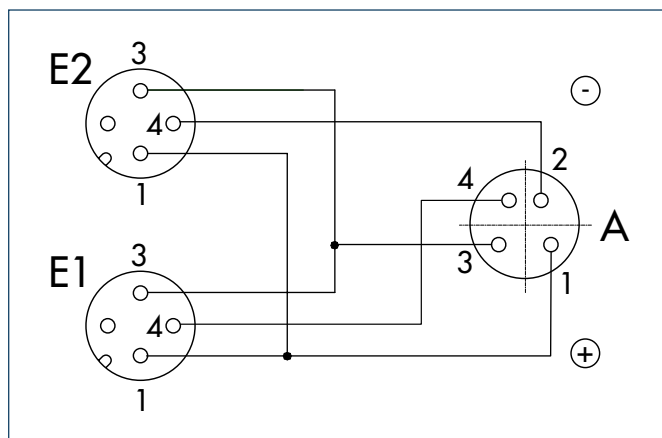
Technical data

Description	V2-M8-4P-2XM8-3P	
ID	0301380	
Connection socket	M8	
Cable length	[mm]	37
Nominal voltage	[V]	30
Max. total current	[A]	4
Min./max. ambient temperature	[°C]	-25/80

Main view



M8 wiring diagram

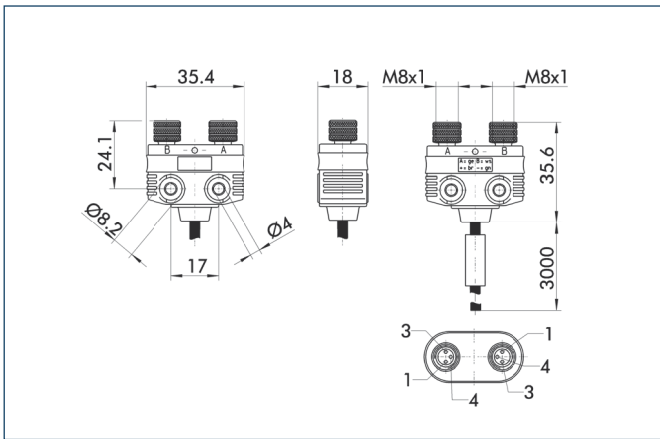




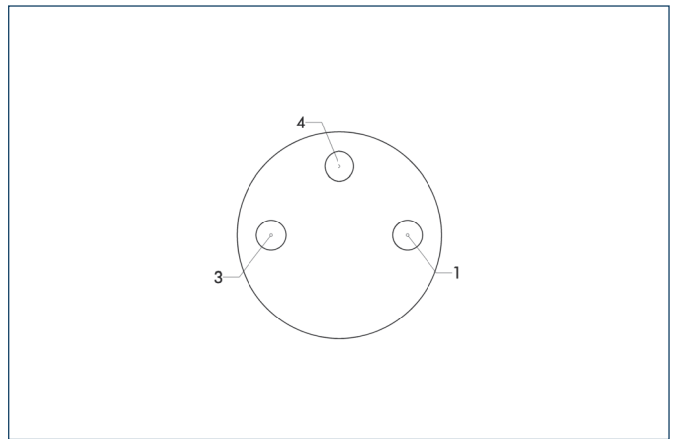
Technical data

Description	V 2-M8	V 2-M12
ID	0301741	0301742
Connection socket	M8	M12
Cable length [m]	3	3
Cable diameter [mm]	4.5	4.5
Nominal voltage [V]	24	24
Min. voltage [V]	10	10
Max. voltage [V]	30	30
Max. current per wire [A]	2	2
Max. total current [A]	2	2

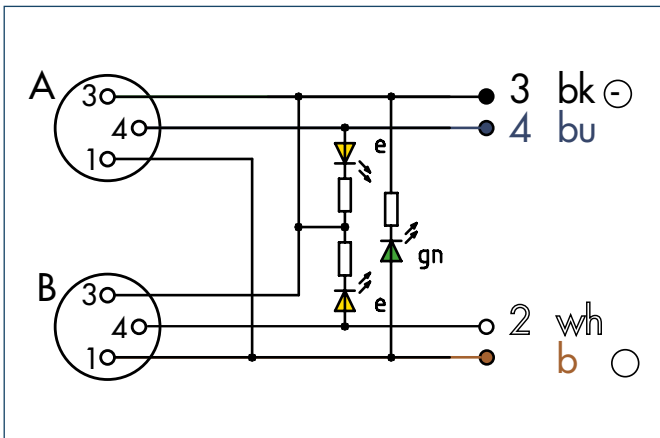
V 2-M8 main view



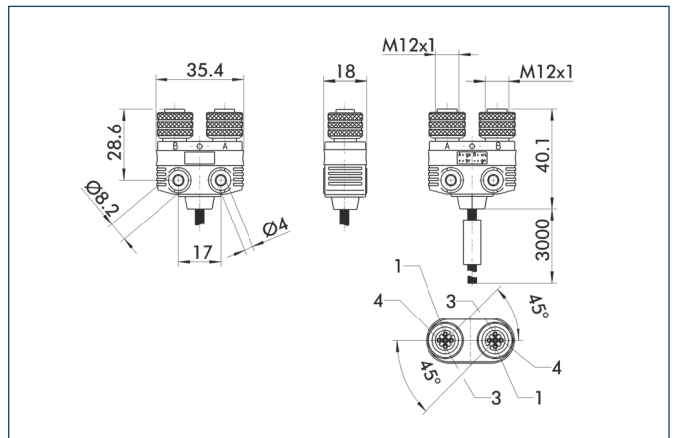
M8 contact assignment



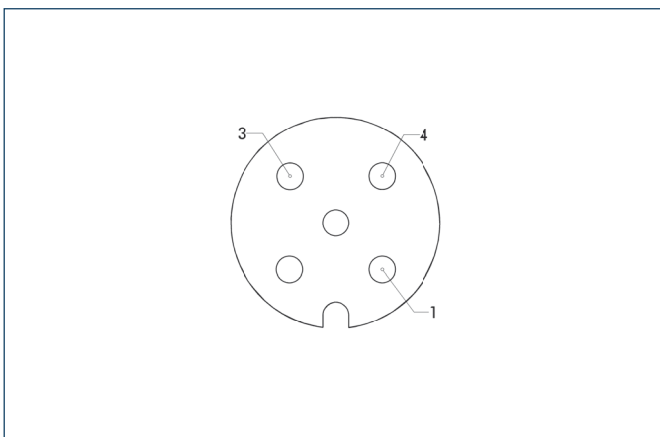
M8 wiring diagram



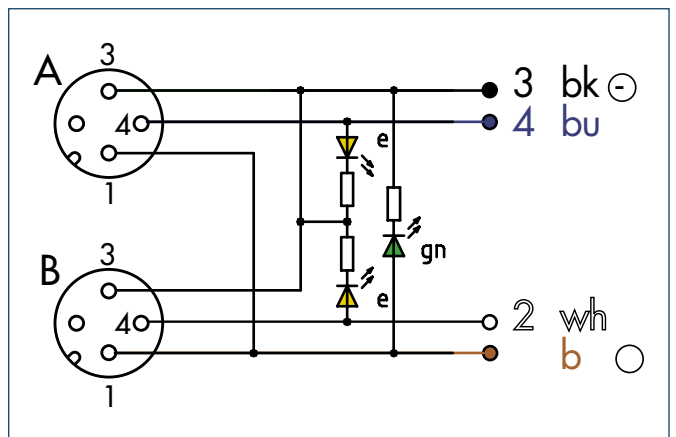
V 2-M12 main view



M12 contact assignment



M12 wiring diagram

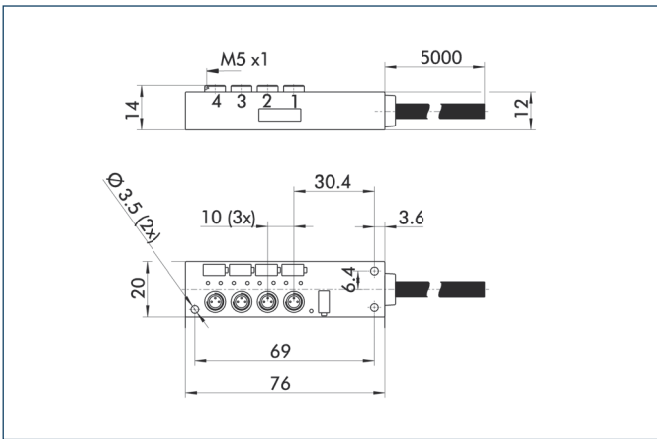




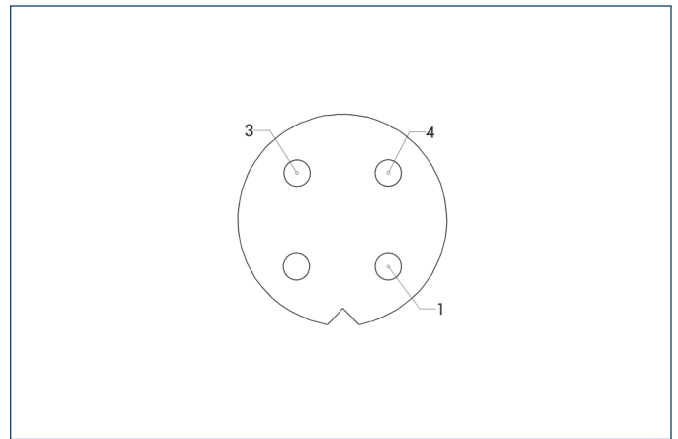
Technical data

Description	V 4-M5	V 4-M8	V 4-M12
ID	0301661	0301746	0301747
Connection socket	M5	M8	M12
Cable length [m]	3	3	3
Cable diameter [mm]	5	7	8.4
Nominal voltage [V]	24	24	24
Min. voltage [V]	30	30	30
Max. voltage [V]	10	10	10
Max. current per wire [A]	2	2	2
Max. total current [A]	2	2	2

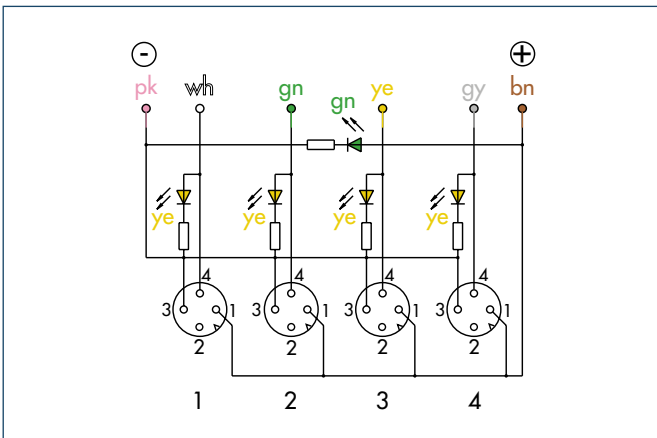
V 4-M5 main view



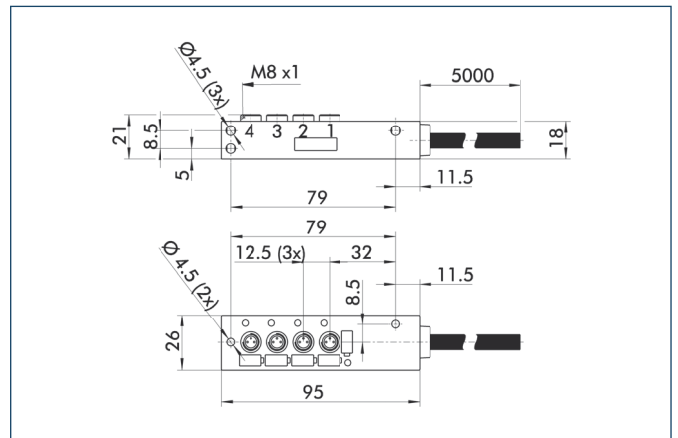
M5 contact assignment



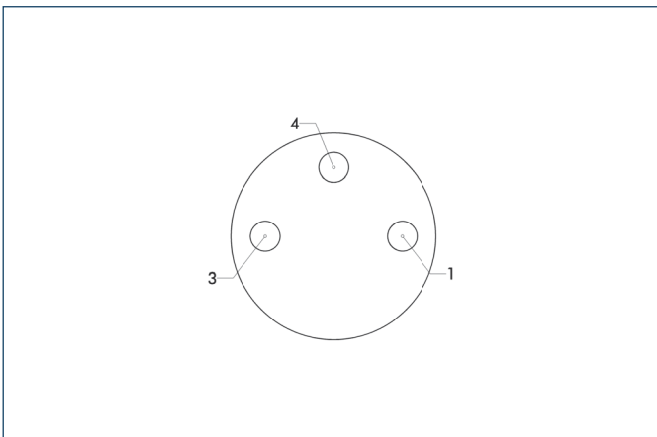
M5 wiring diagram



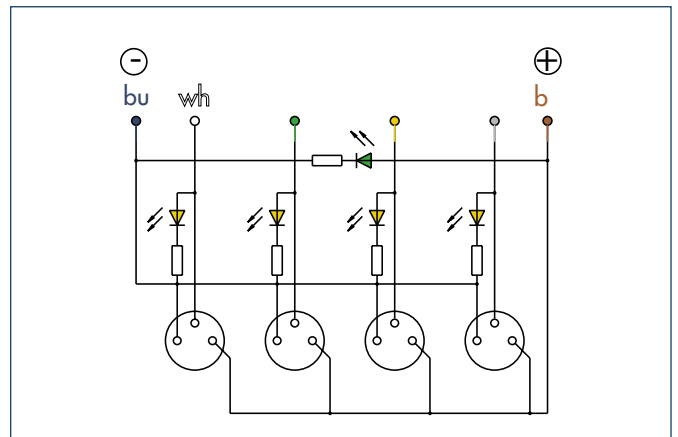
V 4-M8 main view



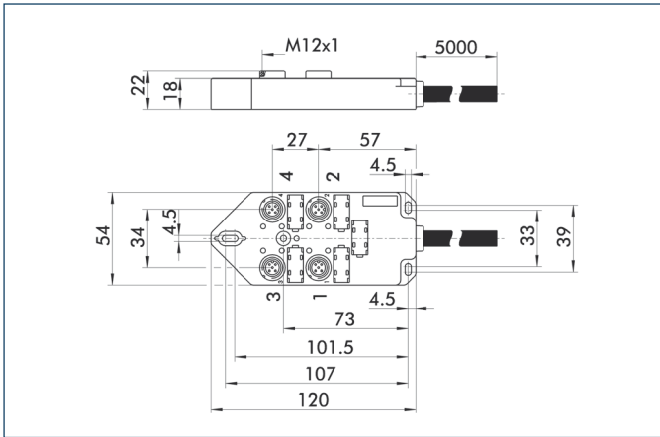
M8 contact assignment



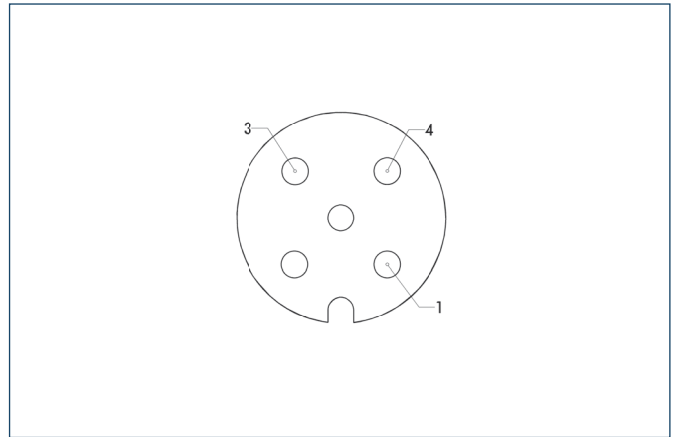
M8 wiring diagram



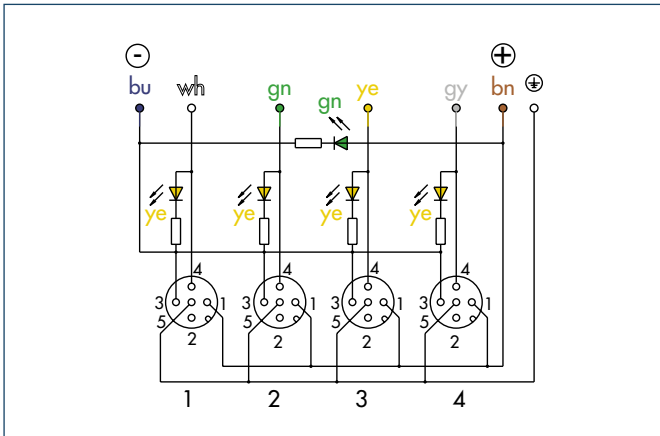
V 4-M12 main view

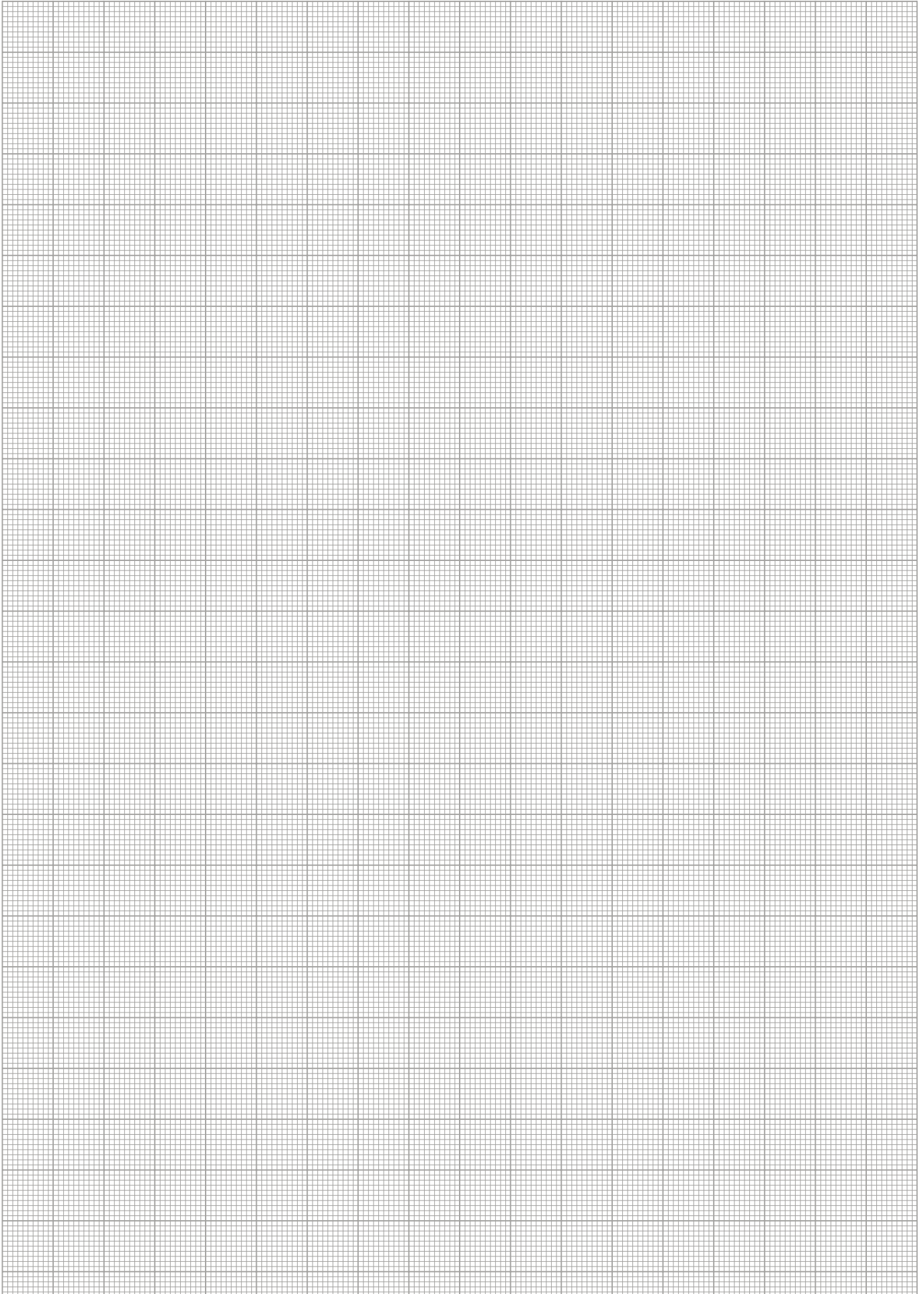


M12 contact assignment



M12 wiring diagram



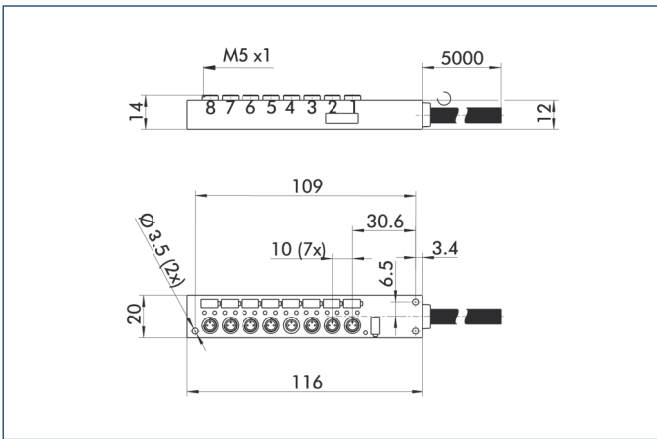




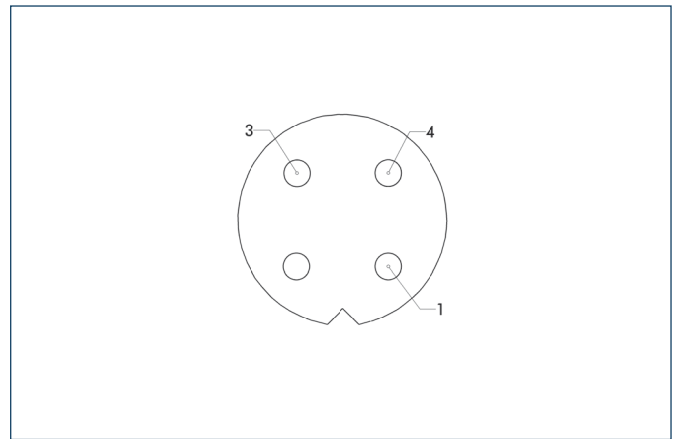
Technical data

Description	V 8-M5	V 8-M8	V 8-M12
ID	0301662	0301751	0301752
Connection socket	M5	M8	M12
Cable length [m]	3	3	3
Cable diameter [mm]	6.5	9.5	9.5
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Max. current per wire [A]	2	2	2
Max. total current [A]	2	2	2

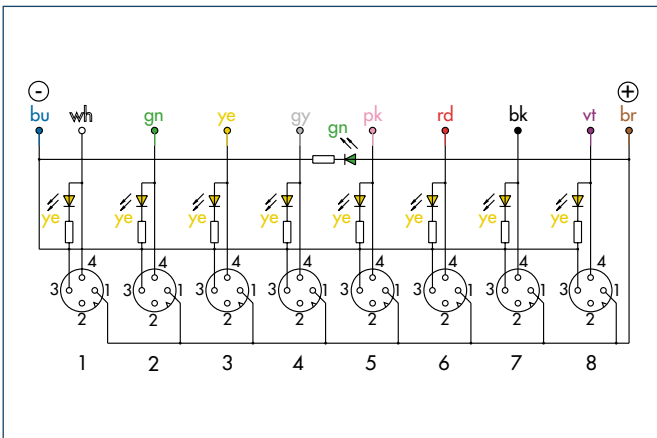
V 8-M5 main view



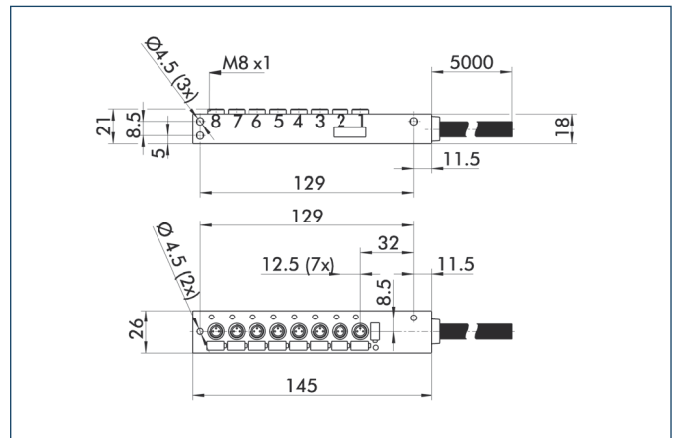
M5 contact assignment



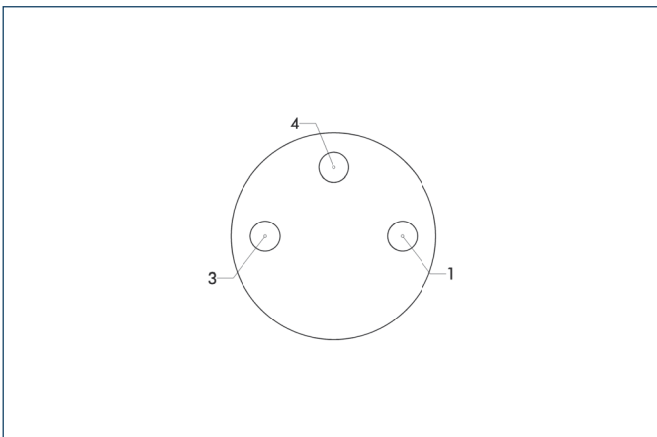
M5 wiring diagram



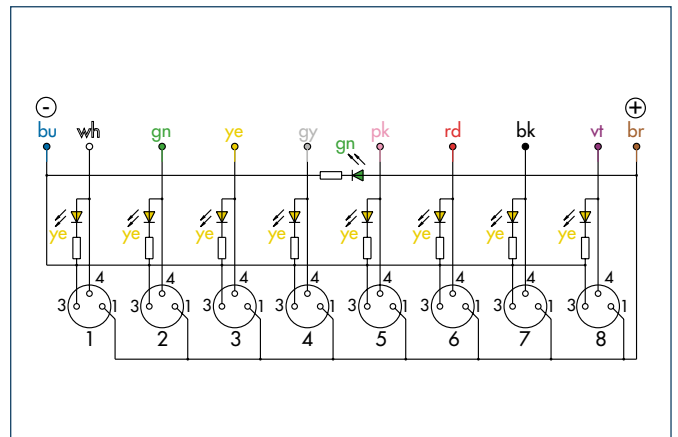
V 8-M8 main view



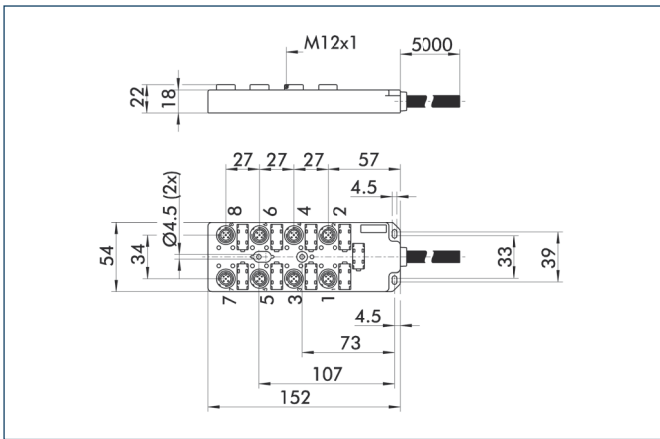
M8 contact assignment



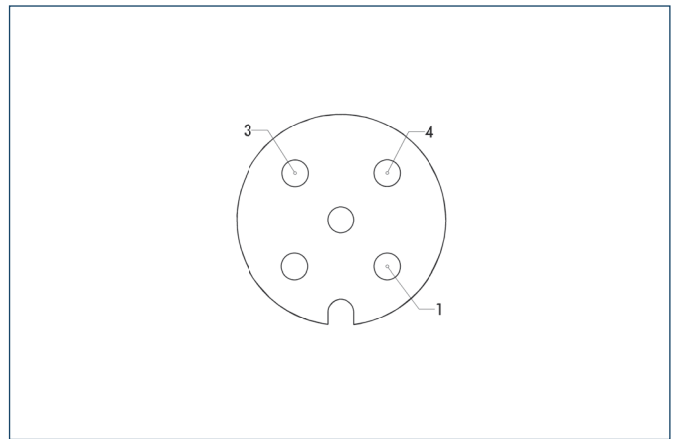
M8 wiring diagram



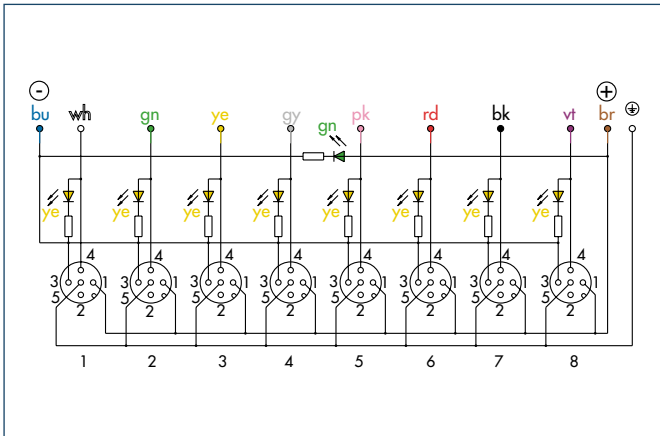
V 8-M12 main view

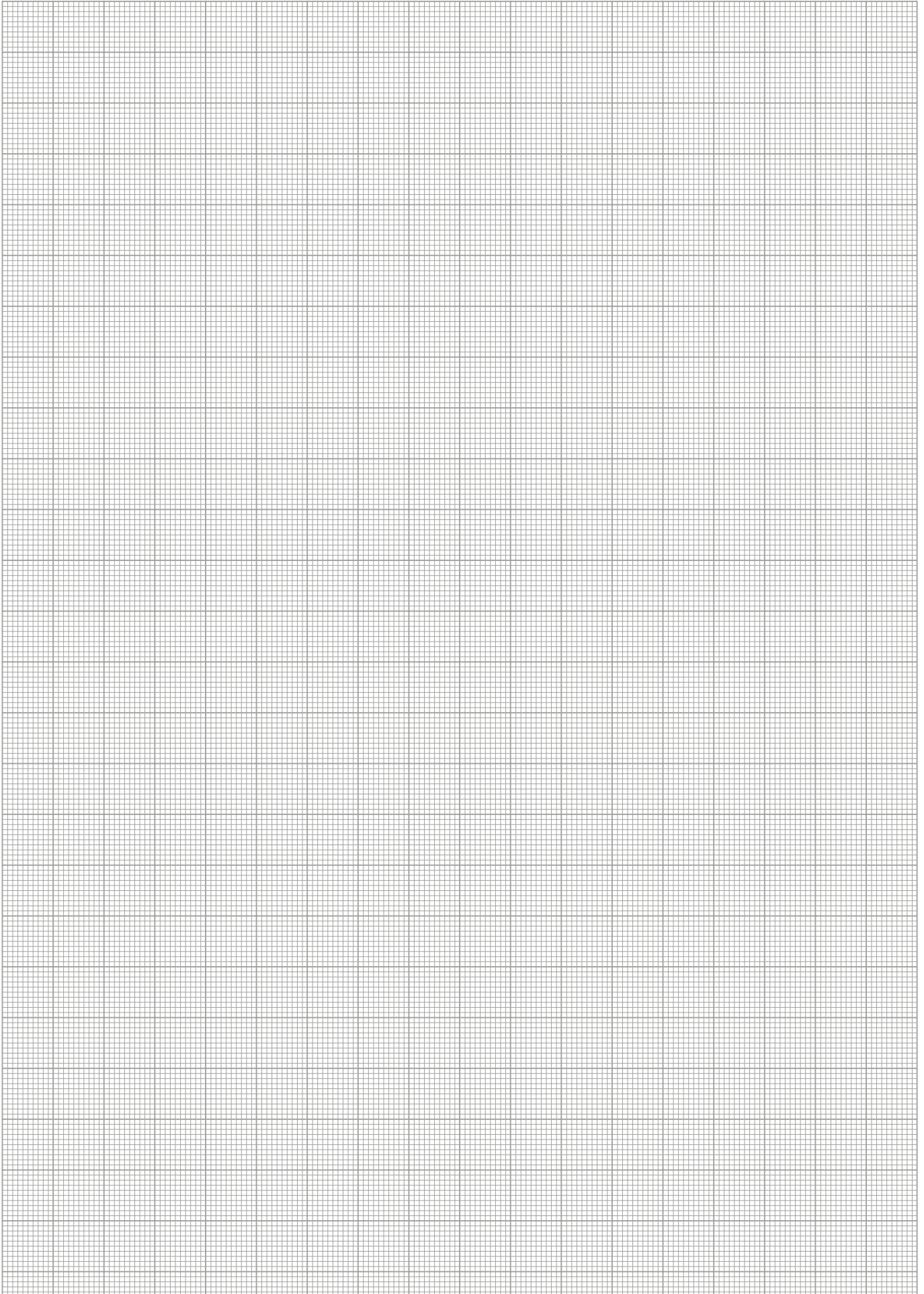


M12 contact assignment



M12 wiring diagram





Cable and connector

Extension cable, and customer cable connectors and sockets allowing convection, for flexible connection of SCHUNK sensor products.



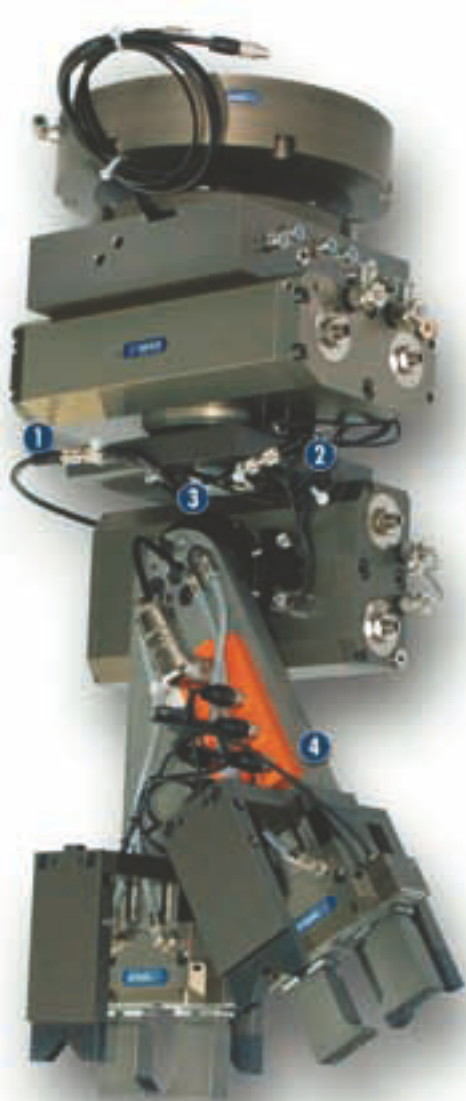
Your advantages and benefits

Extensive accessories

for special installation environments



Application example



Area of application

variable cable installations

- 1 Cable extension KV
- 2 Inductive proximity switches IN
- 3 V 2 Sensor Distributor
- 4 V 4 Sensor Distributor

General information

Warranty

24 months (details, general terms and conditions and operating manuals can be downloaded under www.schunk.com)



Cable Extensions

equipped with a cable connector and cable socket for easy extension.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.

KV = Cable extensions
 KA = Cable connection
 G = Straight line plug
 W = Angle plug
 L = Litz wires
 S = Connector
 B = Bush
 4P = 4 Pins

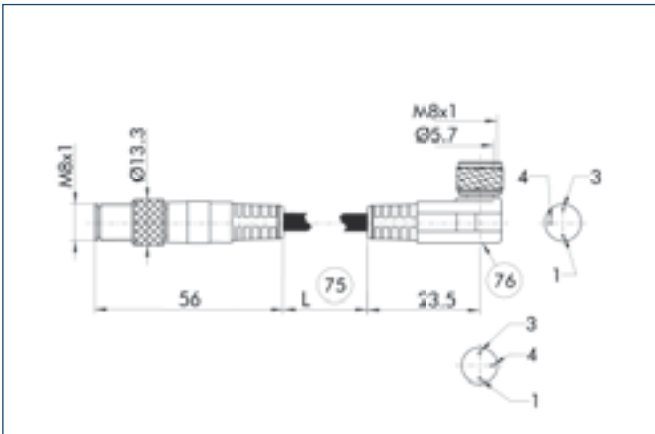


Technical data

Description	KV BW08-SG08 3P-0030-PNP	KV BW08-SG08 3P-0100-PNP	KV BW08-SG08 3P-0200-PNP
ID	0301495	0301496	0301497
Connection, sensor side	bush	bush	bush
Threads, sensor side	M8	M8	M8
Output angle, sensor side [°]	90.0	90.0	90.0
Connection, control cabinet side	plug	plug	plug
Threads, control cabinet side	M8	M8	M8
Output angle, control cabinet side [°]	0.0	0.0	0.0
Cable length [m]	0.3	1.0	2.0
Number of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR
Weight [kg]	0.02	0.04	0.06
Max. current per wire [A]	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5

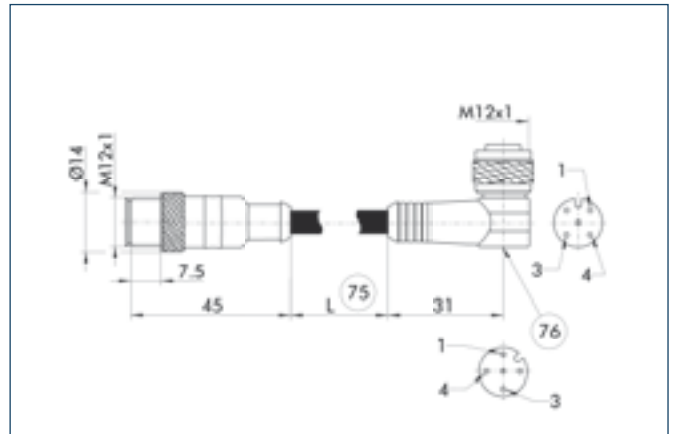
Description	KV BW12-SG12 3P-0030-PNP	KV BW12-SG12 3P-0100-PNP	KV BW12-SG12 3P-0200-PNP	KV BG12-SG12 3P-0060-PNP	KV BG12-SG12 3P-0030-PNP
ID	0301595	0301596	0301597	0301998	0301999
Connection, sensor side	bush	bush	bush	bush	bush
Threads, sensor side	M12	M12	M12	M12	M12
Output angle, sensor side [°]	90.0	90.0	90.0	0.0	0.0
Connection, control cabinet side	plug	plug	plug	plug	plug
Threads, control cabinet side	M12	M12	M12	M12	M12
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0	0.0
Cable length [m]	0.3	1.0	2.0	0.5	0.3
Number of wires	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR	PUR	PUR
Weight [kg]	0.052	0.078	0.126	0.048	0.039
Max. current per wire [A]	0.5	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5	0.5

KV BW08-SG08



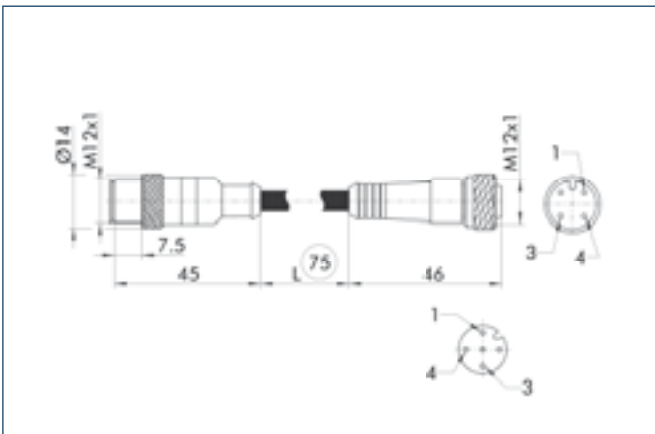
- 75 Cable length
- 76 LED

KV BW12-SG12



- 75 Cable length
- 76 LED

KV BG12-SG12



- 75 Cable length



Connection Cables

equipped with a cable socket (sensor side) and a stranded wire on the other end.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.



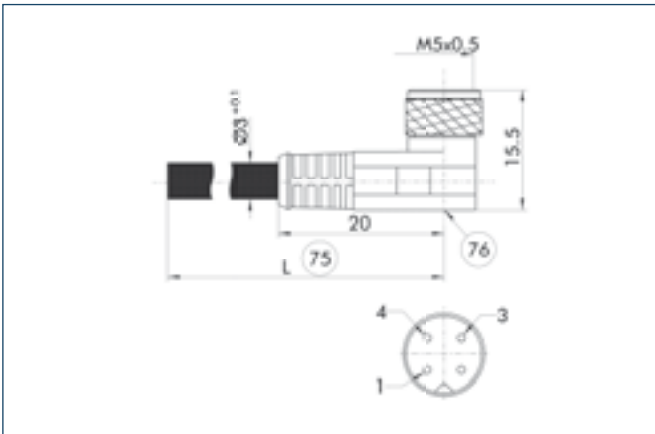
KV = Cable extensions
 KA = Cable connection
 G = Straight line plug
 W = Angle plug
 L = Litz wires
 S = Connector
 B = Bush
 4P = 4 Pins

Technical data

Description	KA BW08-L 3P-0300-PNP	KA BW08-L 3P-0500-PNP	KA BW08-L 3P-0300-NPN	KA BW08-L 3P-0500-NPN
ID	0301594	0301502	0301602	9641116
Connection, sensor side	bush	bush	bush	bush
Threads, sensor side	M8	M8	M8	M8
Output angle, sensor side [°]	90.0	90.0	90.0	90.0
Connection, control cabinet side	open wire	open wire	open wire	open wire
Threads, control cabinet side				
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0
Cable length [m]	3.0	5.0	3.0	5.0
Number of wires	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR	PUR
Weight [kg]	0.12	0.2	0.12	0.2
Max. current per wire [A]	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5

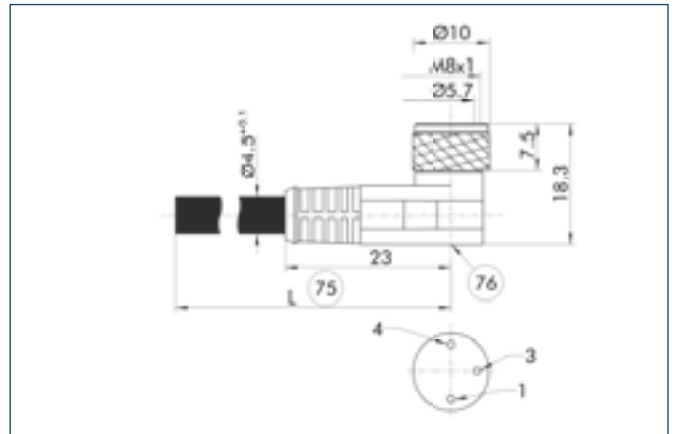
Description	KA BW05-L 3P-0300	KA BW12-L 3P-0300-PNP	KA BW12-L 3P-0500-PNP
ID	0301650	0301503	0301507
Connection, sensor side	bush	bush	bush
Threads, sensor side	M5	M12	M12
Output angle, sensor side [°]	90.0	90.0	90.0
Connection, control cabinet side	open wire	open wire	open wire
Threads, control cabinet side			
Output angle, control cabinet side [°]	0.0	0.0	0.0
Cable length [m]	3.0	3.0	5.0
Number of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR
Weight [kg]	0.1	0.136	0.2
Max. current per wire [A]	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5

BW05



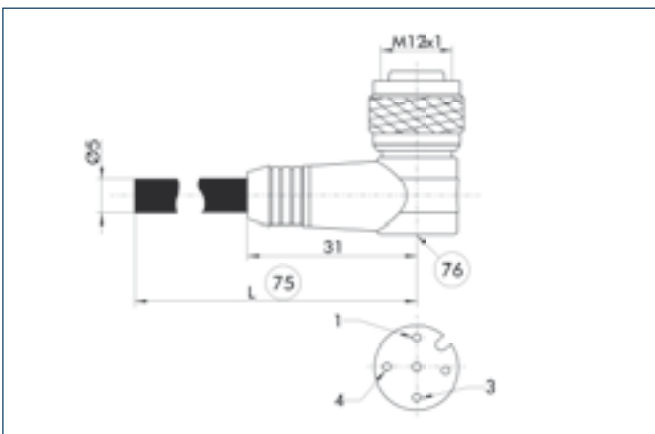
- 75 Cable length
- 76 LED

BW08



- 75 Cable length
- 76 LED

BW12



- 75 Cable length
- 76 LED

Connection Cables

equipped with a cable socket (sensor side) and a stranded wire on the other end.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.

KV = Cable extensions

KA = Cable connection

G = Straight line plug

W = Angle plug

L = Litz wires

S = Connector

B = Bush

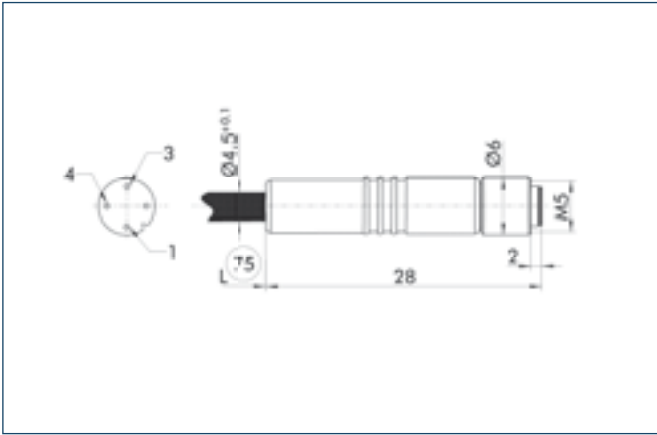
4P = 4 Pins



Technical data

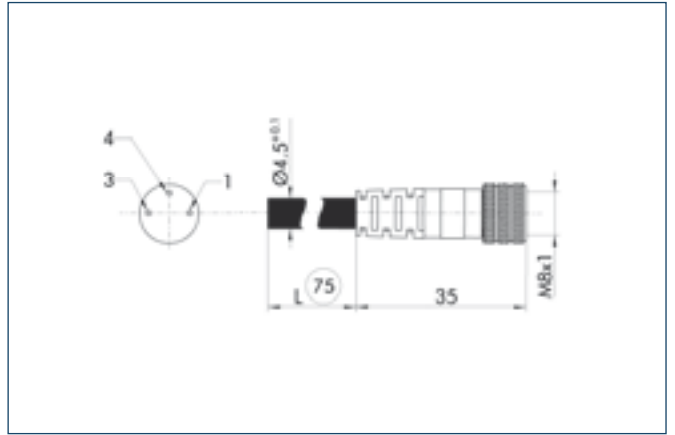
Description	KA BG05-L 3P-0300	KA BG08-L 3P-0300-PNP	KA BG08-L 3P-0500-PNP	KA BG12-L 3P-0500-PNP
ID	0301652	0301622	0301623	30016369
Connection, sensor side	bush	bush	bush	bush
Threads, sensor side	M5	M8	M8	M12
Output angle, sensor side [°]	0.0	0.0	0.0	0.0
Connection, control cabinet side	open wire	open wire	open wire	open wire
Threads, control cabinet side				
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0
Cable length [m]	3.0	3.0	5.0	5.0
Number of wires	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	2.14	0.14
Cable jacket	PUR	PUR	PUR	PUR
Weight [kg]	0.085	0.085	0.18	0.18
Max. current per wire [A]	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5

BG05



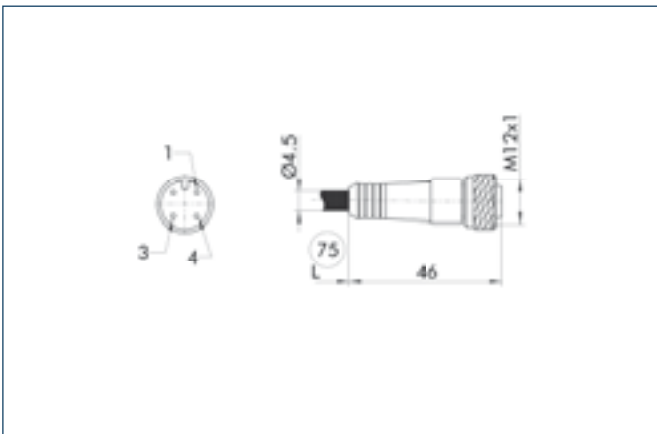
75 Cable length

BG08



75 Cable length

BG12



75 Cable length

Connection Cables

connected with a cable socket (sensor side) and a stranded wire on the other end.

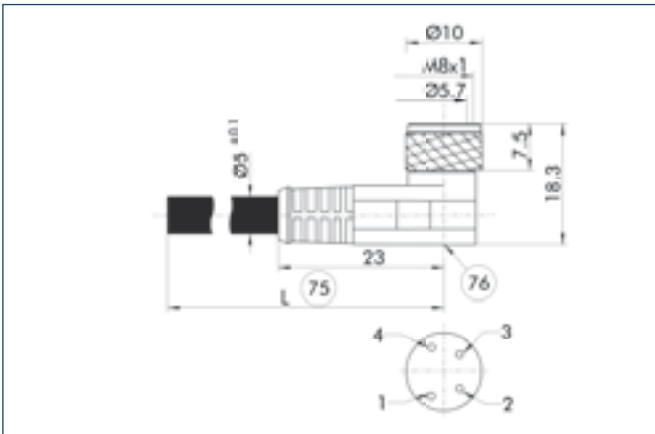


KV = Cable extensions
 KA = Cable connection
 G = Straight line plug
 W = Angle plug
 L = Litz wires
 S = Connector
 B = Bush
 4P = 4 Pins

Technical data

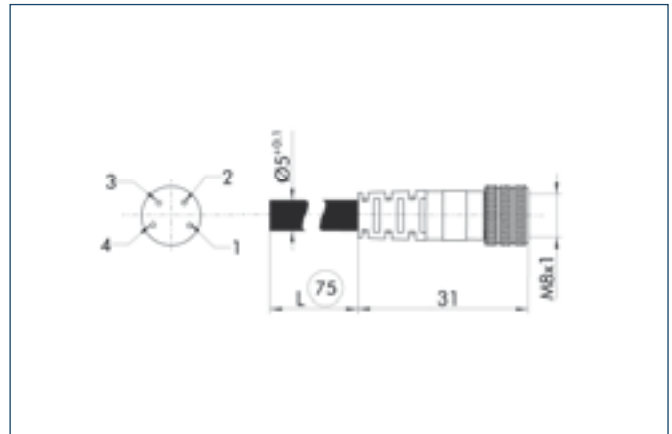
Description		KA BW08-L 4P-0500	KA BW08-L 4P-1000	KA BG08-L 4P-0500	KA BG08-L 4P-1000	KA BW08-L 5P-0500	KA BW08-L 5P-1000
ID		0307765	0307766	0307767	0307768	0307760	0307761
Design of connector		angle	angle	straight	straight	angle	angle
Basic length	[m]	5.0	10.0	5.0	10.0	5.0	10.0
Max. operating voltage	[V]	300	300	300	300	300	300
Cable diameter	[mm]	4.8	4.8	4.8	4.8	4.8	4.8
Number of conductors		14	14	14	14	14	14
Wire cross section	[mm ²]	0.25	0.25	0.25	0.25	0.25	0.25

KA BW08-L 4P



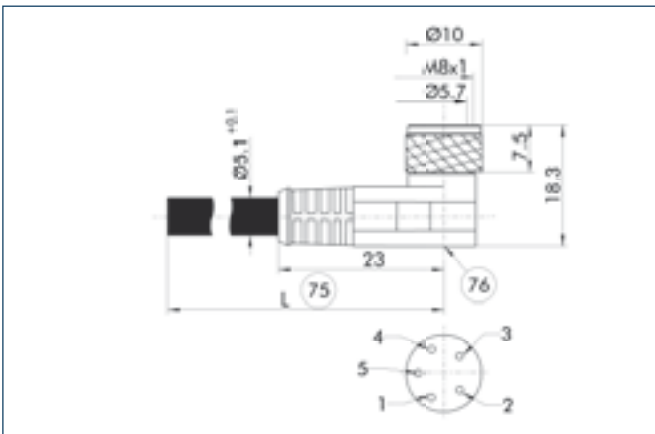
- 75 Cable length
- 76 LED

KA BG08-L 4P



- 75 Cable length

KA BW08-L 5P



- 75 Cable length
- 76 LED



Cable Connector and Socket

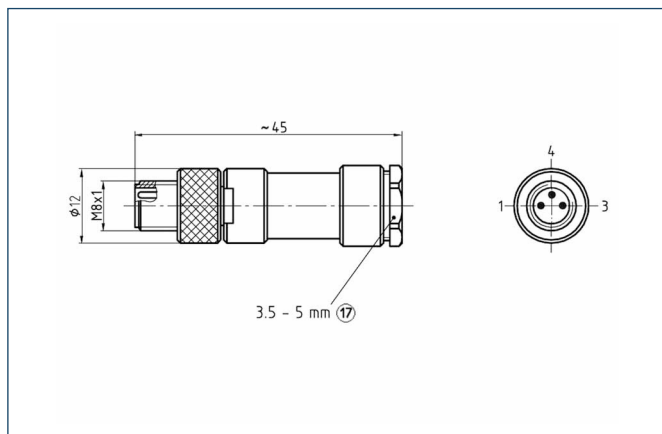
can be connected directly to cables. Cable connectors/sockets with M8 connection are soldered to the cable; cable connectors/sockets with M12 connection are connected via clamping.



Technical data

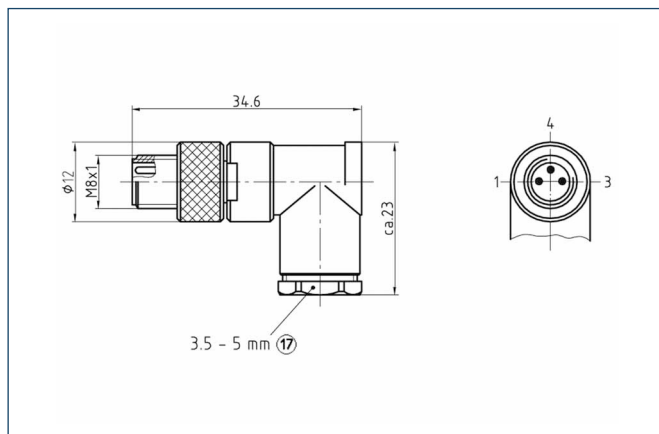
Description	KST-M8-G	KST-M8-W	KBU-M8-G	KBU-M8-W
ID	300050	300051	300052	300053
Connection	3-pin	3-pin	3-pin	3-pin
Maximum voltage [V]	60 AC / 75 DC	60 AC / 75 DC	60 AC / 75 DC	60 AC / 75 DC
Maximum current [A]	4	4	4	4
Max. connection diameter [mm ²]	0.25	0.25	0.25	0.25
Protection class	IP 67	IP 67	IP 67	IP 67
Housing material	PA	PA	PA	PA

Connector straight M8



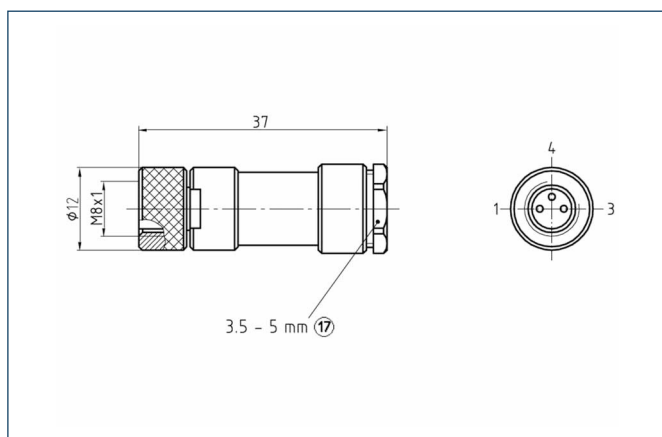
⑰ Cable outlet

Connector angled M8



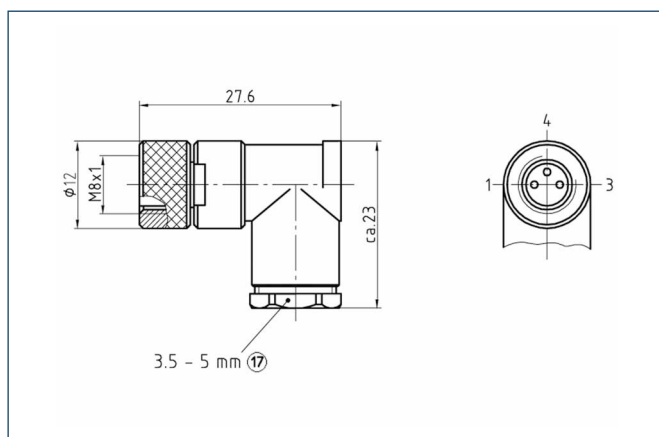
⑰ Cable outlet

Socket straight M8



⑰ Cable outlet

Socket angled M8



⑰ Cable outlet

Cable Connector and Socket

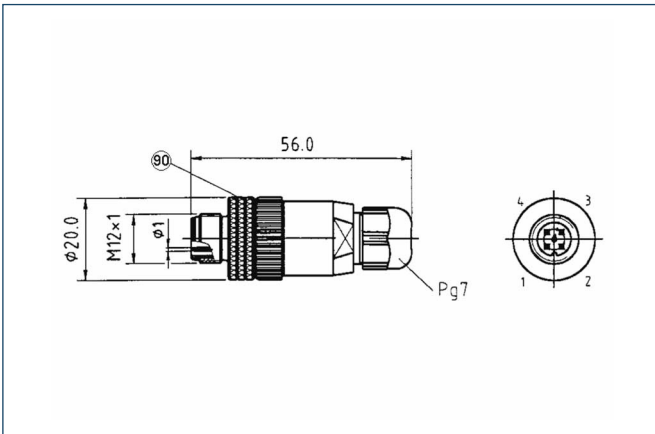
can be connected directly to cables. Cable connectors/sockets with M8 connection are soldered to the cable; cable connectors/sockets with M12 connection are connected via clamping.



Technical data

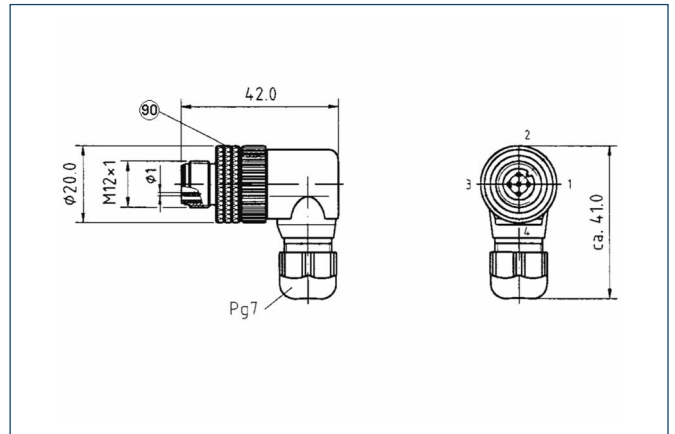
Description	KST-M12-G	KST-M12-W	KBU-M12-G	KBU-M12-W
ID	300060	300061	300062	300063
Connection	4-pin	4-pin	4-pin	4-pin
Maximum voltage [V]	250 AC / 300 DC	250 AC / 300 DC	250 AC / 300 DC	250 AC / 300 DC
Maximum current [A]	4	4	4	4
Max. connection diameter [mm ²]	0.75	0.75	0.75	0.75
Protection class	IP 68	IP 68	IP 68	IP 68
Housing material	PA	PA	PA	PA
Cable clamping range [mm]	Ø 2.5 - 6.5	Ø 2.5 - 6.5	Ø 2.5 - 6.5	Ø 2.5 - 6.5

Connector straight M12



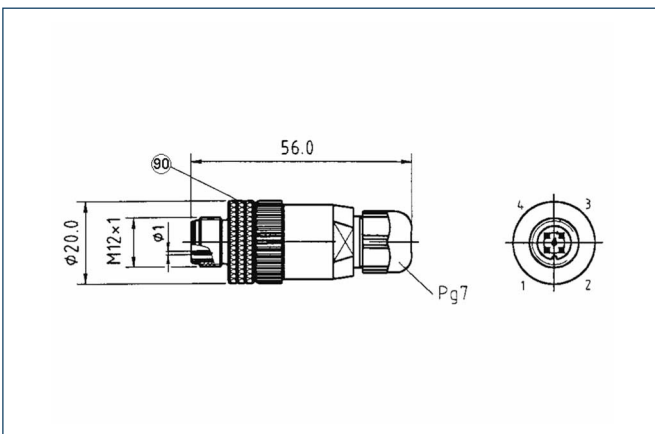
⑨ Locking ring

Connector angled M12



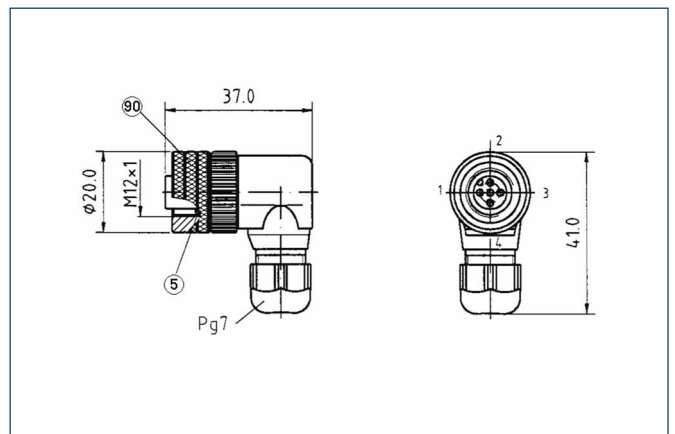
⑨ Locking ring

Socket straight M12



⑨ Locking ring

Socket angled M12



⑤ O-ring
⑨ Locking ring

Analog Position Sensor System

Mechanical, analog system comprising sensor and processor for accurately recording the position of gripper jaws.



Function description

The high-resolution APS-M1S sensor is actuated by an inclined surface (mounting kit), which is attached to the gripper base jaw. The changes in position of the sensor are recorded, amplified, prepared and made available to an analog output by the APS-M1E processor.

Your advantages and benefits

Position output
as voltage (V) or current (mA)

Precise measuring system
also for long strokes

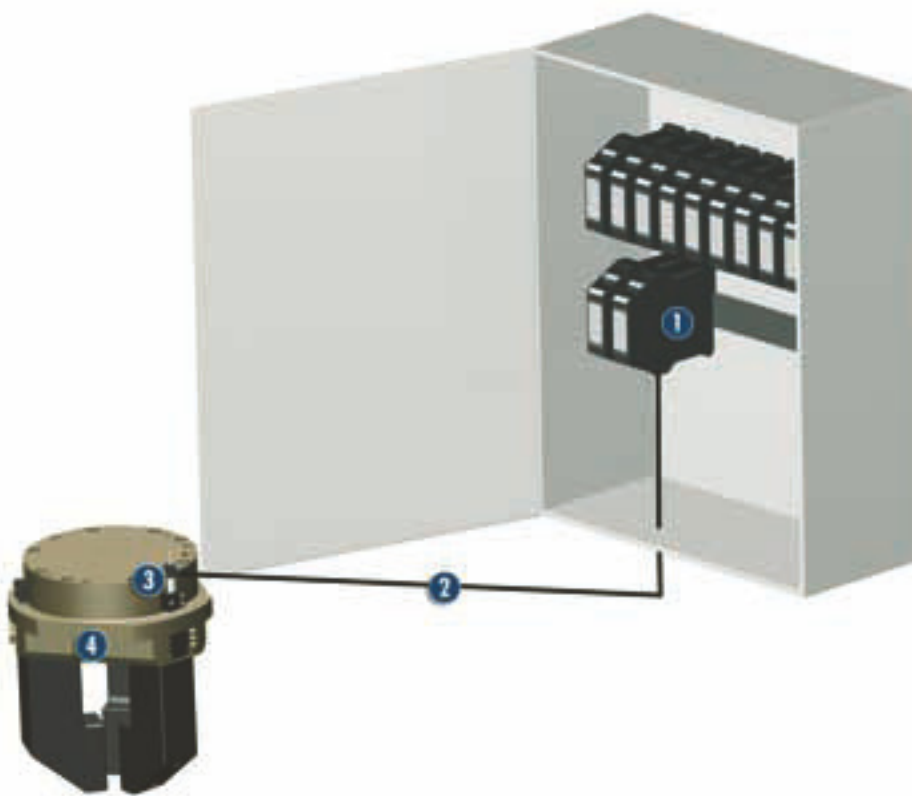
Compact design
for space-saving installation in any control cabinet

Conforms to CE
for absolute safety and long life during permanent operation

Application example

Area of application

for the precise measurement of the gripper jaw position in clean environments



1 APS-M1E Processor

2 APS-K7 Extension Cable

3 APS-M1S Sensor

4 PZN-plus 100 3-Finger Centric Gripper

General information

Warranty

24 months

Ordering

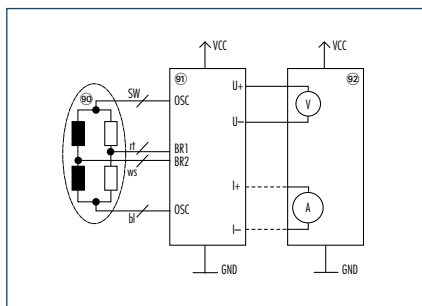
The sensor and processor must be ordered as individual items.

Notes

The accuracy of the complete system as stated here is available from a stroke per jaw of 7 mm. The entire range of the sensor cannot be exploited with smaller strokes. The relative accuracy (ratio of repeat accuracy to jaw stroke) decreases, the absolute repeat accuracy (in mm) is the same as for a gripper with a 7 mm stroke, i.e. 0.021 mm.



Wiring diagram



- ⑨⑩ APS-M1S Sensor
- ⑨① APS-M1E Electronic Processor
- ⑨② Automation device, e.g. S7-300

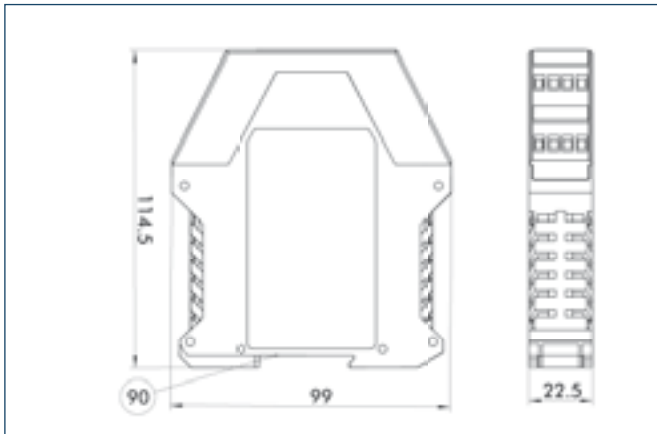
ⓘ When using an APS system, a mounting kit, APS sensor (APS-M1S) and processor (APS-M1E) are required for each gripper. The mounting kits can be found with the grippers. Mounting kits for other components/grippers are available on request. The sensor has a 3 m molded cable.

Technical data

Description		APS-M1S
ID		0302062
Measuring stroke	[mm]	2.0
Measuring accuracy	[mm]	0.004
Nominal current input	[A]	0.023
Tightness		67
Thermal drift of zero signal	[%/10K]	0.1
Thermal drift of amplification factor	[%/10K]	0.2
Min. ambient temperature	[°C]	10.0
Max. ambient temperature	[°C]	60.0
Weight	[kg]	0.16
Sensor material		Steel
Cable sheath		PUR

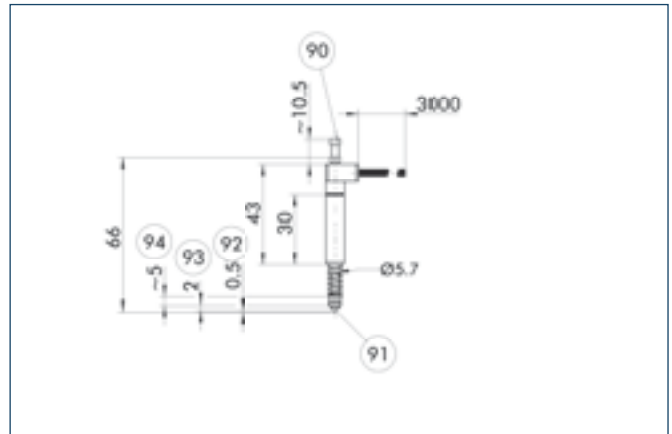
Description		APS-M1E
ID		0302064
Supply voltage		DC
Nominal voltage	[V]	24.0
Min. voltage	[V]	22.0
Max. voltage	[V]	26.0
Nominal power current	[A]	0.1
IP class		20
Min. ambient temperature	[°C]	0.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy (sensor and processor)	[%]	0.3
Weight	[kg]	0.16
Housing material		PA
Output signal		0..10 V DC 4..20 mA
Fastening		top hat rail

APS processor



90 Groove for mounting rail

APS sensor



- 90 Position with retracted feeler rod
- 91 Carbide ball 1/8"
- 92 Initial stroke
- 93 Range of measurement
- 94 Free stroke

Mounting kits

The suitable mounting kit is specified with the gripper.

ID	Description
0302075	AS-APS-M1-64/1
0302076	AS-APS-M1-64/2
0302077	AS-APS-M1-80/1
0302078	AS-APS-M1-80/2
0302079	AS-APS-M1-100/1
0302080	AS-APS-M1-100/2
0302081	AS-APS-M1-125/1
0302082	AS-APS-M1-125/2
0302083	AS-APS-M1-160/1 and 240/2
0302084	AS-APS-M1-160/2
0302085	AS-APS-M1-200/1 and 380/2
0302086	AS-APS-M1-200/2
0302087	AS-APS-M1-240/1
0302088	AS-APS-M1-300/1
0302089	AS-APS-M1-300/2
0302090	AS-APS-M1-380/1

APS-K extension cable

As an option, an extension cable can be connected between the sensor and the processor. (The max. cable length between the sensor and the processor is 10 m, between the processor and its controller (SPC) max. 1 m.)

Description	ID	Length
APS-K0200	0302066	2.0 m
APS-K0700	0302068	7.0 m

FPS Flexible Position Sensor

The FPS sensor system measures the position of gripper jaws. It then indicates in which of the five freely teachable zones the jaws currently are. Additionally the jaw position can be read out via the „FPS Controller“ software.



Function description

A permanent magnet that moves with the base jaw permeates the FPS sensor with its magnetic field. The strength of this permeation changes depends on the distance of the magnet from the sensor. This variable is recorded, evaluated and output by the FPS electronic processor.

Your advantages and benefits

Simplest operation

with just two buttons, or with the machine control system using free control lines

Simple start-up

as the customer can set all positions during the teaching operation

Five digital outputs

for greater economy as compared to individual sensors

Small distance between two switching points, adjustable

Resistant to contamination

through non-ferromagnetic materials

Function and switching status display

via LEDs on the electronic processor

Conforms to CE

for safety and long life during permanent operation

Digital technology

for resistance to interference

Additional advantages of the FPS-F5 and F5 T

- Measuring functionality
- Communication and remote maintenance via RS-232 protocol
- Position programming and readout of switching points
- Monitoring of temperature and input voltage
- Visualization via PC possible
- Data logging
- Calibration of system to gripper stroke
- Intelligent access authorization
- Adaptation to new product during the process

Application example



Area of application

Position sensing of gripper jaws up to a stroke of approx. 30 mm in environments that may be clean or dirty, but are free from steel chips.

General information

Resolution

The resolution is the minimum stroke difference that is required in order to reliably distinguish between two signals. Used in conjunction with most SCHUNK grippers, the FPS system achieves a resolution of 1 – 3 % of a jaw stroke. However, in some grippers a resolution of only 10 % is achieved due to the nature of the design. More precise resolutions may be reached, however, with the use of special solutions. Please contact us regarding the resolution/accuracy of the FPS system.

Connector for the electronic processor (enclosed)

12-pin circular connector (Binder type series 723, waterproof) suitable for connection cables with a diameter of 6 to 8 mm, recommended conductor cross-section 0.14 mm² (max. 0.25 mm²)

Ambient conditions

Use within the range of strong magnetic fields is not recommended. Neither the FPS sensor nor the FPS magnet may come into contact with ferromagnetic dust, chips or other substances.

Display

Five colored LEDs

Range of measurement

5 to 30 mm with SCHUNK magnet (NdFeB magnet cut to size, dimensions (6 x 25 mm x L) with various lengths L depending on the part of the range of measurement

Material

Processor: Plastic PA 6

Cable: PU, resistant to coolants/lubricants

Warranty

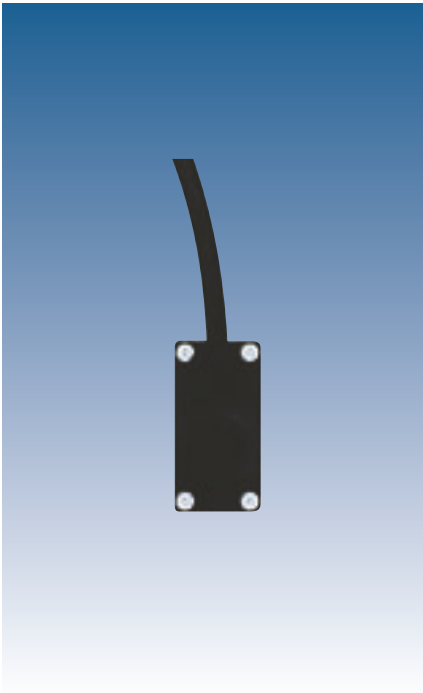
24 months

Notes

All data were determined on the basis of SCHUNK attachments and specifications. Please consult us regarding use of the sensor with modules from other manufacturers.

FPS Sensors

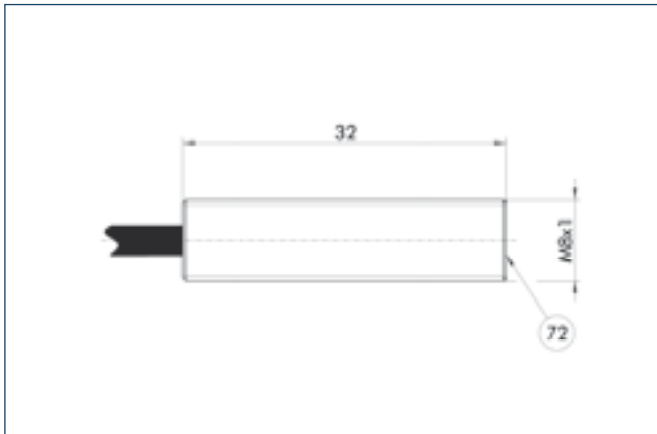
Either the FPS-S13 or the FPS-SM8 sensor is required, depending on the type of gripper. Each sensor is connected to its own FPS-F5/F5T processor.



Technical data

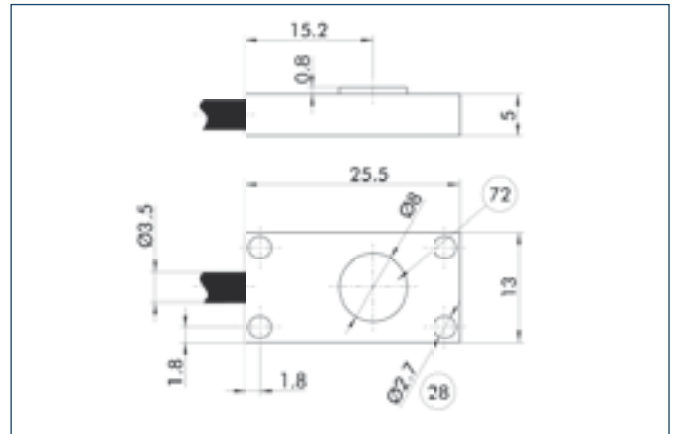
Description		FPS-S 13	FPS-S M8
ID		0301705	0301704
Cable diameter	[mm]	3.5	3.5
Cable length	[cm]	30.0	30.0
Connection of FPS on processor side		M8	M8
Weight	[kg]	0,01	0,015
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
IP class (sensor)		65	65
IP class (connector, plugged in)		65	65
Min. bending radius (dynamic)	[mm]	17.5	17.5
Min. bending radius (static)	[mm]	35.0	35.0

S-M8 sensor



72 Active sensor surface

S13 sensor



28 Through-bore

72 Active sensor surface

Cable extensions

Max. extension between FPS sensor and electronic processor for trouble-free operation: 1 m

Description	ID	Length
KV BG08-SG08 3P-0050	0301598	0.5 m
KV BG08-SG08 3P-0100	0301599	1.0 m





FPS-F5 Processor

Measurement of the gripper stroke using sensors, assignment to the positions/zones "Open", "Intermediate position 1,2,3" or "Closed", and output of a position signal. A maximum of four switching points/five zones are freely programmable, RS-232 interface, remote maintenance, measuring functionality, system calibration to the millimeter, temperature and voltage monitoring.

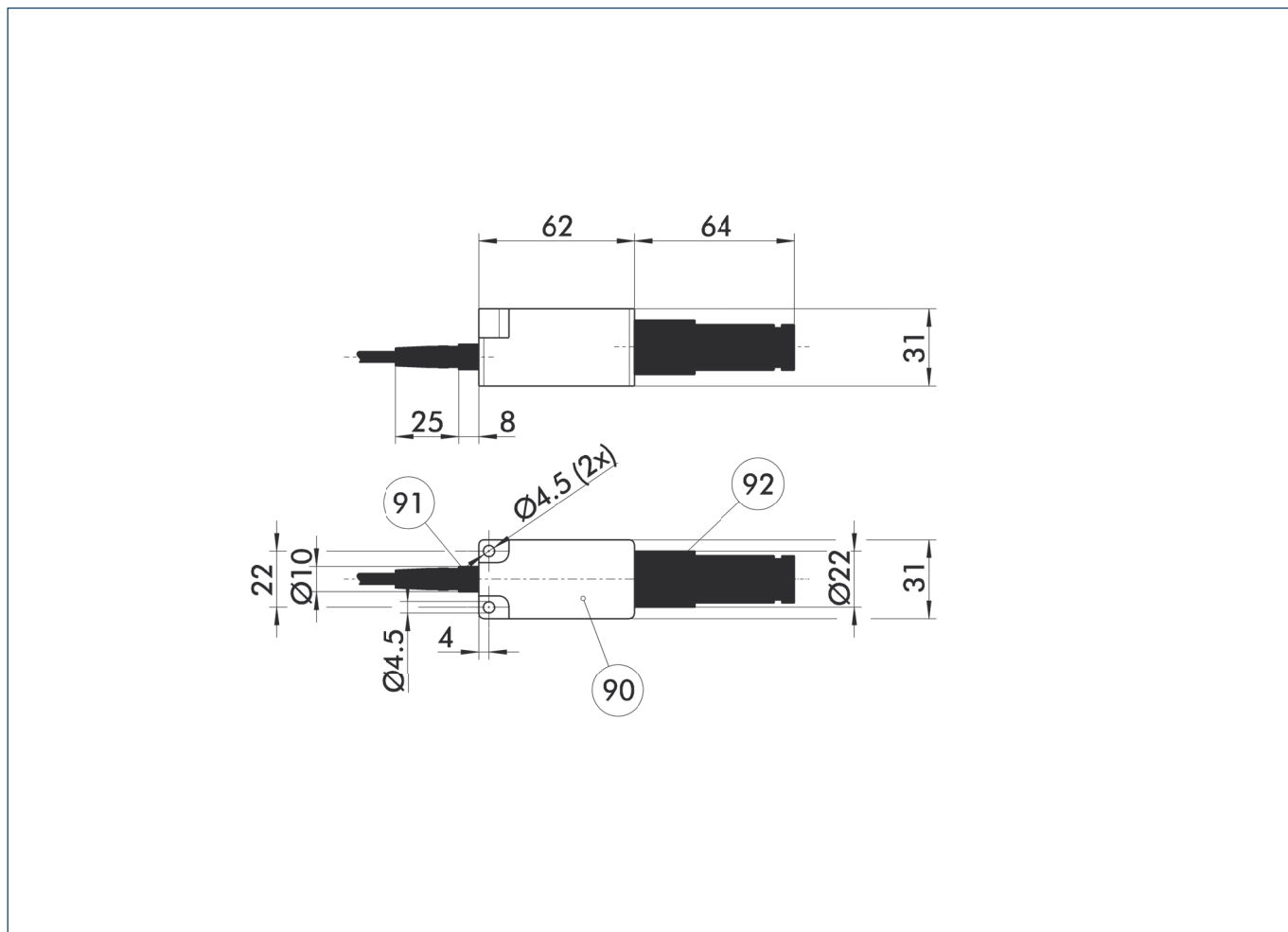
FPS-F5T Processor

Measurement of the gripper stroke using sensors, comparison with target value, output of tolerance information "Within tolerance", "Above tolerance" or "Below tolerance", plus "Open" and "Closed". Otherwise, like the FPS-F5.

Technical data

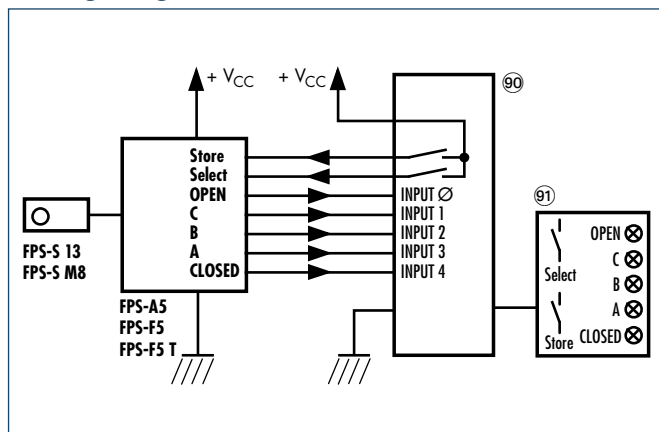
Description		FPS-F5	FPS-F5 T
ID		0301805	0301807
Nominal voltage	[V]	24.0	24.0
Min. voltage (DC)	[V]	10.0	10.0
Max. voltage (DC)	[V]	30.0	30.0
Nominal current (DC)	[A]	0.01	0.01
Weight	[kg]	0.06	0.06
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
IP class		65	65

Main view



- ⑨0 Transparent plastic cover, over control and display panel
- ⑨1 Connector on sensor side
- ⑨2 Connector on control cabinet side

Wiring diagram



- ⑨0 SPC/PLC
- ⑨1 Machine panel (provided by customer)

For the contact assignment of the connections on the SPC side, please refer to the user's manual.

Cable extension (open wires)

from the electronic processor to the control cabinet

Description	ID	Length
KA SG16-L 12P-1000	0301801	10.0 m

Software for FPS-F5/F5 T

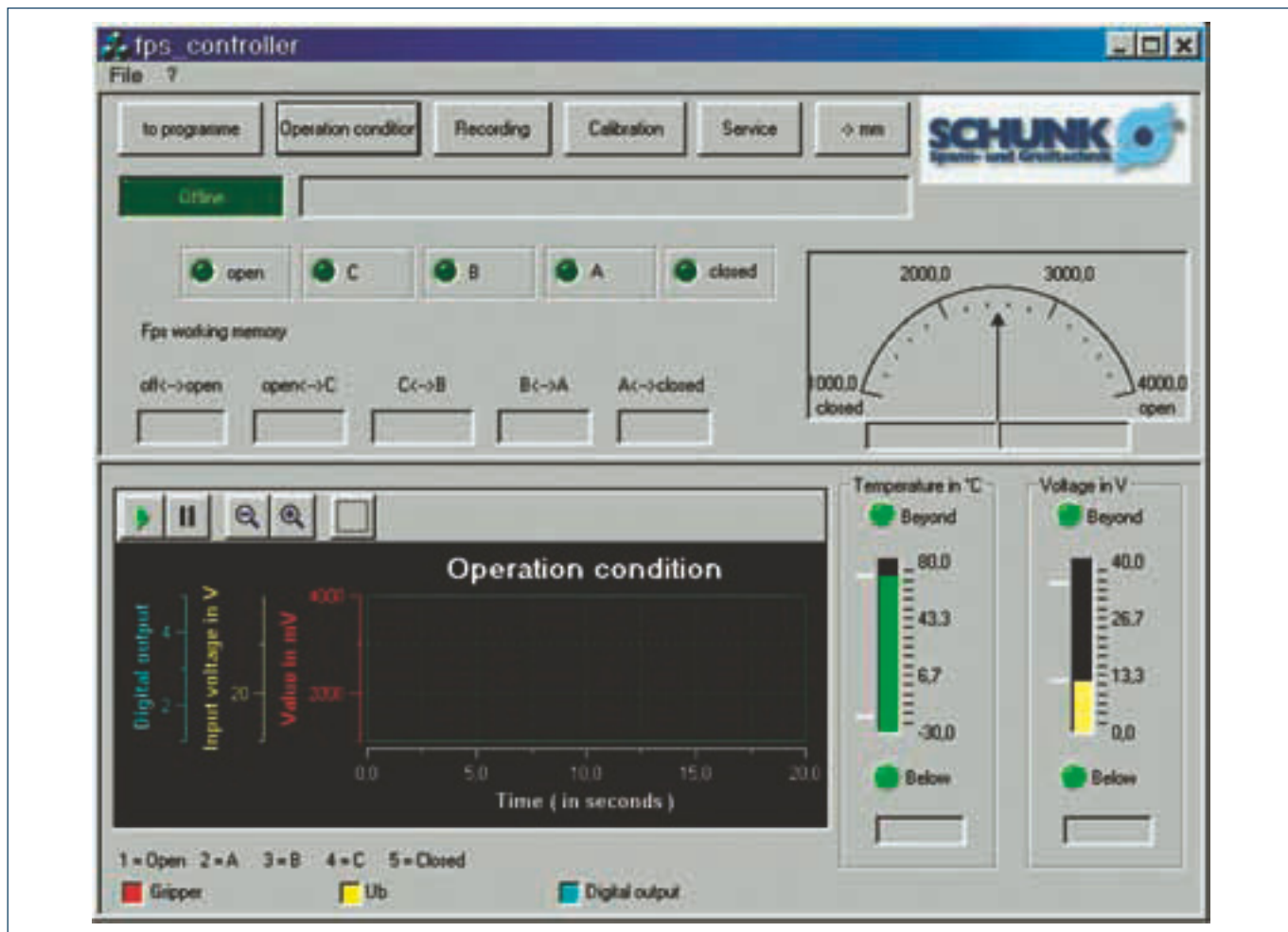
The free FPS Controller software allows the user to monitor the FPS processor via an RS-232 interface. As a result, the FPS system can be calibrated to stroke measurement, the position can be read out and the FPS processor can be programmed. The FPS software also provides access to all auxiliary functions.



Technical data

Description	Software
ID (CD)	0301806
Download	www.schunk.com
Operating system	MS Windows

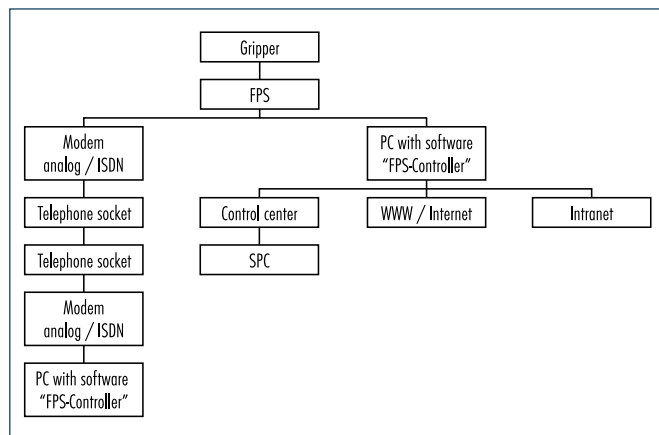
Screenshot software



Set-up with laptop



Possible connection methods



Force Measuring System

The FMS force measuring system is used for measuring the gripping forces during the gripping process. This opens up numerous new possibilities both during start-up and in the production process.



Function description

The FMS intermediate jaws are screwed on between the gripper base jaw and the top jaw, which comes in contact with the workpiece. Gripping forces on the top jaw result in a flow of force through the FMS intermediate jaw. Intelligently arranged strain gauges inside the intermediate jaw react to the resulting deformation. The FMS processor detects the change in the strain gauges and emits an analog signal indicating the force.

Your advantages and benefits

Simplest handling

via a control line that is directly connected to an SPC

Easy-to-perform measurement

of the actual, active gripping force

Result output via analog voltage value

Simple, linear relationship
between output voltage and gripping force

Simple zero balancing

with button or via control line

Integrated LCD

for visual monitoring

Easy assembly

Dirt-proof and waterproof

also for use in extreme ambient conditions.

Application example



1 PGN-plus 100 AS
2-Finger Parallel Gripper

2 FMS-ZBA Intermediate Jaw
with Sensor (active)

3 FMS-ZBP Intermediate Jaw
without Sensor (passive)

4 Workpiece-specific Gripper Finger

5 Electronic Processor

Area of application

Gripping force control

By sending control signals to the proportional valve that supplies the gripper, the SPC can influence the automatically measured gripping force.

Teaching robots

When gripping firmly fixed workpieces, the teaching of robots is simple and precise. Symmetrical gripping only takes place if the left- and right-hand gripper jaws apply the same force – thereby protecting the gripper and the robot.

Static grip force monitoring

Monitoring the grip force as the jaws close prevents the workpiece from being dropped when movement initiates. Overload protection by monitoring the max. permitted force, which can be triggered e.g. by an inadvertent increase in pressure, by off-center gripping or the incorrect positioning of the workpiece.

Preventive maintenance by replacing grippers in good time when there is a decline in the gripping force. This avoids unexpected manufacturing down-times.

Dynamic grip force monitoring

The effect of acceleration forces on the gripper jaws can be recorded and the motion sequence modified if necessary. Component monitoring during highly dynamic movements.

Measuring and teaching processes

Dimensional checking of the gripped component on the basis of an inserted reference component. If the component to be measured differs by more than ± 0.05 mm from the reference component, teaching can take place.

If the difference is smaller, the precise dimensions can be measured accurately even to within ± 0.002 mm.

Gauging the weight of the component by measuring the force due to weight of the component on the gripper fingers.

General information

For all PGN-plus and PZN-plus grippers

and gripper with identical finger connection diagram available as a standard product, and for other grippers on request (remember to ask about the delivery time!)

Conforms to CE

for absolute safety and long life during permanent operation

Warranty

24 months

Notes

The FMS force measuring system allows you to measure forces that act on the base jaw in the direction of the jaw movement. Up to three active (equipped with sensors) FMS-ZBA intermediate jaws are required for this purpose, depending on the application. The remaining base jaws are equipped with FMS-ZBP passive intermediate jaws (without sensors). Each FMS-ZBA active intermediate jaw requires an FMS-A1 electronic processor for evaluation, and an FMS-AK connection cable for connecting the electronic processor to an SPC or a control cabinet.

FMS Processor

Each FMS-ZBA active intermediate jaw requires an electronic processor.

The FMS-A1 processor is required for intermediate jaw sizes up to 125, the FMS-A2 processor from size 160.

The electronic processor is used to prepare, display and forward the measurement results. It is equipped with a housing connector and socket for connecting the force measuring jaw and the connection cable.

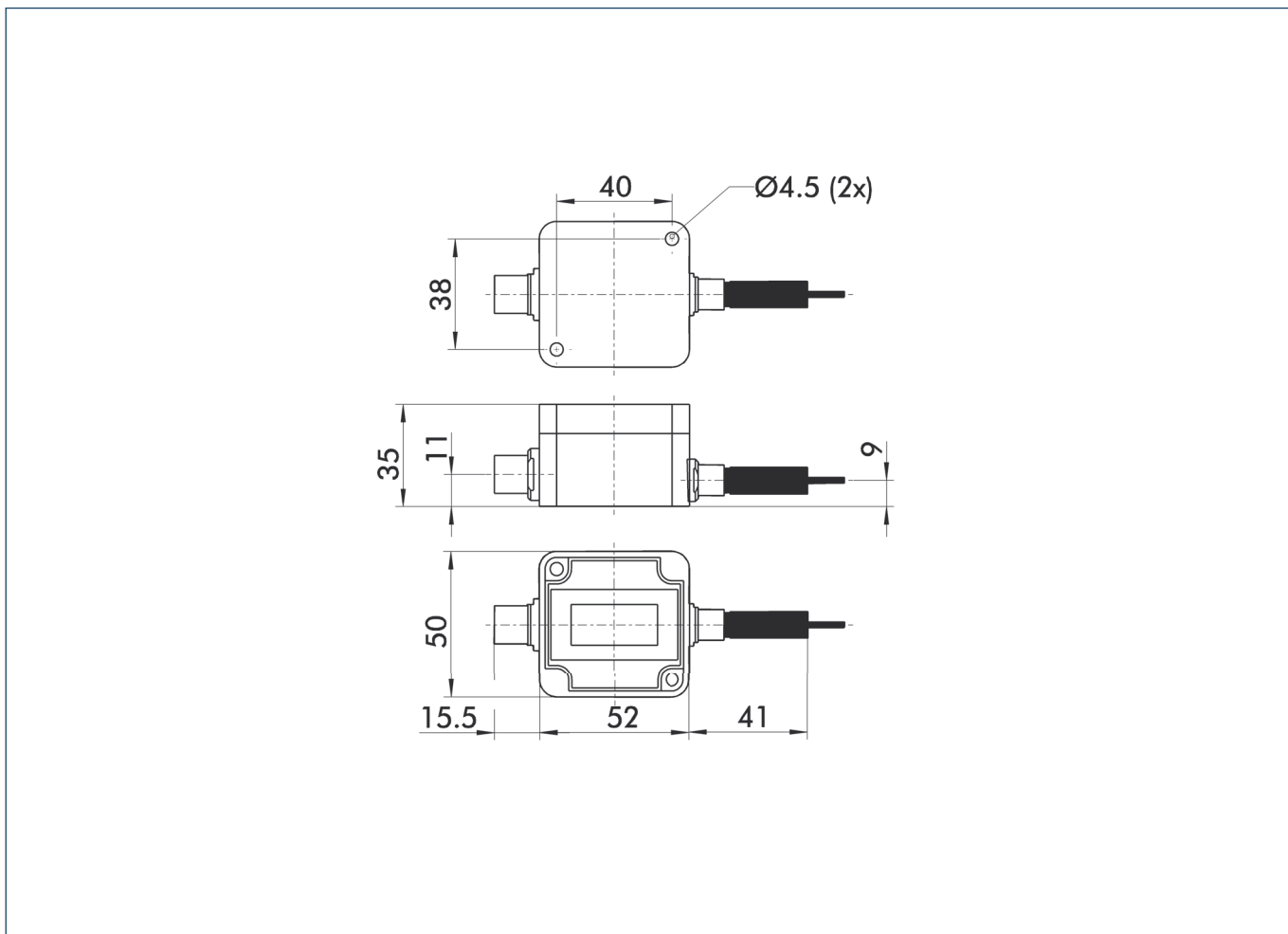


Technical data

Description	FMS-A1	FMS-A2
ID	0301810	0301811
Measuring accuracy [%]	3.0	5.0
Output signal	- 5VDC.. +5VDC	- 5VDC.. +5VDC
Type of voltage	DC	DC
Nominal voltage [V]	24.0	24.0
Min. voltage [V]	18.0	18.0
Max. voltage [V]	30.0	30.0
Nominal power current [A]	0.0045	0.0045
IP class	67	67
Weight [kg]	0.38	0.38

- ① The output voltage is linear to the forces occurring at the gripper fingers. The bandwidth of the output signal is not fully exploited by every active intermediate jaw. Zero balancing must be performed prior to measurement. The limit class A according to EN 61326 is complied with. The test to EN 61000-4-2, EN 61000-4-3, EN 61000-4-4 and EN 61000-4-6 was passed in conformity with EN 61326.

Main view



FMS-AK connection cable

The FMS-AK connection cable is used for connecting the electronic processor to a control cabinet or an SPS. A cable bushing is fitted on the side of the electronic processor, the other side is open.

Description	ID	Length
FMS-AK0500	0301821	5.0 m
FMS-AK1000	0301822	10.0 m
FMS-AK2000	0301823	20.0 m

Force Measuring Jaws

The force measuring jaw is situated between the gripper base jaw and the top jaw. The gripping force is conducted through it. Active intermediate jaws measure these forces and transfer the measured value to the electronic processor. Active intermediate jaws are equipped with a 30 cm cable and a cable connector. Passive intermediate jaws act solely as a bridge for the forces.

Definitions

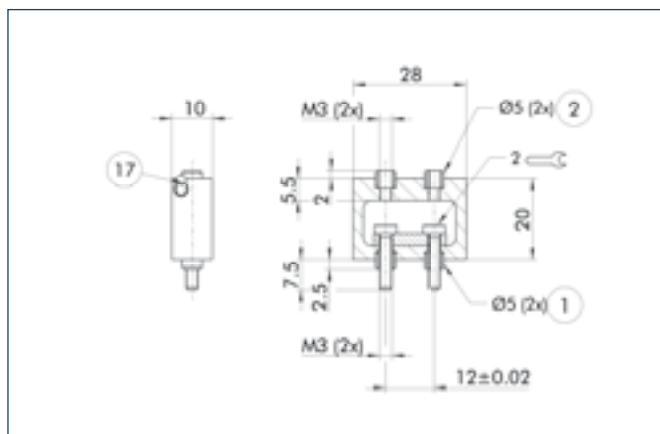
The range of measurement is the range in which the overall system has an accuracy of < 3 %. The overload range is the range in which the overall system has an accuracy of > 3 %. At the end of the overload range there is a risk of mechanical destruction of the intermediate jaw.



Technical data

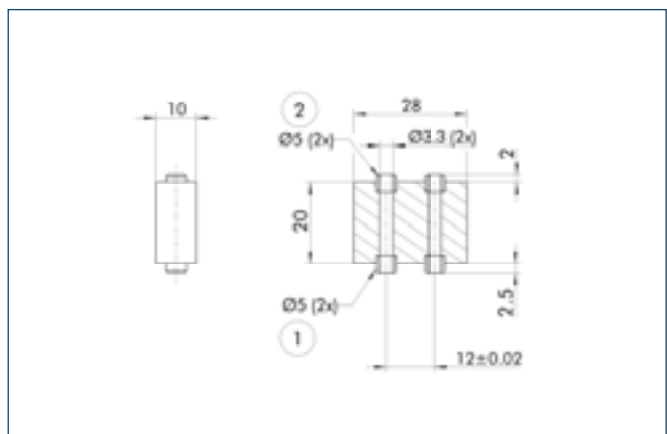
Description	ID	Start of range of measurement [N]	End of range of measurement [N]	End of overload range [N]	Weight [kg]	Min. ambient temperature [°C]	Max. ambient temperature [°C]
FMS-ZBA 50	0301830	0.0	145.0	290.0	0.03	-10.0	70.0
FMS-ZBP 50	0301831				0.02		
FMS-ZBA 64	0301832	0.0	260.0	520.0	0.04	-10.0	70.0
FMS-ZBP 64	0301833				0.025		
FMS-ZBA 80	0301834	0.0	430.0	860.0	0.056	-10.0	70.0
FMS-ZBP 80	0301835				0.035		
FMS-ZBA 100	0301836	0.0	685.0	1370.0	0.082	-10.0	70.0
FMS-ZBP 100	0301837				0.055		
FMS-ZBA 125	0301838	0.0	1120.0	2240.0	0.128	-10.0	70.0
FMS-ZBP 125	0301839				0.105		
FMS-ZBA 160	0301840	0.0	1600.0	3200.0	0.24	-10.0	70.0
FMS-ZBP 160	0301841				0.185		
FMS-ZBA 200	0301842	0.0	2325.0	4650.0	0.403	-10.0	70.0
FMS-ZBP 200	0301843				0.34		
FMS-ZBA 240	0301844	0.0	3700.0	7400.0	0.69	-10.0	70.0
FMS-ZBP 240	0301845				0.59		
FMS-ZBA 300	0301846	0.0	5150.0	10300.0	0.907	-10.0	70.0
FMS-ZBP 300	0301847				0.78		
FMS-ZBA 380	0301848	0.0	7100.0	14200.0	1.84	-10.0	70.0
FMS-ZBP 380	0301849				1.6		

FMS-ZBA 50



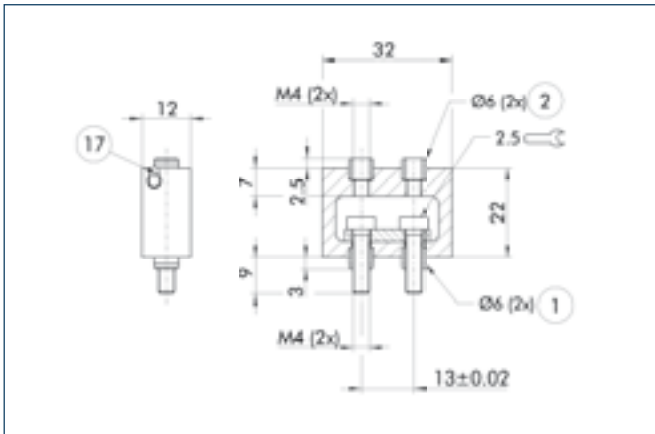
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 50



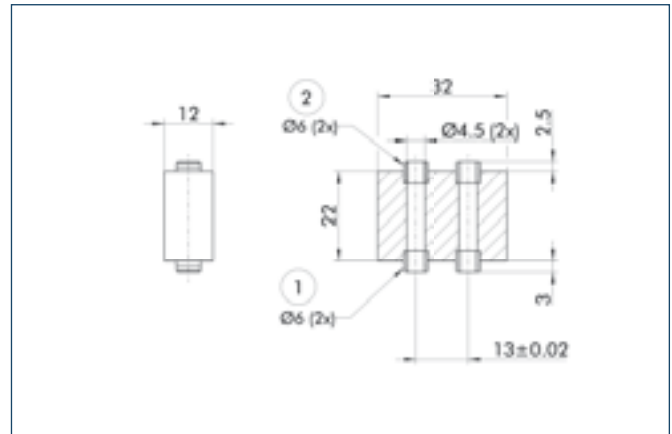
- ① Gripper connection
- ② Finger connection

FMS-ZBA 64



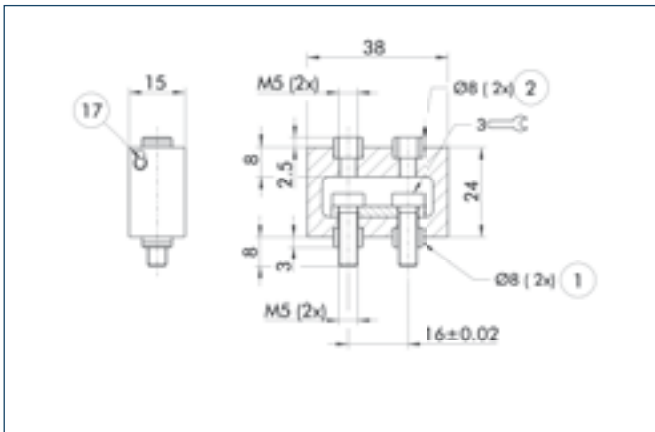
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 64



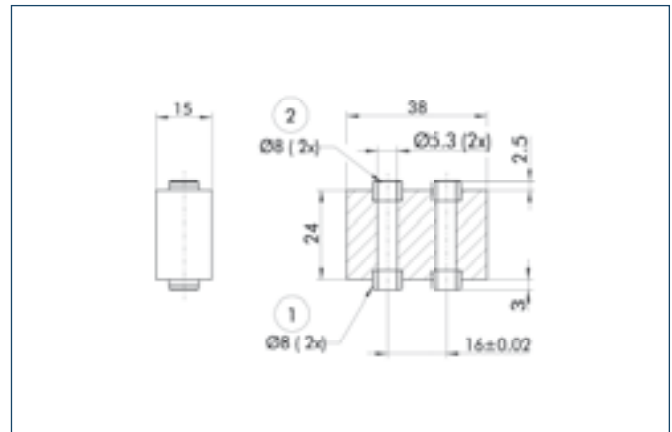
- ① Gripper connection
- ② Finger connection

FMS-ZBA 80



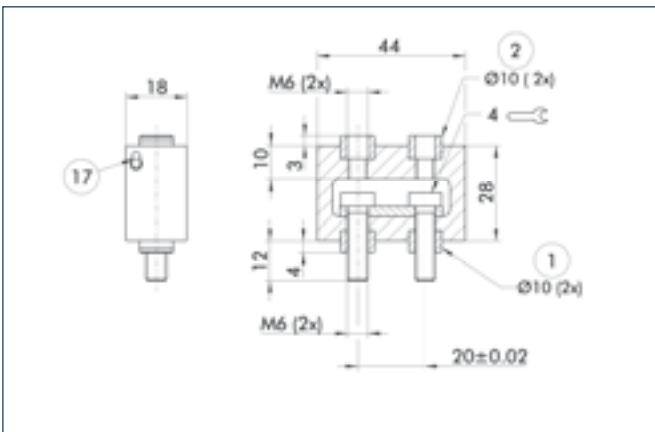
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 80



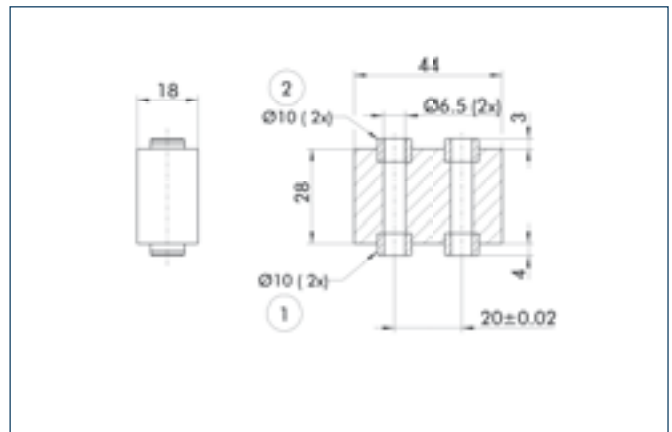
- ① Gripper connection
- ② Attachment connection

FMS-ZBA 100



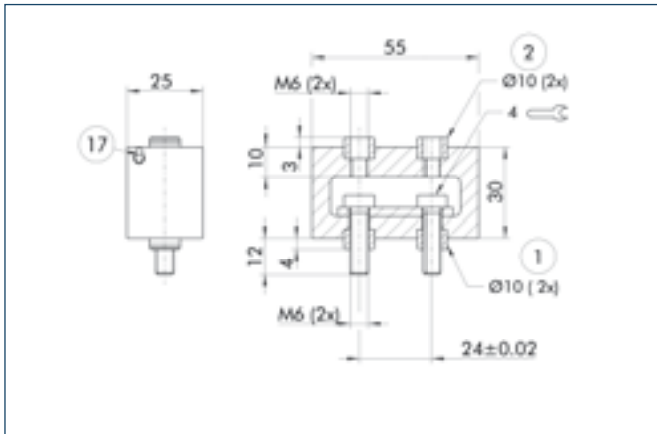
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 100



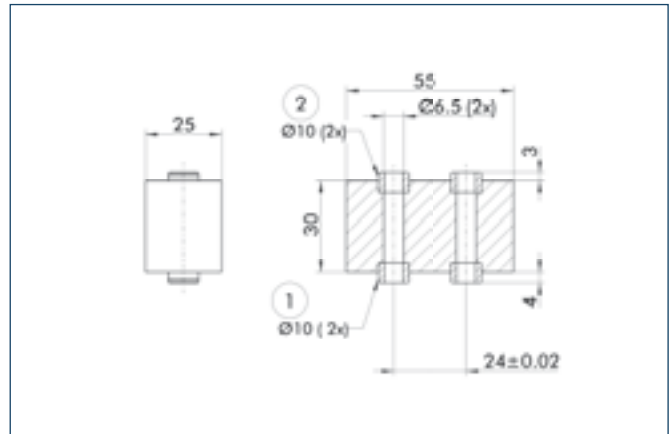
- ① Gripper connection
- ② Finger connection

FMS-ZBA 125



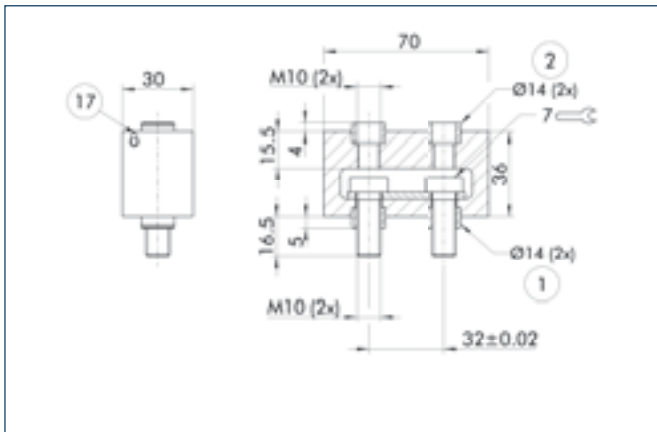
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 125



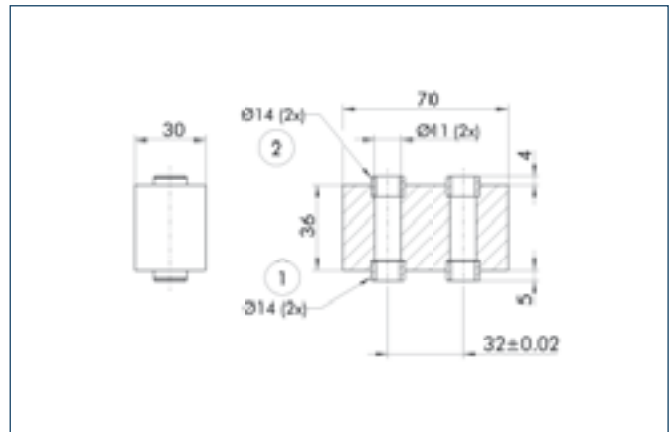
- ① Gripper connection
- ② Finger connection

FMS-ZBA 160



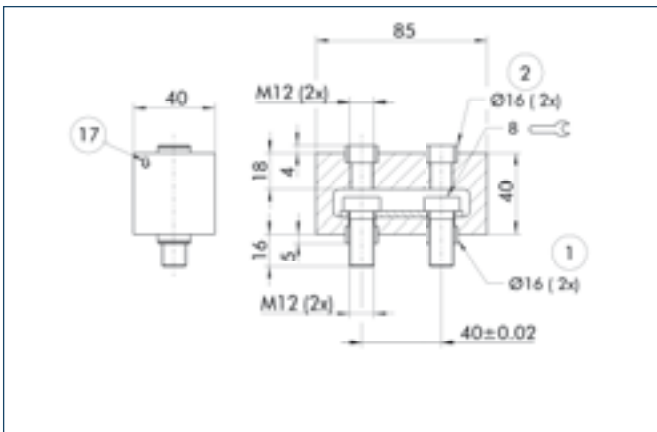
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 160



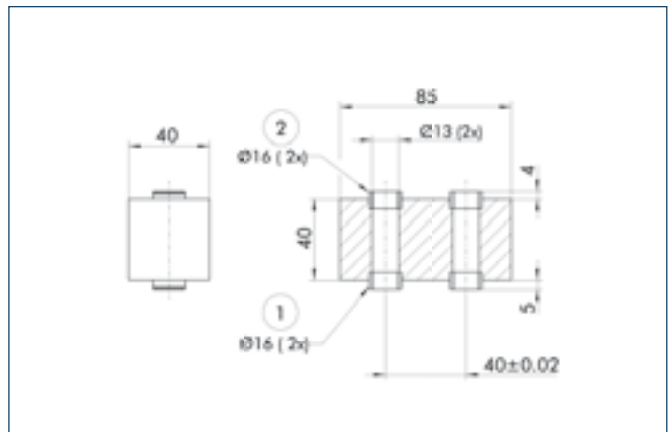
- ① Gripper connection
- ② Finger connection

FMS-ZBA 200



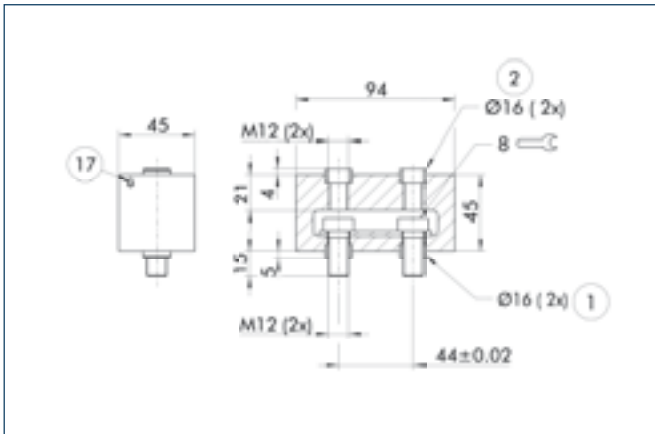
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 200



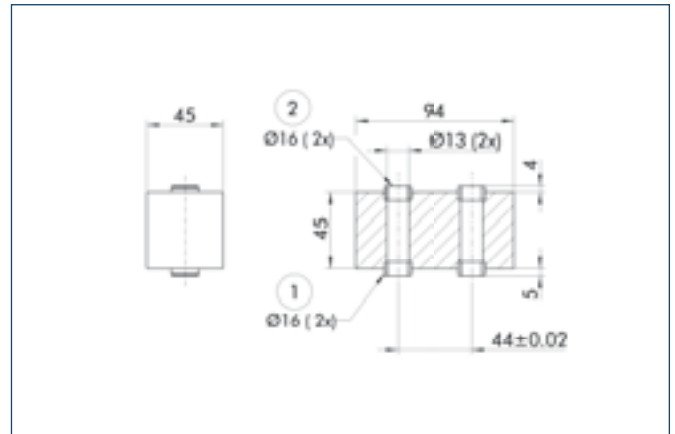
- ① Gripper connection
- ② Finger connection

FMS-ZBA 240



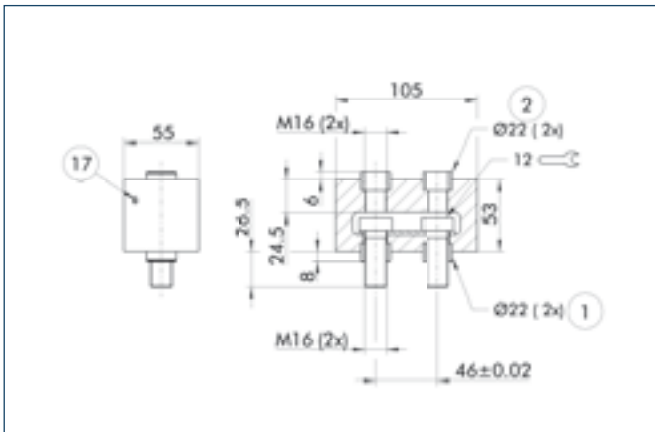
- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

FMS-ZBP 240



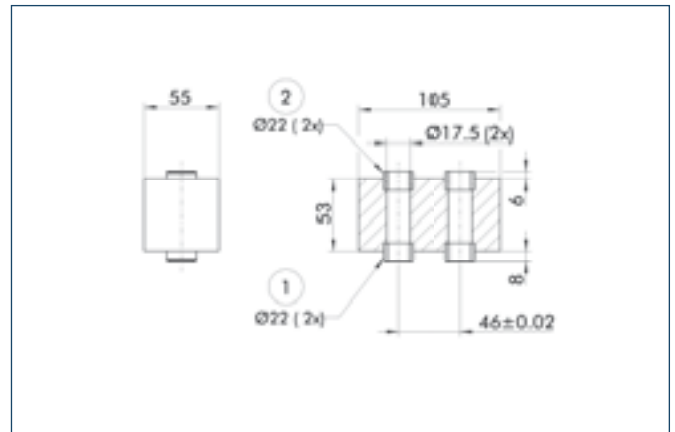
- ① Gripper connection
- ② Finger connection

FMS-ZBA 300



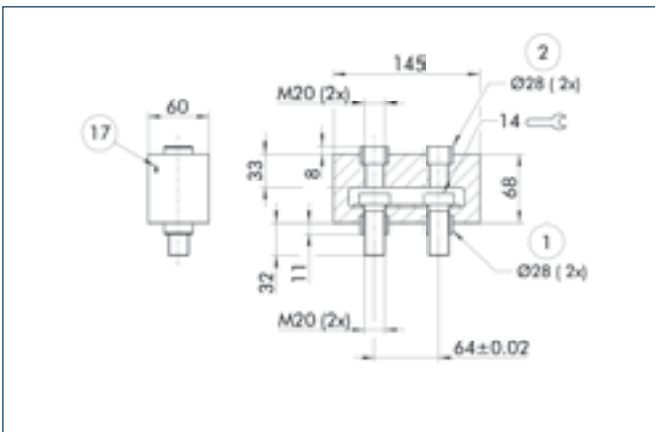
- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

FMS-ZBP 300



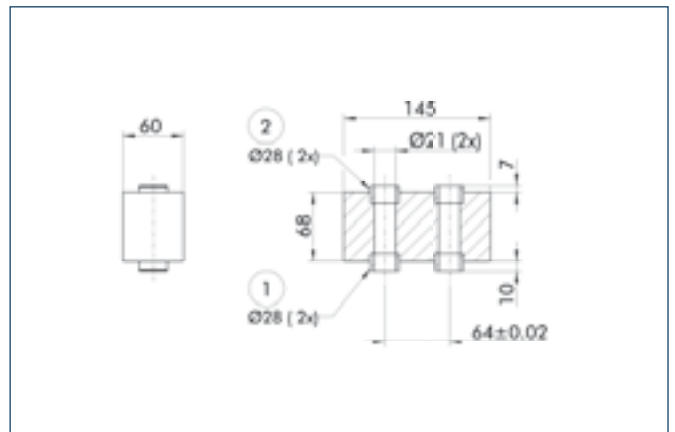
- ① Gripper connection
- ② Finger connection

FMS-ZBA 380



- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

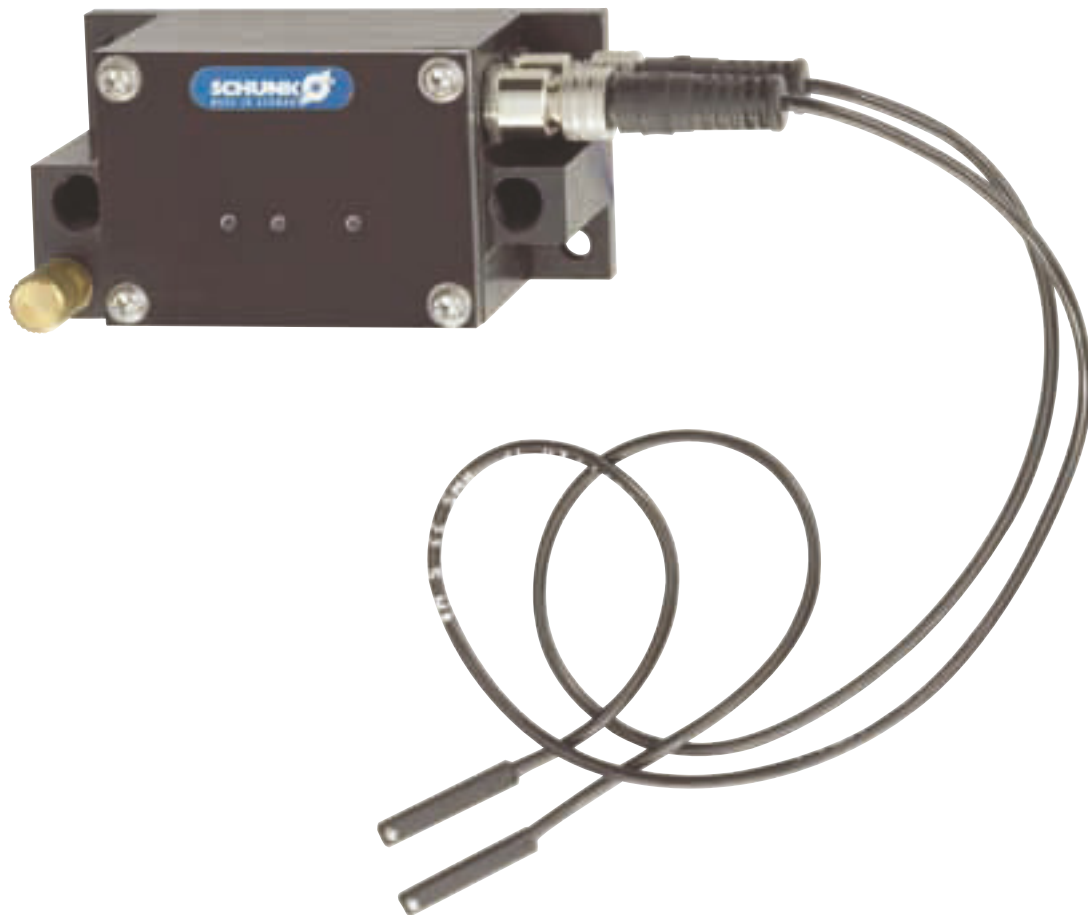
FMS-ZBP 380



- ① Gripper connection
- ② Finger connection

Wireless Sensors

Modular and expandable sensor system with no cable breakage, for end position monitoring of gripper modules.



Function description

The wireless sensor system consists of a transmitter (RSS-T2) with two mechanical switches and one receiver (RSS-R1) with an external antenna. The sensors monitor the stroke of the gripper jaw and report this to the transmitter. The latter transmits the information to the receiver, which is connected to the controller.

Your advantages and benefits

Wireless signal transmission

for monitoring with no cable breakage and for use in applications where no cables can be installed

Connection monitoring (watchdog), connection quality monitoring and battery monitoring

for maximum controlled production and optimum system monitoring

Space-saving installation of the Reed switches in sensor groove

for fast and easy mounting, also as a replacement for inductive proximity switches on request

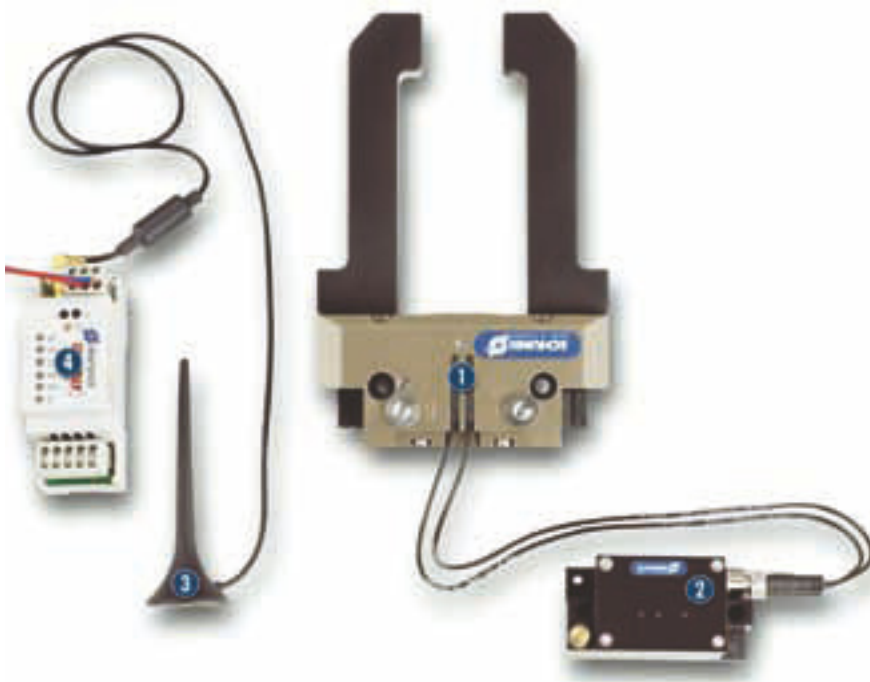
Life of battery in transmitter module

enables maintenance-free operation for typically more than six years

Simple teach function

for fast and easy functional commissioning

Application example



- 1 Reed switch RMS 22 in sensor groove of the 2-Finger Parallel Gripper PGN-plus
- 2 Transmitter module RSS-T2
- 3 Magnetic base antenna RSS-R-A
- 4 Receiver RSS-R1

Area of application

The new wireless RSS sensor system can be used anywhere where no cable feed is possible. For example in milling or grinding machines, machining centers, or in rotating or close applications which are unsuitable for cable ducts. However, the RSS is also ideal for use in adverse ambient conditions and explosive areas.

General information

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

Typical transmission ranges

approx. 10 meters in workshops
approx. 30 meters in the open

Power supply, receiver

24 V DC, 500 mA output

Life of transmitter battery

Min. 6 years at 2 transmissions / second
Min. 8 years at 1 transmission / second

Warranty

24 months

Notes

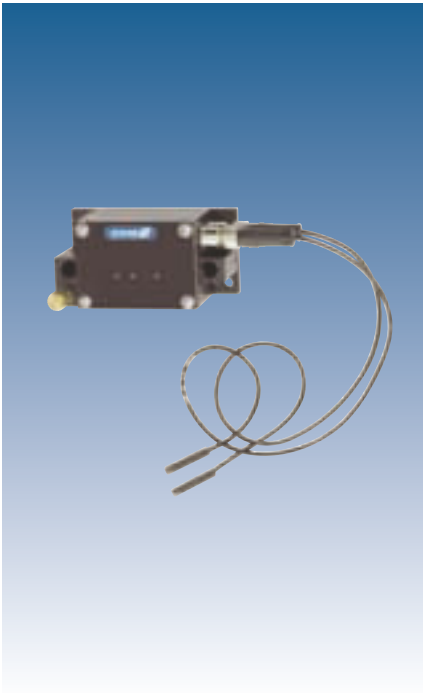
Sheet steel prevents propagation of radio waves.

The radio energy transmitted by the RSS is a factor of 70,000 below that of DECT telephones and a factor of 30,000 below that of GSM mobile phones.

RSS-T2 Transmitter

The RSS-T2 transmitter can transmit the signals from 2 switches. We recommend the use of RMS 22 or RMS 80.

Alternative switches can also be used. However, they must not require energy supply.

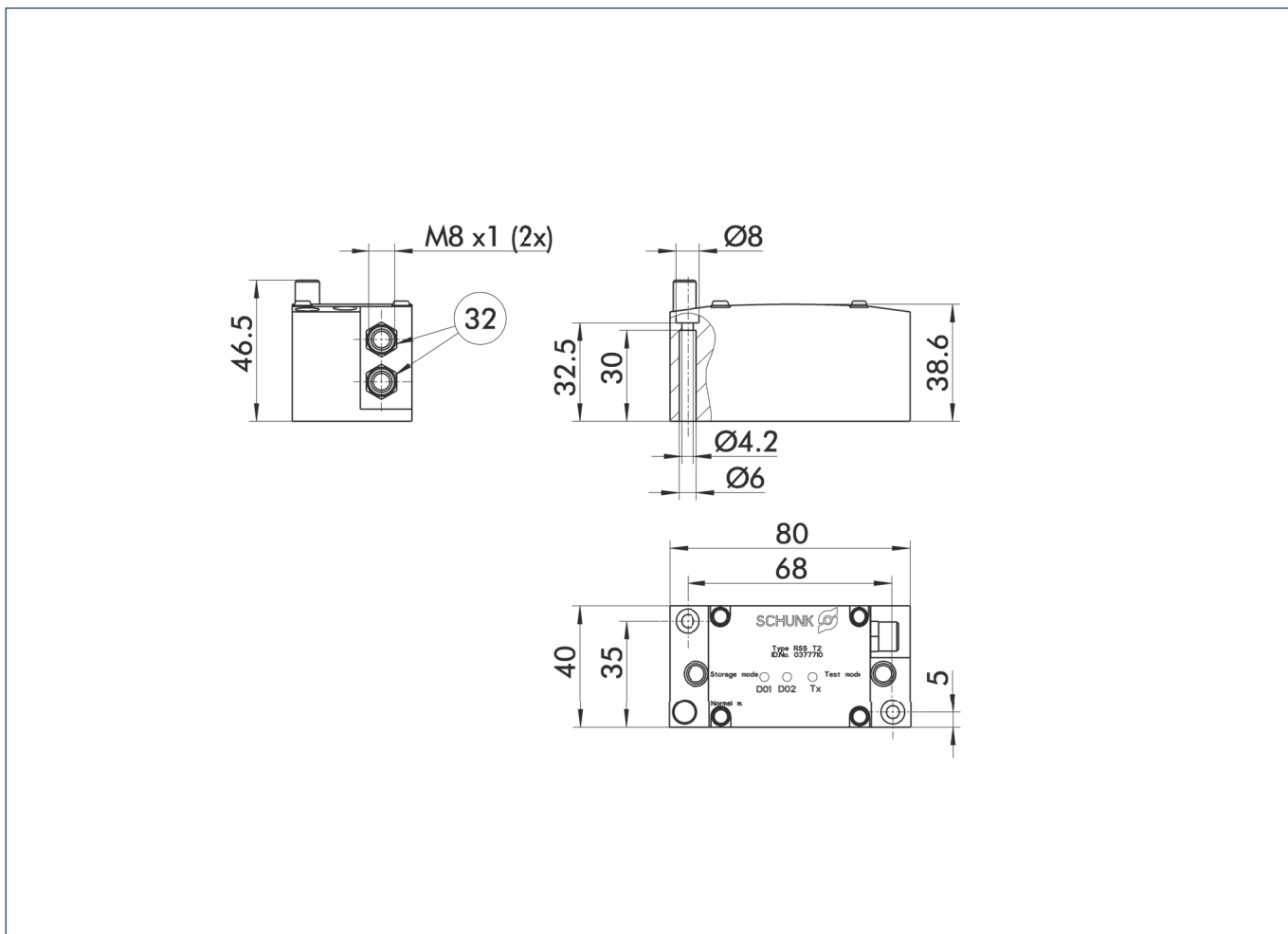


Technical data

Transmitter module

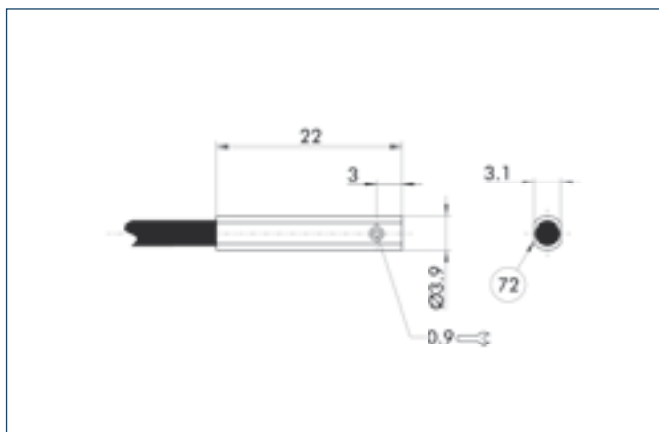
Description	RSS-T2
ID	0377710
Transmitting frequency [MHz]	868.3
Transmitter connection	2x M8
Integrated power supply	Lithium battery
Typical life of the battery [Years]	8
Housing material	PUR
Log	Enocean standard
Tightness	IP 67
Min. ambient temperature [°C]	0
Max. ambient temperature [°C]	50
Weight [kg]	0.16

Main view



32 Flange socket for sensor feed-through

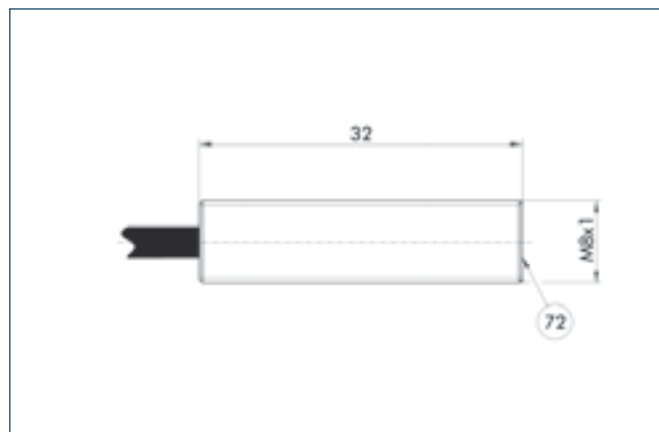
RMS 22 sensor



72 Active sensor surface

Further information on the RMS sensor can be found in the chapter on "Reed Switches".

RMS 80 sensor



72 Active sensor surface

Further information on the RMS sensor can be found in the chapter on "Reed Switches".

RSS-R1 Receiver

The RSS-R1 receiver can receive the signals of the RSS-T2 transmitter.

One receiver and one antenna are needed for each transmitter.



Technical data

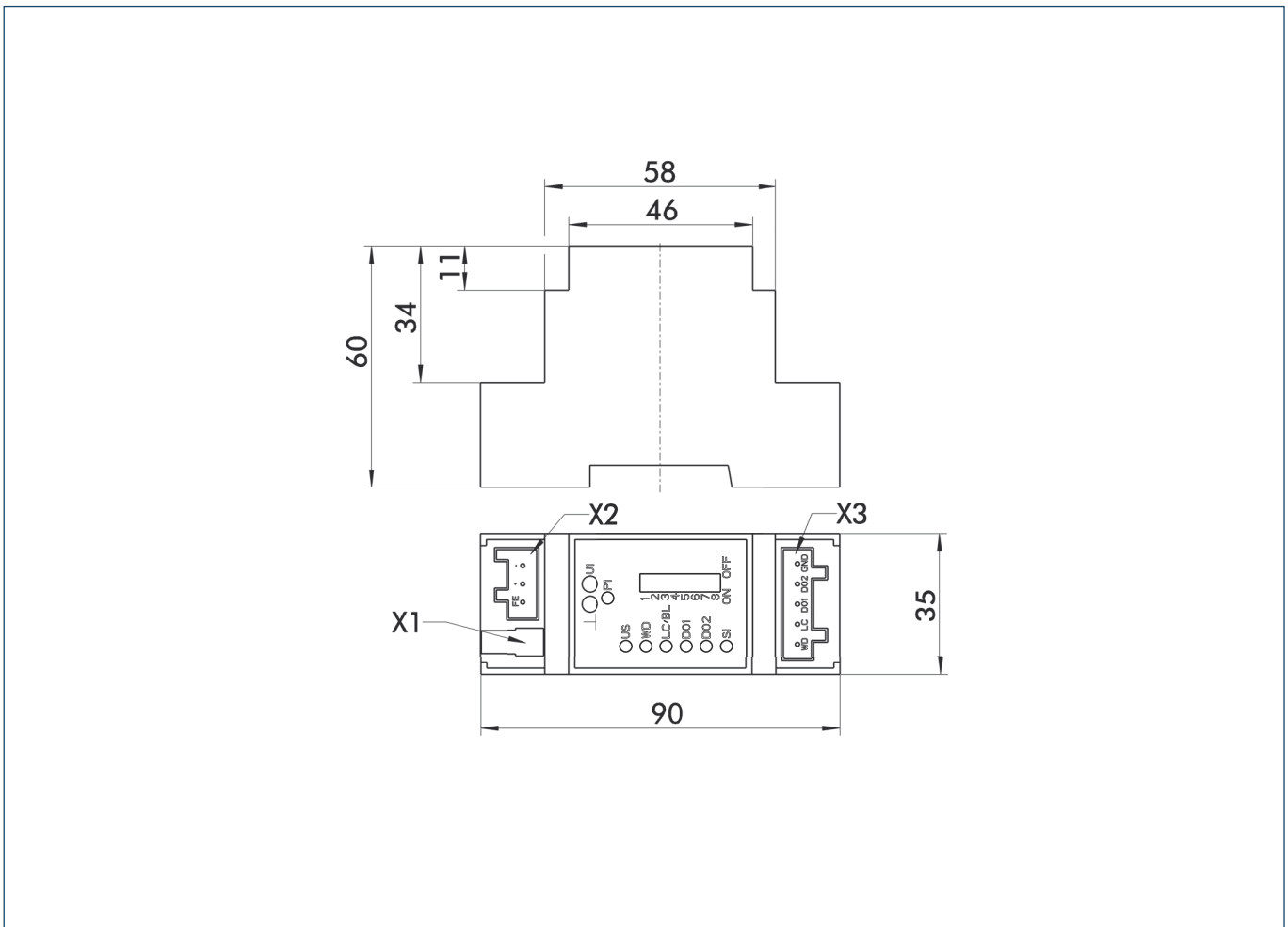
Receiver

Description		RSS-R1
ID		0377700
Receiving frequency	[MHz]	868.3
Power supply		DC
Nominal voltage	[V]	24
Min. voltage	[V]	10
Max. voltage	[V]	30
Max. current on contact per channel	[mA]	500
Housing material		PUR
Log		Enocean standard
Short-circuit-proof		Yes
Tightness		IP 20
Fastening		Top hat rail
Min. ambient temperature	[°C]	0
Max. ambient temperature	[°C]	50

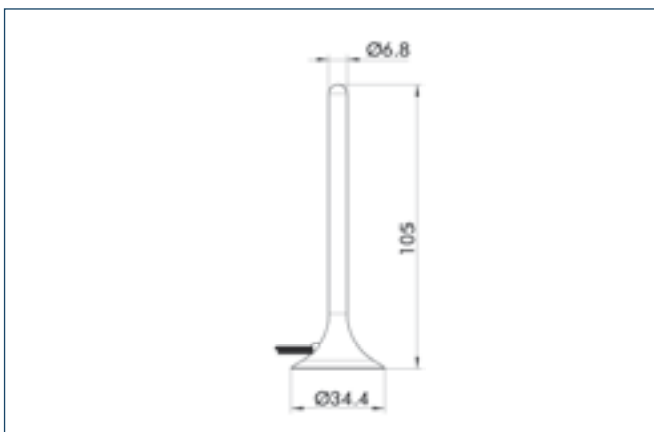
Antenna

Description		RSS-R-A
ID		0377730
Assembly		Magnetic base
Cable length	[m]	2
Connection to cable end		SMA Mini
Utilization		Connection to receiver RSS-R1

Main view



RSS-R-A antenna



Fluidic Monitoring System

Pneumatic monitoring for three positions. For systems that can be monitored by means of conventional sensors.



Function description

The PA3 returns the information “open”, “gripped” or “closed” to the controller via a single, additional pneumatic line. The pneumatic actuator only has to be modified with two pneumatic connections for this purpose. The PA3 is started up via a push button switch and a potentiometer. The unit is automatically taught during a set-up cycle.

Your advantages and benefits

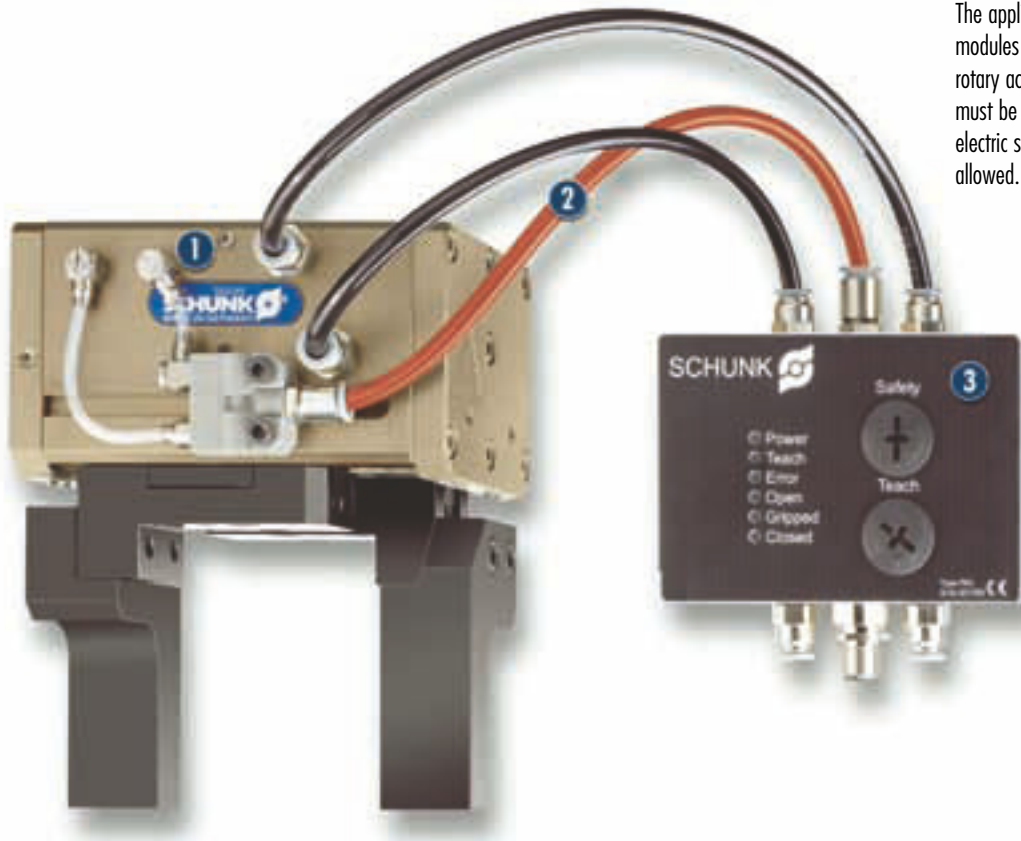
Position scan without electric sensors
for diverse applications in new environments

An additional pneumatic line as an information hose
therefore only slight modification of the gripper necessary, also possible as retrofitting of existing components

Simple start-up
via button and potentiometer

Self teach-in function
for automatic teaching of the monitoring system during the set-up cycle

Application example



Area of application

The applications range from pneumatic gripper modules to pneumatic actuators, such as cylinders or rotary actuators. For example, when gripper modules must be monitored in places that are not accessible by electric sensors or where electric sensors are not allowed.

1 2-Finger Long-stroke Gripper
PFH 30
with special bores for the PA3

2 Additional information source

3 PA3-Electronic system

General information

Power supply for electronics
24 V DC

Warranty
24 months

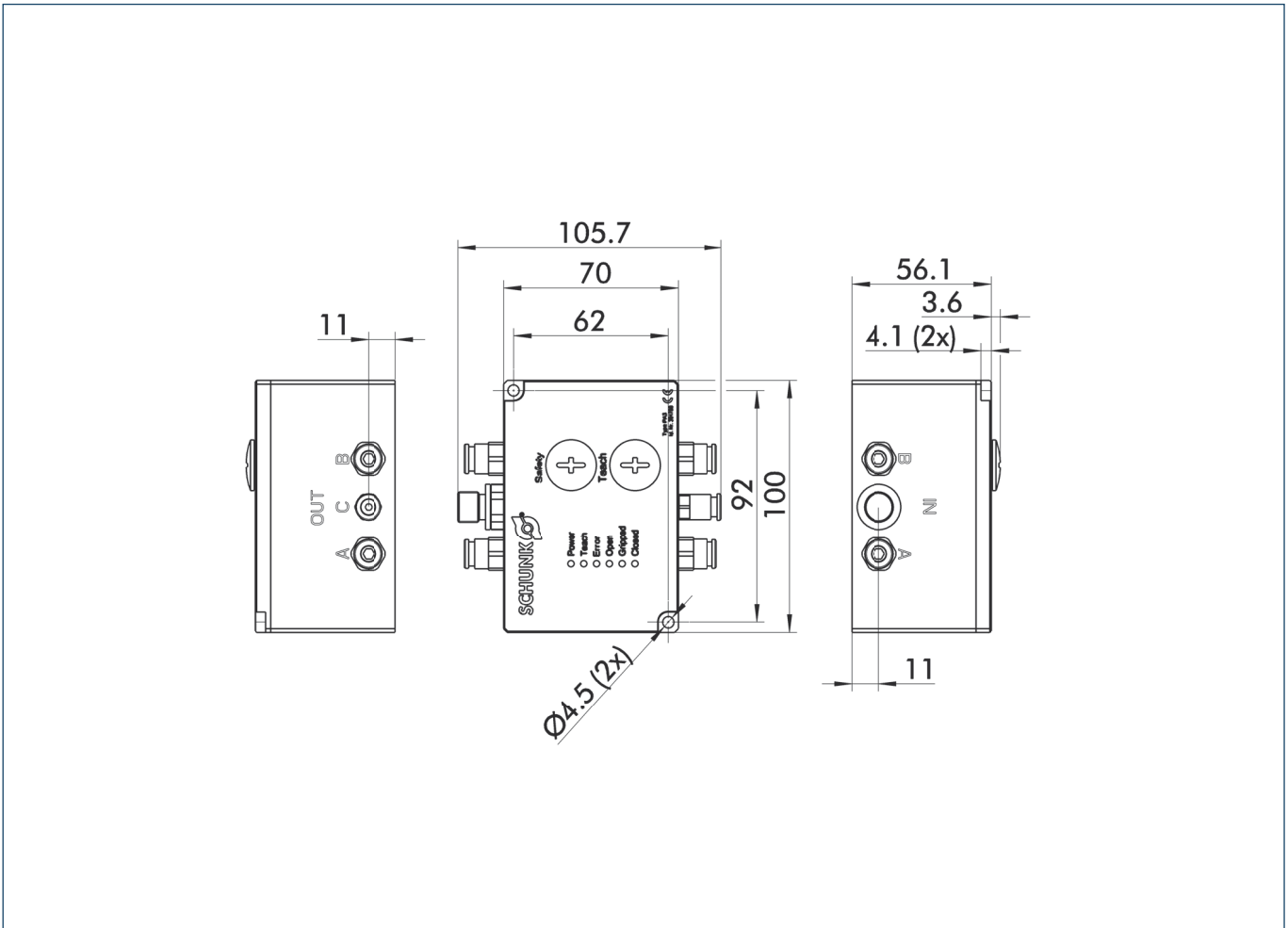




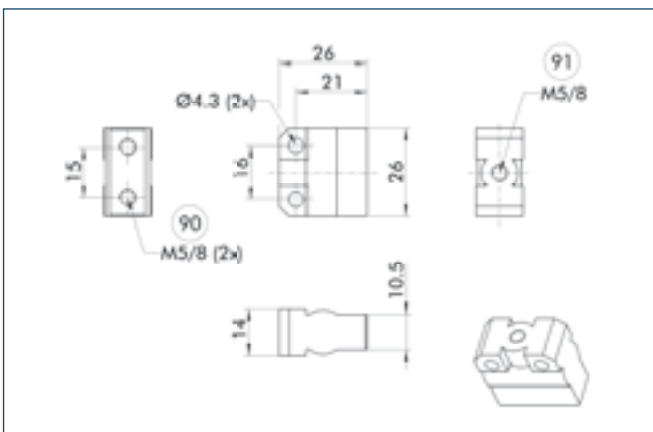
Technical data

Description	PA3
ID	0301780
IP class	67
Type of voltage	DC
Nominal voltage [V]	24
Min. voltage [V]	21.6
Max. voltage [V]	26.4
Nominal power current [mA]	30
Maximum current [mA]	130
Weight [kg]	1.13
Hose connection [mm]	6
Min. nominal pressure [bar]	3
Max. pressure [bar]	10
Permissible media	compressed air
Typical switching time [s]	1

Main view



AND valve



- 90 Input
- 91 Output

Two additional bore holes in the piston chamber of the monitored components are connected with the AND valve. The resulting pressure signal is sent to the PA3.

Finger Blanks and Intermediate Jaws

Accessories • Gripper Jaws • Finger Blanks

Gripper Jaws

of aluminum or steel for customized subsequent machining



Function description

Finger and jaw blanks already feature the mechanical interface to the gripper. The customer only needs to machine the blank to the specific workpiece geometry.

Your advantages and benefits

Matching finger blanks

for common gripper types

Easy mounting

thanks to standardized drilling pattern

High replacement accuracy

thanks to centering

Clamping contour

can be machined rapidly and easily

Rapid availability

Aluminum finger blanks

of high-strength aluminum alloy

Steel finger blanks

of hardenable steel

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 KTG 2-Finger Parallel Gripper

2 RB Finger Blanks for KTG

General information

Scope of delivery
including screws

Notes

To suit your special requirements, we will be glad to supply low-cost special solutions, workpiece-specific gripper fingers, attachment plates and complete units. Please ask for details.

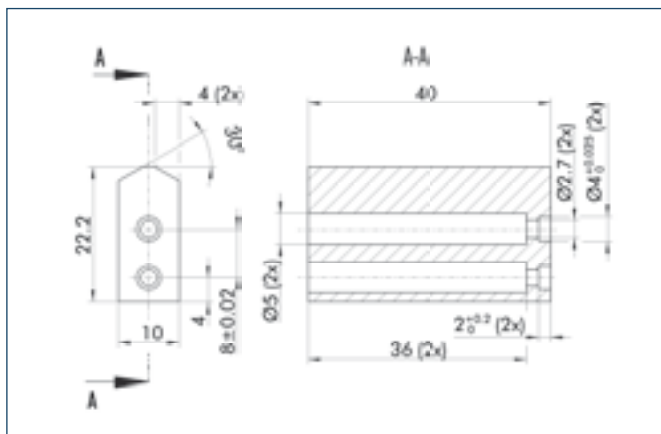




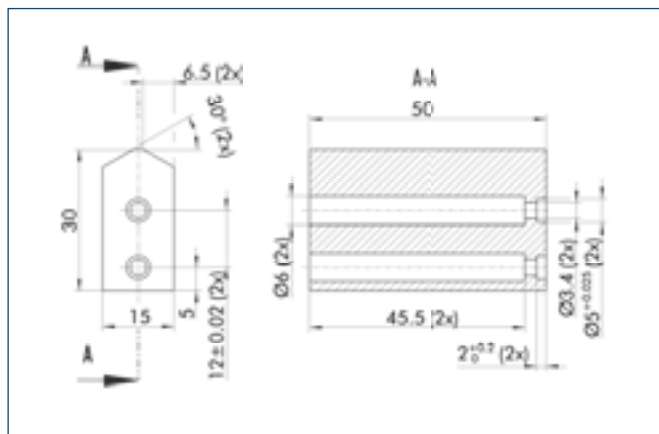
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR-plus 40	0300008	1	0.02	Aluminum
SBR-plus 40	0300018	1	0.055	16 MnCr 5
ABR-plus 50	0300009	1	0.045	Aluminum
SBR-plus 50	0300019	1	0.125	16 MnCr 5
ABR-plus 64	0300010	1	0.093	Aluminum
SBR-plus 64	0300020	1	0.26	16 MnCr 5
ABR-plus 80	0300011	1	0.162	Aluminum
SBR-plus 80	0300021	1	0.455	16 MnCr 5
ABR-plus 100	0300012	1	0.358	Aluminum
SBR-plus 100	0300022	1	1.004	16 MnCr 5
ABR-plus 125	0300013	1	0.638	Aluminum
SBR-plus 125	0300023	1	1.788	16 MnCr 5
ABR-plus 160	0300014	1	1.291	Aluminum
SBR-plus 160	0300024	1	3.45	16 MnCr 5
ABR-plus 200	0300015	1	2.191	Aluminum
SBR-plus 200	0300025	1	6.144	16 MnCr 5
SBR-plus 240	0300027	1	7.98	16 MnCr 5
ABR-plus 240	0300017	1	2.84	Aluminum
ABR-plus 300	0300016	1	3.236	Aluminum
SBR-plus 300	0300026	1	9.072	16 MnCr 5

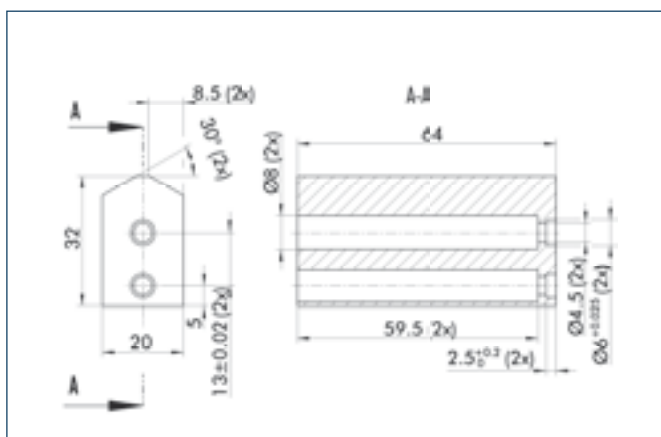
ABR-plus/SBR-plus 40



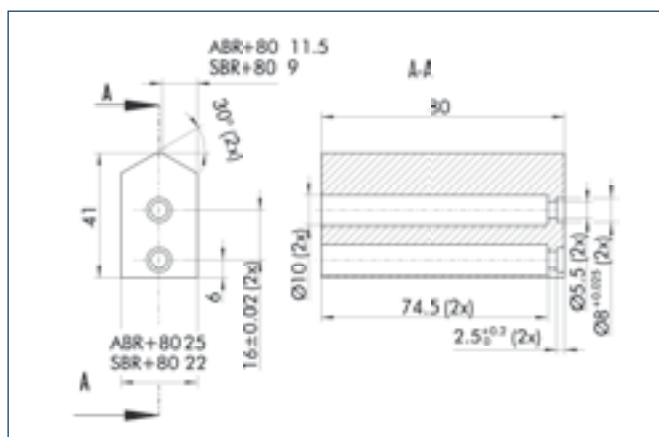
ABR-plus/SBR-plus 50



ABR-plus/SBR-plus 64



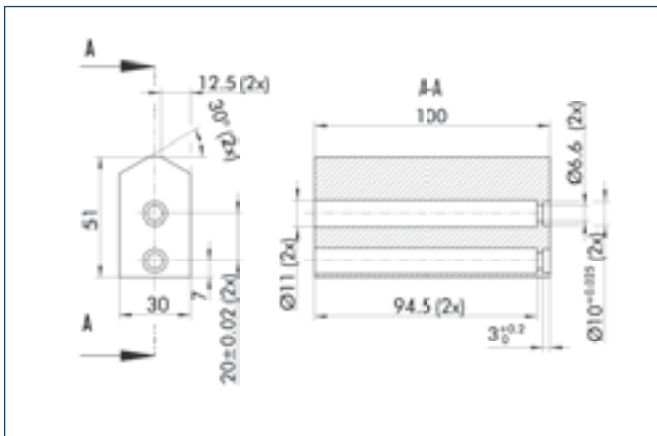
ABR-plus/SBR-plus 80



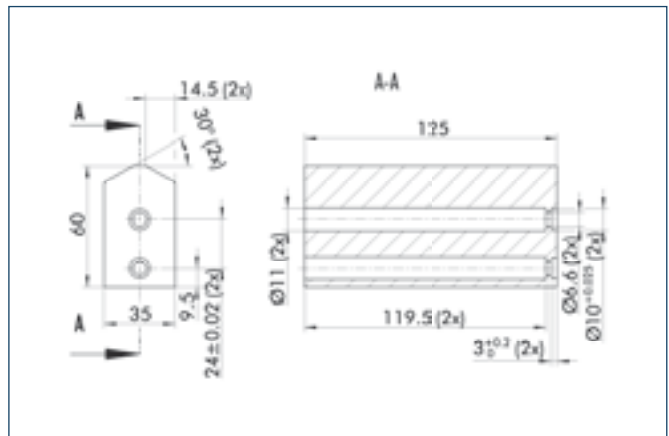
ABR-plus/SBR-plus

Accessories • Gripper Jaws • Finger Blanks • For Standard Screw Connection Diagram

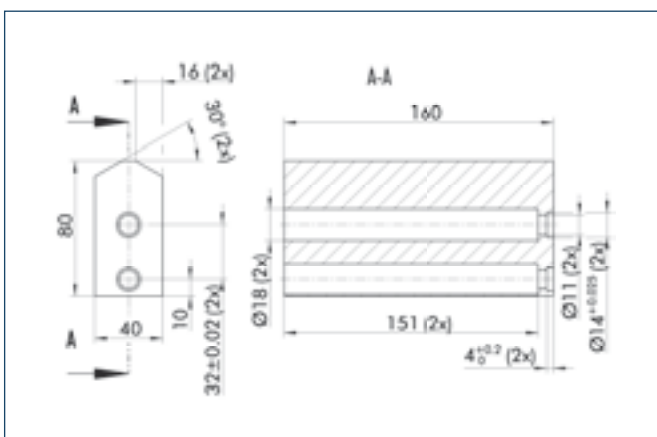
ABR-plus/SBR-plus 100



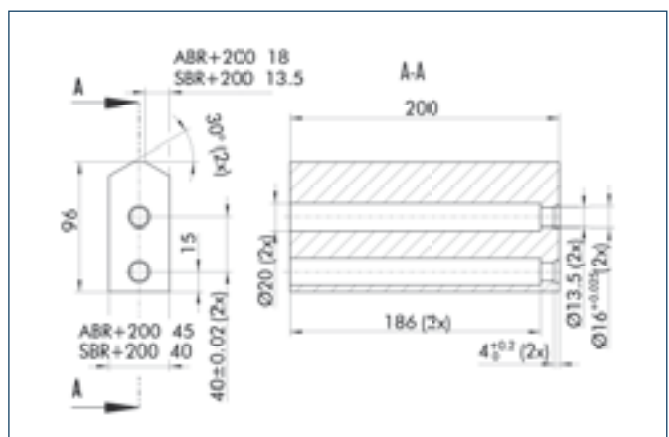
ABR-plus/SBR-plus 125



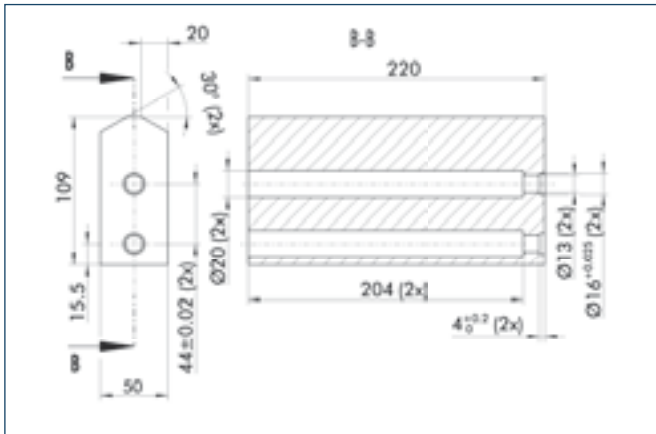
ABR-plus/SBR-plus 160



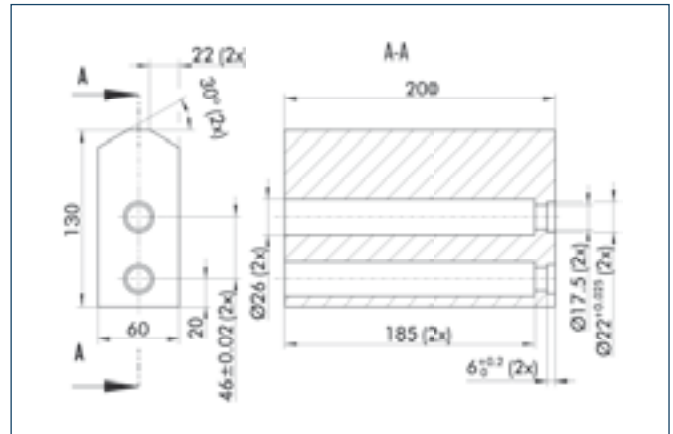
ABR-plus/SBR-plus 200



ABR-plus/SBR-plus 240



ABR-plus/SBR-plus 300



ABR for MPG

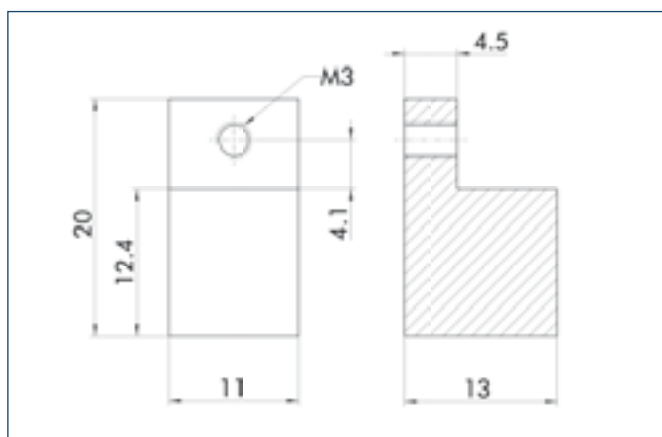
Accessories · Gripper Jaws · Finger Blanks · For Special Gripper Series



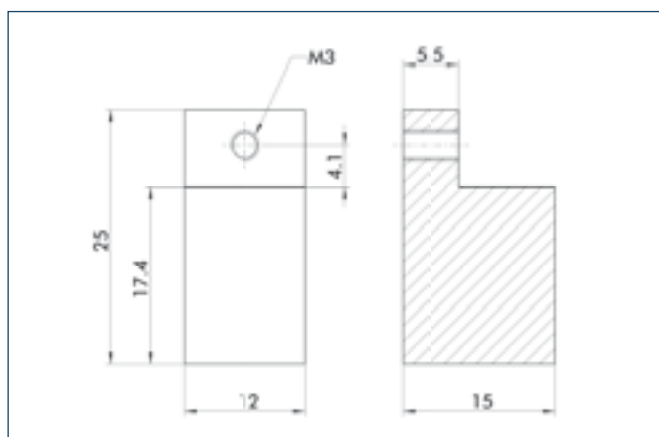
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 20	0340210	2	0.006	Aluminum
ABR 25	0340211	2	0.008	Aluminum
ABR 32	0340212	2	0.016	Aluminum
ABR 40	0340213	2	0.031	Aluminum
ABR 50	0340214	2	0.068	Aluminum
ABR 64	0340215	2	0.12	Aluminum

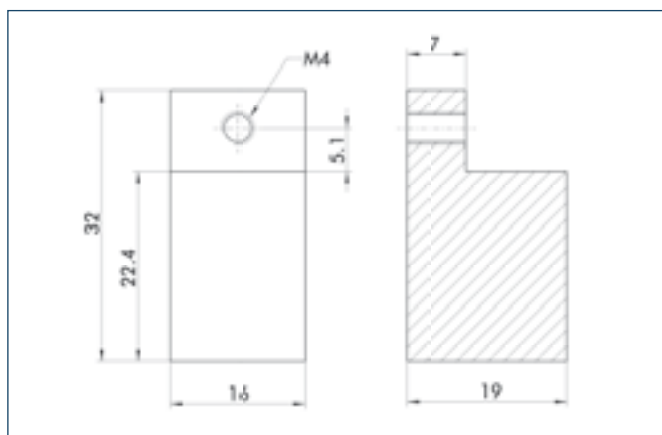
ABR 20



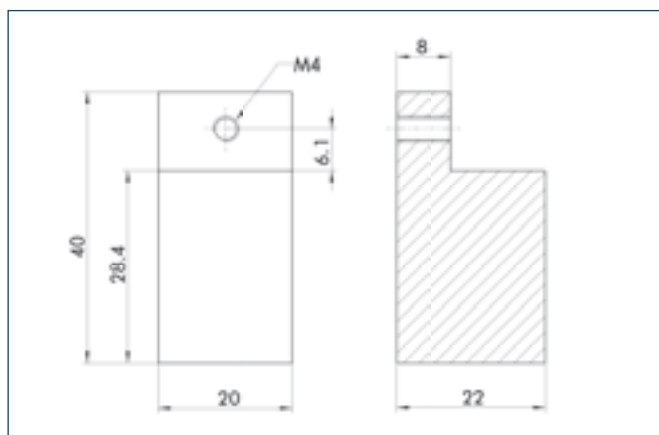
ABR 25



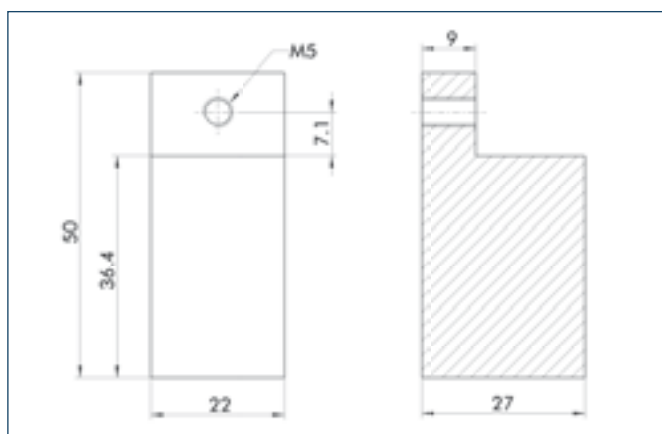
ABR 32



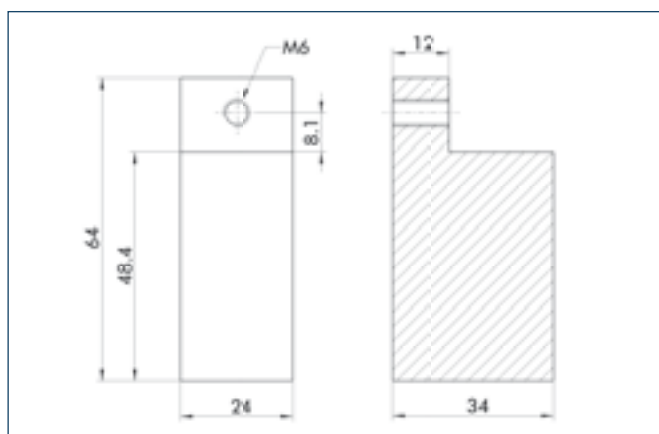
ABR 40

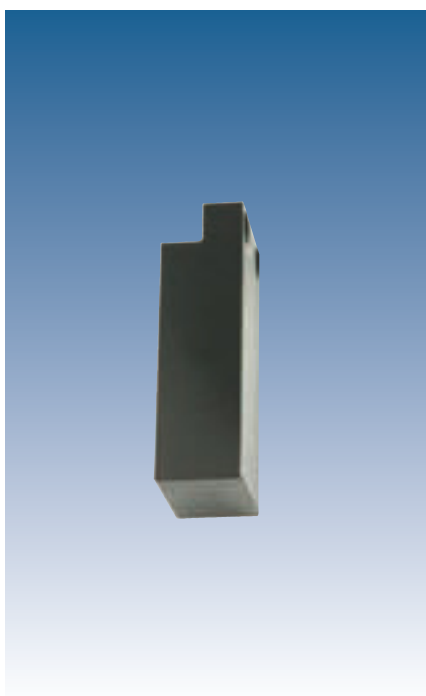


ABR 50



ABR 64

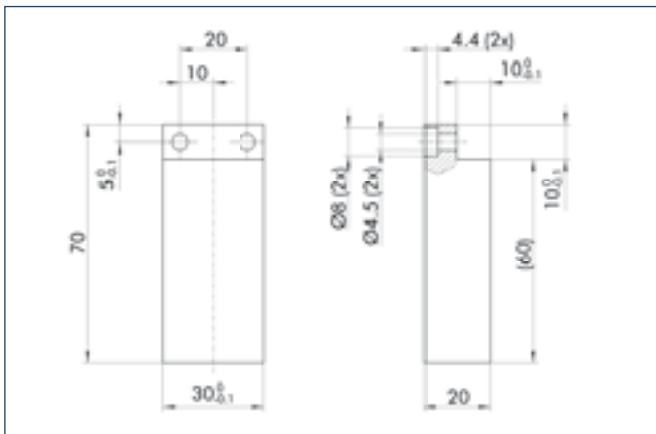




Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR-PG 70	0307850	1	0.12	Aluminum

ABR 70 for PG 70



ABR for MPZ

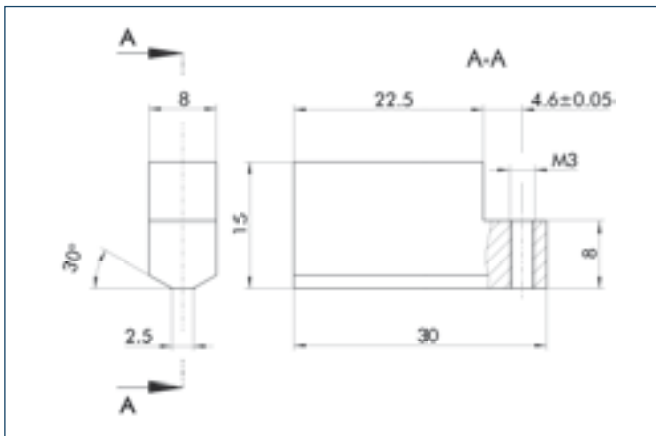
Accessories · Gripper Jaws · Finger Blanks · For Special Gripper Series



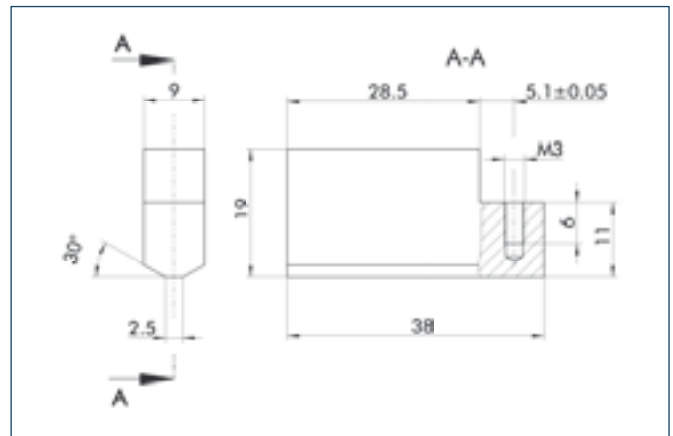
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 30	0340519	3	0.08	Aluminum
ABR 38	0340529	3	0.015	Aluminum
ABR 45	0340539	3	0.024	Aluminum

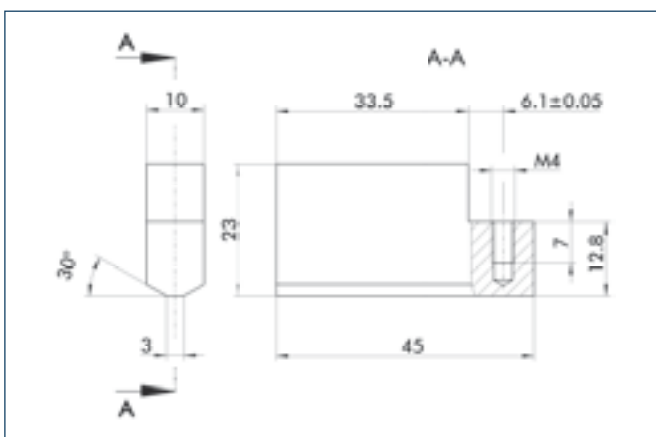
ABR 30



ABR 38



ABR 45



RB for KTG

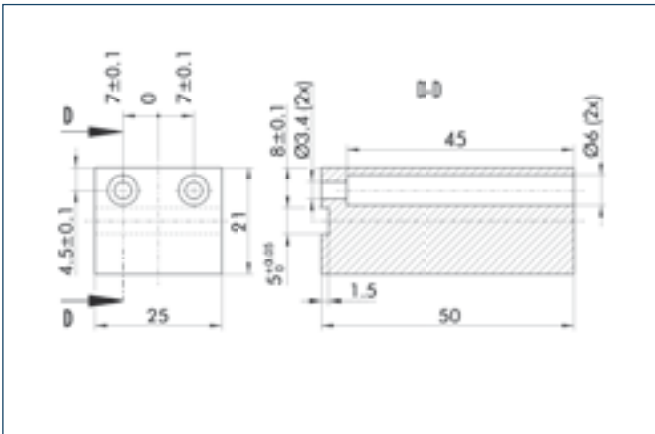
Accessories · Gripper Jaws · Finger Blanks · For Special Gripper Series



Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 50	0300280	2	0.065	Aluminum

RB 50



RB for KGG

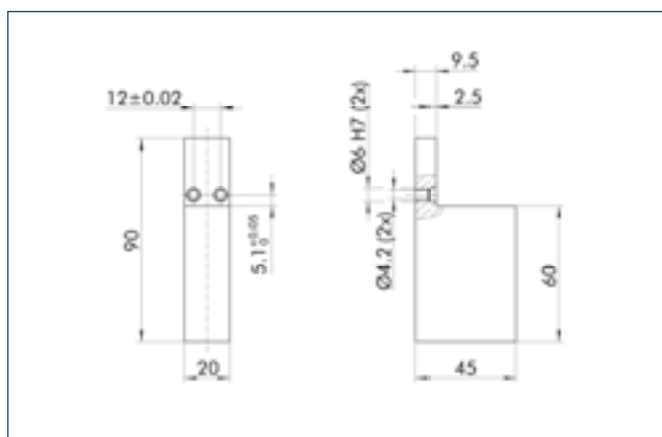
Accessories · Gripper Jaws · Finger Blanks · For Special Gripper Series



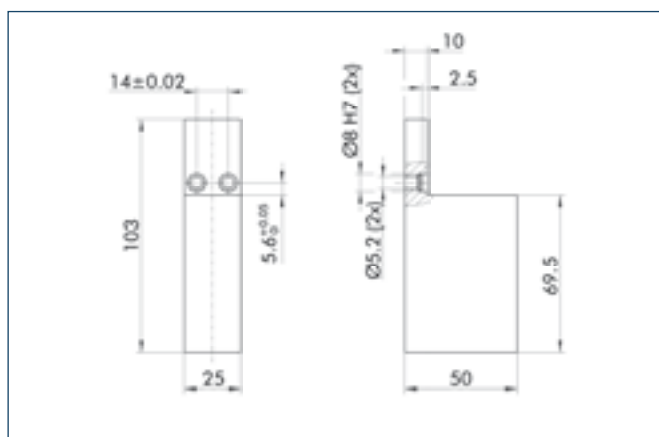
Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 80	0303089	2	0.16	Aluminum
RB 100	0303090	2	0.26	Aluminum
RB 140	0303091	2	0.467	Aluminum
RB 220	0300286	2	1.354	Aluminum
RB 280	0300287	2	3.102	Aluminum

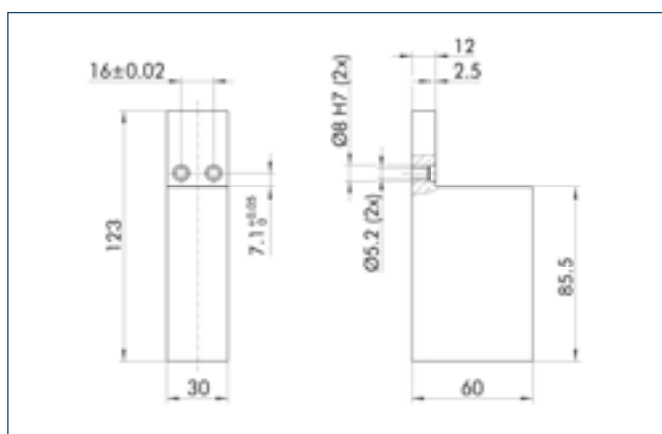
RB 80



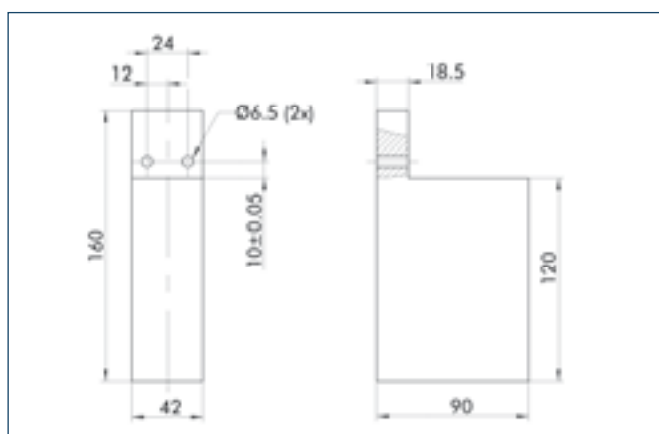
RB 100



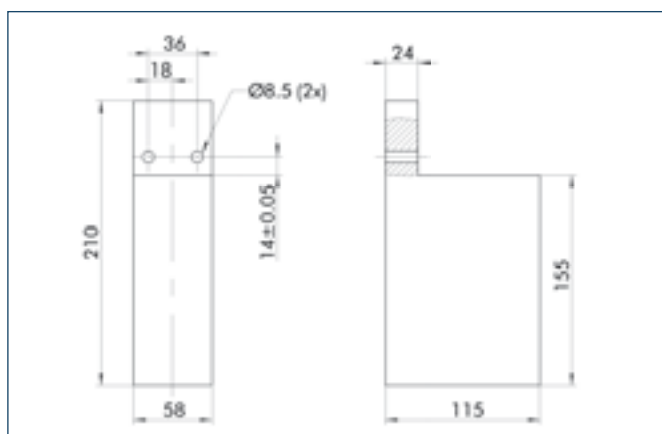
RB 140



RB 220



RB 280



ZBH for PFH

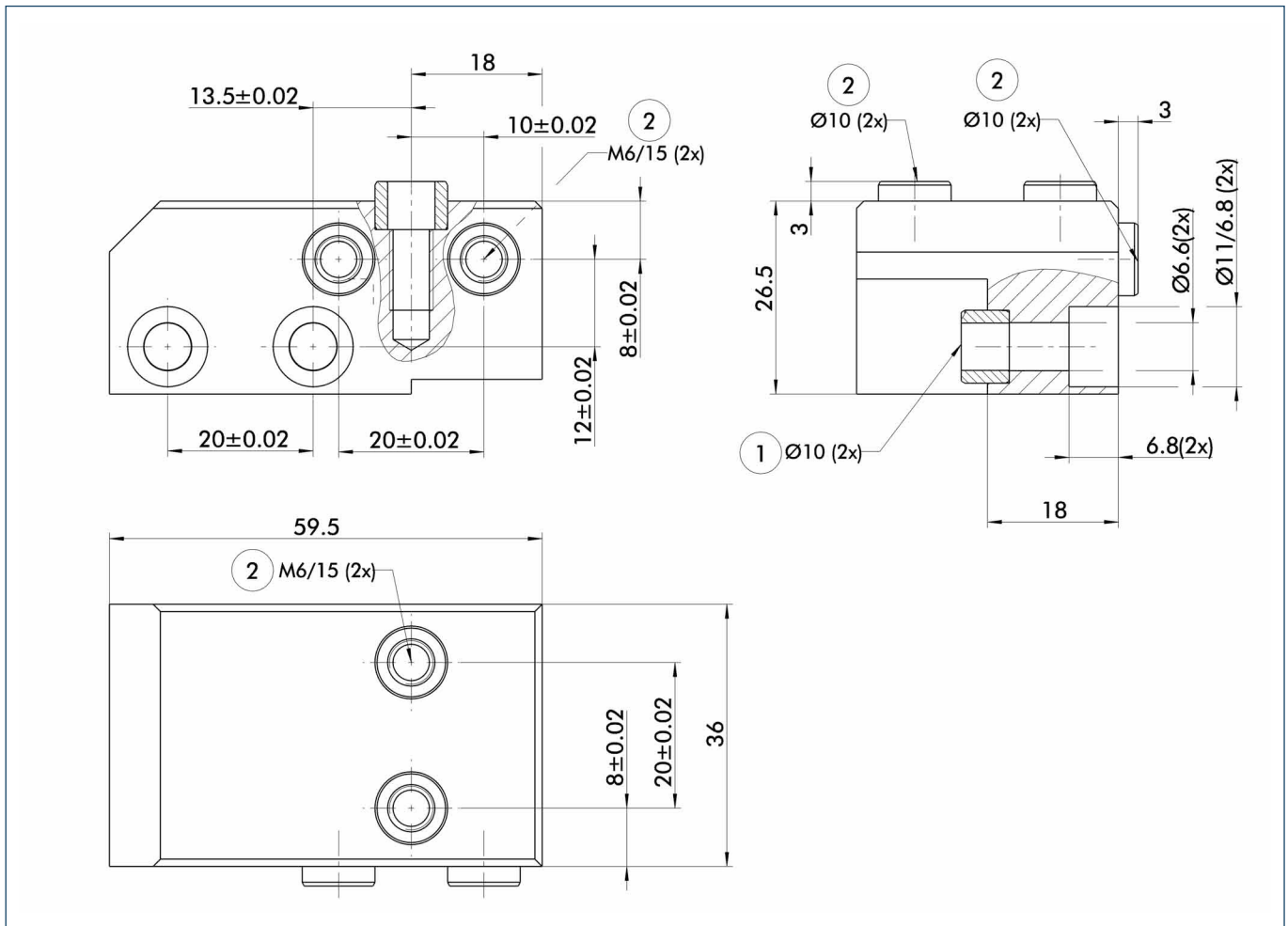
Accessories · Gripper Jaws · Intermediate Jaws



Technical data

Description	ID	Items per ID	Weight [kg]	Material
ZBH 30	0300220	2	0.66	16 MnCr 5
ZBH 40	0300221	2	0.89	16 MnCr 5
ZBH 50	0300222	2	1.64	16 MnCr 5

ZBH 30 for PFH 30

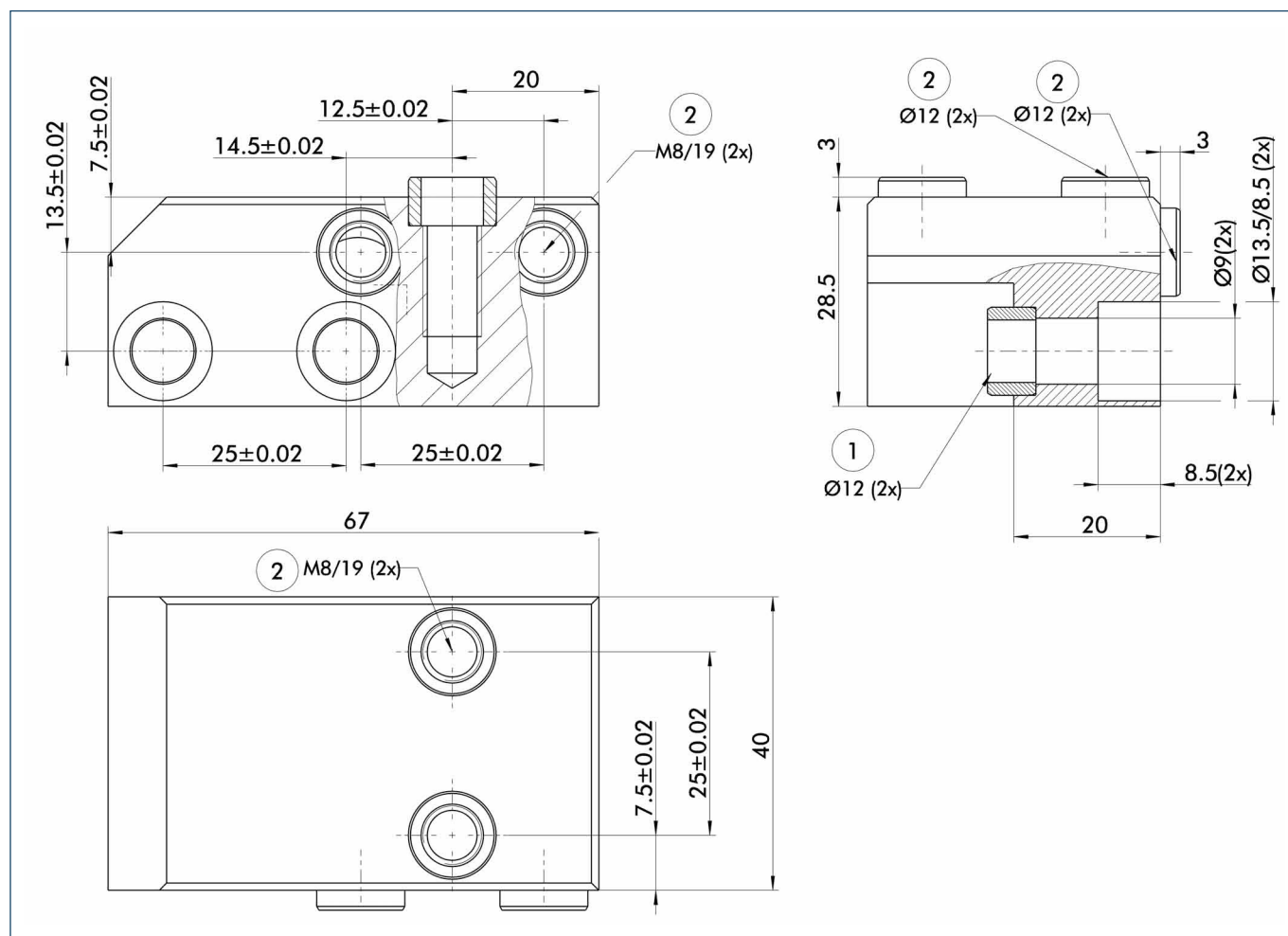


- ① Gripper connection
- ② Finger connection

ZBH for PFH

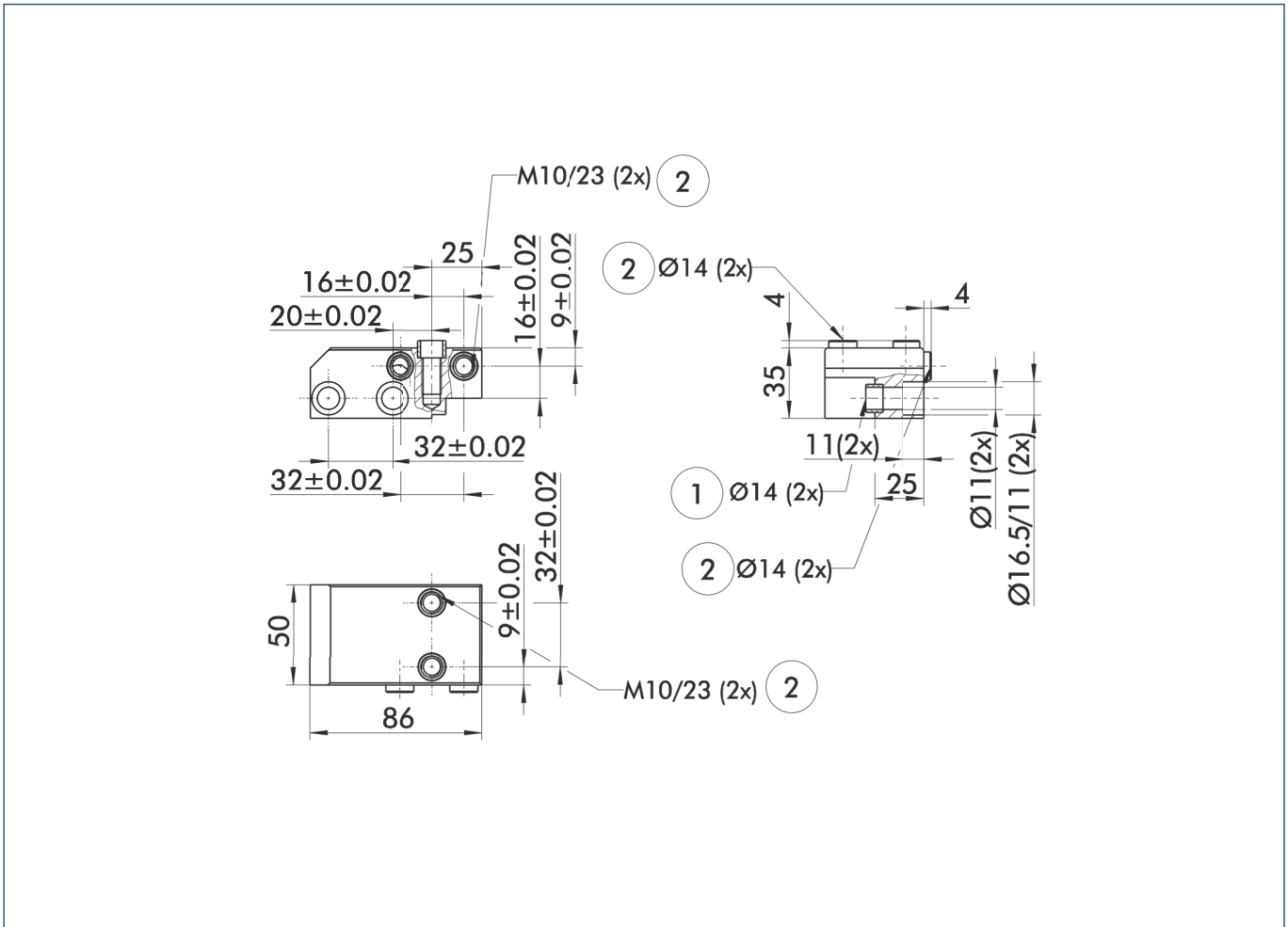
Accessories · Gripper Jaws · Intermediate Jaws

ZBH 40 for PFH 40



- ① Gripper connection
- ② Finger connection

ZBH 50 for PFH 50



- ① Gripper connection
- ② Finger connection

Plastic Inserts

for gentle clamping of sensitive workpieces and for increasing the static friction.



Function description

The plastic inserts are used in gripper top jaws at the point contacting the workpiece. The surface helps to grip the workpiece securely and with low distortion.

Your advantages and benefits

High friction coefficient of approx. 0.3 - 0.4
thanks to the use of glass-fiber-reinforced plastic

Gentle clamping
of the most delicate surfaces, no clamping marks, excellent for ground or surface-treated parts

Low-cost system
through replaceable clamping inserts

High stability
through the aluminum support structure of the supporting jaw

Extensive workpiece locating surface
for low-deformation clamping of machined parts

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 Gripper Finger

2 Clamping Insert Quentes

General information

Material

glass-fiber-reinforced plastic

Warranty

24 months

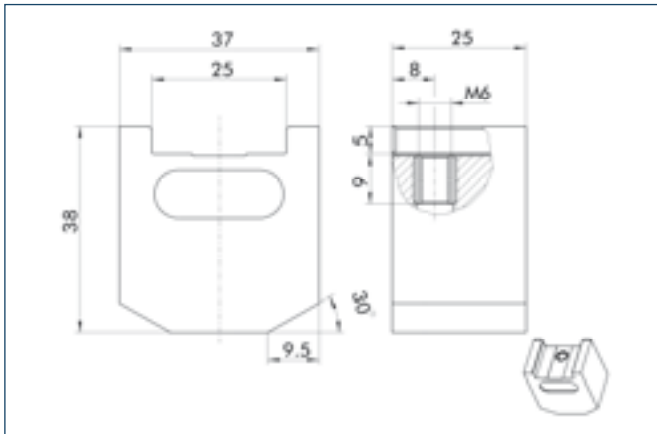




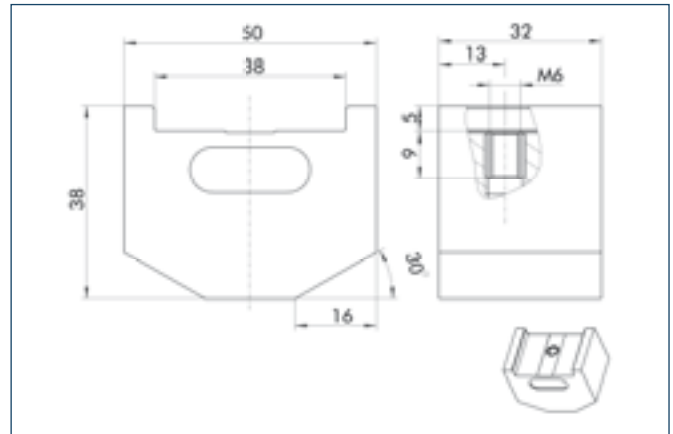
Technical data

Description	ID	Weight	Material
Quentes 5	0300760	0.13 kg	glass-fiber-reinforced plastic
Quentes 10	0300761	0.28 kg	glass-fiber-reinforced plastic

Quentes 5



Quentes 10



Hard Metal Clamping Inserts

Inserts for increasing the friction on the contact surface between the gripper fingers and the workpiece.



Function description

The HM clamping inserts are used in gripper top jaws at the point contacting the workpiece. The angular, rough surface helps to grip the workpiece securely.

Your advantages and benefits

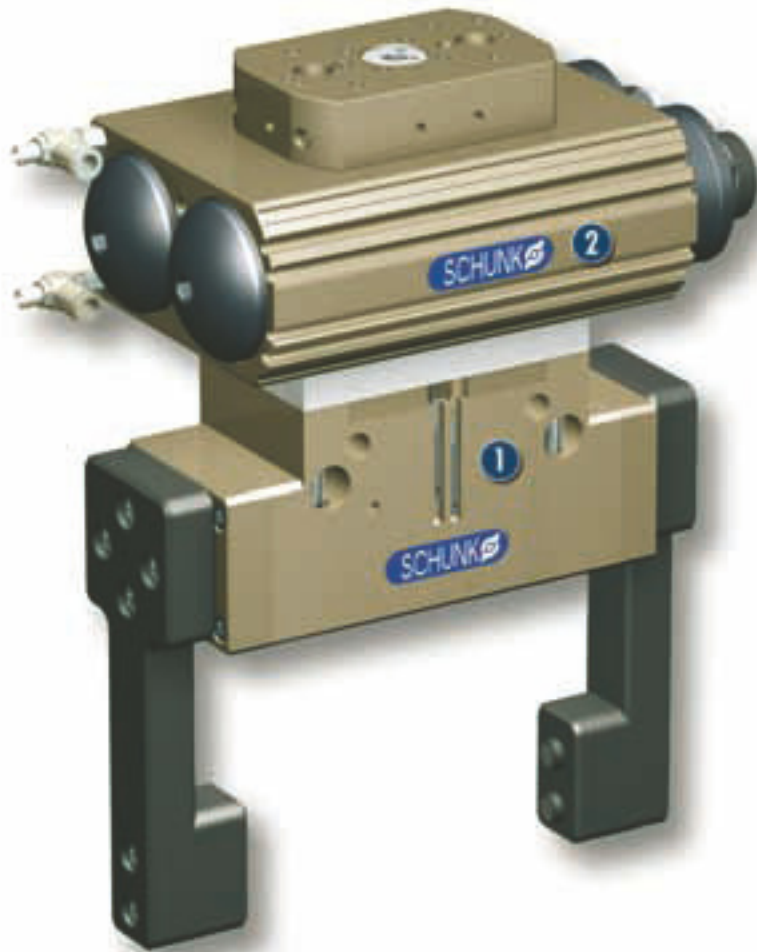
Increase of the friction factor
therefore requiring less gripping force

Various sizes available

Fast change possible

High load bearing capacity

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 DPG-plus 125 2-Finger Parallel Gripper, with top fingers equipped with carbide clamping inserts

2 SRU 35.1-180-3-4 Rotary Actuator in sealed IP67 version

General information

Material

Steel, hardened

Warranty

24 months

Notes

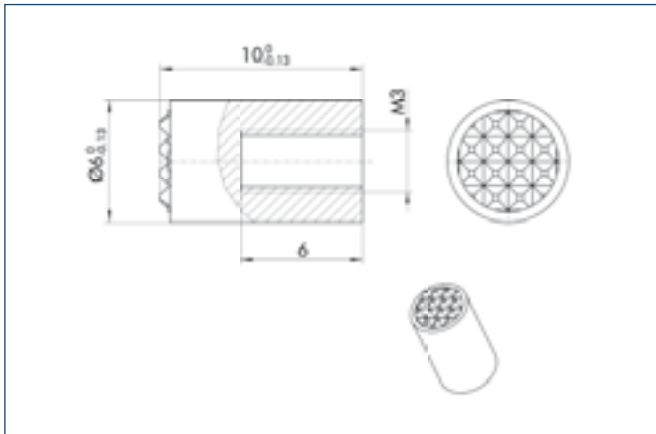
The HM clamping inserts should not be used if scratch marks are not desired on the workpiece.



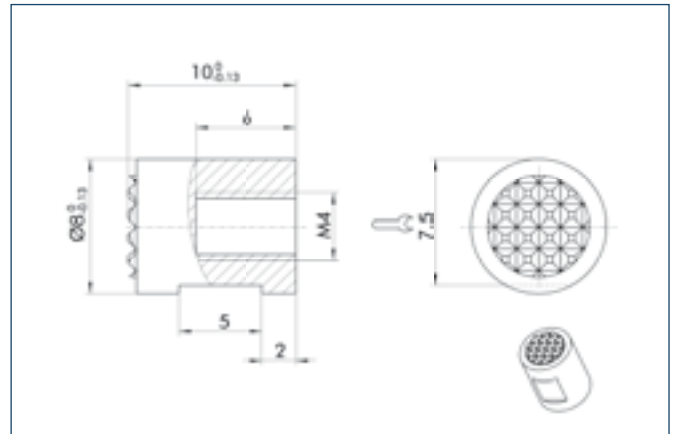
Technical data

Description	ID	Weight	Form	Material
HM 6	0300780	0.002 kg	Cylinder	Carbide
HM 8	0300781	0.004 kg	Cylinder	Carbide
HM 10	0300782	0.006 kg	Cylinder	Carbide
HM 11	0300783	0.01 kg	Cylinder	Carbide
HM 12	0300784	0.012 kg	Cylinder	Carbide
HM 13	0300785	0.016 kg	Cylinder	Carbide
HM 14	0300786	0.022 kg	Cylinder	Carbide
HM 15	0300787	0.012 kg	Cylinder	Carbide

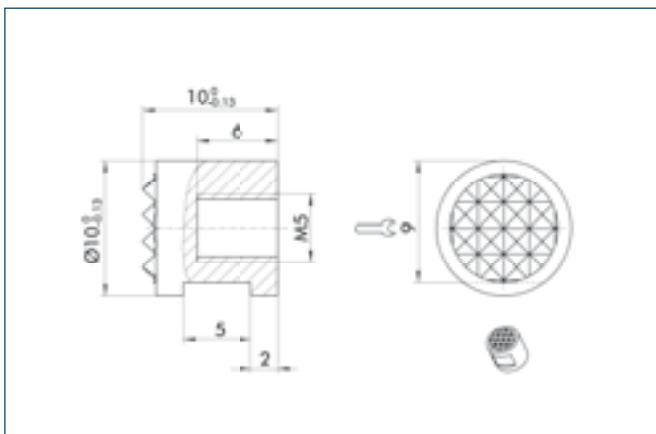
HM 6



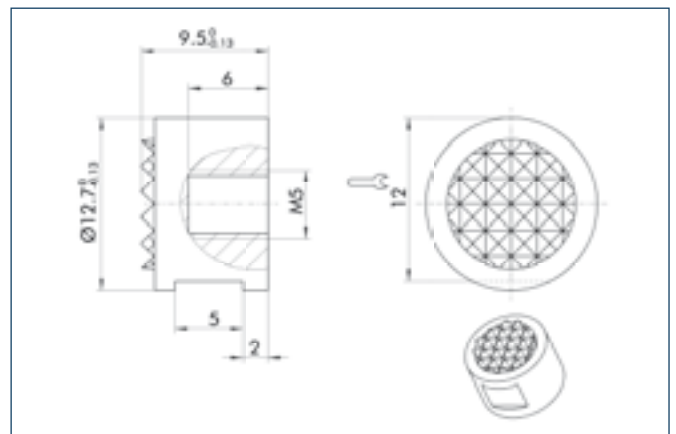
HM 8



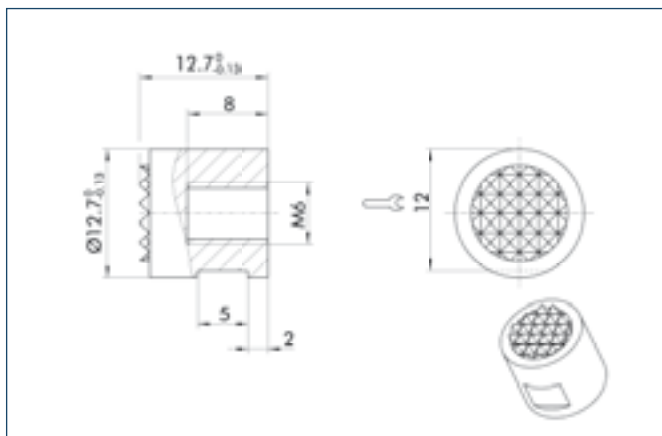
HM 10



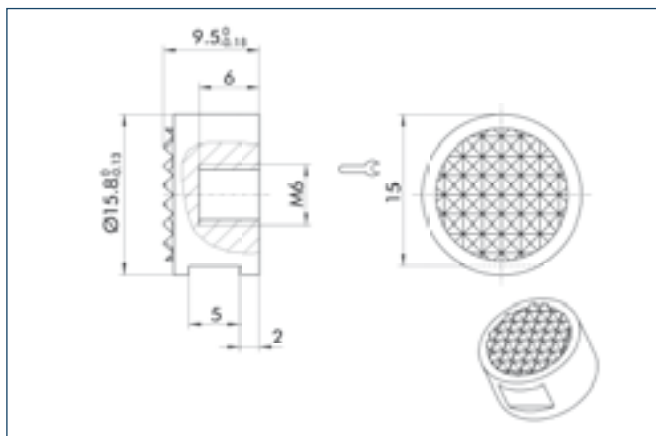
HM 11



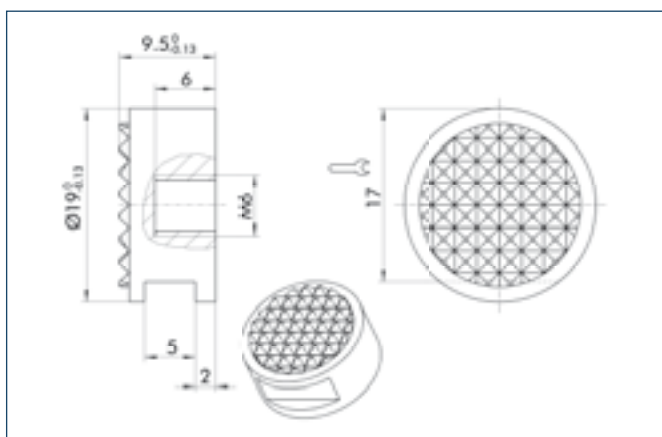
HM 12



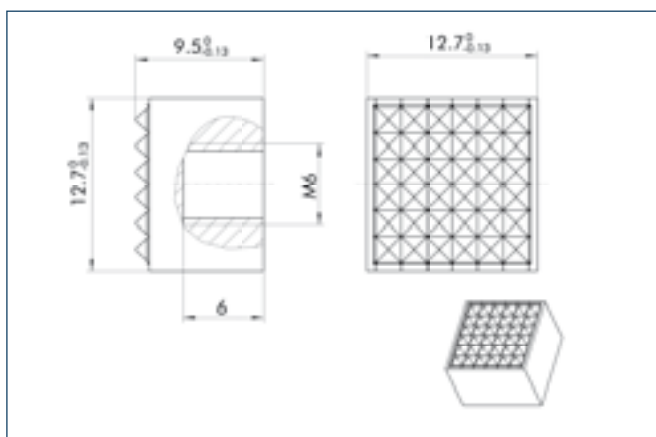
HM 13

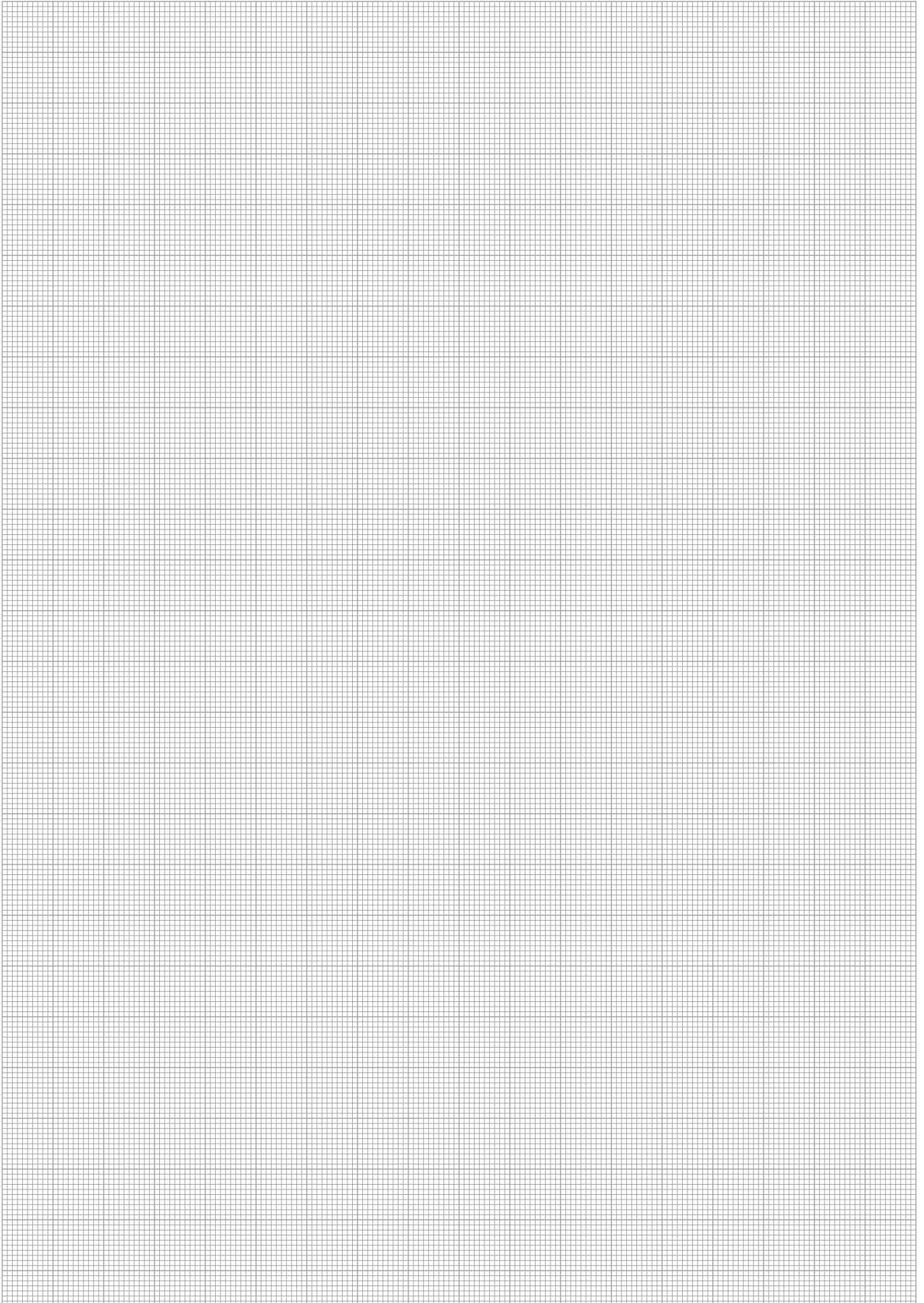


HM 14



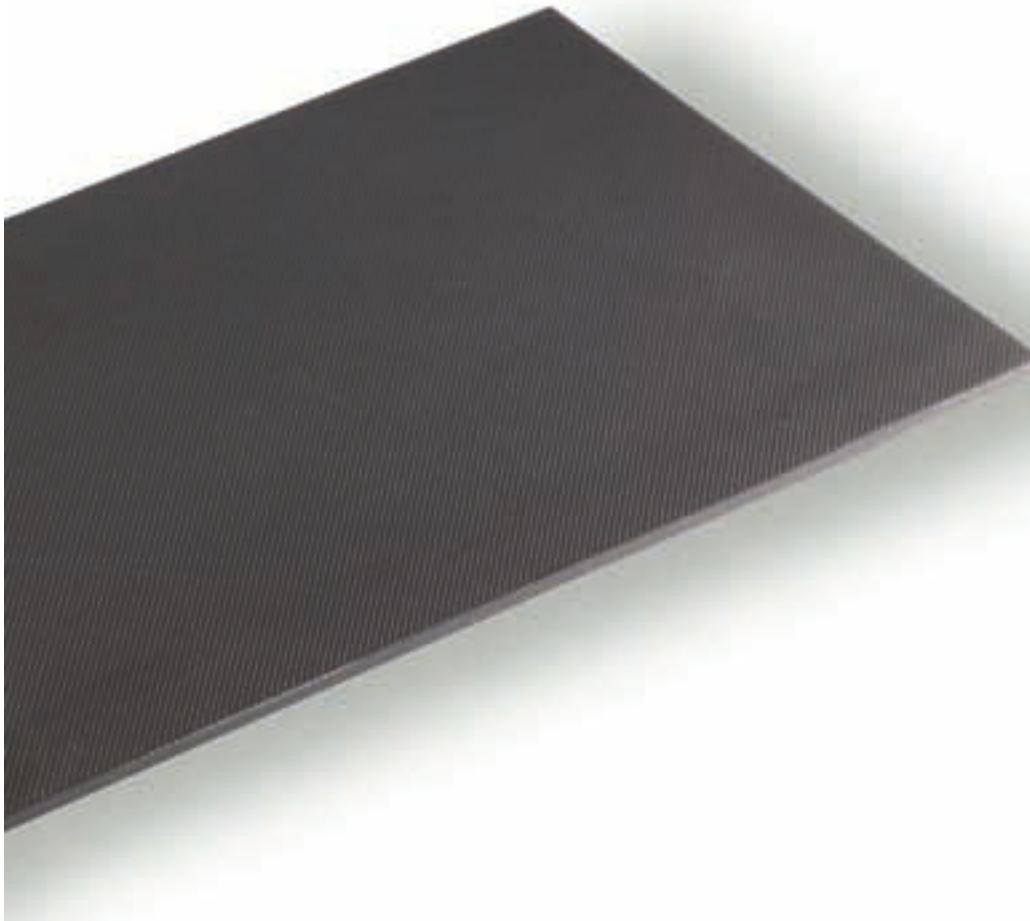
HM 15





HKI Gripper Pads

Gripper Pads made of soft plastic for surface-friendly gripping of workpieces with simultaneous increase of friction forces.



Function description

The gripper pads are attached to the surface of the gripper fingers that contact the workpiece.

Your advantages and benefits

High friction coefficient of approx. 0.3 - 0.4
for higher workpiece weights with the same gripping force

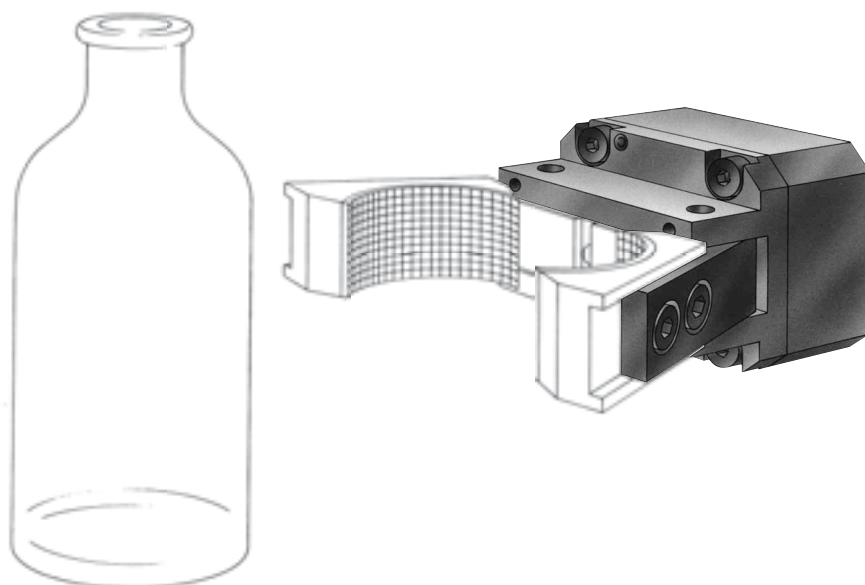
Easy assembly
through gluing or screws

Pliable surface
for surface-friendly gripping

Resistant against oil
for use in difficult environments

Area of application

variable clamping tasks, for sensitive workpieces

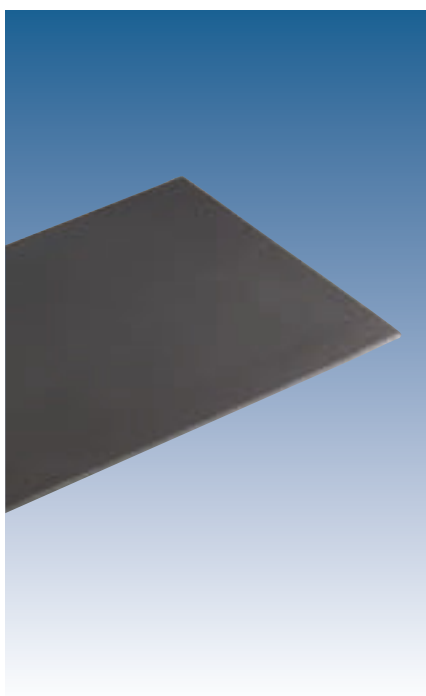
**General information**

Warranty
24 months

Notes

The HKI gripper pads are delivered as plates.
Blanks can be ordered as special products.

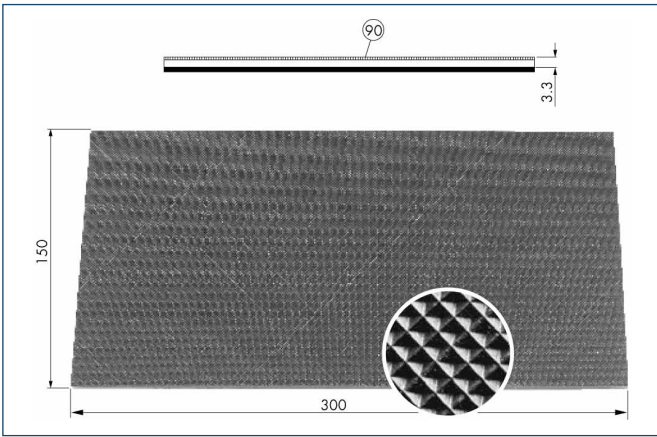




Technical data

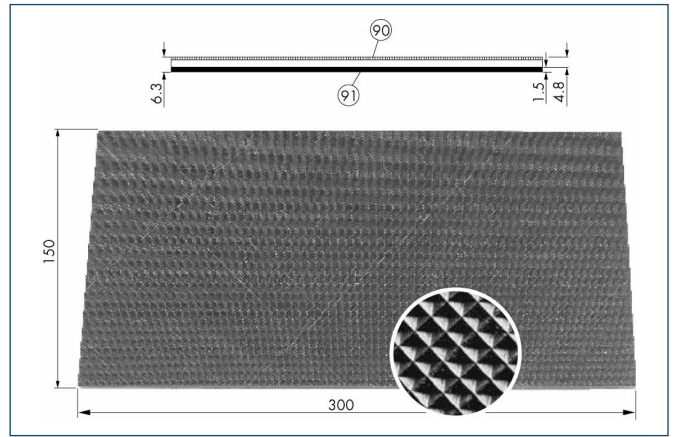
Description		HKI 1E	HKI 1A	HKI 1S
ID		0324160	0324161	0324162
Length	[mm]	300.0	300.0	300.0
Width	[mm]	150.0	150.0	150.0
Thickness	[mm]		6.3	13.5
Elastomer		NBR Perbunan	NBR Perbunan	NBR Perbunan
Hard elastomer	[Shore]	60.0	60.0	60.0
Hardness tolerance +/-	[Shore]	5.0	5.0	5.0
Base plate present		No	Yes	Yes
Material of base plate		Elastomer	Aluminum	Stainless steel
Min. ambient temperature	[°C]	-30.0	-30.0	-30.0
Max. ambient temperature	[°C]	100.0	100.0	100.0

HKI 1E



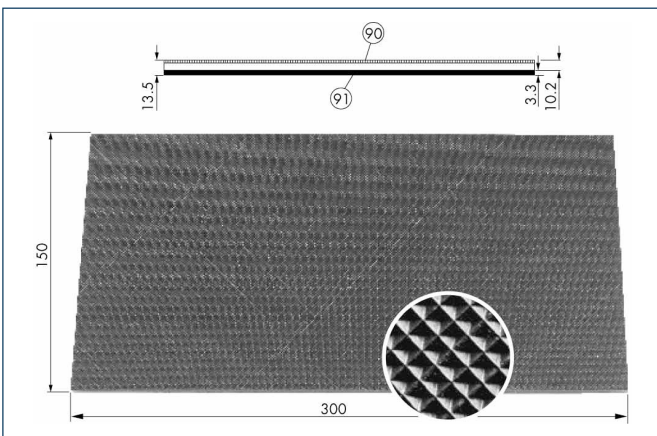
90 Elastomer pads

HKI 1A



90 Elastomer pads
91 Aluminum base plate

HKI 1S



90 Elastomer pads
91 Stainless steel base plate



Quick-change Jaw System

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.



Functional description

The BSWS consists of a base, which is stationary fixed with the gripper, and two adapter pins, which are to be fastened at the top jaw, which is to be exchanged. The form-fit locking mechanics assures a fast exchange of the gripper fingers.

Your advantages and benefits

Universal application possibilities

By using the BSWS, just one single gripper is necessary for various applications

Manual jaw change via locking mechanics

easy and fast for a high gripper flexibility

Firm up to the maximum loadability of the base jaws

by safe adaption and connection with screws

Alternative possibility of inserting the locking bolt into the base jaws

The exchangabilty and free choice of jaw design has no impact onto the inferring contours.

Application example



Field of application

For handling of various components or frequent retrofitting of automated production lines in clean to dirty environments.

Caution: The locking surfaces must keep free of grease and oil!

1 Quick-change Jaw System BSWS

3 2-Finger Parallel Grippers PGN-plus

2 Gripper jaws ABR-plus

General information

Housing material

Aluminum alloy, hard-anodized

Locking mechanism material

Steel

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Sizes

suitable for the sizes 50 to 300 of the series PGN-plus, PZN-plus and many other grippers

Scope of delivery

Base and adapter separately in different sizes

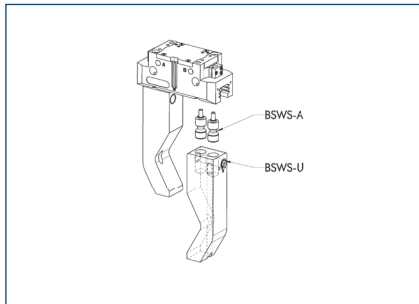
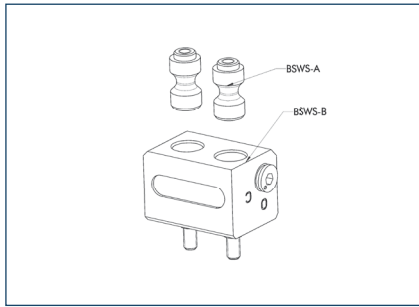
Options and special information

BSWS-U: Reversed assembly without additional height

If the additional attachment height of the BSWS system should have a negative impact, it is possible to fasten the BSWS adapter in the base jaws of the gripper with screws. Then the changing system is more compact in height. The locking mechanism will be integrated into the top jaw.

As another effect, there are no disturbing fastening bores at your finger contour. Please contact us for discussing this matter.

Sectional diagram



- 1 Locking mechanics**
powerful and rigid by positive locking
- 2 Fastened with screws**
towards the gripper base jaw
- 3 Base BSWS-B**
the Quick-change Jaw System
- 4 Adapter plate with BSWS-A**
to be fastened at the top jaws which will be changed

Technical data BSWS-A

Description	BSWS-A 50	BSWS-A 64	BSWS-A 80	BSWS-A 100	BSWS-A 125	BSWS-A 160	BSWS-A 200	BSWS-A 240
ID	0303020	0303022	0303024	0303026	0303028	0303030	0303032	0303034
Weight [kg]	0.002	0.005	0.011	0.024	0.046	0.077	0.16	0.3
Number of pins per ID	2	2	2	2	2	2	2	2
Grid dimension	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V

Technical data BSWS-B

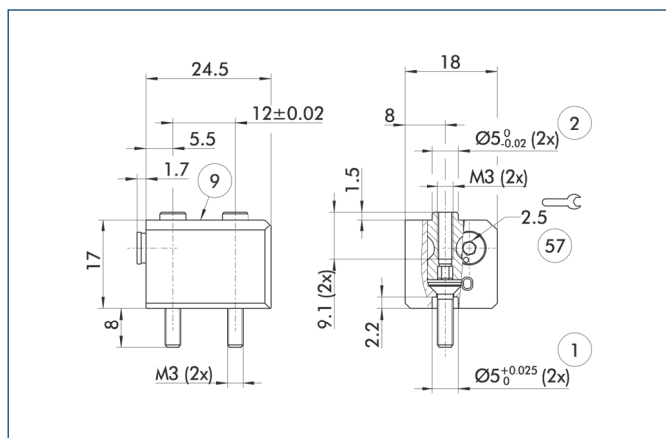
Description	BSWS-B 50	BSWS-B 64	BSWS-B 80	BSWS-B 100	BSWS-B 125	BSWS-B 160	BSWS-B 200	BSWS-B 240
ID	0303021	0303023	0303025	0303027	0303029	0303031	0303033	0303035
Weight [kg]	0.02	0.04	0.08	0.1	0.27	0.48	0.9	1.5

Technical data BSWS-U

Description	BSWS-U 50	BSWS-U 64	BSWS-U 80	BSWS-U 100	BSWS-U 125	BSWS-U 160	BSWS-U 200	BSWS-U 240
ID	0303040	0303041	0303042	0303043	0303044	0303045	0303046	0303047

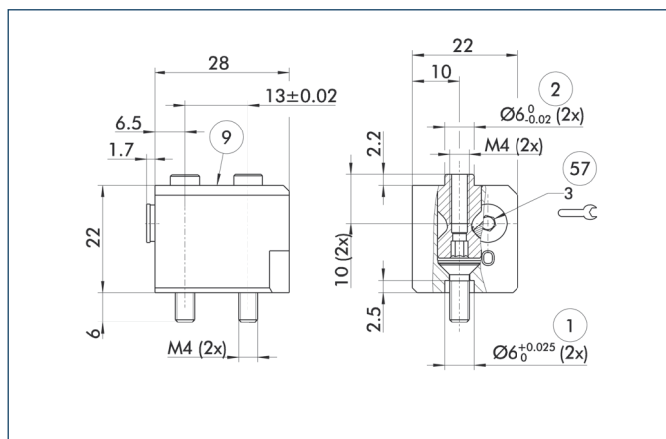
① The level difference of the BSWS-B amounts to +/- 0.05 mm and the exchangeability of a top jaw in combination with a BSWS-A amounts to +/- 0.02 mm.

BSWS 50



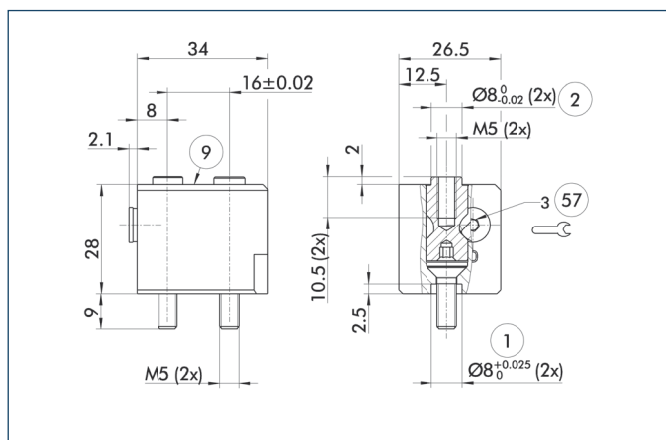
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 64



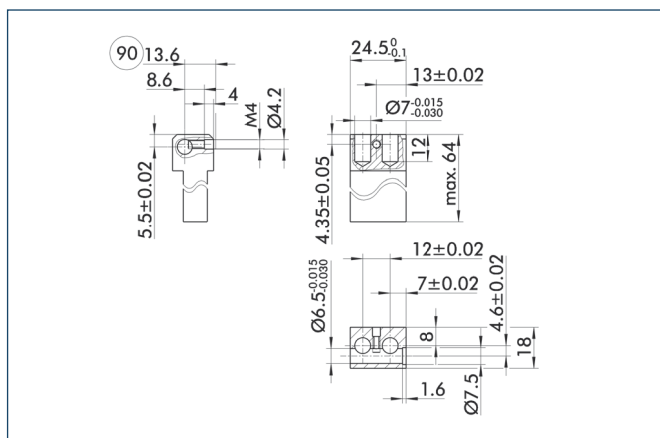
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 80



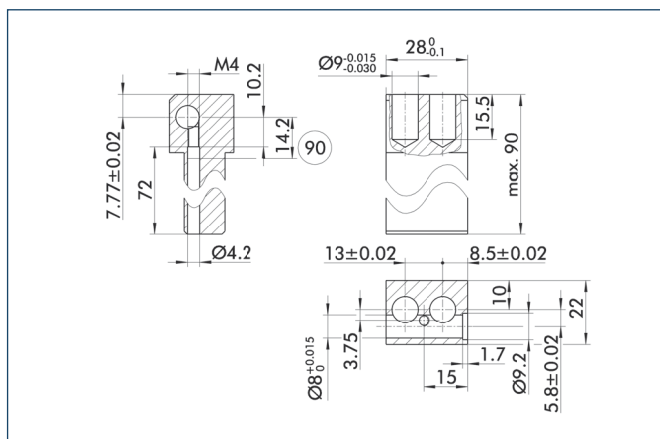
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS-U 50



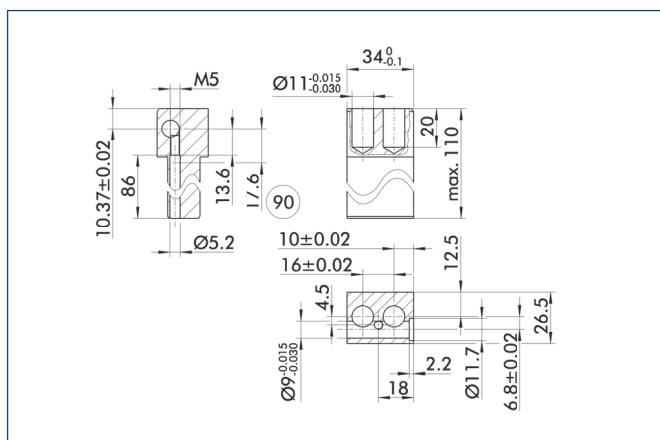
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 64



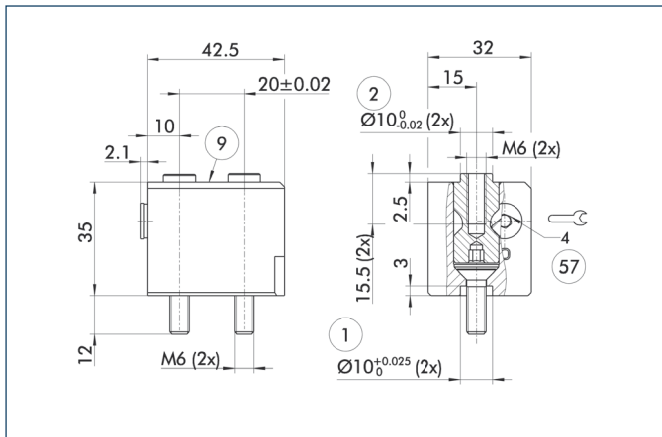
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 80



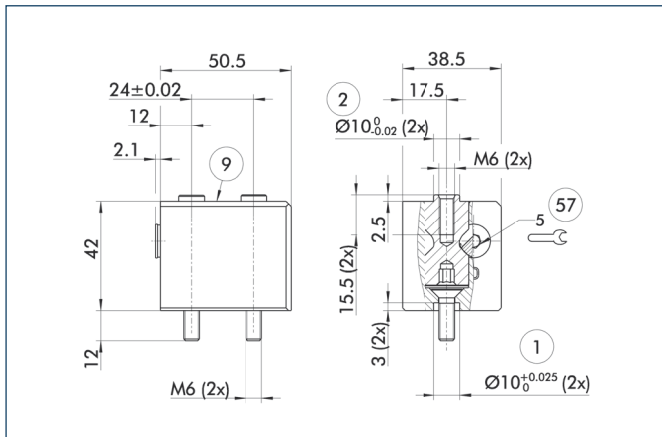
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS 100



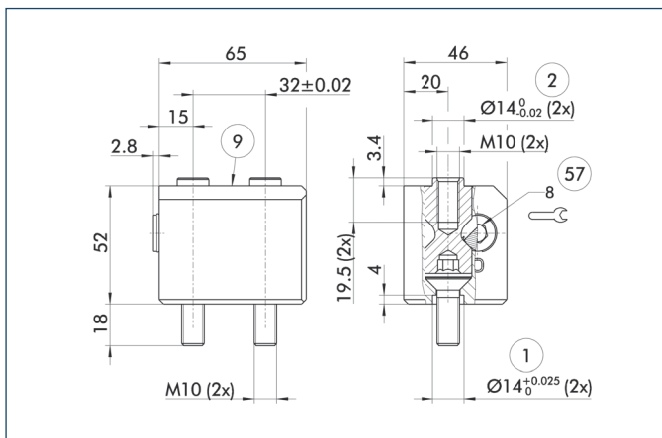
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

BSWS 125



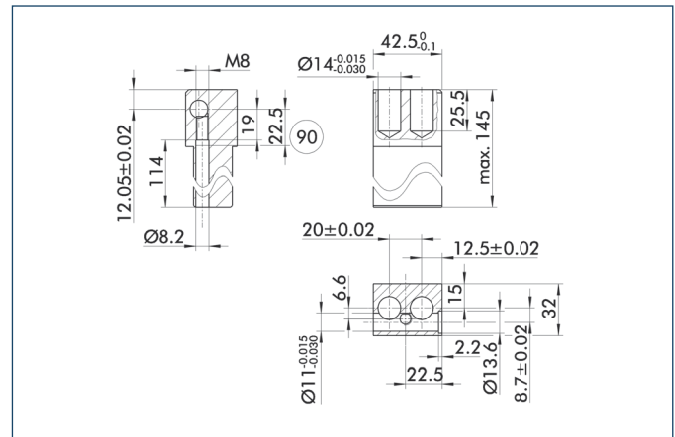
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

BSWS 160



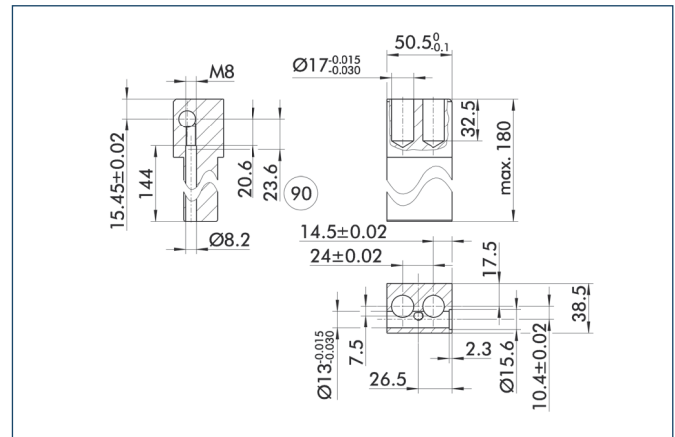
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

BSWS-U 100



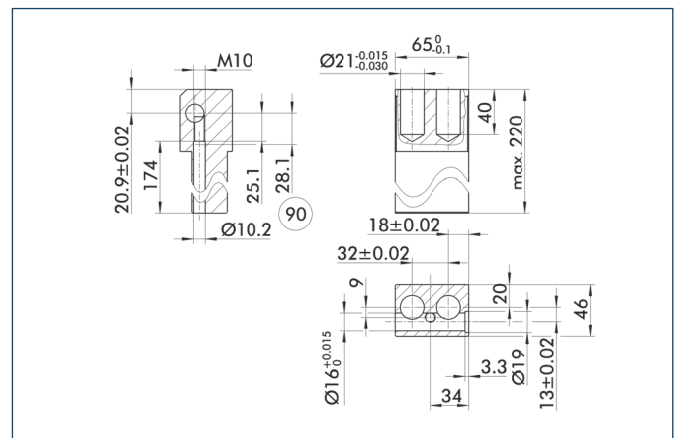
- ⑨0 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 125



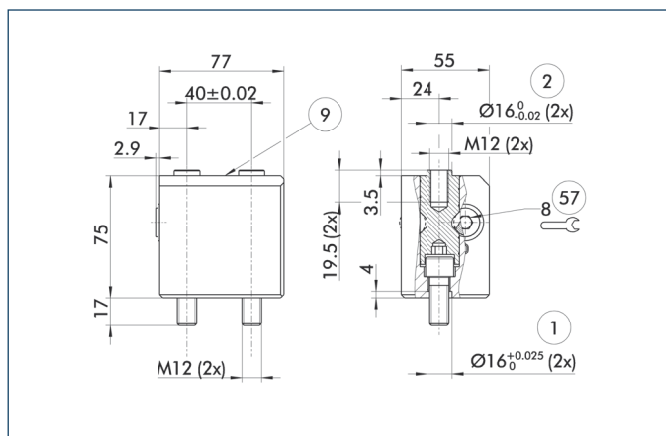
- ⑨0 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 160



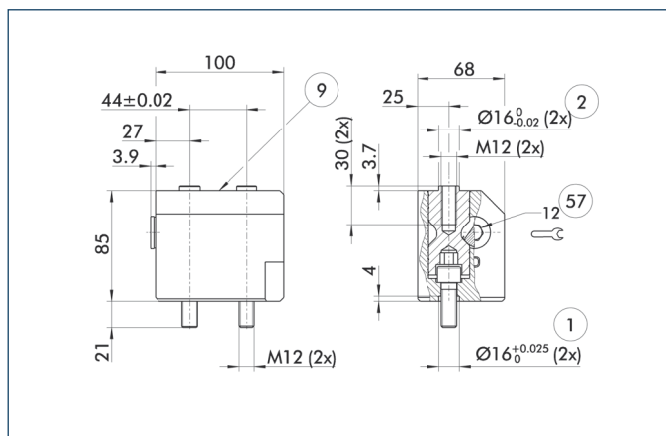
- ⑨0 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS 200



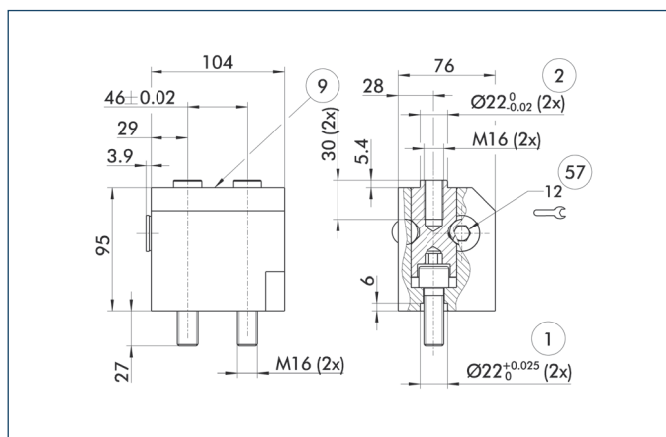
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 240



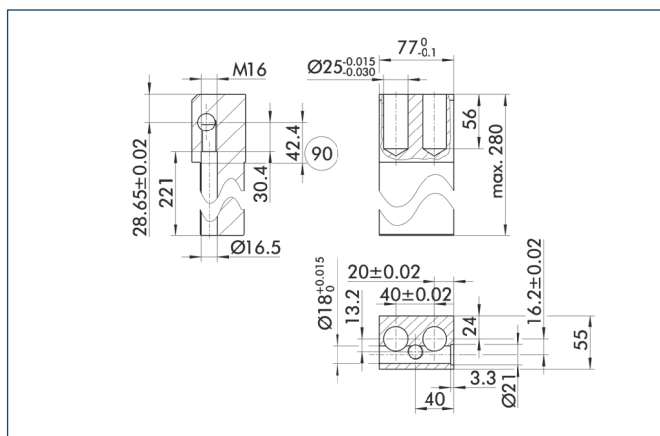
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 300



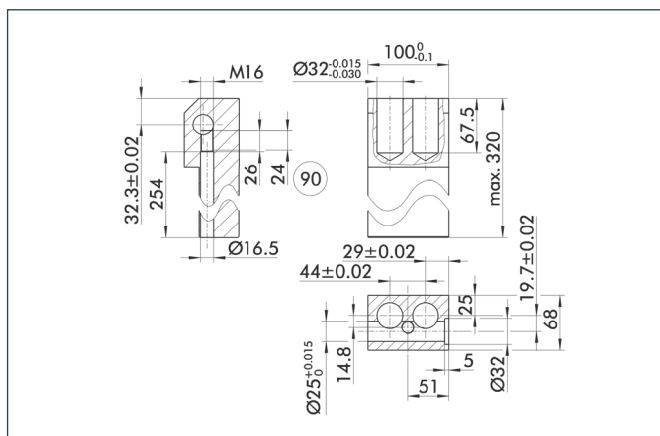
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS-U 200



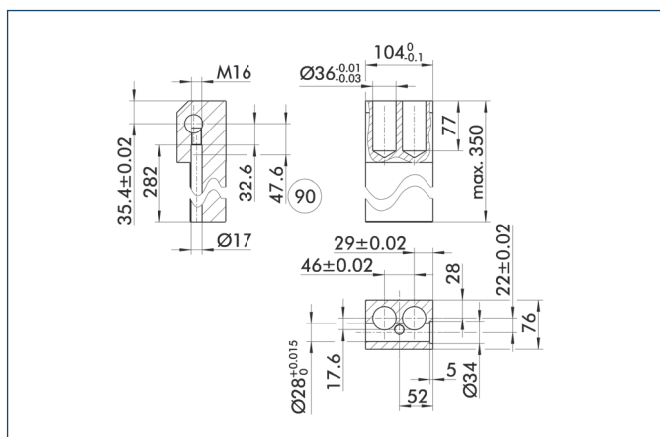
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 240



- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 300



- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

Universal intermediate jaw

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Field of application

For handling of various components or frequent retrofitting of automated production lines in clean to dirty environments.

Caution: The locking surfaces must keep free of grease and oil!

Your advantages and benefits

Gripper with finger-sided centering

for universal and flexible gripper assembly

Stable guiding strip

suitable for long gripper fingers

Grid

precise and repeatable

Tool-free adjustment and clamping

for an easy and fast retrofitting

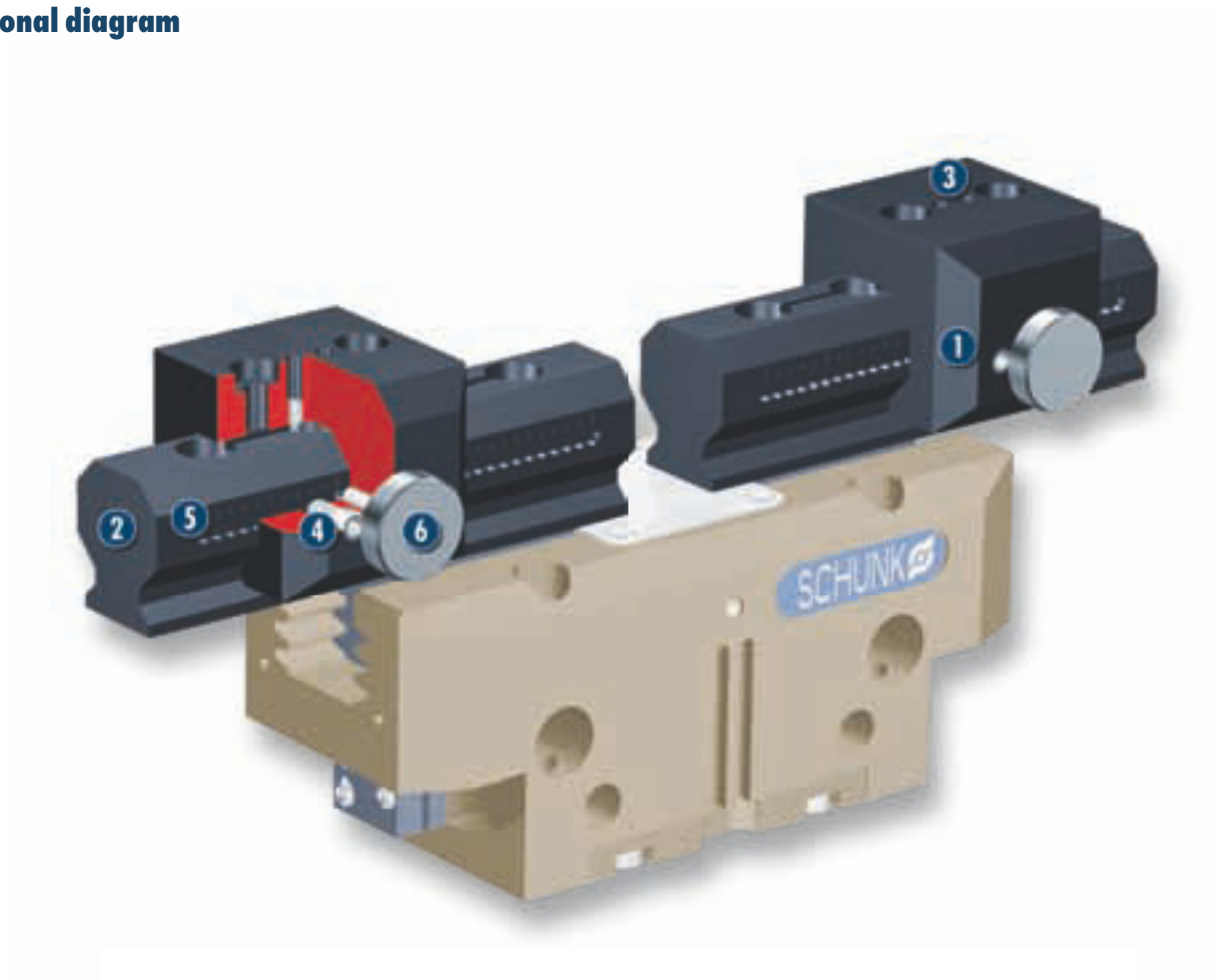
Application example



Adjustment of the gripping range and jaw change within seconds and tool-free

- 1 2-Finger Parallel grippers PGN-plus
- 2 Universal intermediate jaw UZZ

Sectional diagram



- 1 UZZ slides**
for adjustment of the gripping area
- 3 Finger connection**
for the connection of workpiece-specific gripper fingers
- 5 Scale**
for position detection and control
- 2 UZZ guidance**
high bending stiffness for exact gripping
- 4 Grid**
for fast adjustment of the gripping position
- 6 Position clamping**
stable due to form-fit clamping

Functional description

The finger stroke can be adjusted to tool-free. Then the intermediate jaw UZZ allows retrofitting onto another workpiece width at short notice. The two-pieces UZZ intermediate jaw from SCHUNK allows fast exchange of the top. The gripper can be retrofitted within no time for other gripping tasks – without needing a tool.

Options and special information

Adjustment range
up to three times higher than the gripper stroke

Material
Aluminum alloy, hard-anodized

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)



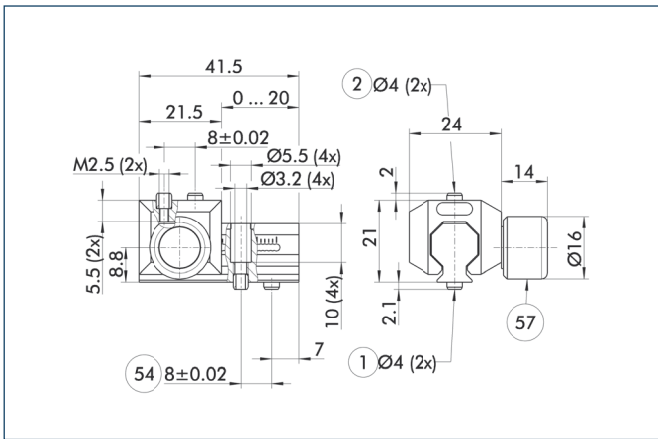
Technical data UZH

Description		UZH 40	UZH 50	UZH 64	UZH 80	UZH 100	UZH 125	UZH 160	UZH 200
ID		0300040	0300041	0300042	0300043	0300044	0300045	0300046	0300047
Max. adjustable range	[mm]	20	33	33	44	55	72.1	79	111
Grid dimension	[mm]	1	1.5	1.5	2	2.5	3	4	7
Weight	[g]	40	70	110	170	260	350	620	1180

Technical data UZH-S

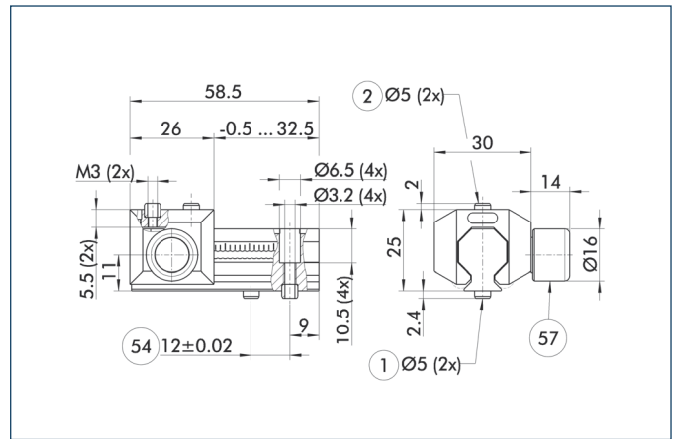
Description		UZH-S 80	UZH-S 100	UZH-S 125	UZH-S 160	UZH-S 200
ID		5518271	5518272	5518273	5518274	5518275
Max. adjustable range	[mm]	2	2.5	3	4	7
Grid dimension	[g]	100	140	180	300	520

Universal intermediate jaw UZZ 40



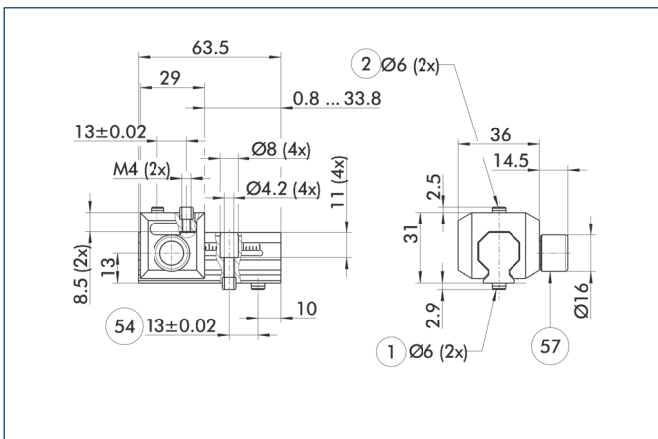
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZZ 50



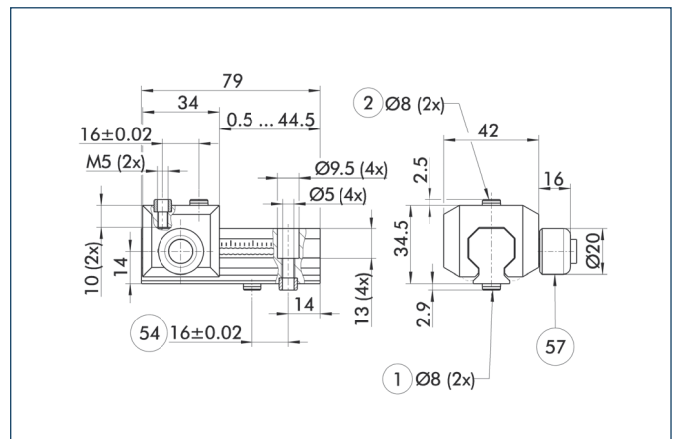
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZZ 64



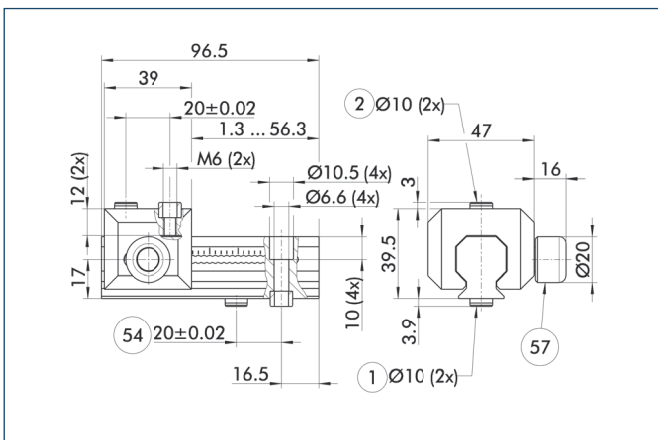
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZZ 80



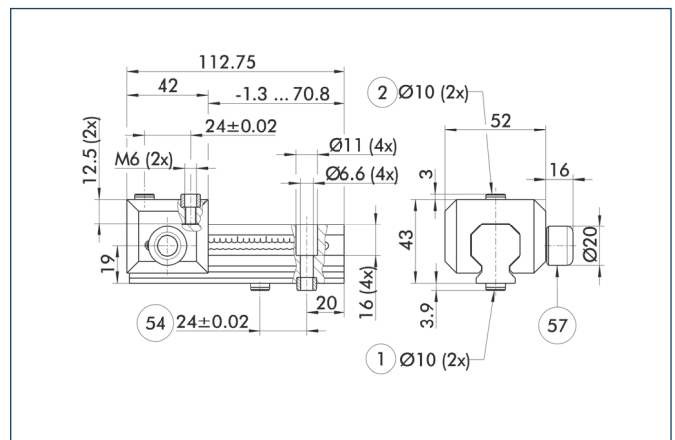
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZZ 100



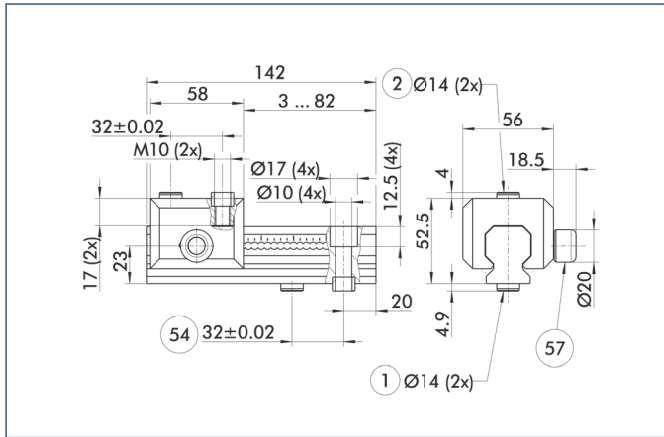
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZZ 125



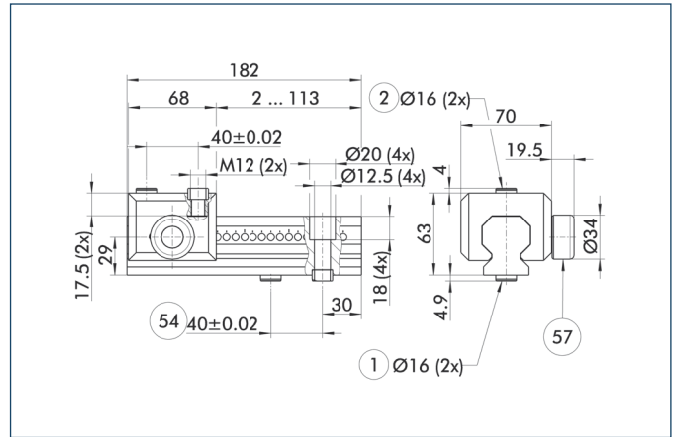
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

Universal intermediate jaw UZB 160

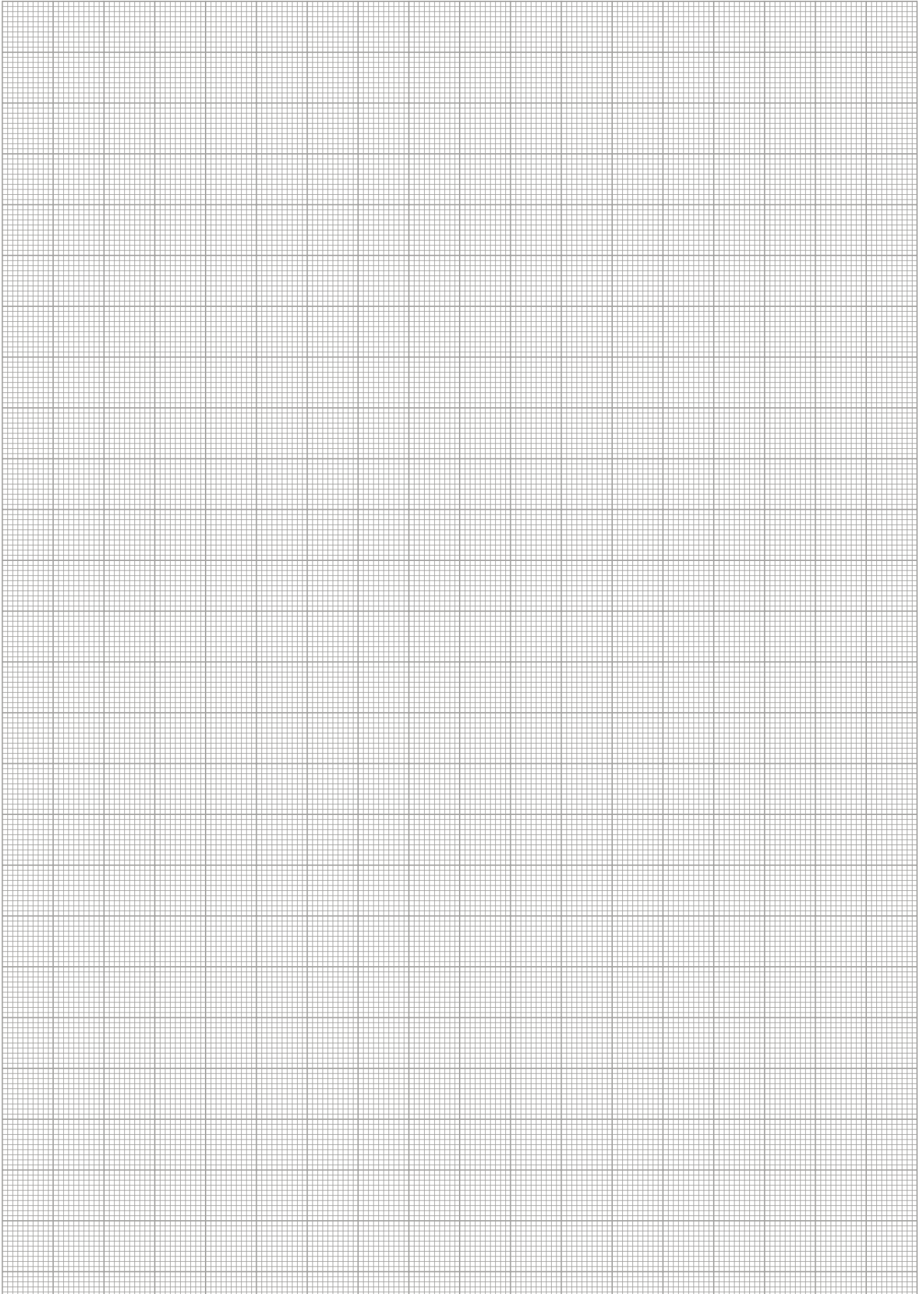


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZB 200

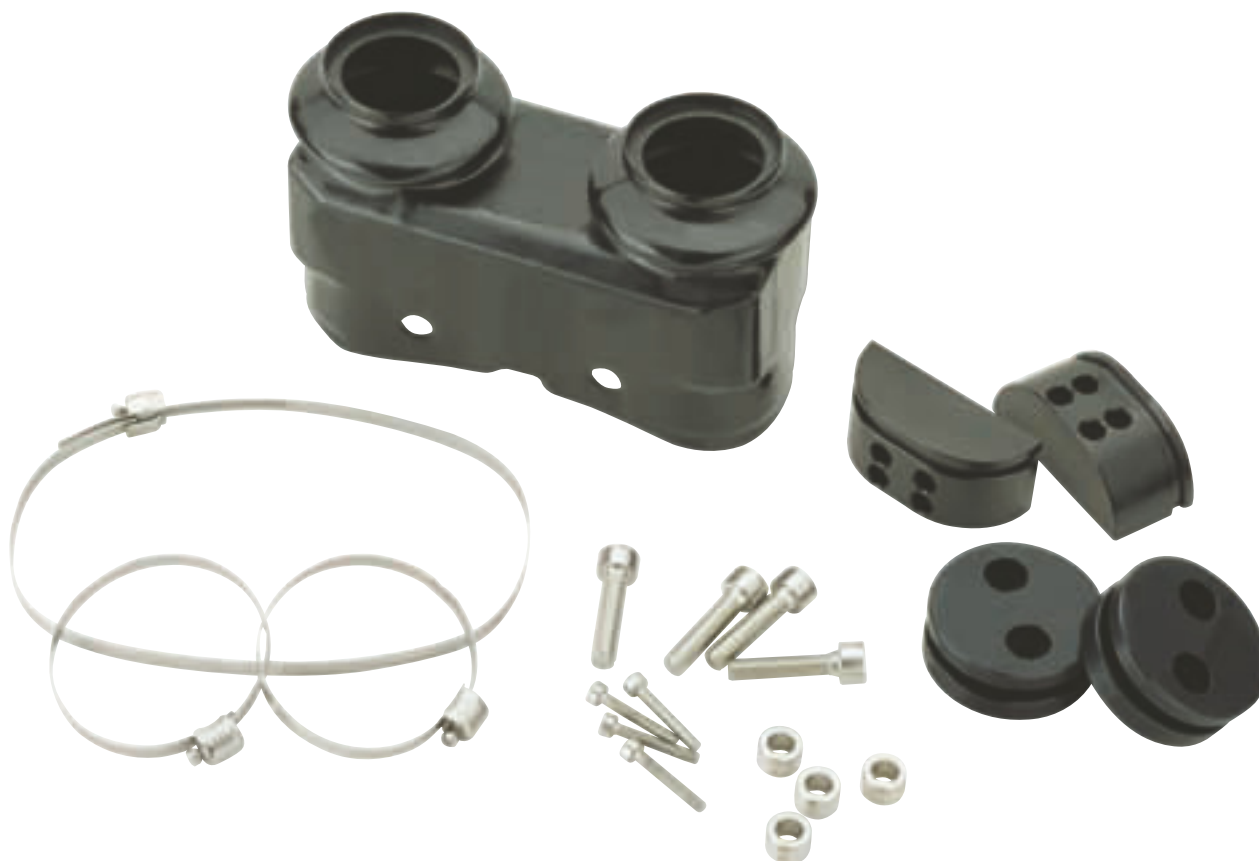


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking



Dust Cover HUE for PGN-plus

Soft plastic covering to protect gripper for numerous liquids.



Function description

The gripper receives intermediate jaws and filler pieces, so that the protective sleeve can be mounted. In combination with the additionally required customer's sealing of the lower sleeve connection, this results in a rating of IP 65.

Your advantages and benefits

Economical

for economical use

Flexible

through retrofitting

Space-saving

through minimum enlargement of the interfering contour

Application example

Area of application

use in numerous environments which are contaminated by fluids



Notes

Please note that the bottom connection of the protective sleeve must be sealed by the customer. We recommend applying a seal weld. For materials and instructions on applying seal welds, see operating manual.

You will find the material data sheet for dust covers HUE under www.schunk.com.



HUE for PGN-plus

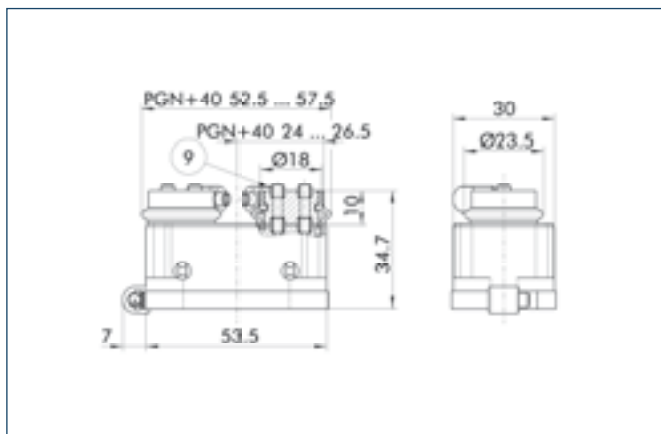
Accessories • Dust Cover



Technical data

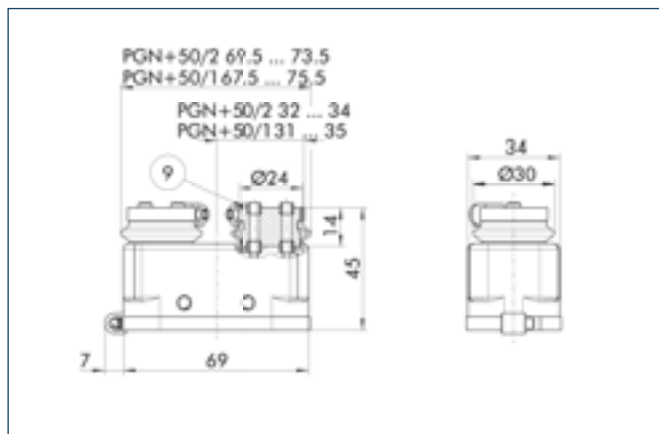
Description	ID	Material	ISO-Classification 14644-1	Min. permanent temperature [°C]	Max. permanent temperature [°C]	Weight [kg]
HUE PGN-plus 40	0371490	plastic	2	-30.0	80.0	0.05
HUE PGN-plus 50	0371479	plastic	2	-30.0	80.0	0.06
HUE PGN-plus 64	0371480	plastic	2	-30.0	80.0	0.08
HUE PGN-plus 80	0371481	plastic	2	-30.0	80.0	0.16
HUE PGN-plus 100	0371482	plastic	2	-30.0	80.0	0.24
HUE PGN-plus 125	0371483	plastic	2	-30.0	80.0	0.5
HUE PGN-plus 160	0371484	plastic	2	-30.0	80.0	0.6

HUE for PGN-plus 40



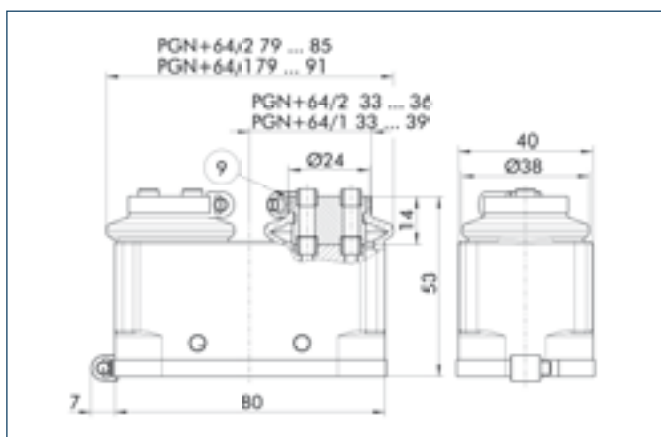
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 50



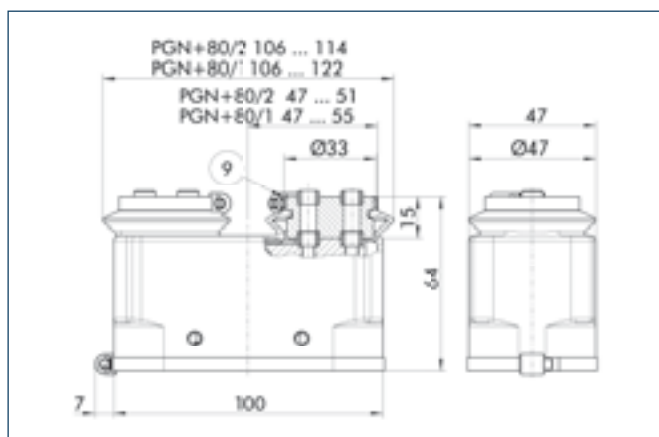
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 64



⑨ For screw connection diagram, see basic version

HUE for PGN-plus 80

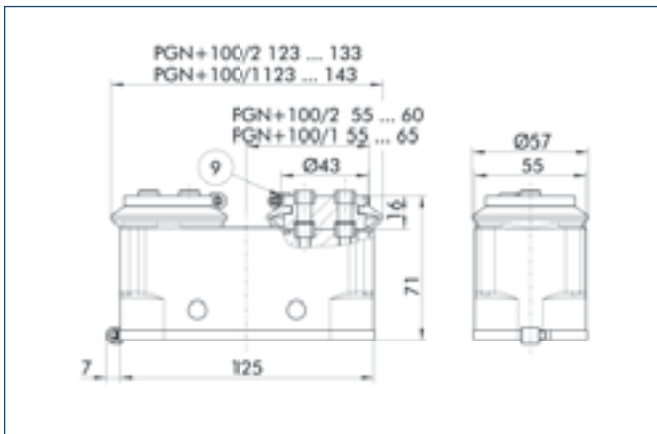


⑨ For screw connection diagram, see basic version

HUE for PGN-plus

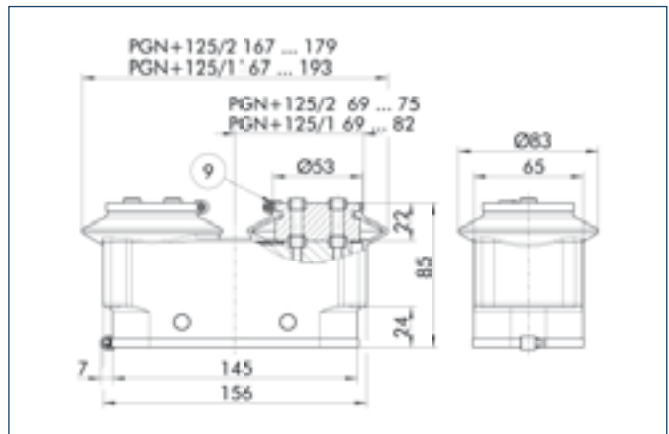
Accessories • Dust Cover

HUE for PGN-plus 100



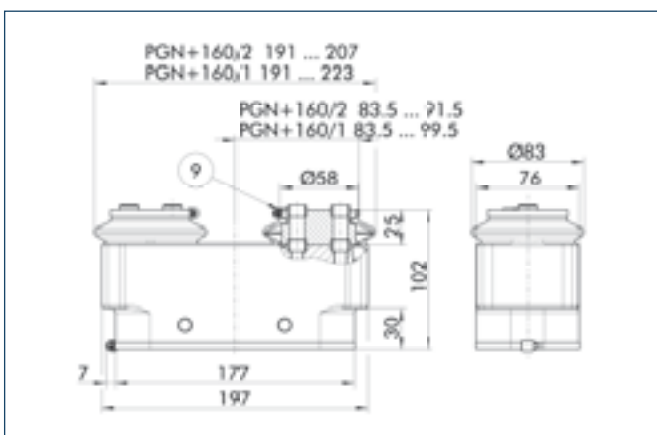
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 125

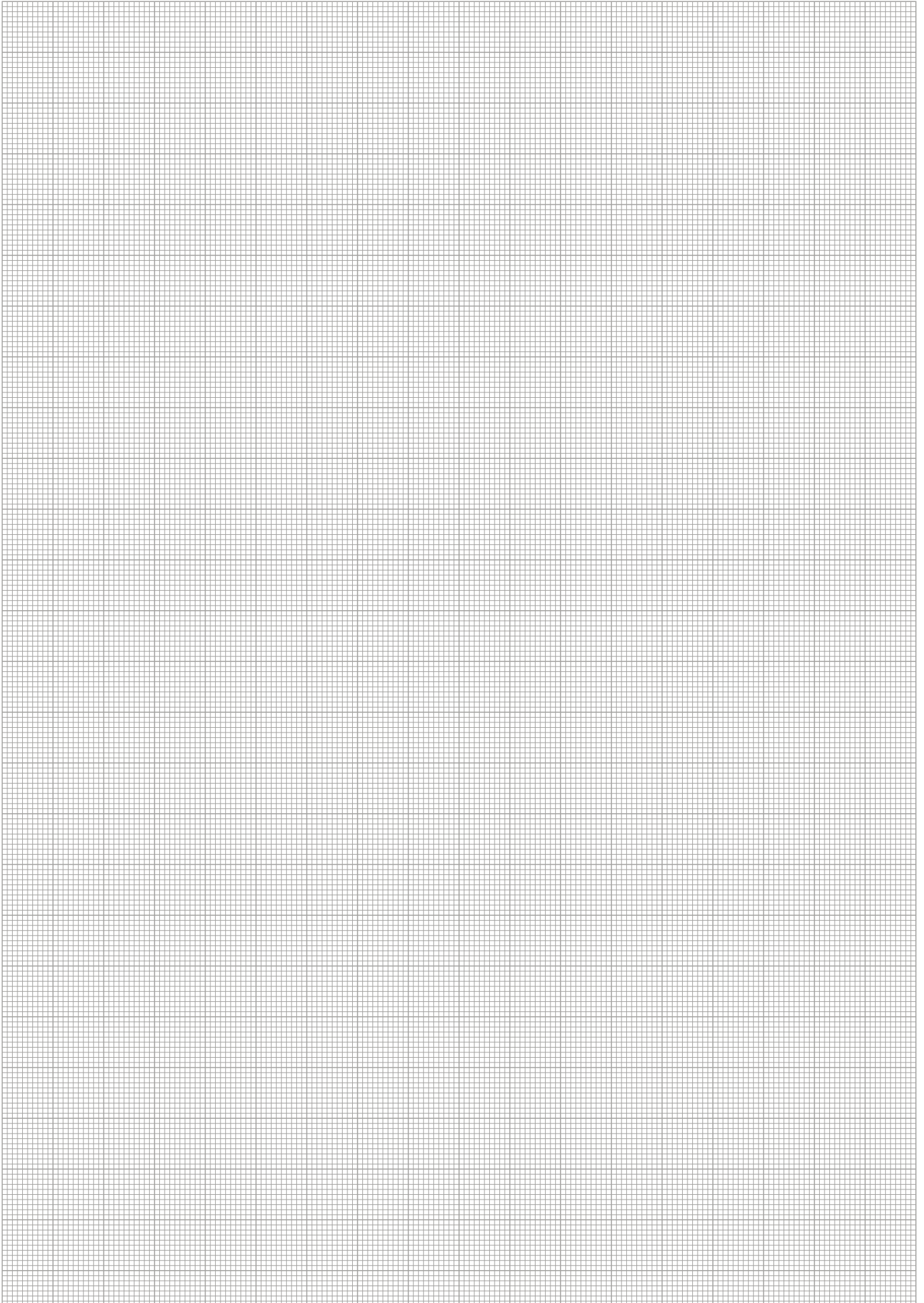


⑨ For screw connection diagram, see basic version

HUE for PGN-plus 160



⑨ For screw connection diagram, see basic version



Dust Cover HUE for PZN-plus

Soft plastic covering to protect gripper from numerous liquids.



Function description

The gripper receives intermediate jaws and filler pieces, so that the protective sleeve can be mounted. In combination with the additionally required customer's sealing of the lower sleeve connection, this results in a rating of IP 65.

Your advantages and benefits

Economical

for economical use

flexible

through retrofitting

Space-saving

through minimum enlargement of the interfering contour

Application diagram

Area of application

use in numerous environments which are contaminated by fluids



Notes

Please note that the bottom connection of the protective sleeve must be sealed by the customer. We recommend applying a seal weld. For materials and instructions on applying seal welds, see operating manual.

You will find the material data sheet for dust covers HUE under www.schunk.com.



HUE for PZN-plus

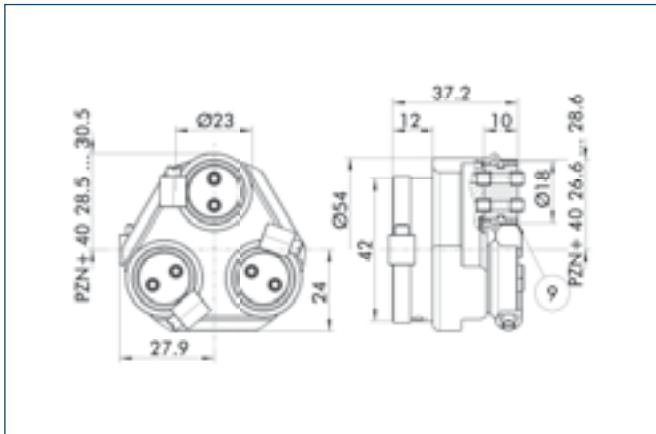
Accessories • Dust Cover



Technical data

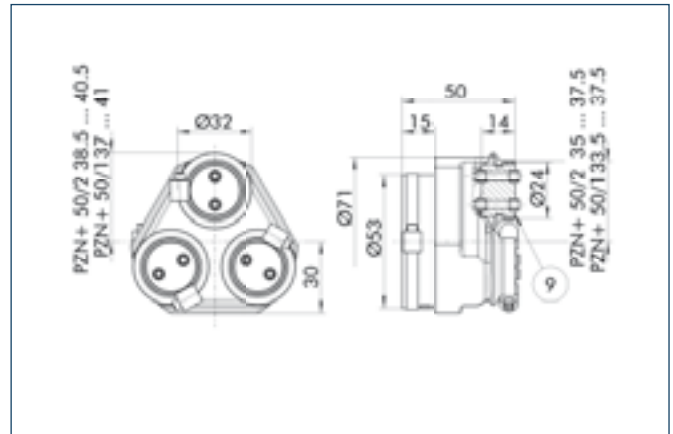
Description	ID	Material	ISO-Classification 14644-1	Min. permanent temperature [°C]	Max. permanent temperature [°C]	Weight [kg]
HUE PZN-plus 40	0303478	plastic	2	-30.0	80.0	0.09
HUE PZN-plus 50	0303479	plastic	2	-30.0	80.0	0.11
HUE PZN-plus 64	0303480	plastic	2	-30.0	80.0	0.14
HUE PZN-plus 80	0303481	plastic	2	-30.0	80.0	0.28
HUE PZN-plus 100	0303482	plastic	2	-30.0	80.0	0.42
HUE PZN-plus 125	0303483	plastic	2	-30.0	80.0	0.87
HUE PZN-plus 160	0303484	plastic	2	-30.0	80.0	1.05

HUE for PZN-plus 40



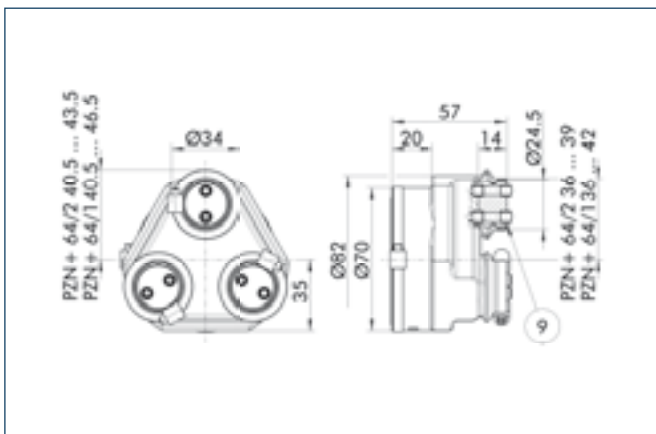
⑨ For screw connection diagram, see basic version

HUE for PZN-plus 50



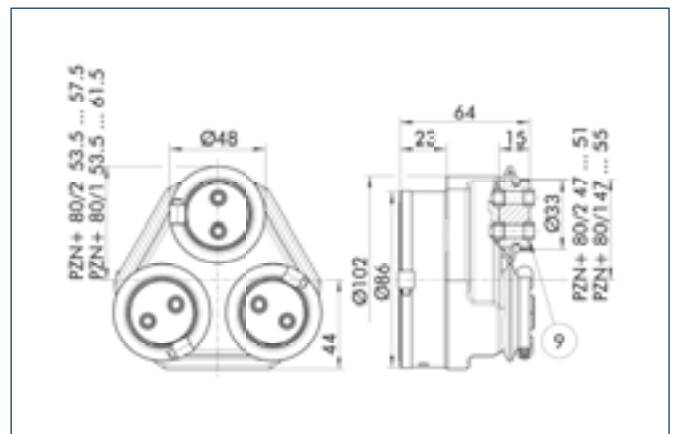
⑨ For screw connection diagram, see basic version

HUE for PZN-plus 64



⑨ For screw connection diagram, see basic version

HUE for PZN-plus 80

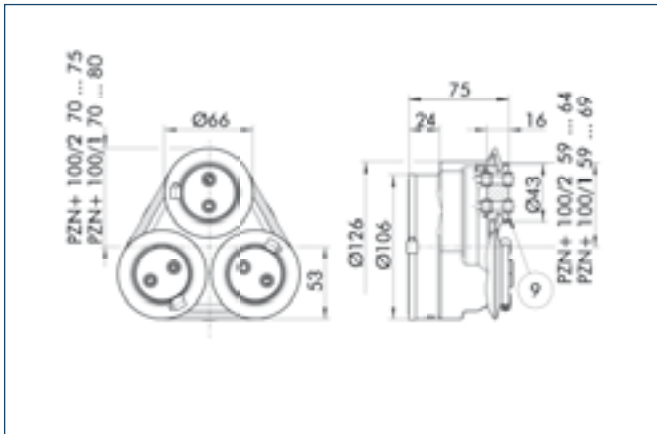


⑨ For screw connection diagram, see basic version

HUE for PZN-plus

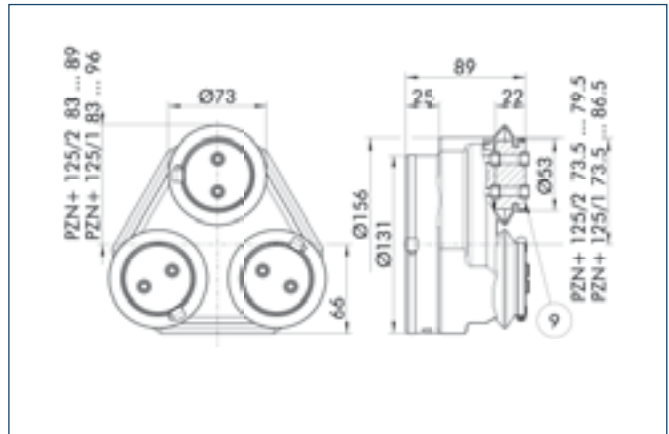
Accessories • Dust Cover

HUE for PZN-plus 100



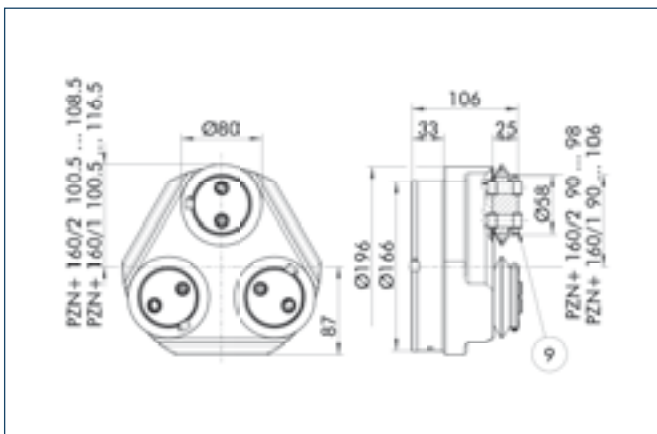
⑨ For screw connection diagram, see basic version

HUE for PZN-plus 125

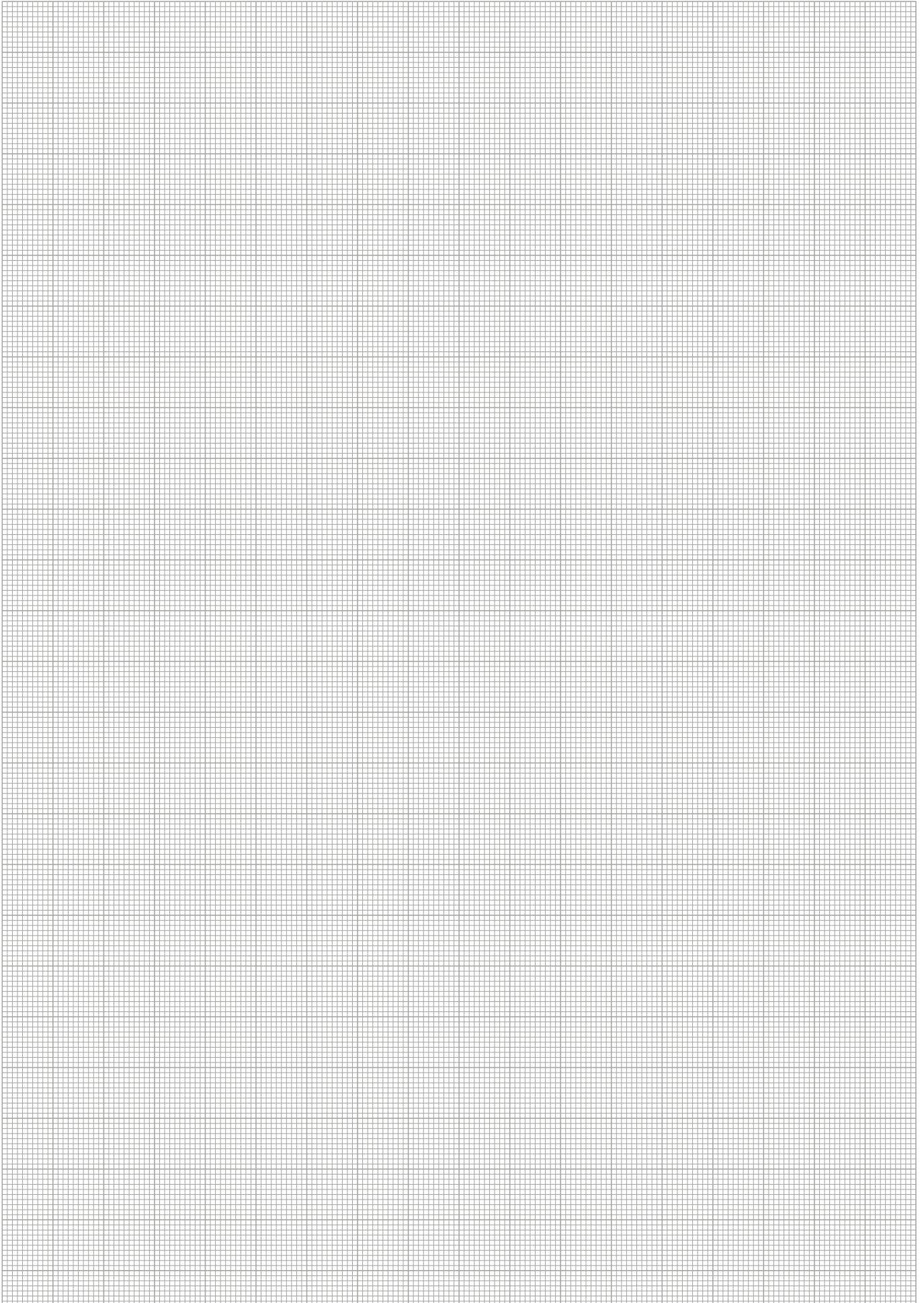


⑨ For screw connection diagram, see basic version

HUE for PZN-plus 160



⑨ For screw connection diagram, see basic version



Centering Sleeves

Centering sleeves are used for centering between two elements. With SCHUNK grippers, this frequently occurs between the mounting plate and gripper and between the gripper and gripper fingers.



Function description

The centering sleeves are inserted coaxially to the screws.

Your advantages and benefits

Space-saving
for small, compact grippers

Precise
for high repeat accuracy

Economical
for low costs

Easy to install
for fast assembly

**Area of application**

variable centering tasks for gripper and rotary modules, as well as linear modules.

General information

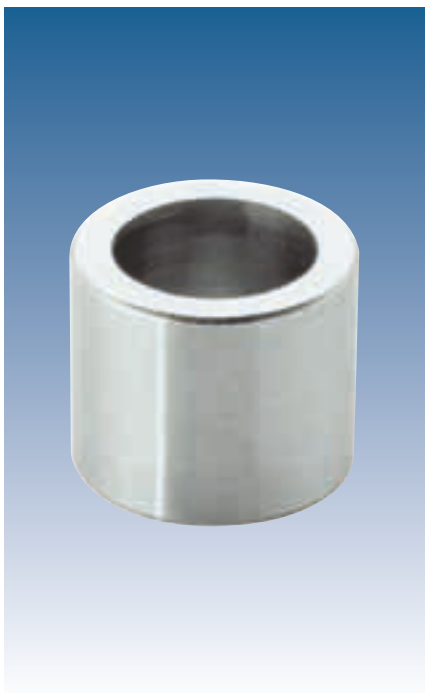
Material
steel

Warranty
24 months

Notes

SCHUNK grippers include all necessary centering sleeves.

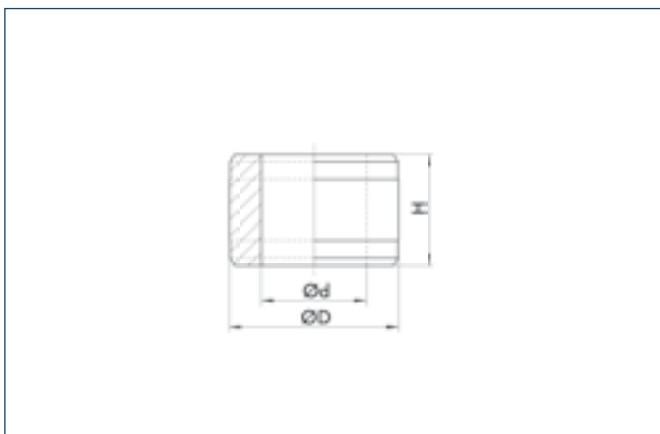




Technical data

Description	ID	Material	Ø D [mm]	Ø d [mm]	H [mm]
ZHU	9941547	Steel	2.0h6	1.3	1.95-0.05
ZHU	9941628	Steel	2.5h6	1.7	1.95-0.05
ZHU	9941629	Steel	3.0h6	2.1	1.95-0.05
ZHU	9939947	Steel	3.5h6	2.1	2.95-0.05
ZHU	9939376	Steel	4.0h6	2.6	3.95-0.05
ZHU	9939377	Steel	5.0h6	3.1	4.35-0.05
ZHU	9939384	Steel	6.0h6	4.1	5.35-0.05
ZHU	9939378	Steel	8.0h6	5.1	5.35-0.05
ZHU	9939379	Steel	10.0h6	6.2	6.65-0.05
ZHU	9939380	Steel	12.0h6	8.2	6.65-0.05
ZHU	9939381	Steel	14.0h6	10.2	8.6-0.1
ZHU	9939382	Steel	16.0h6	12.2	8.6-0.1
ZHU	9939383	Steel	22.0h6	16.2	13.6-0.1
ZHU	9941220	Steel	28.0h6	21.0	17.6-0.1

Main view



Connecting Elements for PowerCube

Standard elements and adapters for the accurately repeatable connections of PowerCube modules



Function description

The dimensions of the connecting elements are matched to the cube shape of the PowerCube modules. The accurately repeatable connection is made easily and quickly by means of four hexagon socket screws.

Your advantages and benefits

Standard elements
for high availability

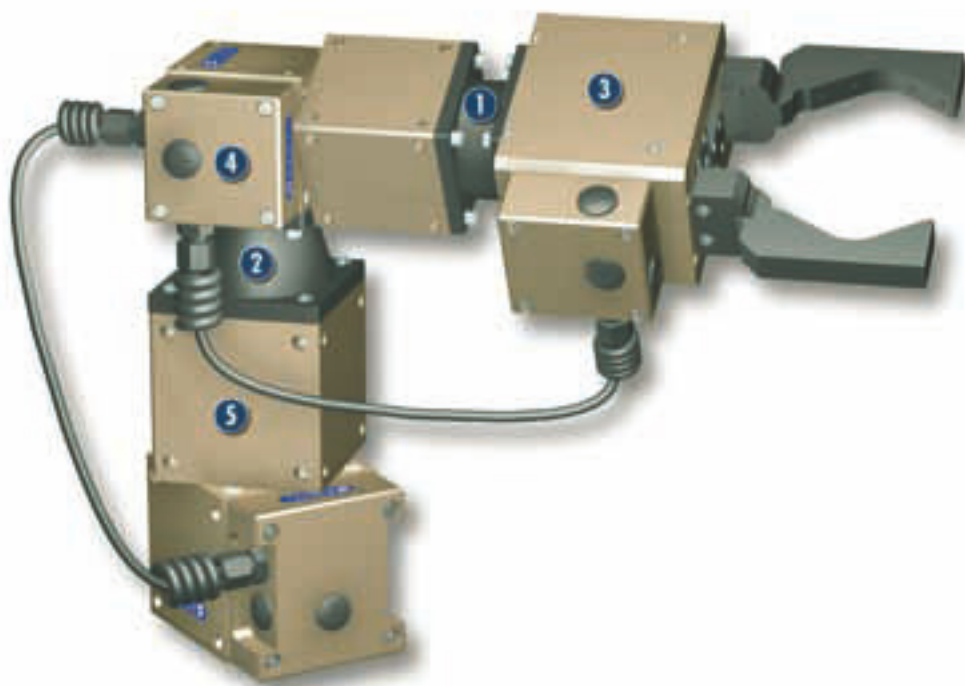
Geometry designs "straight", "conical" and "angular"
for maximum combinations

Suitable for all grippers, rotary units, drives and linear modules of the PowerCube series

Application example

Area of application

for easy and accurately repeatable connection of all PowerCube modules



- 1 Connecting element – straight PAM 100
- 2 Connecting element – conical PAM 110
- 3 Servo-electric 2-Finger Parallel Gripper PG 70

- 4 Servo-electric Rotary Actuator PR 70
- 5 Servo-electric Rotary Actuator PR 90

General information

Warranty
24 months

Material
Aluminum alloy, hard-anodized

Notes

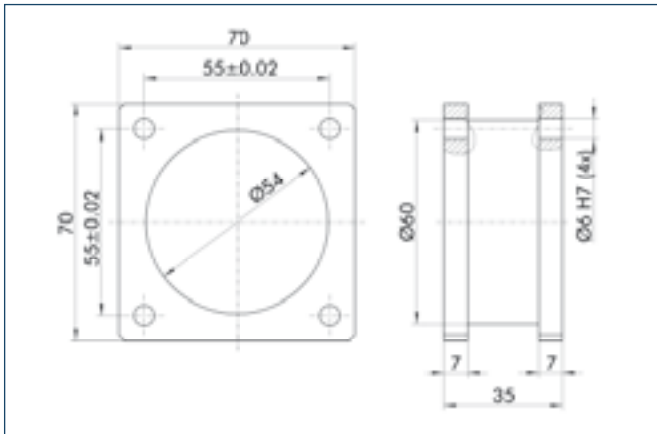
Special lengths are available on request.



PAM – Straight

Accessories • Mounting Elements • Connecting Elements for PowerCube • For Standard Screw Connection Diagram

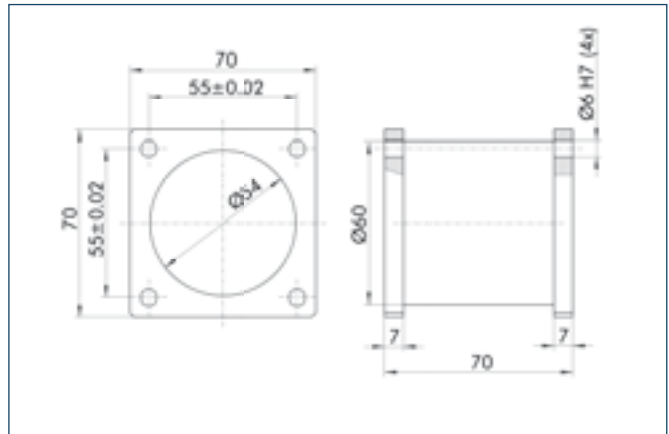
PAM 100 – Straight



suitable for PowerCube-Modules of size 70

Description	ID
PAM 100	0307800

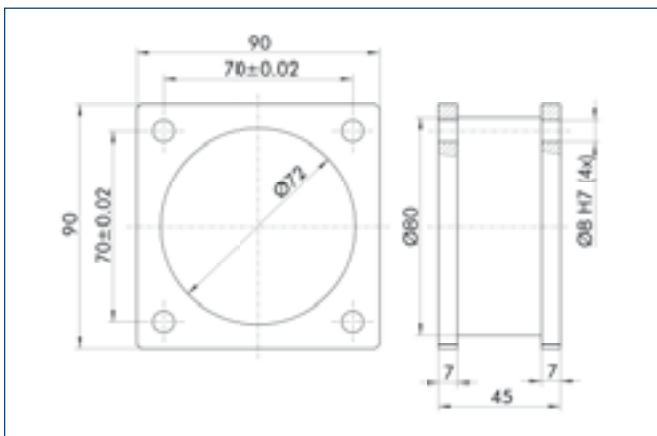
PAM 101 – Straight



suitable for PowerCube-Modules of size 70

Description	ID
PAM 101	0307801

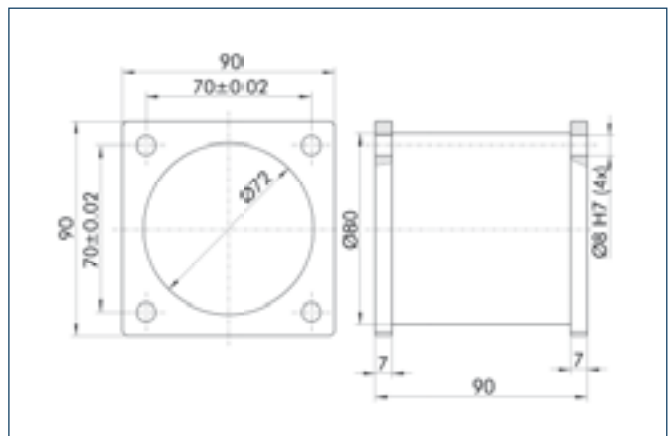
PAM 102 – Straight



suitable for PowerCube-Modules of size 90

Description	ID
PAM 102	0307802

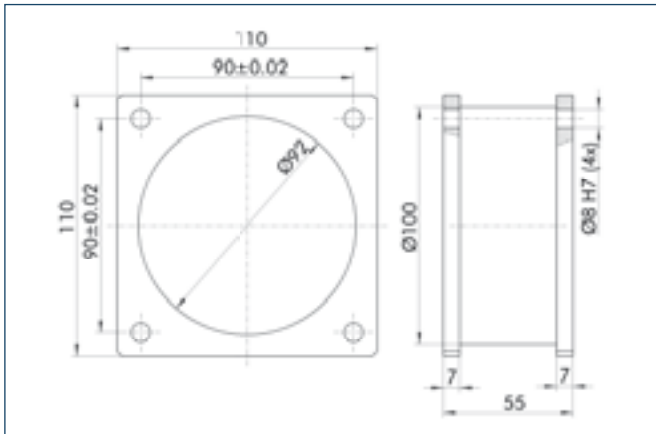
PAM 103 – Straight



suitable for PowerCube-Modules of size 90

Description	ID
PAM 103	0307803

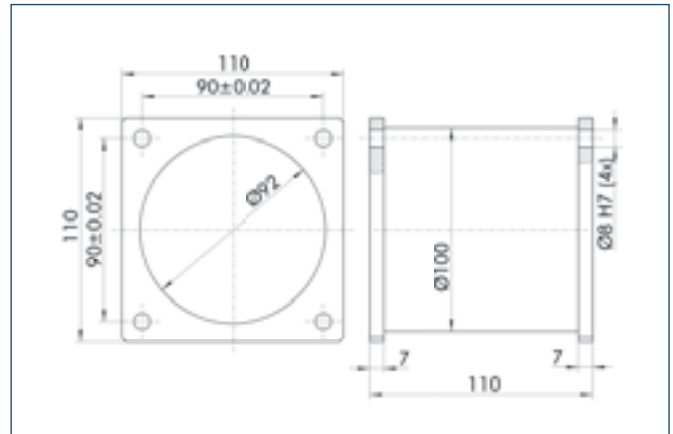
PAM 104 – Straight



suitable for PowerCube-Modules of size 110

Description	ID
PAM 104	0307804

PAM 105 – Straight



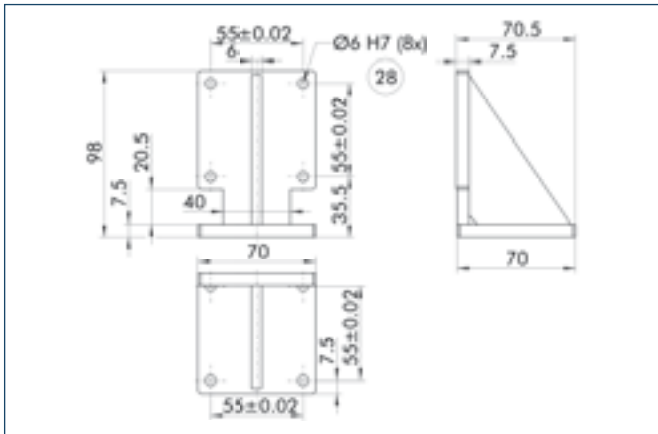
suitable for PowerCube-Modules of size 110

Description	ID
PAM 105	0307805

PAM – Angled

Accessories • Mounting Elements • Connecting Elements for PowerCube • For Standard Screw Connection Diagram

PAM 120 – Angled

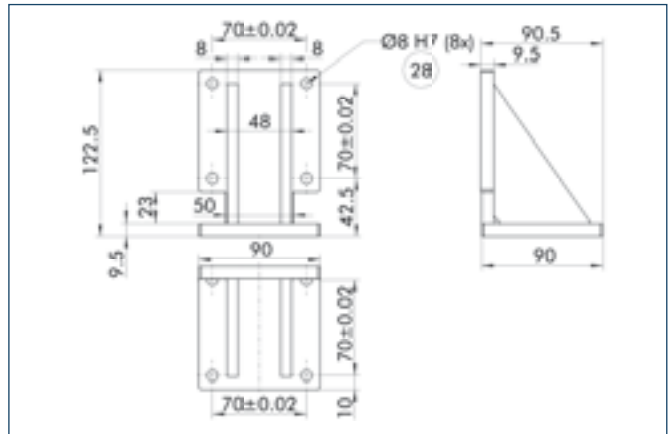


⊗ Through-bore

suitable for PowerCube-Modules of size 70

Description	ID
PAM 120	0307820

PAM 121 – Angled

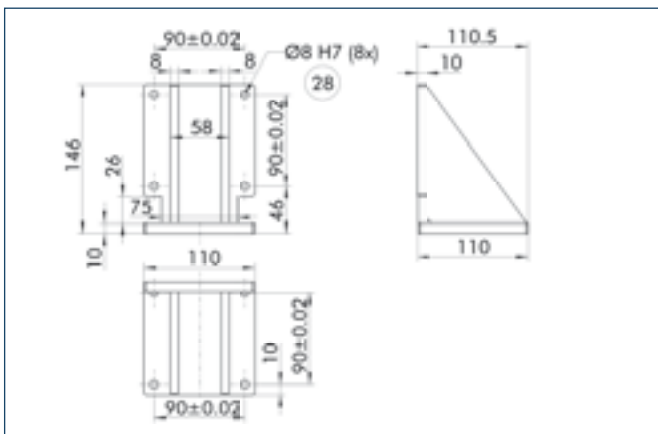


⊗ Through-bore

suitable for PowerCube-Modules of size 90

Description	ID
PAM 121	0307821

PAM 122 – Angled

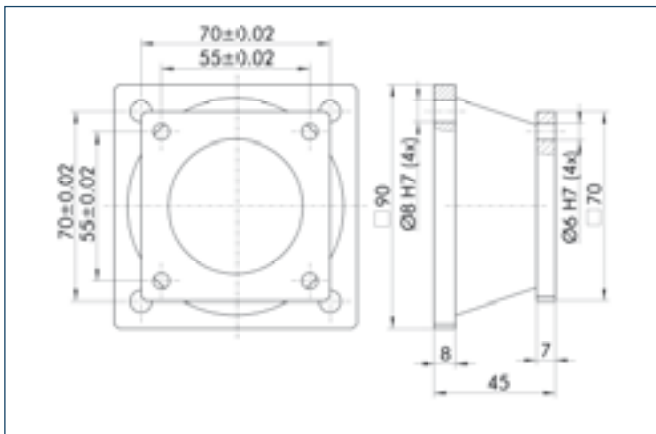


⊗ Through-bore

suitable for PowerCube-Modules of size 110

Description	ID
PAM 122	0307822

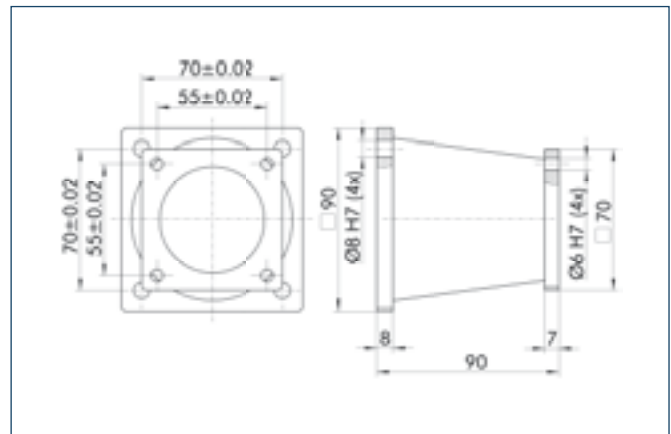
PAM 110 – Conical



suitable for PowerCube-Modules of size 70/90

Description	ID
PAM 110	0307810

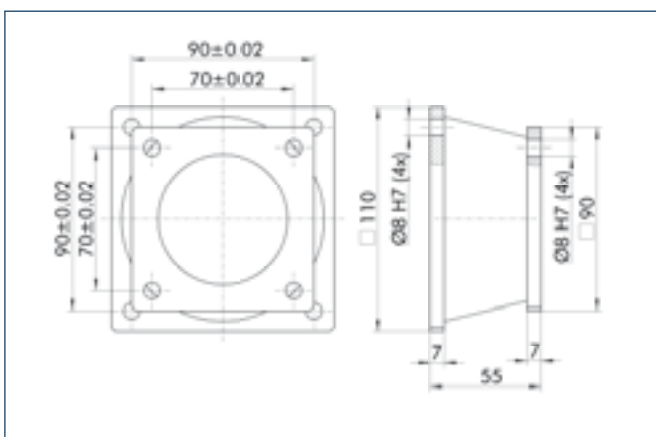
PAM 111 – Conical



suitable for PowerCube-Modules of size 70/90

Description	ID
PAM 111	0307811

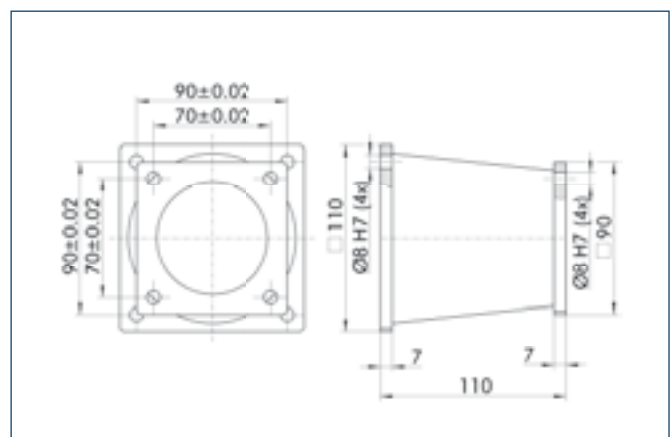
PAM 112 – Conical



suitable for PowerCube-Modules of size 90/110

Description	ID
PAM 112	0307812

PAM 113 – Conical



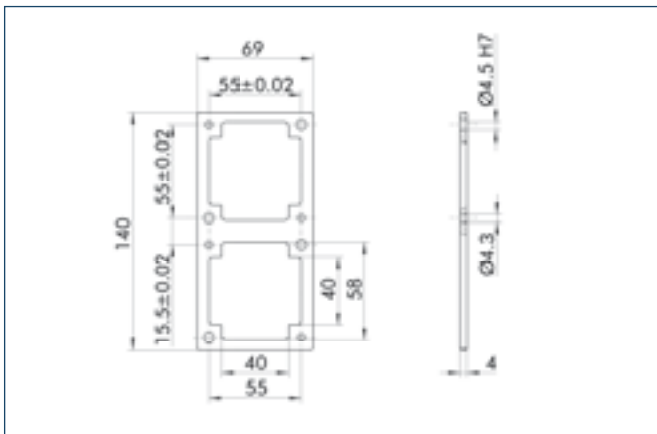
suitable for PowerCube-Modules of size 90/110

Description	ID
PAM 113	0307813

PAM – Adapter plates

Accessories • Mounting Elements • Connecting Elements for PowerCube • For Standard Screw Connection Diagram

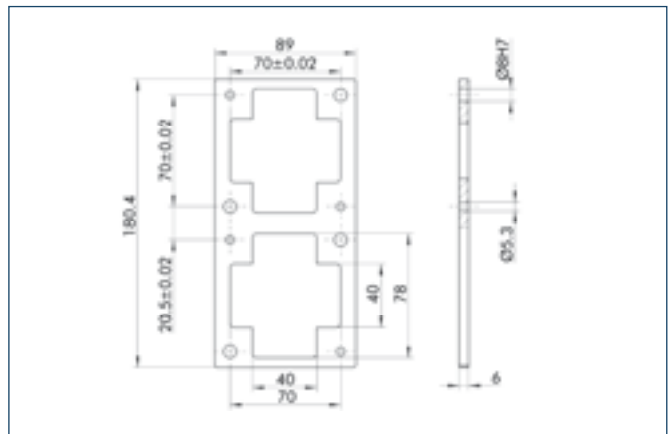
PAM 164



suitable for PowerCube-Modules of size 70

Description	ID
PAM 164	0307864

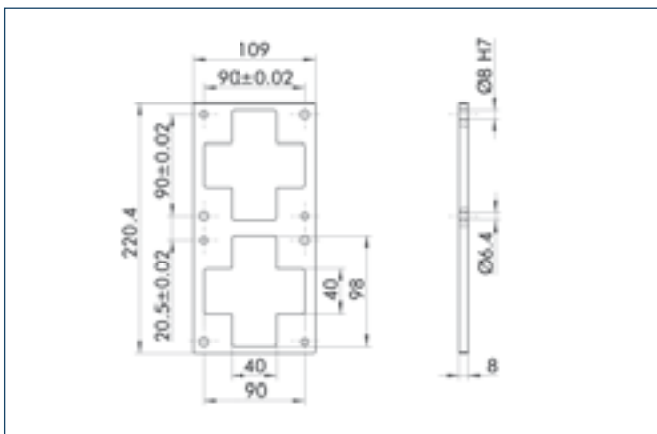
PAM 165



suitable for PowerCube-Modules of size 90

Description	ID
PAM 165	0307865

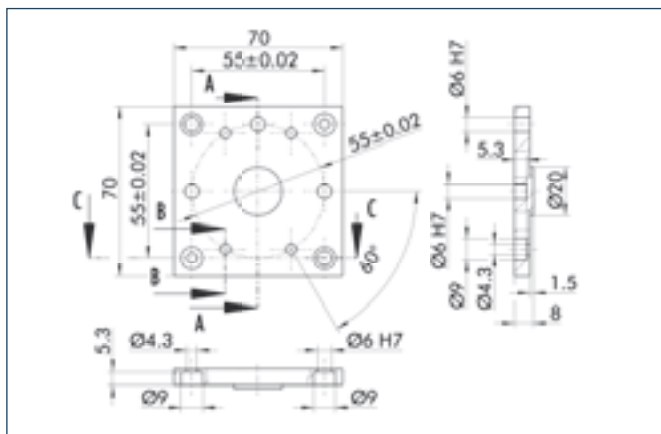
PAM 166



suitable for PowerCube-Modules of size 110

Description	ID
PAM 166	0307866

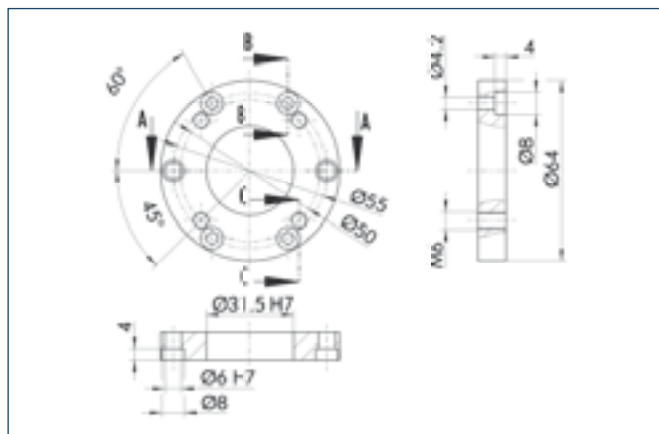
PAM 147 – PG to PW



suitable for accurately repeatable connection of the 2-finger parallel gripper PG 70 with the rotary pan-tilt actuator PW 70

Description	ID
PAM 147	0307847

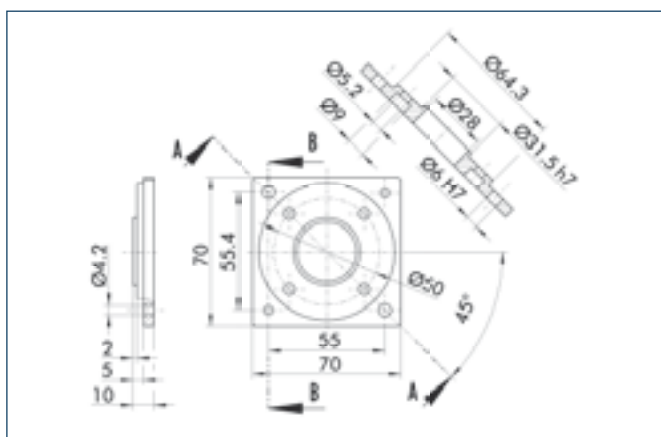
PAM 160 – PW to FTCL



suitable for accurately repeatable connection of the rotary pan-tilt actuator PW 70 with the force sensor FTCL-050

Description	ID
PAM 160	0307860

PAM 161 – FTCL to PG



suitable for accurately repeatable connection of the force sensor FTCL-050 with the 2-finger parallel gripper PG 70

Description	ID
PAM 161	0307861

Pressure maintenance Valves and Fittings

For connection and mounting of pneumatic hoses.



Your advantages and benefits

Suitable

for all SCHUNK gripper, rotary and linear modules, in addition to robot accessories

Flexible utilization

For use on pneumatic hoses from various manufacturers

Fittings as plug-in connections

for fast hose attachment

SDV-P pressure maintenance valve

prevents loss of pressure

Application example



Area of application

for secure hose connections in automation solutions

- 1 SDV-P pressure maintenance valve
- 2 SWV banjo fitting
- 3 PGN-plus 2-Finger Parallel Gripper with workpiece-specific gripper fingers

General information

Warranty
24 months





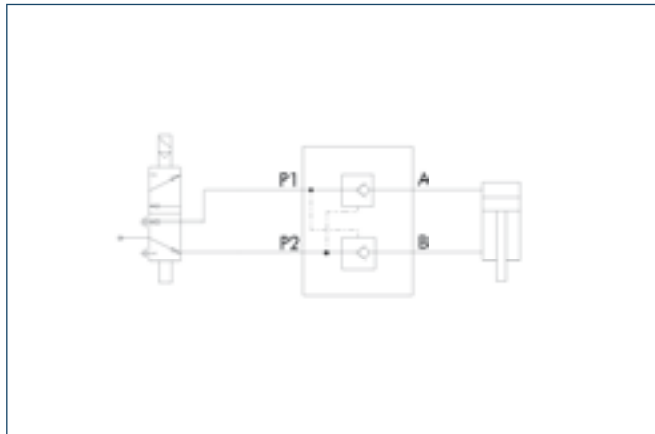
Pressure Maintenance Valve

In case of pressure loss, the pressure maintenance valve prevents air from escaping from the gripper. This prevents loss of clamping force, and the workpieces remain securely clamped in the gripper jaws. Especially suitable for grippers that cannot be equipped with a mechanical safety device.

Function

Two parallel switched check valves, which when pressurized, automatically open the return flow direction and close the pressure line.

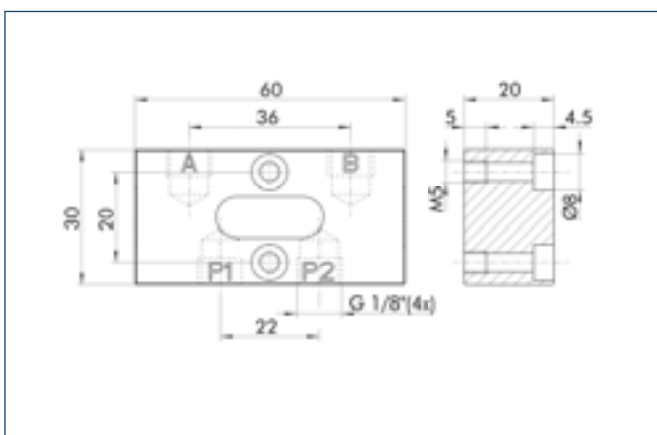
Circuit diagram



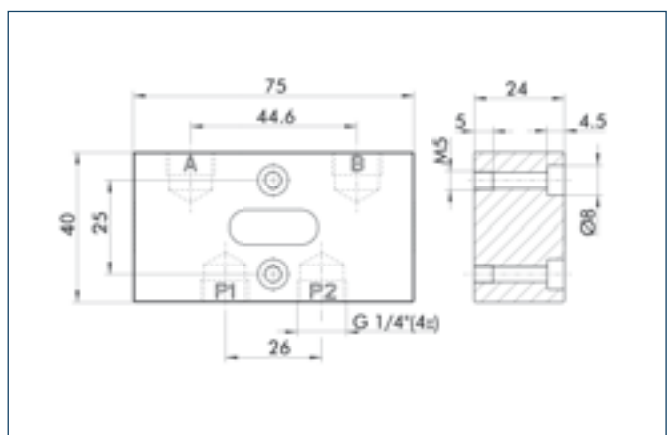
Technical data

Description		SDV-P 04	SDV-P 07
ID		0403130	0403131
Connection	["]	G1/8	G1/4
Max. throughput	[l/min]	200	300
Min. ambient temperature	[°C]	-10.0	-10.0
Max. ambient temperature	[°C]	80.0	80.0
Weight	[kg]	0.1	0.18
Min. pressure	[bar]	0.5	0.5
Max. pressure	[bar]	10	10
Switching time	[s]	0.01	0.01

SDV-P 04



SDV-P 07



WV Elbow Fitting

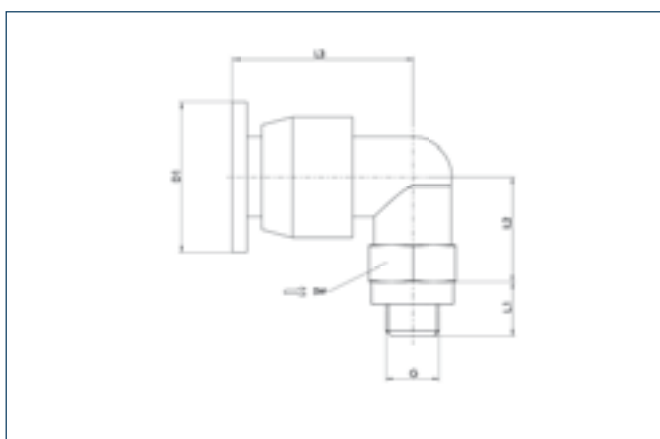
version as plug-in connection for fast and easy connection to the pneumatic energy supplies



Technical data

Description		WV-G1/8-6	WV-G1/8-8	WV-G1/4-6
ID		9937129	9936730	9937170
For hose diameter	[mm]	6.0	8.0	6.0
Threaded connection	["]	G1/8	G1/8	G1/4
Max. pressure	[bar]	20.0	20.0	20.0
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	60.0	60.0	60.0

Main view WV



Variable	WV-G 1-8-6	WV-G 1-8-8	WV-G 1-4-6
G	1/8"	1/8"	1/4"
L ₁	5	5	7
L ₂	13.05.07	16	15.05.07
L ₃	22	25.05.07	23.05.07
D ₁	12	14	12
SW	13	13	17
S ₄	10	12	10

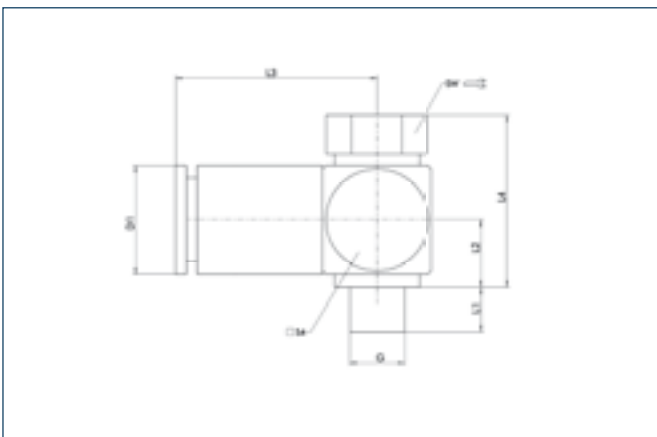
SWV Banjo Fitting

version as plug-in connection for fast and easy connection to the pneumatic energy supplies



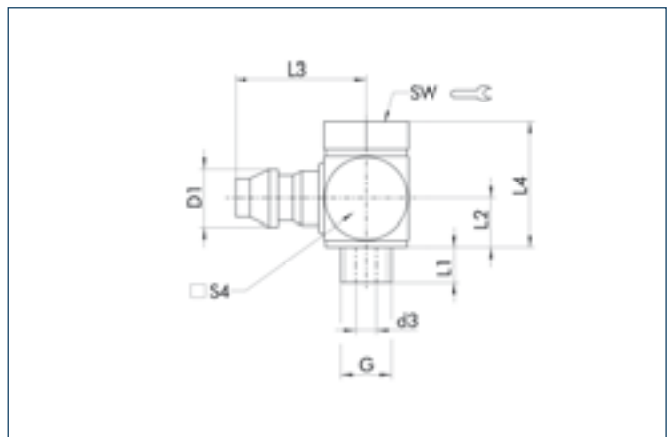
Description		SWV-M3-4	SWV-M5-6	SWV-G4-6	SWV-G8-6	SWV-G4-8
ID		9210505	9936171	9937128	9937152	9936728
For hose diameter	[mm]	4.0	6.0	6.0	6.0	8.0
Threaded connection	["]	M 3	M 5	G1/4	G1/8	G1/4
Max. pressure	[bar]	20.0	20.0	20.0	20.0	20.0
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	60.0	60.0	60.0	60.0	60.0

Main view SWV



Variable	SWV-M5-6	SWV-G8-6	SWV-G4-6	SWV-G4-8
G	M5	G1/8"	G1/4"	G1/4"
d ₃	2	5	7	7
L ₁	4	06.05.07	8	8
L ₂	06.02.07	01.08.25	08.04.07	15.03.07
L ₃	18.05.07	22.05.07	24.05.07	25
L ₄	15.08.07	20.05.07	21.06.07	21.06.07
D ₁	10	12	12	13.05.07
SW	8	14	17	17
S ₄	10	15	19	19

Main view SWV-M3



Variable	SWV-M3-4
G	M3
d ₃	01.01.07
L ₁	2
L ₂	02.05.07
L ₃	07.03.07
L ₄	07.03.07
D ₁	03.04.07
SW	5
S ₄	5

DSV Banjo Fitting

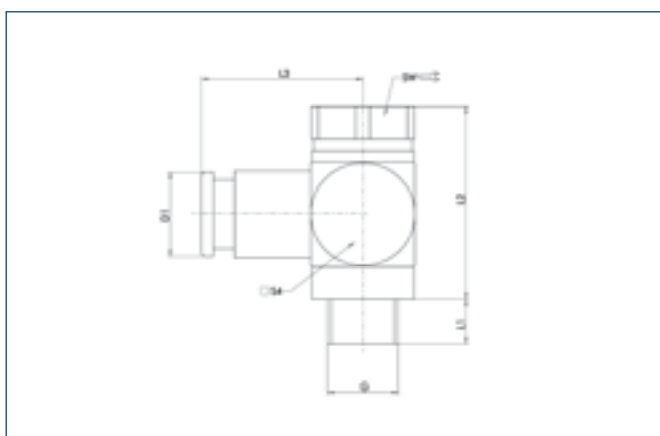
with one-way flow control valve Version as plug-in connection for fast and easy connection to the pneumatic energy supplies



Technical data

Description		DSV-M3-3	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G4-8
ID		9720005	9936160	9936159	9936161	9936162
Hose	[mm]	3.0	6.0	6.0	6.0	8.0
Min. operating temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0
Max. operating temperature	[°C]	60.0	60.0	60.0	60.0	60.0
Max. operating Pressure	[bar]	20.0	20.0	20.0	20.0	20.0

Main view DSV



Variable	DSV-M3-3	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G8-8
G	M3	M5	G1/8"	G1/4"	G1/8"
L ₁	02.05.07	4	5	06.05.07	5
L _{2 max.}	29	21.05.07	30	32	30
L ₃	11	21	22.05.07	24.05.07	23
D ₁	04.08.07	10.04.07	12	12	14
SW	knurl	8	14	17	14

Grease

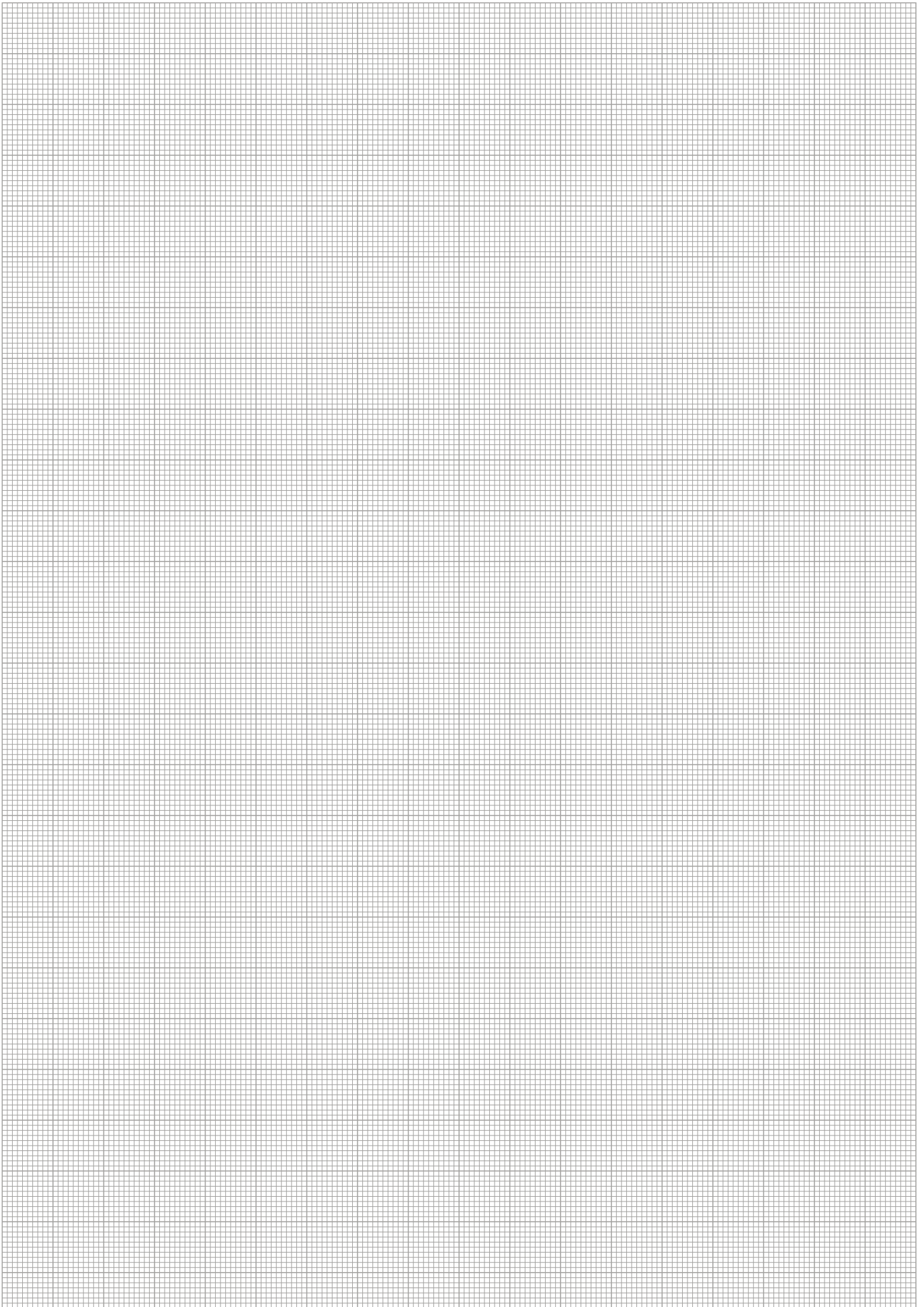
for re-lubrication of SCHUNK products in small containers.

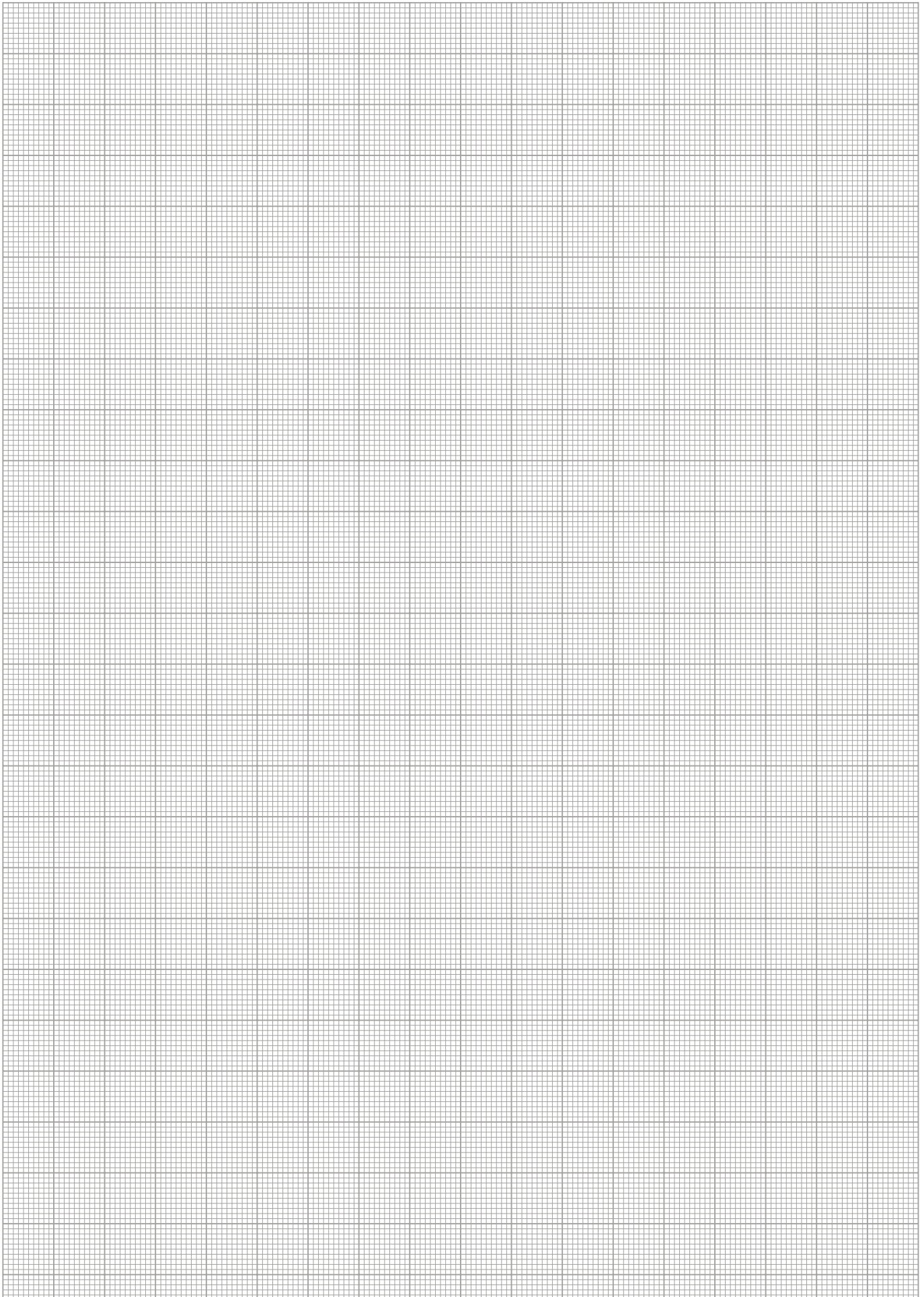


Technical data

Description	HLT 2	BR 2 plus	LINO MAX
ID	9948131	9948301	0184210
Area of application	Seals	Internal sliding surface between metal friction pairs	External sliding surface between metal friction pairs
Package form	Cartridge	Can	Cartridge
Quantity [kg]	0.4	1.0	0.5

① Exact information on which grease is to be used where can be found in the operating manual for your SCHUNK module.





SCHUNK Service

We can provide you with professional, reliable and comprehensive support. For you, SCHUNK Service means being on the safe side of efficiency. For us, it is an important part of our corporate philosophy. Our extensive range of service – from initial advice to after sales service – convinces with absolute reliability and technical knowledge.

Individual service – for better results

- Hotline to our inside technical consultants weekdays from 7 a.m. to 6 p.m.
- Project-orientated, on-site technical advice at your location by our competent external consultants
- Extensive stock of standard products with lightning fast delivery service – world-wide!
- Detailed information about clamping and automation technology
- Training on innovations and SCHUNK-products – across the world in our local subsidiaries

Online service – for a fast overview

All information in digital form, clearly structured and up-to-date on our website at www.schunk.com

- List of contact persons
- Online product search based on product designations
- Product news and trends
- Data sheets
- Order forms for easy and convenient ordering
- Free download area for pages from our product catalogs and technical data, for software and calculation programs for your gripping and rotary modules
- Free 2-D/3-D CAD design models, provided in a wide range of different CAD formats – for easy integration into your design!



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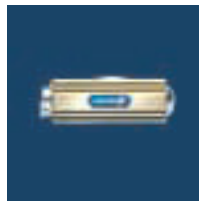
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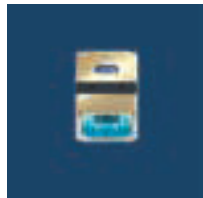
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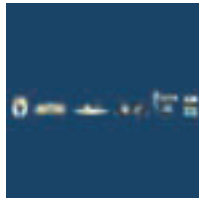
Robot Accessories



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Automation Product Overview



Modular Assembly Technology Product Overview



Modular Robotics



Industry Solutions



Highlights New Products



Universal Rotary Actuator SRU-plus

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Toolholding and Workholding



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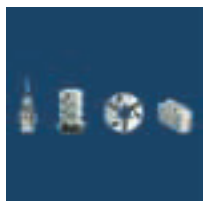
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Product Overview



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