

Limit switch box SRBG

FESTO



Characteristics

At a glance

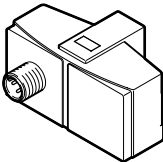
Limit switch attachments SRBG are the compact solution when it comes to electrical feedback signals and monitoring the position of process valves which are actuated by pneumatic quarter turn actuators. They can be mounted directly on quarter turn actuators with a connection pattern to VDI/VDE 3845 without the need for any additional accessories. Direct mounting means that minimal space is required.

Design type

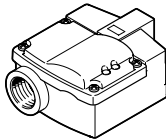
- Inductive dual sensor
- Compact polymer housing
- Switching outputs PNP, NAMUR, 2-wire DC, AS interface
- Direct mounting on quarter turn actuators to VDI/VDE 3845
- M12 plug or clamping terminal connection
- LED on-site status indicator
- IP67
- cULus Listed, General Purpose
- Intrinsically safe Ex ia version
- SIL 2 to IEC 61508

Electrical connection

[M12] Plug M12, A-coded



[C2] Screw terminal



Type code

001	Series	
SRBG	Limit switch box SRBG	
002	Design type	
C1	Double sensor	
003	Sensor principle	
N	Proximity sensor, inductive	
004	Nominal operating voltage	
1	24 V DC	
20N	8.2 V DC (Namur)	

005	Electrical output 1	
AS	AS-Interface	
P	PNP	
ZC	2-wire N/C contact	
ZU	2-wire N/O contact	
006	Electrical connection	
C2	Screw terminal	
M12	Plug M12, A-coded	
007	Electrical connection, valve	
	None	
C2	Screw terminal	
M12	Plug M12, A-coded	
008	EX certification EU	
	None	
EX5	II 1G	

Datasheet

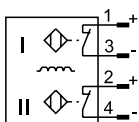
General technical data, SRBG-...-M12

Electrical output 1	AS-Interface	PNP	2-wire N/C contact	2-wire N/O contact
Based on standard	EN 60947-5-2, VDI/VDE 3845		EN 60947-5-6, VDI/VDE 3845	EN 60947-5-2, VDI/VDE 3845
Mounting position	optional			
Design	Angular			
Type of mounting	Threaded			

General technical data, SRBG-...-C2

Electrical output 1	PNP	2-wire N/C contact	2-wire N/O contact
Based on standard	EN 60947-5-2, VDI/VDE 3845	EN 60947-5-6, VDI/VDE 3845	EN 60947-5-2, VDI/VDE 3845
Mounting position	optional		
Design	Angular		
Type of mounting	Threaded		

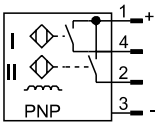
Characteristic electrical data, SRBG-C1-N-1-AS-M12-M12



Electrical connection input	M12x1
Measuring principle	Inductive
Switching output	AS-Interface
Switching element function	N/C or N/O contact, switchable
Max. switching frequency	100 Hz
Max. switching output voltage DC	26.4 V
Operational voltage range DC	26.5 ... 31.6 V
Max. output current DC	100 mA
Max. switching capacity DC	2.5 W
Voltage drop	–
No-load supply current	≤35 mA
Off-state current	–
Min. load current	–
Reverse polarity protection	–
Short circuit current rating	–
Protocol	AS-Interface
AS-Interface, Protocol version	V3.0
AS-Interface, Addressing range	1A ... 31A (0), 1B ... 31B
AS-Interface, Product identification	IO code: D, ID code: A, ID1 code: 7, ID2 code: E
Electrical connection 1, connection type	Plug and socket strip
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

Datasheet

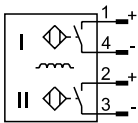
Characteristic electrical data, SRBG-C1-N-1-P-M12



Electrical connection input	M12x1
Measuring principle	Inductive
Switching output	PNP
Switching element function	N/O contact
Max. switching frequency	500 Hz
Max. switching output voltage DC	–
Operational voltage range DC	10 ... 30 V
Max. output current DC	100 mA
Max. switching capacity DC	–
Voltage drop	≤3 V
No-load supply current	≤25 mA
Off-state current	0 ... 0.5 mA
Min. load current	–
Reverse polarity protection	For all electrical connections
Short circuit current rating	Pulsed
Protocol	–
AS-Interface, Protocol version	–
AS-Interface, Addressing range	–
AS-Interface, Product identification	–
Electrical connection 1, connection type	Plugs
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

Datasheet

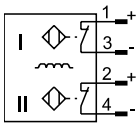
Characteristic electrical data, SRBG-C1-N-1-ZU-M12



Electrical connection input	M12x1
Measuring principle	Inductive
Switching output	Non-contacting, 2-wire
Switching element function	N/O contact
Max. switching frequency	500 Hz
Max. switching output voltage DC	–
Operational voltage range DC	6 ... 60 V
Max. output current DC	100 mA
Max. switching capacity DC	–
Voltage drop	≤6 V
No-load supply current	–
Off-state current	0 ... 1 mA
Min. load current	4 mA
Reverse polarity protection	For all electrical connections
Short circuit current rating	–
Protocol	–
AS-Interface, Protocol version	–
AS-Interface, Addressing range	–
AS-Interface, Product identification	–
Electrical connection 1, connection type	Plugs
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

Datasheet

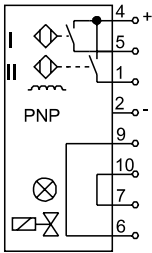
Characteristic electrical data, SRBG-C1-N-20N-ZC-M12-EX5



Min. load current	–
Electrical connection input	M12x1
Measuring principle	Inductive
Switching output	NAMUR
Switching element function	N/C contact
Max. switching frequency	3,000 Hz
Max. switching output voltage DC	–
Operational voltage range DC	8.2 V
Max. output current DC	3 mA
Max. switching capacity DC	–
Voltage drop	–
No-load supply current	–
Off-state current	–
Reverse polarity protection	For all electrical connections
Short circuit current rating	yes
Protocol	–
AS-Interface, Protocol version	–
AS-Interface, Addressing range	–
AS-Interface, Product identification	–
Electrical connection 1, connection type	Plugs
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

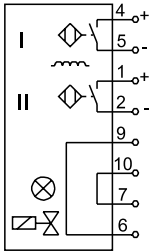
Datasheet

Characteristic electrical data, SRBG-C1-N-1-P-C2-C2



Measuring principle	Inductive
Switching output	PNP
Switching element function	N/O contact
Max. switching frequency	500 Hz
Operational voltage range DC	10 ... 30 V
Max. output current DC	100 mA
Voltage drop	≤3 V
No-load supply current	≤25 mA
Off-state current	0 ... 0.5 mA
Min. load current	–
Reverse polarity protection	For all electrical connections
Short circuit current rating	Pulsed
Electrical connection 1, connection type	Terminal strip
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

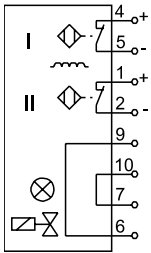
Characteristic electrical data, SRBG-C1-N-1-ZU-C2-C2



Measuring principle	Inductive
Switching output	Non-contacting, 2-wire
Switching element function	N/O contact
Max. switching frequency	500 Hz
Operational voltage range DC	6 ... 60 V
Max. output current DC	100 mA
Voltage drop	≤6 V
No-load supply current	–
Off-state current	0 ... 1 mA
Min. load current	4 mA
Reverse polarity protection	For all electrical connections
Short circuit current rating	–
Electrical connection 1, connection type	Terminal strip
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

Datasheet

Characteristic electrical data, SRBG-C1-N-20N-ZC-C2-C2-EX5



Measuring principle	Inductive
Switching output	NAMUR
Switching element function	N/C contact
Max. switching frequency	3,000 Hz
Operational voltage range DC	8.2 V
Max. output current DC	3 mA
Voltage drop	–
No-load supply current	–
Off-state current	–
Min. load current	–
Reverse polarity protection	For all electrical connections
Short circuit current rating	yes
Electrical connection 1, connection type	Terminal strip
Electrical connection 1, cable outlet	Straight
Electrical connection 1, design	Round

Display/operation, SRBG-...-M12

Electrical output 1	AS-Interface	PNP	2-wire N/C contact	2-wire N/O contact
Ready status indication	Green LED		–	
Switching status indication	Yellow LED			
Status indication	LED yellow = valve switching status, LED red = wire break/short circuit at valve	–		

Display/operation, SRBG-...-C2

Electrical output 1	PNP	2-wire N/C contact	2-wire N/O contact
Ready status indication	Green LED	–	
Switching status indication	Yellow LED		
Status indication	LED yellow = valve switching status		

Electromechanics, SRBG-...-M12

Electrical output 1	AS-Interface	PNP	2-wire N/C contact	2-wire N/O contact
Electrical connection 1, connector system	M12x1, A-coded to EN 61076-2-101			
Electrical connection 1, number of connections/cores	4			

Electromechanics, SRBG-...-C2

Electrical output 1	PNP	2-wire N/C contact	2-wire N/O contact
Electrical connection 1, connector system	Spring-loaded terminal		
Cable fitting	M20x1.5		
Connectable nominal cross section conductor	0.2 ... 2.5 mm ²		
Electrical connection 1, number of connections/cores	10		

Datasheet

Operating and environmental conditions, SRBG-...-M12				
Electrical output 1	AS-Interface	PNP	2-wire N/C contact	2-wire N/O contact
Ambient temperature	-25 ... 70°C		-25 ... 100°C	-25 ... 70°C
Storage temperature	-25 ... 70°C		-40 ... 100°C	-25 ... 70°C
Degree of protection	IP67			
Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27			
Vibration resistance	Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6			
Pollution degree	3			
Approval	RCM trademark, c UL us (OL)			CCC, RCM trademark, c UL us (OL)
KC mark	KC-EMV		–	KC-EMV
CE mark (see declaration of conformity)	To EU EMC Directive, In accordance with EU RoHS Directive		To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions		To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions	To UK instructions for EMC, To UK RoHS instructions
ATEX category gas	–		II 1G	–
Explosion ignition protection type for gas	–		Ex ia IIC T6...T1 Ga	–
ATEX category dust	–		II 1D	–
Explosion ignition protection type for dust	–		Ex ia IIIC T200 135°C Da	–
Explosion protection certification outside the EU	–		EPL Da (CN), EPL Da (GB), EPL Ga (CN), EPL Ga (GB)	–
Explosion ambient temperature	–		See ATEX certificate, See IECEx certificate	–
Safety Integrity Level (SIL)	–		SIL 2	–
Effective internal inductivity Li	–		100 µH	–
Effective internal capacitance Ci	–		100 nF	–
Max. intrinsically safe circuit input parameter	–		See IECEx certificate, See ATEX certificate	–
Certificate issuing authority	–		2,020,322,315,003,530, CML22U-KEX2263X	2,024,010,305,706,390
LABS (PWIS) conformity	VDMA24364 zone III			

Datasheet

Operating and environmental conditions, SRBG-...-C2

Electrical output 1	PNP	2-wire N/C contact	2-wire N/O contact
Ambient temperature	-25 ... 70°C	-25 ... 100°C	-25 ... 70°C
Storage temperature	-25 ... 70°C	-40 ... 100°C	-25 ... 70°C
Degree of protection	IP67		
Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27		
Vibration resistance	Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6		
Pollution degree	3		
Approval	RCM trademark, c UL us (OL)		CCC, RCM trademark, c UL us (OL)
KC mark	KC-EMV	–	KC-EMV
CE mark (see declaration of conformity)	To EU EMC Directive, In accordance with EU RoHS Directive	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive	To EU EMC Directive, In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions	To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions	To UK instructions for EMC, To UK RoHS instructions
ATEX category gas	–	II 1G	–
Explosion ignition protection type for gas	–	Ex ia IIC T6...T1 Ga	–
Explosion ambient temperature	–	See ATEX certificate, See IECEx certificate	–
Safety Integrity Level (SIL)	–	SIL 2	–
Explosion protection certification outside the EU	–	EPL Da (CN), EPL Da (GB), EPL Ga (CN), EPL Ga (GB)	–
Effective internal inductivity Li	–	100 µH	–
Effective internal capacitance Ci	–	100 nF	–
Max. intrinsically safe circuit input parameter	–	See IECEx certificate, See ATEX certificate	–
Certificate issuing authority	–	2,020,322,315,003,530, CML22UKEX2263X	2,024,010,305,706,390
LABS (PWIS) conformity	VDMA24364 zone III		

Materials, SRBG-...-M12

Material housing	PBT
Material fitting	Nickel-plated, die-cast zinc
Material screws	High-alloy stainless steel
Note on materials	RoHS-compliant

Materials, SRBG-...-C2

Material housing	PBT
Material screws	High-alloy stainless steel
Note on materials	RoHS-compliant

Dimensions

Dimensions – SRBG-...-M12

Download CAD data www.festo.com

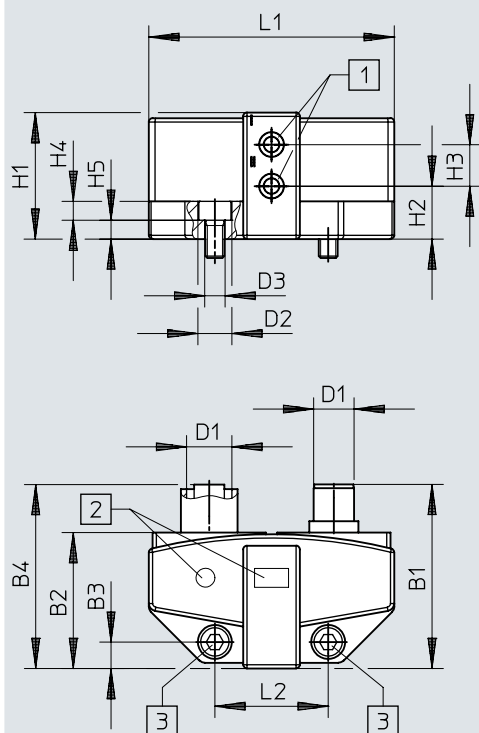
[1] Sensor detection field I and II
[2] LED indicator
[3] M5x10 screw

	B1	B2	B3	D1	D2 ø	D3 ø
SRBG-C1-N-1-P-M12	46,5	36	7	M12x1	9	5,4
SRBG-C1-N-1-ZU-M12						
SRBG-C1-N-20N-ZC-M12-EX5						

	H1	H2	H3	H4	H5	L1	L2
SRBG-C1-N-1-P-M12	33,5	14	11	5	3	65	30
SRBG-C1-N-1-ZU-M12							
SRBG-C1-N-20N-ZC-M12-EX5							

Dimensions

Dimensions – SRBG-...-M12-M12

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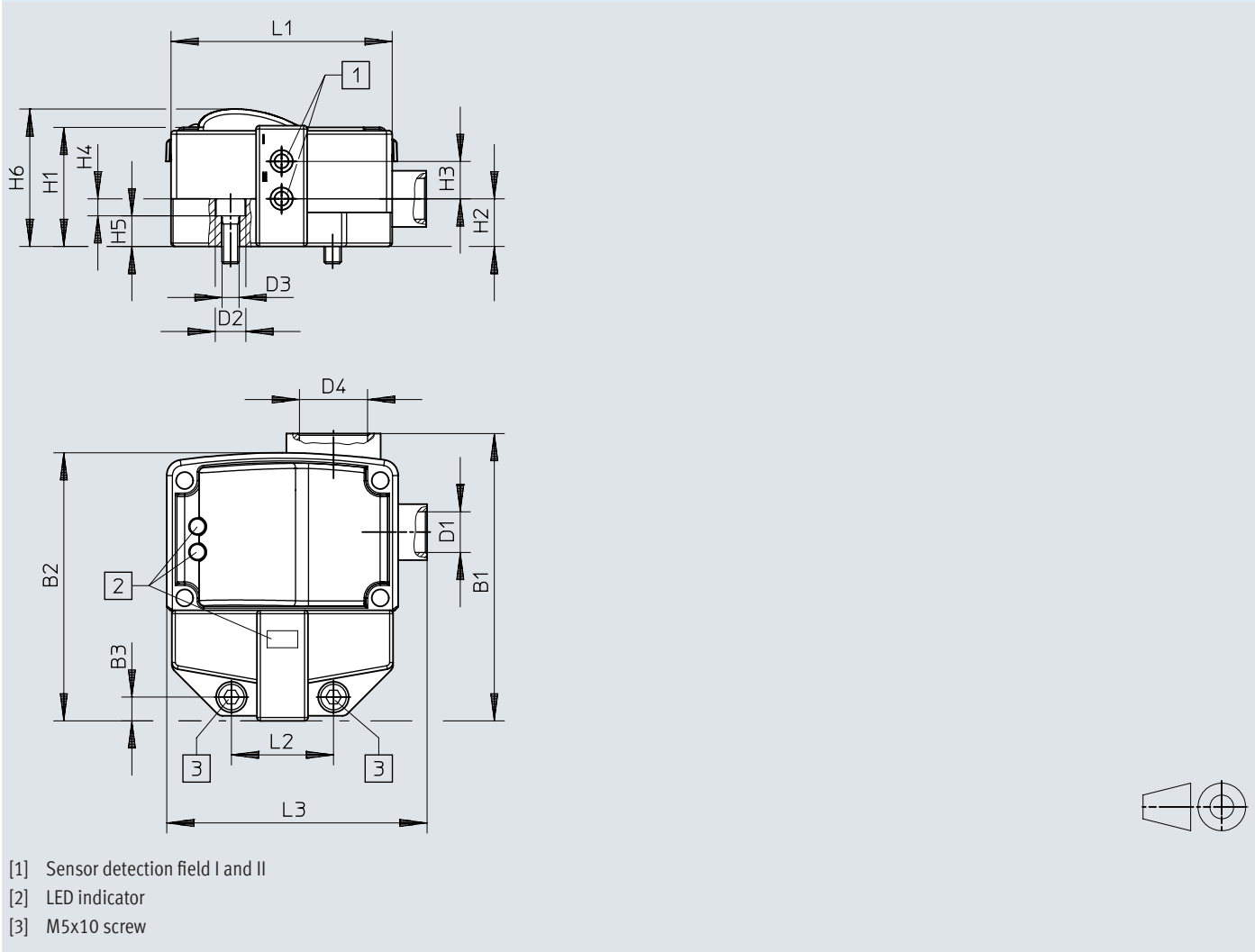
- [1] Sensor detection field I and II
- [2] LED indicator
- [3] M5x10 screw



	B1	B2	B3	B4	D1	D2 Ø	D3 Ø
SRBG-C1-N-1-AS-M12-M12	48	36	7	51	M12x1	9	5,4
	H1	H2	H3	H4	H5	L1	L2
SRBG-C1-N-1-AS-M12-M12	33,5	14	11	5	3	65	30

Dimensions

Dimensions – SRBG-...-C2 Download CAD data www.festo.com



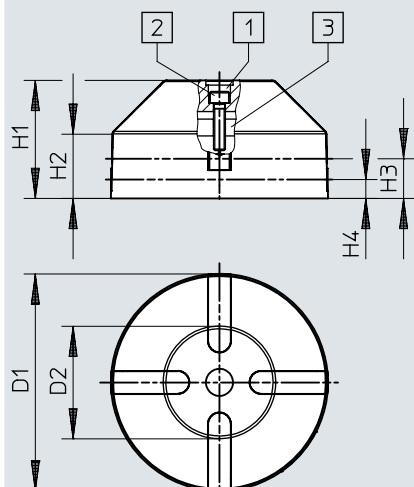
	B1	B2	B3	D1	D2 ø	D3 ø	D4	H1
SRBG-C1-N-1-P-C2-C2	84,5	78,8	7	M12x1,5	9	5,4	M20x1,5	35
SRBG-C1-N-1-ZU-C2-C2								
SRBG-C1-N-20N-ZC-C2-C2-EX5								

	H2	H3	H4	H5	H6	L1	L2	L2
SRBG-C1-N-1-P-C2-C2	14	11	5	5	40	65	30	76,5
SRBG-C1-N-1-ZU-C2-C2								
SRBG-C1-N-20N-ZC-C2-C2-EX5								

Dimensions

Dimensions – Position indicators SASF-S2-B-F

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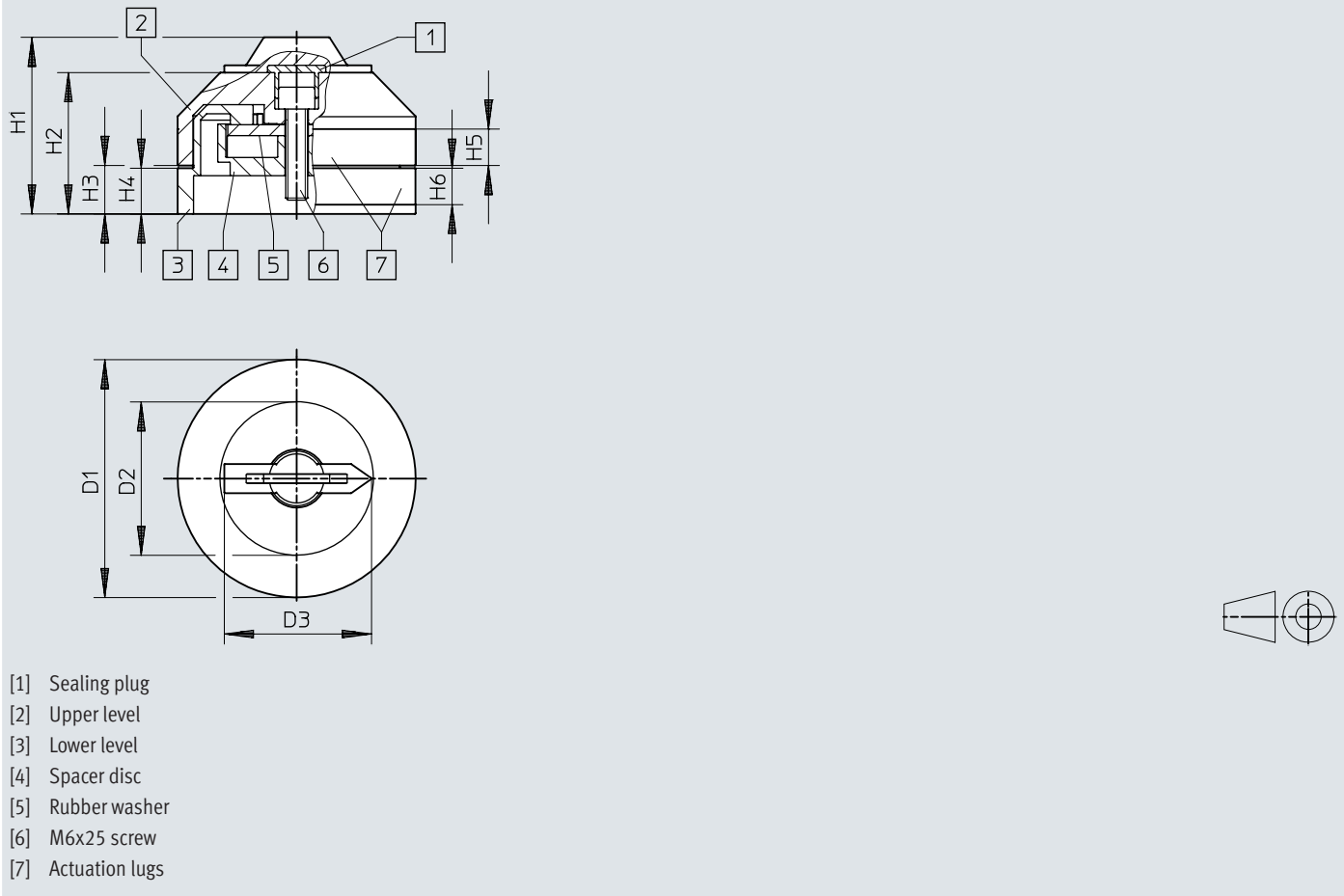
- [1] Sealing plug
- [2] M6x25 screw
- [3] Spacer



	D1 Ø	D2 Ø	H1	H2	H3	H4
SASF-S2-B-F-A34	65	41,9	38,5	26,5	18,5	7,5
SASF-S2-B-F-A56	115	59	62,5	34	21	10

Dimensions

Dimensions – Position indicators SASF-S2-B-V Download CAD data www.festo.com



	D1 Ø	D2 Ø	D3 Ø	H1	H2	H3	H4	H5	H6
SASF-S2-B-V-A20	65	42	40,4	48,5	38,8	13,3	12,6	10	10

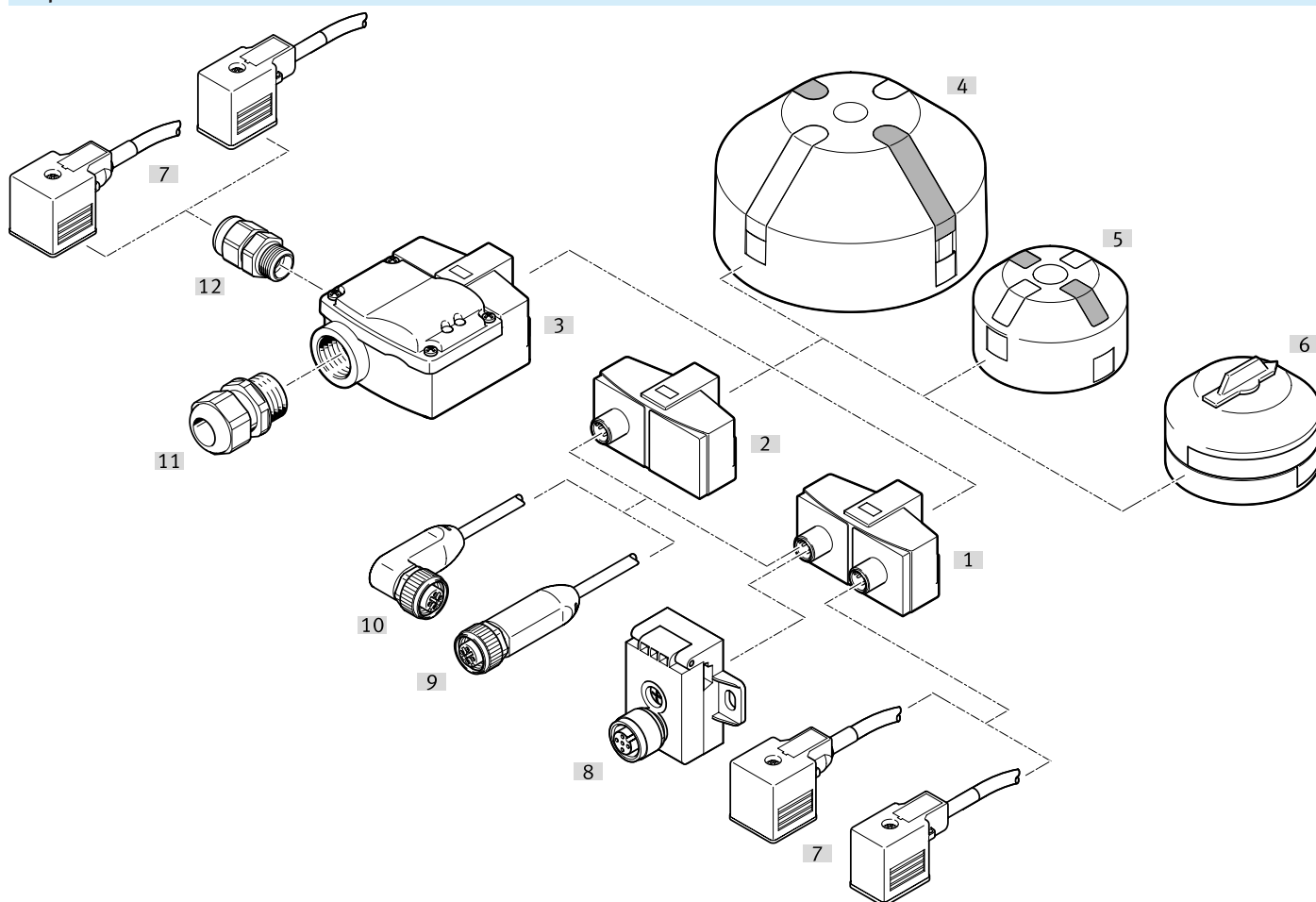
Ordering data

SRBG-...-M12					
	Description	Electrical output 1	Product weight	Part no.	Type
	Limit switch attachments with M12 plug connection	AS-Interface	70 g	3567908	SRBG-C1-N-1-AS-M12-M12
		PNP		3568055	SRBG-C1-N-1-P-M12
		2-wire N/C contact		3568057	SRBG-C1-N-20N-ZC-M12-EX5
		2-wire N/O contact		3568056	SRBG-C1-N-1-ZU-M12

SRBG-...-C2					
	Description	Electrical output 1	Product weight	Part no.	Type
	Limit switch attachments with clamped terminal connection	PNP	170 g	3568165	SRBG-C1-N-1-P-C2-C2
		2-wire N/C contact		3568167	SRBG-C1-N-20N-ZC-C2-C2-EX5
		2-wire N/O contact		3568166	SRBG-C1-N-1-ZU-C2-C2

Peripherals

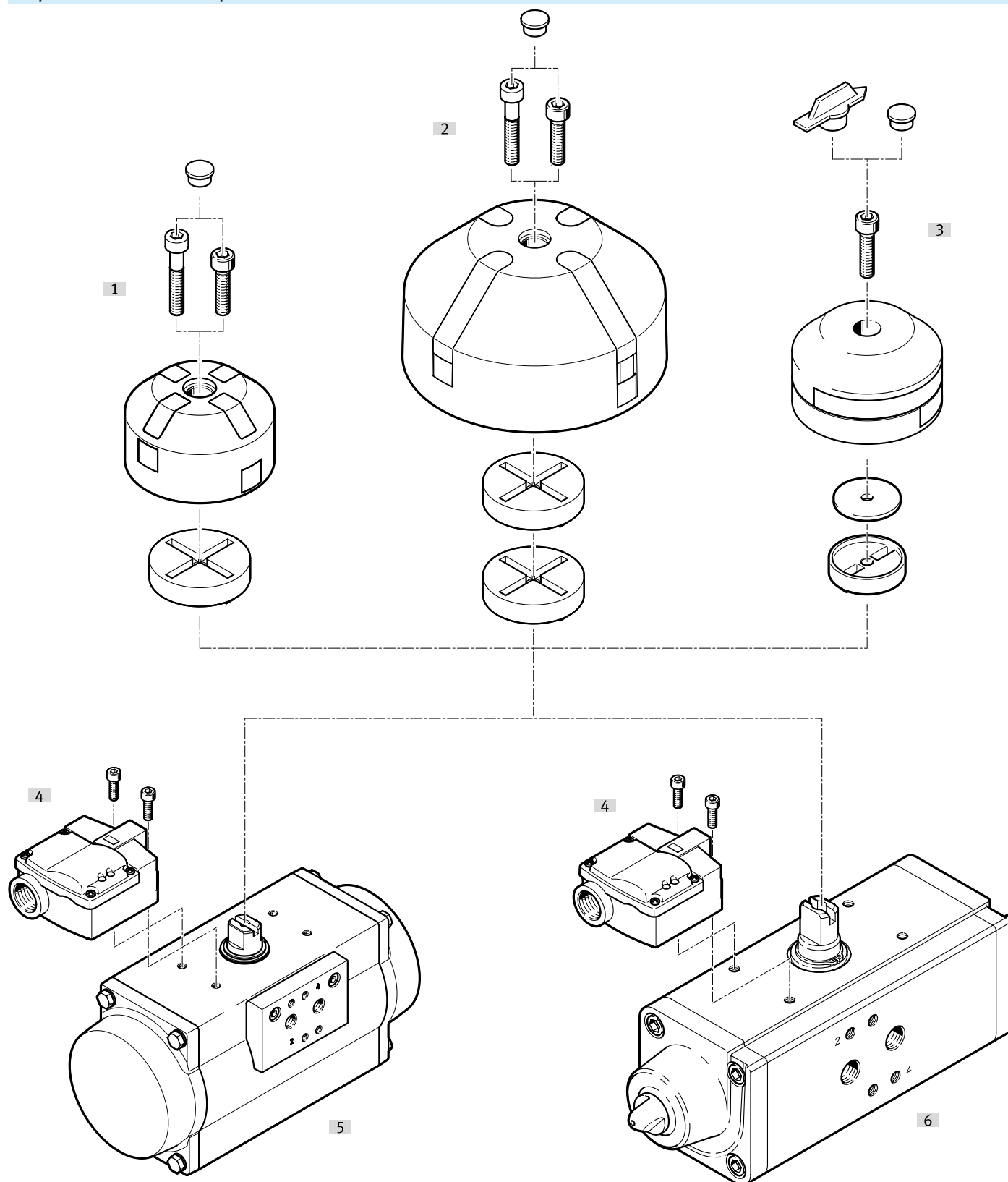
Peripherals overview SRBG



Accessories		→ Link
Type/order code	Description	
[1] Limit switch box SRBG-...-M12-M12	With plug connection M12 and AS -Interface with extended addressing option	srbg
[2] Limit switch box SRBG-...-M12	With plug connection M12	srbg
[3] Connection SRBG-...-C2-C2	With clamped terminal connection for sensor and solenoid valve	srbg
[4] Position indicator SASF-...-A56	- Position indicator with 4 actuating components fixed at an offset of 90° - For mounting hole pattern 130x30 mm, shaft height 30 mm and 50 mm	21
[5] Position indicator SASF-...-A34	- Position indicator with 4 actuating components fixed at an offset of 90° - For mounting hole pattern 80x30 mm, shaft height 20 mm and 30 mm	21
[6] Position indicator SASF-...-A20	- Setting range of swivel angle 0 ...360° - Adjustable actuating lug	21
[7] Connecting cables NEBV-...	Connecting cables for connecting a solenoid valve to SRBG-...-C2 or SRBG-...-M12-M12	21
[8] AS -Interface components	AS -Interface components for bus connection of SRBG-C1-N-1-AS-M12-M12	22
[9] Connecting cables NEBA	Connecting cable for system connection SRBG	21
[10] Connecting cables NEBA	- Connecting cable for system connection SRBG - Angled socket	21
[11] Cable fitting NETC-P-M20-...	- Polymer cable fitting M20x1.5 - Black - Blue	21
[12] Cable fitting NETC-P-M12-...	- Polymer cable fitting M12x1.5 - Black - Blue	21

Peripherals

Peripherals overview SRBG with quarter turn actuators



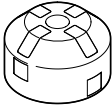
Accessories		→ Link
Type/order code	Description	
[1] Position indicator SASF....A34	Included in the scope of delivery: • Screws M6x16 and M6x25, sealing plugs, spacer element • 3x black labelling plugs and 3x yellow labelling plugs	21

Peripherals

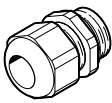
Accessories		→ Link
Type/order code	Description	
[2] Position indicator SASF-...-A56	Included in the scope of delivery: • Screws M6x25 and M6x35, sealing plugs, spacers • 3x black labelling plugs and 3x yellow labelling plugs	21
[3] Position indicator SASF-...-A20	Included in the scope of delivery: • Screw M6x25, labelling plug and sealing plug, spacers • 2x yellow marker dots to stick on	21
[4] Limit switch box SRBG	• M12 plug or clamped terminal connection • Direct mounting on semi-rotary drives to VDI/VDE 3845	srbg
[5] Quarter turn actuators DFPD	• Size 10 ... 2300 → see „Combination options“, swivel angle 0 ... 180° • NAMUR connection pattern to VDI/VDE 3845	dfpd
[6] Quarter turn actuators DAPS	• Size 8 ... 8000 → see „Possible combinations“, swivel angle 0 ... 180° • NAMUR connection pattern to VDI/VDE 3845	daps

Accessories

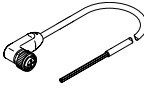
Position indicators SASF

	Description	Dimensions (W x L x H)	Rotation angle adjustment range	Product weight	Part no.	Type
	Mounting on drive shaft of standards-based drives according to VDI/VDE 3845	Diameter 115 x 62	0 ... 90 deg	140 g	4077125	SASF-S2-B-F-A56
		Diameter 65 x 40		55 g	4046082	SASF-S2-B-F-A34
		Ø 65 x 48.5	0 ... 360 deg	96 g	8140395	SASF-S2-B-V-A20

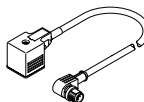
Cable fittings NETC

	Description	Colour	Part no.	Type
	M12x1.5 made of polymer	Black	4197367	NETC-P-M12
	M20x1.5 made of polymer		4464895	NETC-P-M20
	M12x1.5 made of polymer	Blue	4197366	NETC-P-M12-EX4

Connecting cables NEBA

	Electrical connection 1, number of connections/cores	Electrical connection 1, used connections/cores	Cable length	Part no.	Type
	5	4	2.5 m	8078239	NEBA-M12G5-U-2.5-N-LE4
				8078248	NEBA-M12W5-U-2.5-N-LE4
			5 m	8078240	NEBA-M12G5-U-5-N-LE4
				8078249	NEBA-M12W5-U-5-N-LE4
			10 m	8078250	NEBA-M12W5-U-10-N-LE4

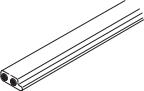
Connecting cables NEBV for valve connection for limit switch attachments with AS-Interface

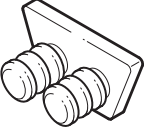
	Description	Cable length	Part no.	Type	
	Angled socket, plug pattern type B according to industry standard, 11 mm	0.3 m	3679773	NEBV-B2W3F-P-K-0.3-N-M12W3	
			3579463	NEBV-B2W3-K-0.3-N-M12W3	
	Angled socket, plug pattern type A, EN 175301-803	0.3 m	3679771	NEBV-A1W3F-P-K-0.3-N-M12W3	
			3579461	NEBV-A1W3-K-0.3-N-M12W3	
	Angled socket, plug pattern type B according to industry standard, 11 mm	0.6 m	3579464	NEBV-B2W3-K-0.6-N-M12W3	
			3679774	NEBV-B2W3F-P-K-0.6-N-M12W3	
	Angled socket, plug pattern type A, EN 175301-803		3579462	NEBV-A1W3-K-0.6-N-M12W3	
			3679772	NEBV-A1W3F-P-K-0.6-N-M12W3	

Connecting cables NEBV for valve connection for limit switch boxes with terminal connection

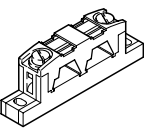
Connecting cables NEBV for cable connection for limit switch boxes with terminal connection				
	Description	Cable length	Part no.	Type
	Angled socket, plug pattern type B according to industry standard, 11 mm	0.6 m	3579468	NEBV-B2W3-K-0.6-N-LE3
	Angled socket, plug pattern type A, EN 175301-803		3679776	NEBV-A1W3F-P-K-0.6-N-LE3
	Angled socket, plug pattern type B according to industry standard, 11 mm		3579466	NEBV-A1W3-K-0.6-N-LE3
			3679778	NEBV-B2W3F-P-K-0.6-N-LE3

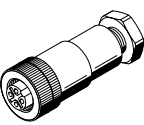
Accessories

AS-Interface components, flat cable KASI			
	Description	Part no.	Type
	Flat cable for AS-Interface components, yellow, cable length 100 m	18940	KASI-1,5-Y-100
	Flat cable for AS-Interface components, black, cable length 100 m	18941	KASI-1,5-Z-100

AS-Interface components, cable cap ASI			
	Description	Part no.	Type
	Cable cap for flat cable (scope of delivery 50 pieces)	18787	ASI-KK-FK

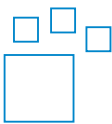
AS-Interface components, cable sleeve ASI			
	Description	Part no.	Type
	Cable sleeve (scope of delivery 20 pieces)	165593	ASI-KT-FK

AS-Interface components, cable distributor ASI			
	Description	Part no.	Type
	Cable distributor for flat cable, symmetrical cable	18797	ASI-KVT-FK-S
	Cable distributor for flat cable, rotating cable	18786	ASI-KVT-FK

AS-Interface components, cable socket ASI			
	Description	Part no.	Type
	Straight socket, 4-pin, screw terminal for connecting AS-Interface stations to the AS-Interface bus system	18789	ASI-SD-PG-M12

Addressing cable KASI			
	Description	Part no.	Type
	Addressing cable for addressing device	18960	KASI-ADR

Accessories

Connecting cables NEBA, configurable					
	Electrical connection 1, number of connections/ cores	Electrical connection 1, used connections/cores	Cable length	Part no.	Type
	3 ... 5	3 ... 5	0.3 ... 30 m	8078221	NEBA-