

Position sensor SRBS

FESTO



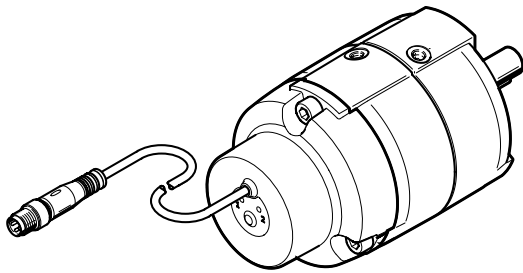
Characteristics

At a glance

The SRBS is used to detect the rotation of the shaft on rotary drives DRVS and DSM. Sensing is magnetic and contactless. Two binary switching points are output.

- The sensor can be quickly mounted without having to manually search for switching points
- Simple and reliable operation using just one button directly on the device
- No need for a connecting cable as there are 2 switching points in one device
- Freely programmable PNP/NPN and NO/NC reduces warehousing
- Robust, contactless and encapsulated position sensing with long service life

Size



Sizes 6 to 40

Electrical output 1

[S] PNP or NPN

- 2 switching outputs 24 V
- Electronic teach-in of the switching points via buttons
- PNP/NPN programmable
- NO/NC programmable
- Sensing range > 270°
- Repetition accuracy $\leq 1^\circ$

Type code

001	Series	
SRBS	Position sensor	

002	Allocation	
Q1	Version Q1	
Q12	Version Q12	

003	Size	
6	6	
8	8	
10	10	
12	12	
16	16	
25	25	
32	32	
40	40	

004	Display type	
E	LED	

005	Measuring range	
270	0 ... 270°	

006	Sensor principle	
EP	Contactless, programmable switching function	

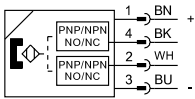
007	Nominal operating voltage	
1	24 V DC	

008	Electrical output 1	
S	PNP or NPN	

009	Electrical connection	
M8	Plug M8, A-coded	

Datasheet

General technical data



Design	Round
Type of mounting	Screw-clamped
Mounting position	optional
Approval	RCM trademark, c UL us listed (OL)
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions
Special characteristics	Oil resistant
Degree of protection	IP65, IP68
Protection class	III
Based on standard	EN 60947-5-2
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 3 in accordance with FN 942017-4 and EN 60068-2-6
CE mark (see declaration of conformity)	To EU EMC Directive, In accordance with EU RoHS Directive
LABS (PWIS) conformity	VDMA24364-B2-L
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress

1) More information www.festo.com/x/topic/kbk

Input signal/measuring element

Measuring principle	Magnetic Hall
Measured variable	Rotation angle
Sensing range	>270 deg
Ambient temperature	-20 ... 70°C
Ambient temperature with moving cable	-20 ... 70°C
Storage temperature	-30 ... 70°C

Signal processing

Typical sampling interval	3
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Output, further data

Short circuit current rating	yes
Overload protection	Available

Electronics

Operational voltage range DC	10 ... 30 V
Rated operational voltage DC	24 V
Reverse polarity protection	For all electrical connections
Switching output	2 x PNP or 2 x NPN, switchable
Switching element function	N/C or N/O contact, switchable
Repetition accuracy of switching point	≤ 1°
Residual ripple	10%
Switch-on time	<4 ms
Switch-off time	<4 ms
Max. switching frequency	125 Hz
Max. output current	50 mA
No-load supply current	≤ 20 mA
Off-state current	<0.05 mA
Max. switching capacity DC	1.5 W
Voltage drop	<1 V

Datasheet

Electromechanics

Electrical connection 1, connection type	Cable with plug
Electrical connection 1, connector system	M8x1, A-coded, to EN 61076-2-104
Electrical connection 1, number of connections/cores	4
Electrical connection 1, type of mounting	Screw-type lock
Connection outlet orientation	In-line
Cable characteristic	Suitable for energy chains/robot applications
Test conditions cable	Bending strength: to Festo standard, Torsional strength: > 300,000 cycles, $\pm 270^\circ/0.1$ m, Energy chain: > 5 million cycles, bending radius 28 mm
Cable diameter	2.9 mm
Cable length	0.3 m

Display/operation

Setting options	Pushbutton
Switching status indication	Yellow LED

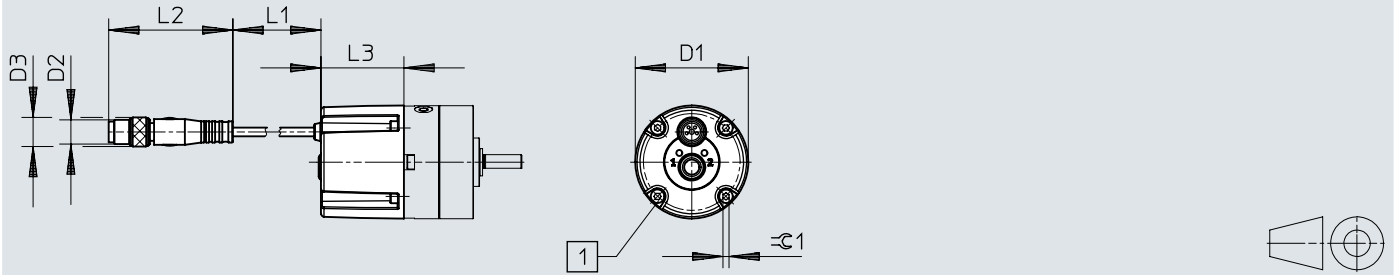
Materials

Material housing	PA-reinforced, Polyester
Material union nut	Nickel-plated brass
Material cable sheath	TPE-U(PUR)
Material foil	Polyester
Material electrical contact	Gold-plated copper alloy
Note on materials	RoHS-compliant, Free of halogen
Housing colour	Black
Cable sheath colour	Grey

Dimensions

Dimensions – SRBS-Q12- ... -E270-EP-1-S-M8 (DRVS-6/8)

Download CAD data www.festo.com

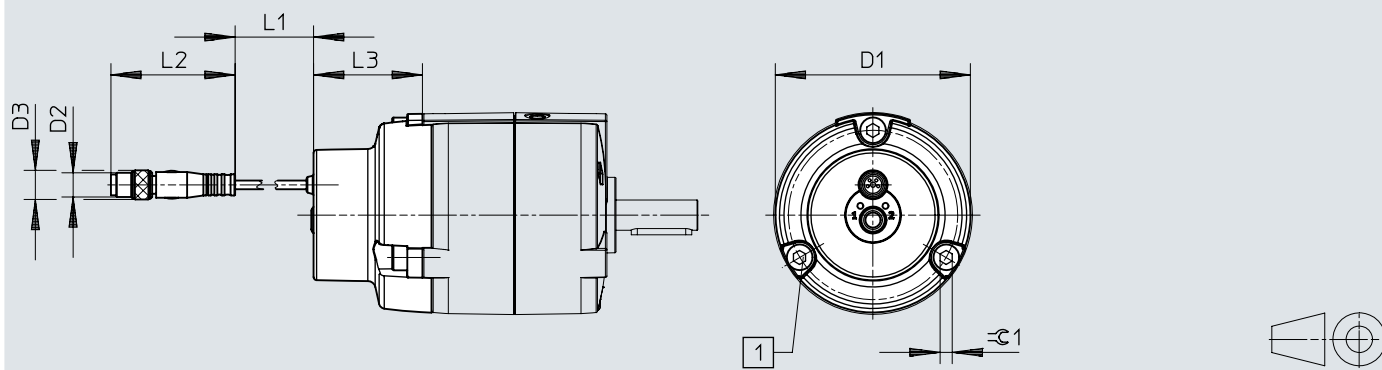


[1] Screw: size 6 – M2x6 (4x), size 8 – M2.5x5 (4x)

	D1 ∅	D2	D3 ∅	L1	L2	L3	$\approx \text{C} 1$
SRBS-Q12-6- ...	29,4	M8x1	9,6	300	41,1	25,4	1,5
SRBS-Q12-8- ...	32					27,4	2

Dimensions

Dimensions – SRBS-Q12- ... -E270-EP-1-S-M8 (DRVS-12 /16/25)

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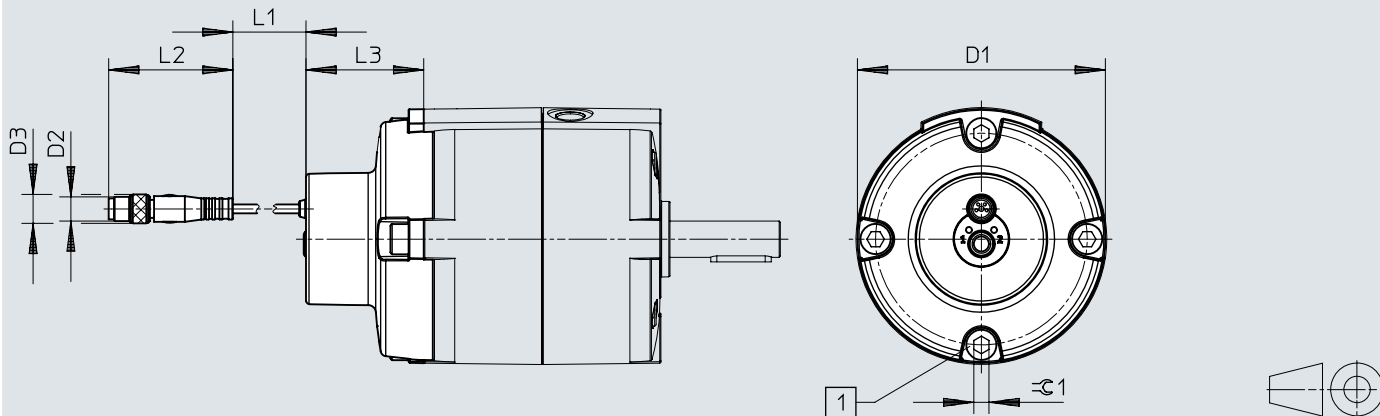
[1] Screw: size 12 – M4x10 (3x), size 16 – M5x12 (3x), size 25 – M5x12 (3x)

	D1 ∅	D2	D3 ∅	L1	L2	L3	≈ 1
SRBS-Q12-12- ...	44,6	M8x1	9,6	300	41,1	29,4	3
SRBS-Q12-16- ...	51,6					33,9	4
SRBS-Q12-25- ...	64,5					36	4

Dimensions

Dimensions – SRBS-Q12- ... -E270-EP-1-S-M8 (DRVS-32 /40)

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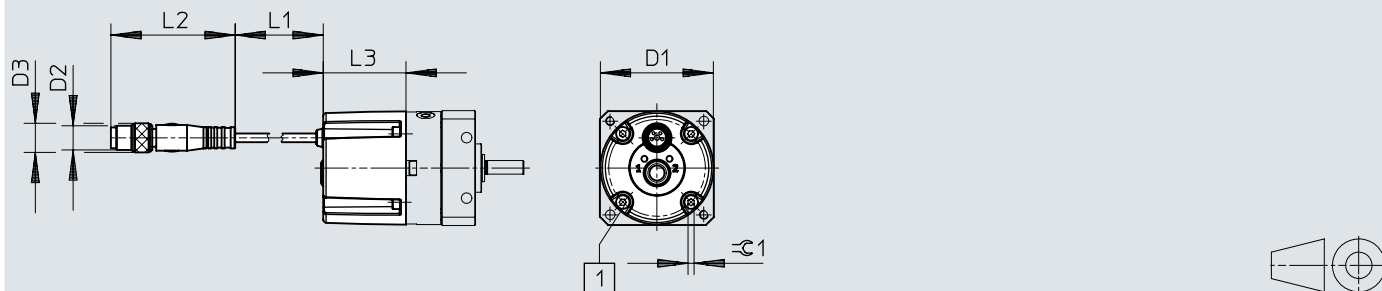


[1] Screw: size 32 – M6x12 (4x), size 40 – M8x16 (4x)

	D1 ∅	D2	D3 ∅	L1	L2	L3	$\varnothing 1$
SRBS-Q12-32- ...	81,3	M8x1	9,6	300	41,1	38,9	5
SRBS-Q12-40- ...	98,3					40,4	6

Dimensions


Dimensions – SRBS-Q...-E270-EP-1-S-M8 (DSM-6/8/10)

Download CAD data www.festo.com

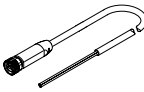
[1] Screw: size 6 – M2x6, size 8 – M2.5x5, size 10 – M3x6

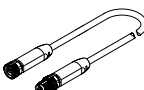
	D1 ø	D2	D3 ø	L1	L2	L3	≈ε 1
SRBS-Q12-6- ...	29,4	M8x1	9,6	300	41,1	25,4	1,5
SRBS-Q12-8- ...	32					27,4	2
SRBS-Q1-10- ...	46,4					29,8	2,5

Ordering data

Ordering data						
	Mounting position	Type of mounting	Special characteristics	Product weight	Part no.	Type
	optional	Screw-clamped	Oil resistant	25 g	2619969	SRBS-Q12-6-E270-EP-1-S-M8
				30 g	2619972	SRBS-Q12-8-E270-EP-1-S-M8
				35 g	2412001	SRBS-Q1-10-E270-EP-1-S-M8
				42 g	2393546	SRBS-Q12-12-E270-EP-1-S-M8
				55 g	2393547	SRBS-Q12-16-E270-EP-1-S-M8
				60 g	2393548	SRBS-Q12-25-E270-EP-1-S-M8
				81 g	2393549	SRBS-Q12-32-E270-EP-1-S-M8
				120 g	2393550	SRBS-Q12-40-E270-EP-1-S-M8

Accessories

Connecting cables NEBA, open end				
	Electrical connection 1, connector system	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
		5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cables NEBA, with plug				
	Electrical connection 2, connector system	Cable length	Part no.	Type
	M8x1, A-coded to EN 61076-2-104	2.5 m	8078295	NEBA-M8G4-U-2.5-N-M8G4