

Position sensors SRBS



## Position sensors SRBS

Key features, product range overview

### General

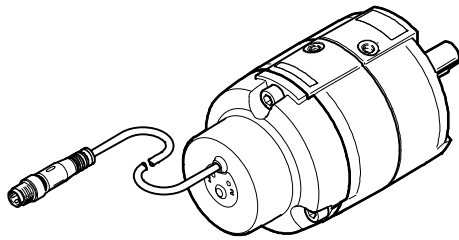
The SRBS-Q1/Q12 is used to detect rotation of the shaft for rotary drives DRVS and DSM. Sensing is

performed magnetically and without contact. Two binary switching points are output.

- The sensor can be quickly assembled without having to manually search for switching points
- Simple and reliable operation using just one pushbutton directly on the device
- No need for a connecting cable as there are 2 switching points in a device
- PNP/NPN and NO/NC freely programmable, reducing warehousing
- Sturdy, non-contacting and enclosed position detection with long service life

### Switching output

DRVS-25- ... with SRBS-Q12-25- ...



- 2 switching outputs 24 V
- Electronic teach-in of switching points at the push of a button
- PNP/NPN programmable
- NO/NC programmable
- Sensing range: > 270°

Repetition accuracy  $\leq 0.1$  mm



#### Note

Sensors that detect magnetic fields, such as position sensors SRBS, must not be secured onto the drive using mountings made from ferrous materials, as this can lead to malfunction.

### Product range overview

Version	Type	Suitable for rotary drives	Special characteristics	Sensing range [deg]	Switching output	→ Page/Internet
Position sensor	SRBS-Q12-6-E270-EP-1-S-M8	DSM 6, DRVS 6	Oil-resistant	> 270	2x PNP or 2x NPN Switchable	4
	SRBS-Q12-8-E270-EP-1-S-M8	DSM 8, DRVS 8				
	SRBS-Q1-10-E270-EP-1-S-M8	DSM 10				
	SRBS-Q12-12-E270-EP-1-S-M8	DRVS 12				
	SRBS-Q12-16-E270-EP-1-S-M8	DRVS 16				
	SRBS-Q12-25-E270-EP-1-S-M8	DRVS 25				
	SRBS-Q12-32-E270-EP-1-S-M8	DRVS-32				
	SRBS-Q12-40-E270-EP-1-S-M8	DRVS 40				

# Position sensors SRBS

Type codes

SRBS - Q12 - [ ] - E - 270 - EP - 1 - S - M8

**Type**

SRBS	Position sensor
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**Designation**

Q1	Version Q1
Q12	Version Q12

**Size**

6	6
8	8
10	10
12	12
16	16
25	25
32	32
40	40
63	63

**Display type**

E	LED
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**Measuring range**

270	0 ... 270
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**Sensor principle**

EP	Non-contacting, programmable switching function
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**Nominal operating voltage**

1	24 V DC
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**Electrical output**

S	PNP or NPN
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**Electrical connection**

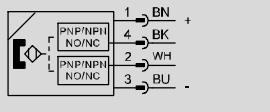
M8	M8 plug connector
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# Position sensors SRBS

Technical data

Function

Normal operation



General technical data	
Design	Round
Type of mounting	Screw-clamped
Mounting position	Any
Certification	RCM trademark c UL us - listed (OL)
Special characteristics	Oil resistant
Degree of protection	IP65 IP68
Protection class	III
Based on standard	EN 60947-5-2
CE marking (see declaration of conformity)	To EU EMC Directive
Note on materials	Halogen-free, RoHS-compliant
Corrosion resistance class CRC <sup>1)</sup>	2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Internal applications in which condensation may occur. External visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment.

Input signal/measuring element	
Measuring principle	Magnetic Hall
Measured variable	Rotation angle
Sensing range [deg]	> 270
Ambient temperature [°C]	-20 ... 70
Ambient temperature with flexible cable installation [°C]	-20 ... 70

Signal processing	
Typical sampling interval [ms]	3

Output, additional data	
Protection against short circuit	Yes
Overload protection	Yes

## Position sensors SRBS

Technical data

Electronics		
Operating voltage range	[V DC]	15 ... 30
Rated operating voltage	[V DC]	24
Protection against incorrect polarity		For all electrical connections
Switching output		2 x PNP or 2 x NPN, switchable
Switching element function		N/C or N/O contact, switchable
Switching point reproducibility	[°]	≤ 1
Residual ripple	[%]	10
Switch-on time	[ms]	< 4
Switch-off time	[ms]	< 4
Max. switching frequency	[Hz]	125
Max. output current	[mA]	50
Max. switching capacity DC	[W]	1.5
Voltage drop	[V]	< 1

Electromechanical components		
Electrical connection		4-pin, cable with plug connector, rotatable thread M8
Connection outlet direction		In-line
Cable properties		Energy chain + robot
Cable test conditions		Bending strength: according to Festo standard
		Energy chain: 5 million cycles, bending radius 28 mm
		Torsional strength: > 300,000 cycles, ±270°/0.1 m
Cable length	[m]	0.3

Display/operation	
Setting options	Pushbutton
Switching status display	Yellow LED

Materials	
Housing	Nickel-plated brass
	Reinforced PA
	Polyester
Union nut	Nickel-plated brass
Cable sheath, grey	TPE-U(PUR)
Foil	Polyester
Pin contacts	Gold-plated copper alloy

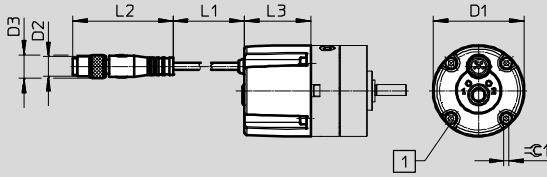
# Position sensors SRBS

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

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



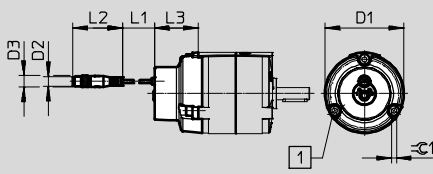
- 1 Screw:  
 Size 6 – M2x6 (4x)  
 Size 8 – M2.5x5 (4x)

Type	D1 Ø	D2	D3 Ø	L1	L2	L3	≈ 1
SRBS-Q12-6- ...	29.4	M8x1	9.6	300	41.1	25.4	1.5
SRBS-Q12-8- ...	32					27.4	2

## Dimensions

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



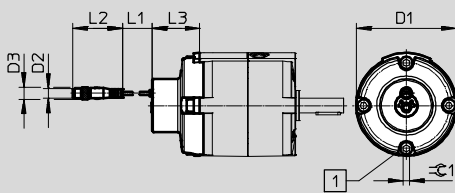
- 1 Screw:  
 Size 12 – M4x10 (3x)  
 Size 16 – M5x12 (3x)  
 Size 25 – M5x12 (3x)

Type	D1 Ø	D2	D3 Ø	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

Download CAD data → [www.festo.com](http://www.festo.com)

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



- 1 Screw:  
 Size 32 – M6x12 (4x)  
 Size 40 – M8x16 (4x)

Type	D1 Ø	D2	D3 Ø	L1	L2	L3	≈ 1
SRBS-Q12-32- ...	81.3	M8x1	9.6	300	41.1	38.9	5
SRBS-Q12-40- ...	98.3					40.4	6

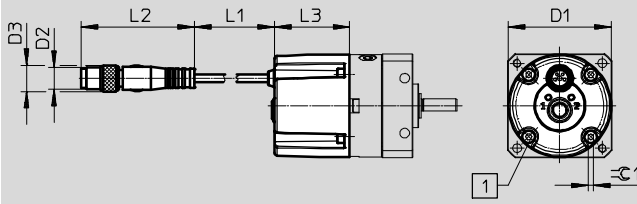
# Position sensors SRBS

Technical data

## Dimensions

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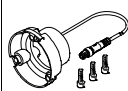
SRBS-Q...-E270-EP-1-S-M8 (DSM-6/8/10)




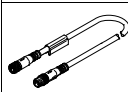
- 1 Screw:  
 Size 6 – M2x6  
 Size 8 – M2.5x5  
 Size 10 – M3x6

Type	D1 Ø	D2	D3 Ø	L1	L2	L3	±C 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

	For rotary drives	Weight [g]	Part No.	Type
	DSM 6, DRVS 6	25	<b>2619969</b>	<b>SRBS-Q12-6-E270-EP-1-S-M8</b>
	DSM 8, DRVS 8	30	<b>2619972</b>	<b>SRBS-Q12-8-E270-EP-1-S-M8</b>
	DSM 10	35	<b>2412001</b>	<b>SRBS-Q1-10-E270-EP-1-S-M8</b>
	DRVS 12	42	<b>2393546</b>	<b>SRBS-Q12-12-E270-EP-1-S-M8</b>
	DRVS 16	55	<b>2393547</b>	<b>SRBS-Q12-16-E270-EP-1-S-M8</b>
	DRVS 25	60	<b>2393548</b>	<b>SRBS-Q12-25-E270-EP-1-S-M8</b>
	DRVS-32	81	<b>2393549</b>	<b>SRBS-Q12-32-E270-EP-1-S-M8</b>
	DRVS 40	120	<b>2393550</b>	<b>SRBS-Q12-40-E270-EP-1-S-M8</b>

## Accessories – Connecting cables

		Cable length [m]	Part No.	Type
	Socket, 4-pin, M8 – open cable end	2.5	<b>541342</b>	<b>NEBU-M8G4-K-2.5-LE4</b>
		5	<b>541343</b>	<b>NEBU-M8G4-K-5-LE4</b>
	Socket, 4-pin, M8 – plug, 4-pin, M8	2.5	<b>554035</b>	<b>NEBU-M8G4-K-2.5-M8G4</b>