

## Sensor boxes SRBC

**FESTO**



Festo core product range  
Covers 80% of your automation tasks

Worldwide:

Always in stock

Superb:

Festo quality at an attractive price

Easy:

Simplified procurement and warehousing

★ Generally ready for shipping ex works in 24 hours

In stock at 13 Service Centres worldwide

More than 2200 products

★ Generally ready for shipping ex works in 5 days

Assembled for you at 4 Service Centres worldwide

Up to  $6 \times 10^{12}$  variants per product family

## Key features and product range overview

### Function

Sensor boxes SRBC are used for electrical feedback and control of the position of process valves actuated using pneumatic quarter turn actuators. They can be mounted quickly and easily on quarter turn actuators with a connection pattern to

VDI/VDE 3845 using mounting adapters. The sturdy design of the sensor box SRBC is ideal for the harsh conditions in process automation.

### Innovative

- Pre-assembled mounting adapter for ease of installation
- Trip cams are easy to set without additional tools
- Sturdy, corrosion-resistant design, ideal for use in harsh ambient conditions
- Clearly visible 3D position indicator allows rapid detection of the current position of the quarter turn actuator

### Flexible

- Weather-tight housing for outdoor applications too
- Mechanical, inductive or magnetic switch variants for virtually all types of application
- Intrinsically safe variants for use in potentially explosive areas
- Two cable inputs for common power supply for the sensor box and solenoid valve as standard

### Design

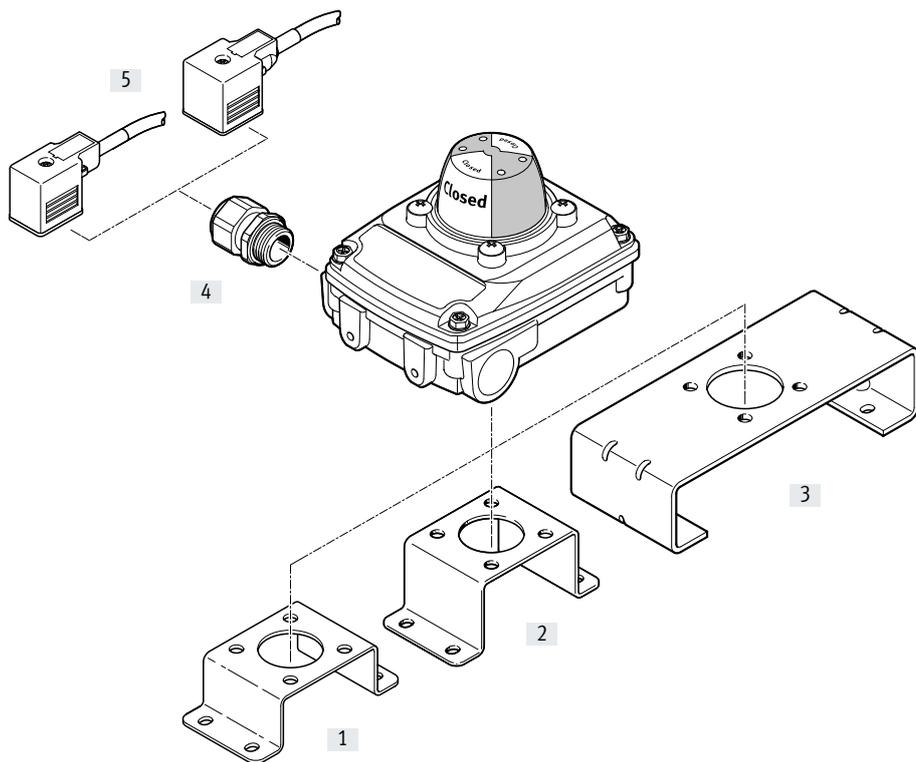
- Sturdy aluminium housing with two cable inputs M20x1.5
- Captive stainless steel screws on the housing cover
- Pre-assembled stainless steel mounting adapter 80x30 H20 for ease of mounting on standard actuators to VDI/VDE 3845
- Cable connector and blanking plug included in the scope of delivery
- 3D OPEN/CLOSED position indicator
- Mechanical, inductive or magnetic switch variants
- Number of switches: 2
- IP67, NEMA 4/4x
- cCSAus Listed, General Purpose
- ATEX ia version
- SIL 2 to IEC 61508

### Product range overview



Measuring principle	Type	Operating voltage range	Switching output	Switching element function
Electromechanical	SRBC...-MW-22A-1W-	0...250 V AC 0...30 V DC	Contacting	Toggle switch, single-pole (SPDT)
Magnetic reed	SRBC...-R-2A-1W-	0...120 V AC 0...175 V DC	Contacting	Toggle switch, single-pole (SPDT)
Inductive	SRBC...-N-20N-ZC-	8.2 V DC	NAMUR	N/C contact
Inductive	SRBC...-N-20N-ZC...-EX6	8.2 V DC	NAMUR	N/C contact
Inductive	SRBC...-N-1-P-	10...30 V DC	PNP	N/O contact
Inductive	SRBC...-N-1-N-	10...30 V DC	NPN	N/O contact
Inductive	SRBC...-N-1-ZU-	5...60 V DC	Non-contacting, 2-wire	N/O contact

Peripherals overview



Accessories		Brief description	→ Page/Internet
[1]	Mounting adapter DARQ-K-X1-A1-F05-20-R1	<ul style="list-style-type: none"> <li>• Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30x80 mm, shaft height 20 mm</li> <li>• Included in the scope of delivery of the sensor box and pre-assembled</li> </ul>	15
[2]	Mounting adapter DARQ-K-X1-A1-F05-30-R1	<ul style="list-style-type: none"> <li>• Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30x80 mm, shaft height 30 mm</li> <li>• Can be ordered separately as an accessory</li> </ul>	15
[3]	Mounting adapter DARQ-K-X1-A2-F05-30-R1	<ul style="list-style-type: none"> <li>• Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30x130 mm, shaft height 30 mm</li> <li>• Can be ordered separately as an accessory</li> </ul>	15
[4]	Cable connector NETC-P-M20	<ul style="list-style-type: none"> <li>• Polymer cable connector M20x1.5 included in the scope of delivery of the sensor box</li> <li>• Other cable connectors can be ordered separately as an accessory</li> </ul>	15
[5]	Connecting cables NEBV	<ul style="list-style-type: none"> <li>• For valve connection for sensor box with terminal rail connection</li> <li>• Can be ordered separately as an accessory</li> </ul>	15

Type codes SRBC

<b>001</b>	<b>Series</b>	
<b>SRBC</b>	Limit switch attachment	
<b>002</b>	<b>Design type</b>	
<b>C</b>	Sensor box	
<b>003</b>	<b>Mechanical interface</b>	
<b>A3</b>	Mounting bridge, hole pattern 30 x 80 mm, shaft height 20 mm	
<b>004</b>	<b>Display type</b>	
<b>YR</b>	Position indicator yellow/red	
<b>005</b>	<b>Measuring range</b>	
<b>90</b>	0 ... 90°	
<b>006</b>	<b>Sensor principle</b>	
<b>MW</b>	Floating contact, changeover contact	
<b>N</b>	Proximity sensor, inductive	
<b>R</b>	With contacts (reed)	

<b>007</b>	<b>Nominal operating voltage</b>	
<b>20N</b>	8.2 V DC (Namur)	
<b>1</b>	24 V DC	
<b>2A</b>	110 V AC/50-60 Hz	
<b>22A</b>	250 V AC	
<b>008</b>	<b>Electrical output 1</b>	
<b>N</b>	NPN	
<b>P</b>	PNP	
<b>1W</b>	1-pin toggle switch	
<b>ZC</b>	2-wire N/C contact	
<b>ZU</b>	2-wire N/O contact	
<b>009</b>	<b>Electrical connection</b>	
<b>C2</b>	Screw terminal	
<b>010</b>	<b>Cable connector</b>	
<b>P20</b>	M20x1.5, polymer	
<b>011</b>	<b>EU certification</b>	
	None	
<b>EX4</b>	II 2GD	

## Data sheet

- Measuring principle: electromagnetic or magnetic reed
- Switching element function: toggle switch, single-pole (SPDT)
- For DC and AC voltage
- Pre-assembled mounting adapter 80x30 mm, height 20 mm
- Cable connector and blanking plug included in the scope of delivery



General technical data		
Type SRBC-...		-MW   -R
Setting range for angular detection	[°]	0 ... 90
Based on standard		ISO 5211
		VDI/VDE 3845
		EN 60947-5-2
Type of mounting		On flange to ISO 5211
		With mounting bracket

Electrical data		
Type SRBC-...		-MW   -R
Measuring principle		Mechanical/electrical   Magnetic reed
Switching output		Contacting
Switching element function		Toggle switch, single-pole
Operating voltage range	[V]	0 ... 250   0 ... 120
Alternating current AC		
Max. output current AC	[mA]	3000 (at 250 V)   250 (at 120 V)
Operating voltage range	[V]	0 ... 30   0 ... 175
Direct current DC		
Max. output current DC	[mA]	3000 (at 30 V)   250 (at 175 V)

Electromechanics		
Type SRBC-...		-MW   -R
Cable connector		M20x1.5
Permissible cable diameter	[mm]	5 ... 13
Electrical connection		10-pin
		Screw terminal
Nominal conductor cross section that can be connected	[mm <sup>2</sup> ]	0.25 ... 2.5
Material		
Cable connection		PA
Blanking plug		PA

## Data sheet

Operating and environmental conditions		
Ambient temperature	[°C]	-20 ... +80
Storage temperature	[°C]	-20 ... +80
Degree of protection		IP67 NEMA 4/4X
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
CE marking (see declaration of conformity) <sup>1)</sup>		To EU Low Voltage Directive To EU RoHS Directive
Certification		c CSA us (OL)
Safety integrity level (SIL)		SIL 2

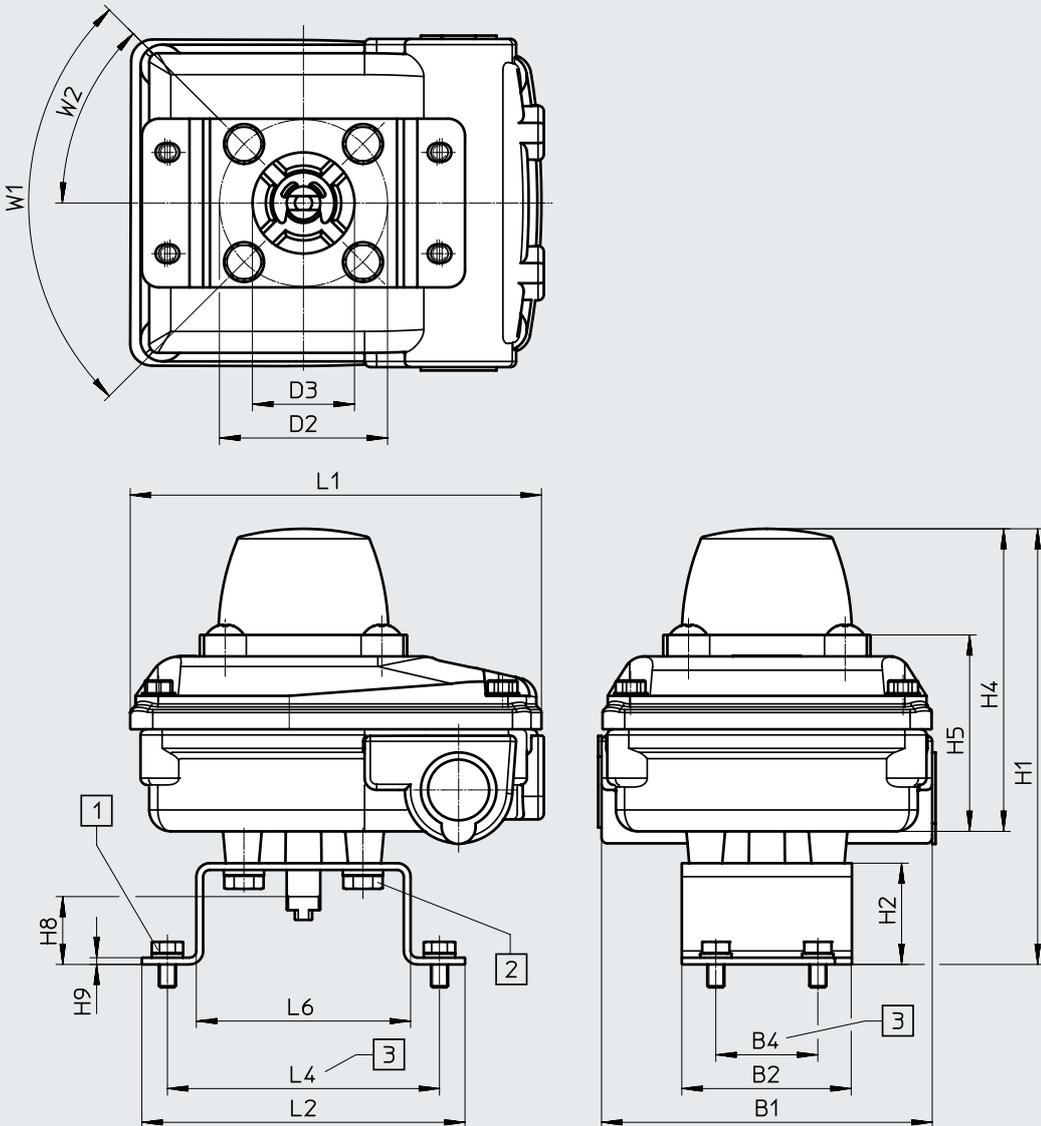
1) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Materials	
Housing	Die-cast aluminium
Mounting bracket	High-alloy stainless steel
Shaft	
Circlip	
Disc	
Screws	
Seals	NBR
Pointer	PC
Note on materials	RoHS-compliant Contains paint-wetting impairment substances

Data sheet

Dimensions

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



[1] Screw DIN 933 M5x8      [2] Screw DIN 933 M6x10      [3] Flange hole pattern F05 to ISO 5211

SRBC	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-KX1-A1-F05-20-R1	98	50	30	50	30	129	30	90
With DARQ-KX1-A1-F05-30-R1						139	40	

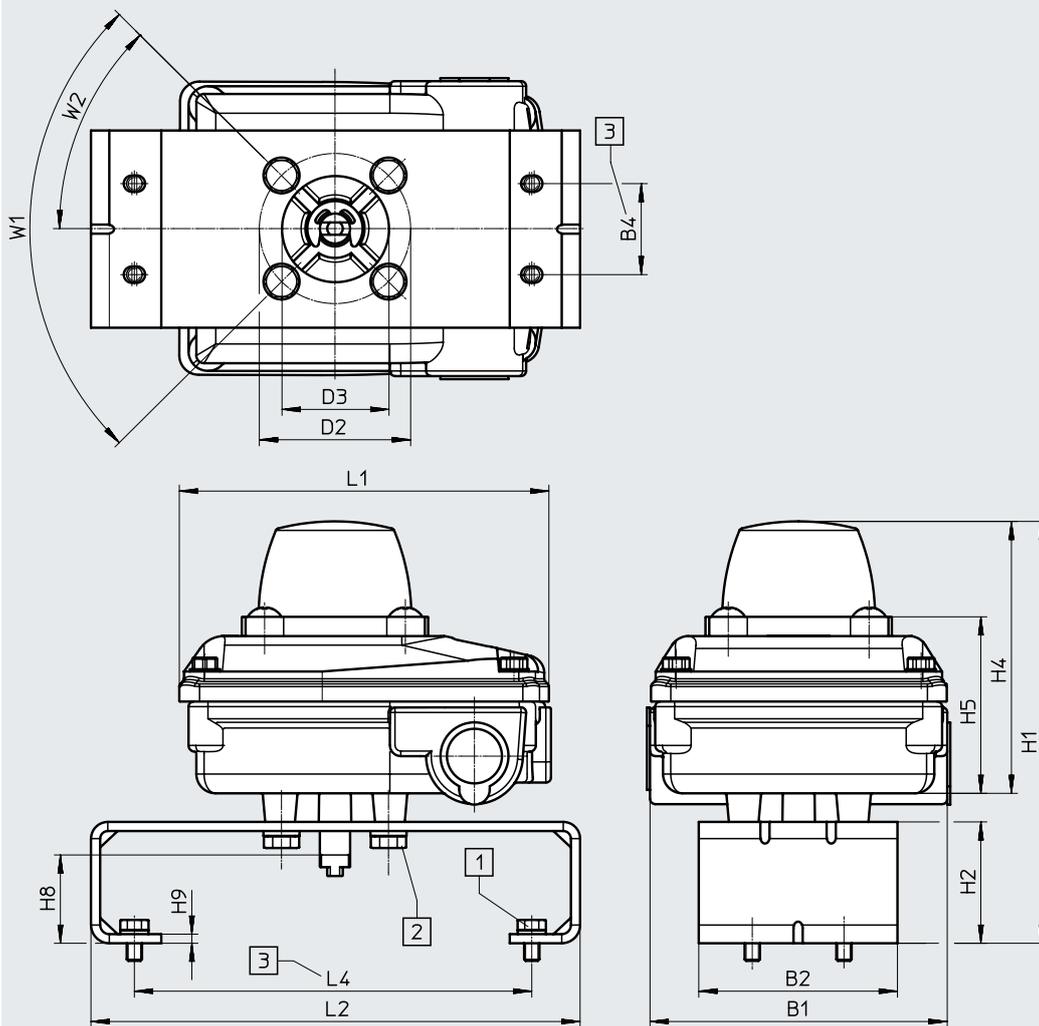
  

SRBC	H5	H8	H9	L1	L2	L4	L6	W1	W2
With DARQ-KX1-A1-F05-20-R1	58.2	20	2	120	95	80	63	90°	45°
With DARQ-KX1-A1-F05-30-R1		30							

Data sheet

Dimensions

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



[1] Screw DIN 933 M5x8

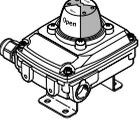
[2] Screw DIN 933 M6x10

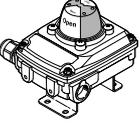
[3] Flange hole pattern F05 to ISO 5211

SRBC	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-K-X1-A2-F05-30-R1	98	65	30	50	35	139	40	90
SRBC	H5	H8	H9	L1	L2	L4	W1	W2
With DARQ-K-X1-A2-F05-30-R1	58.2	30	3	120	160	130	90°	45°

## Data sheet

## ★ Core product range

Ordering data	Brief description	Dimensions of mounting adapter [mm]	Weight [g]	Part no.	Type
	Sensor box including pre-assembled mounting adapter, cable connector and blanking plug included in the scope of delivery	30x80, H: 20	800	★ 3482805	SRBC-CA3-YR90-MW-22A-1W-C2P20

Ordering data	Brief description	Dimensions of mounting adapter [mm]	Weight [g]	Part no.	Type
	Sensor box including pre-assembled mounting adapter, cable connector and blanking plug included in the scope of delivery	30x80, H: 20	800	3482811	SRBC-CA3-YR90-R-2A-1W-C2P20

Festo core product range



Generally ready for shipping ex works in 24 hours

Generally ready for shipping ex works in 5 days

## Data sheet

- Inductive measuring principle
- Switching outputs PNP, NPN, 2-wire DC, NAMUR
- Pre-assembled mounting adapter 80x30 mm height 20 mm
- Cable connector and blanking plug included in the scope of delivery



General technical data		-1-P	-1-N	-1-ZU	-20N	-20N-...-EX6
Type SRBC-...						
Setting range for angular detection	[°]	0 ... 90				
Based on standard		ISO 5211				
		VDI/VDE 3845				
		EN 60947-5-2				
Type of mounting		On flange to ISO 5211			EN 60947-5-6	
		With mounting bracket				

Electrical data		-1-P	-1-N	-1-ZU	-20N	-20N-...-EX6
Type SRBC-...						
Measuring principle		Inductive				
Switching output		PNP	NPN	Non-contacting, 2-wire	NAMUR	
Switching element function		N/O contact			N/C contact	
Operating voltage range	[V DC]	10 ... 30		5 ... 60	8.2	
Max. input voltage $U_i$	[V]	-				16
Max. output current DC	[mA]	100			3	
Voltage drop	[V]	$\leq 3$		$\leq 5$	-	
No-load supply current	[mA]	$\leq 15$		-		
Off-state current	[mA]	0 ... 0.5		0 ... 1	-	
Minimum load current	[mA]	-		4	-	
Effective inner inductance $L_i$	[ $\mu$ H]	-				100
Effective inner capacitance $C_i$	[nF]	-				100
Max. input parameters for intrinsically safe circuit <sup>1)</sup>		-				See IECEx certificate
		-				See ATEX certificate
Reverse polarity protection		For all electrical connections			-	
Short circuit current rating		Pulsed		-		

1) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Electromechanics		-1-P	-1-N	-1-ZU	-20N	-20N-...-EX6
Type SRBC-...						
Cable connector		M20x1.5				
Permissible cable diameter	[mm]	5 ... 13				6 ... 12
Electrical connection		10-pin				
		Screw terminal				
Nominal conductor cross section that can be connected	[mm <sup>2</sup> ]	0.25 ... 2.5				
Material						
Cable connection		PA				
Blanking plug		PA				

## Data sheet

Operating and environmental conditions		-1-P	-1-N	-1-ZU	-20N	-20N-...-EX6
Type SRBC-...						
Ambient temperature	[°C]	-20 ... +70		-20 ... +80		
Storage temperature	[°C]	-20 ... +70		-20 ... +80		-20 ... +70
Degree of protection		IP67 NEMA 4/4X				
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				
CE marking (see declaration of conformity) <sup>1)</sup>		To EU EMC Directive <sup>2)</sup>				
		To EU RoHS Directive				
Certification		c CSA us (OL)				To EU Explosion Protection Directive (ATEX)
		RCM compliance mark				
ATEX category for gas		-				II 1G
ATEX category for dust		-				II 1D
Type of ignition protection for gas		-				Ex ia IIC T6/T5 Ga
Type of ignition protection for dust		-				Ex ia IIIC Txx°C Da
Explosion-proof ambient temperature		-				See IECEx certificate
		-				See ATEX certificate
Explosion protection certification outside EU		-				EPL Ga (IEC-Ex)
		-				EPL Da (IEC-Ex)
Safety integrity level (SIL)		SIL 2				
KC mark		KC EMC				

1) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

2) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

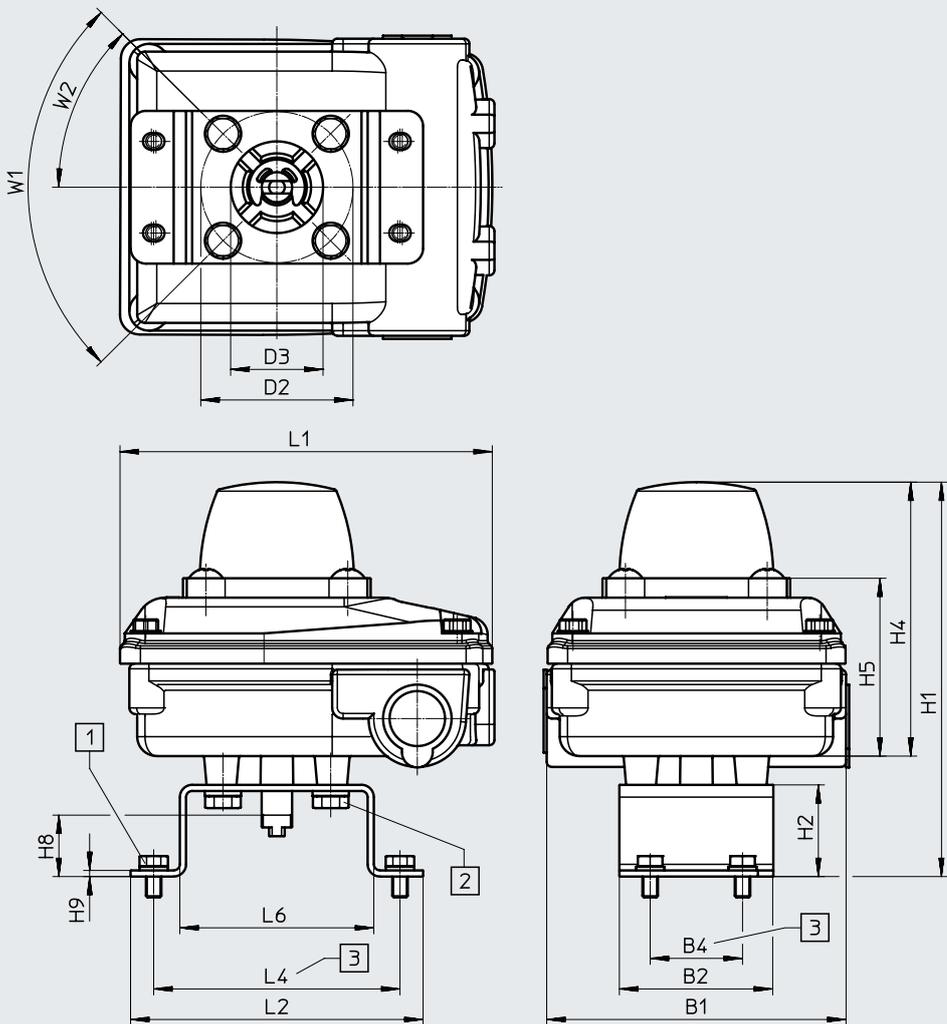
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Materials	
Housing	Die-cast aluminium
Mounting bracket	High-alloy stainless steel
Shaft	
Circlip	
Disc	
Screws	
Seals	NBR
Pointer	PC
Note on materials	RoHS-compliant
	Contains paint-wetting impairment substances

Data sheet

Dimensions

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



[1] Screw DIN 933 M5x8      [2] Screw DIN 933 M6x10      [3] Flange hole pattern F05 to ISO 5211

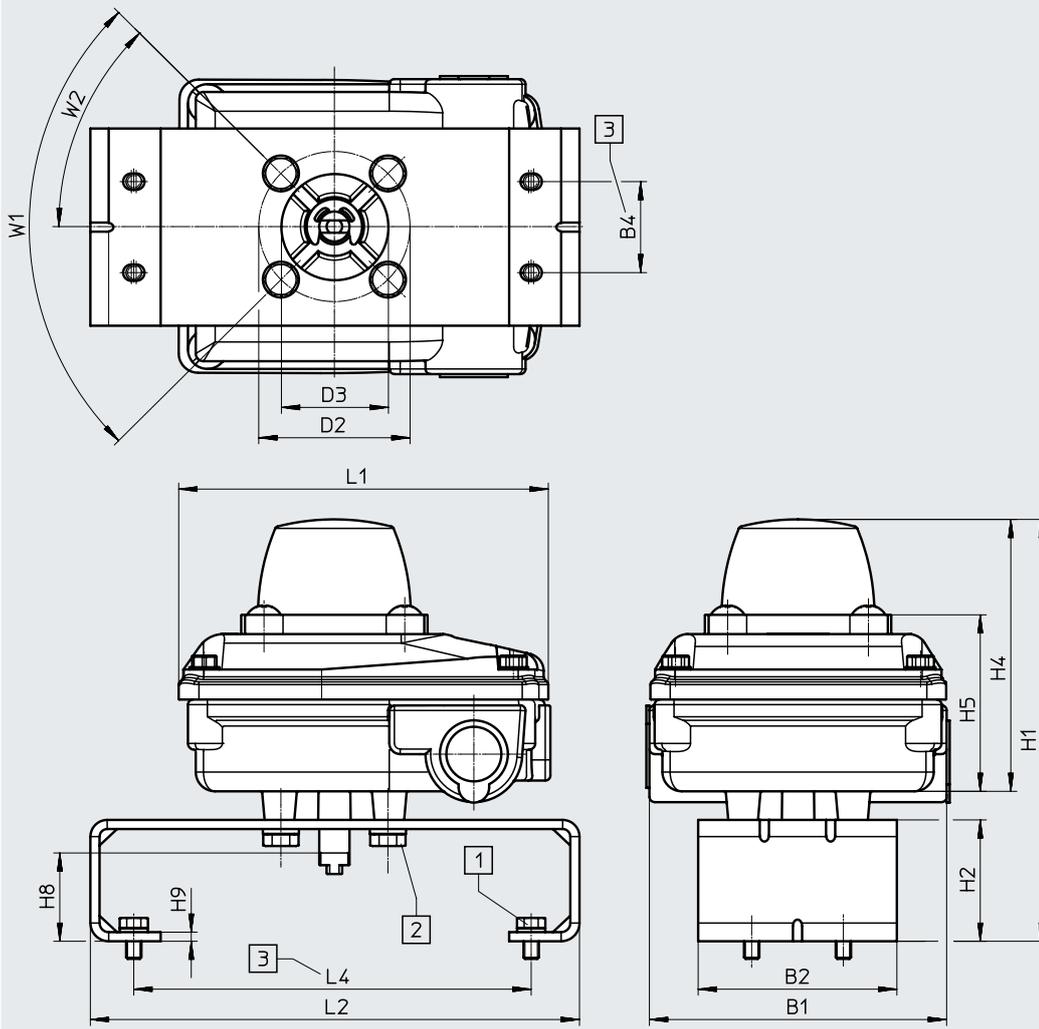
SRBC	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-K-X1-A1-F05-20-R1	98	50	30	50	30	129	30	90
With DARQ-K-X1-A1-F05-30-R1						139	40	

SRBC	H5	H8	H9	L1	L2	L4	L6	W1	W2
With DARQ-K-X1-A1-F05-20-R1	58.2	20	2	120	95	80	63	90°	45°
With DARQ-K-X1-A1-F05-30-R1		30							

Data sheet

Dimensions

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



[1] Screw DIN 933 M5x8

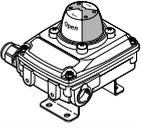
[2] Screw DIN 933 M6x10

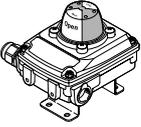
[3] Flange hole pattern F05 to ISO 5211

SRBC	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-K-X1-A2-F05-30-R1	98	65	30	50	35	139	40	90
SRBC	H5	H8	H9	L1	L2	L4	W1	W2
With DARQ-K-X1-A2-F05-30-R1	58.2	30	3	120	160	130	90°	45°

## Data sheet

### ★ Core product range

Ordering data	Brief description	Dimensions of mounting adapter [mm]	Weight [g]	Part no.	Type
	Sensor box including pre-assembled mounting adapter, cable connector and blanking plug included in the scope of delivery	30x80, H: 20	800	★ 3482807	SRBC-CA3-YR90-N-20N-ZC-C2P20-EX6
				★ 3482808	SRBC-CA3-YR90-N-1-P-C2P20

Ordering data	Brief description	Dimensions of mounting adapter [mm]	Weight [g]	Part no.	Type
	Sensor box including pre-assembled mounting adapter, cable connector and blanking plug included in the scope of delivery	30x80, H: 20	800	3482806	SRBC-CA3-YR90-N-20N-ZC-C2P20
				3482809	SRBC-CA3-YR90-N-1-N-C2P20
				3482810	SRBC-CA3-YR90-N-1-ZU-C2P20

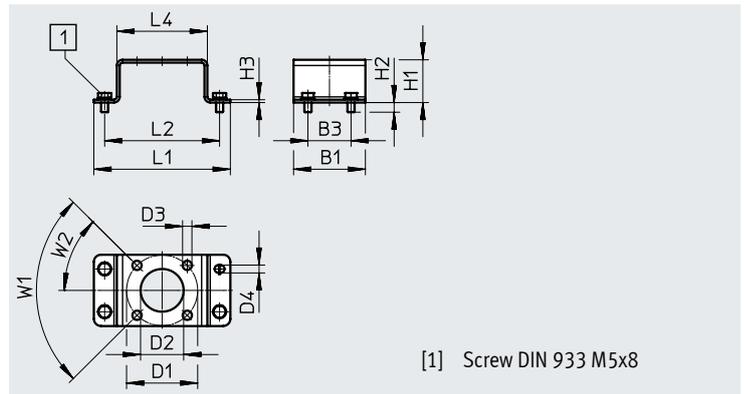
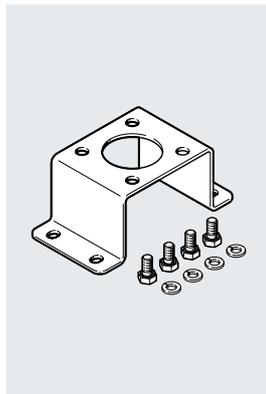
Festo core product range

- ★ Generally ready for shipping ex works in 24 hours
- ★ Generally ready for shipping ex works in 5 days

## Accessories

### Mounting adapter DARQ-K-X1-A1-...

- Mounting adapter for mounting on standard actuators to VDI/VDE 3845
- Size 30x80, height 20 or 30x80, height 30
- Mounting screws included in the scope of delivery
- Material: High-alloy stainless steel
- Contains paint-wetting impairment substances, RoHS-compliant



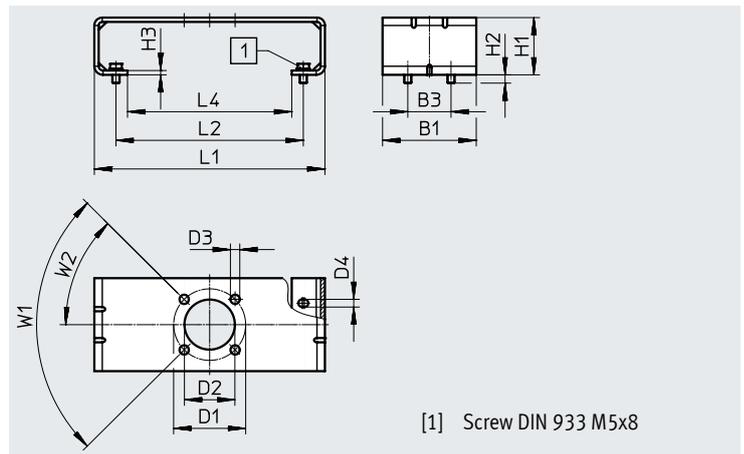
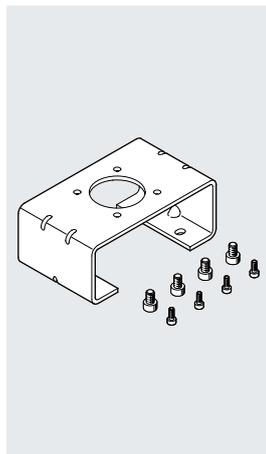
[1] Screw DIN 933 M5x8

#### Dimensions and ordering data

B1	B3	D1 ∅	D2 ∅	D3 ∅	D4 ∅	H1 +0.5	H2	H3	L1	L2	L4	W1	W2	Weight [g]	Part no.	Type
50	30	50	30	6.5	5.5	30	6.8	2	95	80	63	90°	45°	350	3636269	DARQ-K-X1-A1-F05-20-R1
						40								380	3636270	DARQ-K-X1-A1-F05-30-R1

### Mounting adapter DARQ-K-X1-A2-...

- Mounting adapter for mounting on standard actuators to VDI/VDE 3845
- Size 30x130, height 30
- Mounting screws included in the scope of delivery
- Material: High-alloy stainless steel
- Contains paint-wetting impairment substances, RoHS-compliant



[1] Screw DIN 933 M5x8

#### Dimensions and ordering data

B1	B3	D1 ∅	D2 ∅	D3 ∅	D4 ∅	H1 +0.5	H2	H3	L1	L2	L4	W1	W2	Weight [g]	Part no.	Type
65	30	50	35	6.5	5.4	40	5.8	3	160	130	114	90°	45°	460	3886114	DARQ-K-X1-A2-F05-30-R1

#### Ordering data

	Description	Material	Colour	Part no.	Type
Cable connector NETC					
	M20x1.5	Metal	Metal	568279	NETC-M-M20-KA
	M20x1.5	Polymer	Black	4464895	NETC-P-M20
	M20x1.5	Polymer	Blue	4197362	NETC-P-M20-EX4

#### Ordering data

	Electrical connection	Cable length [m]	Protective circuit	Part no.	Type
Connecting cables NEBV for valve connection for sensor box with terminal rail connection					
	Angled socket, plug pattern type A, EN 175301-803	0.6	Yes	3679776	NEBV-A1W3F-P-K-0.6-N-LE3
			No	3579466	NEBV-A1W3-K-0.6-N-LE3
	Angled socket, plug pattern type B, to industry standard 11 mm	0.6	Yes	3679778	NEBV-B2W3F-P-K-0.6-N-LE3
			No	3579468	NEBV-B2W3-K-0.6-N-LE3