

Sensor boxes SRBC

FESTO



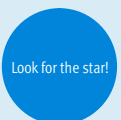
Festo core product range
Covers 80% of your automation tasks

Worldwide:
Superb:
Easy:

Always in stock
Festo quality at an attractive price
Reduces procurement and storing complexity

★ Ready for dispatch from the Festo factory in 24 hours
Held in stock in 13 service centres worldwide
More than 2200 products

★ Ready for dispatch in 5 days maximum from stock
Assembled for you in 4 service centres worldwide
Up to 6 x 10¹² variants per product series



Sensor boxes SRBC

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 hole 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
- The trip cams can be set easily without additional tools
- Sturdy, corrosion-resistant design, ideal for use in harsh operating 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 ranges 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 drives as per 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



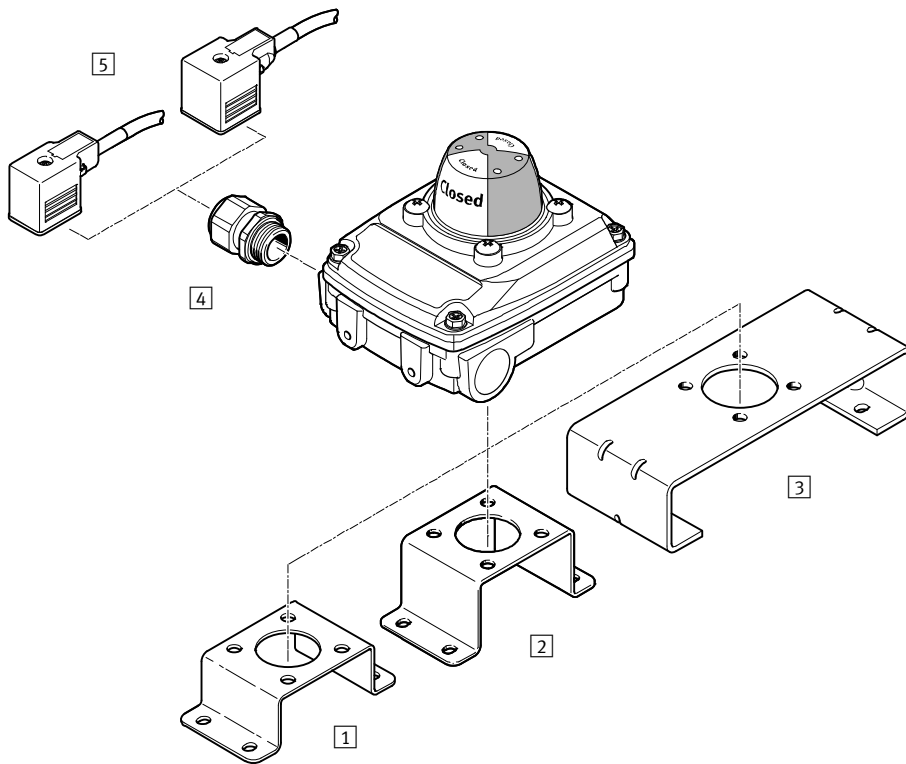
Product range overview



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-...-EX4	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	Contactless, 2-wire	N/O contact

Sensor boxes SRBC

Peripherals overview



Accessories	Brief description	→ Page/Internet
1 Mounting adapter DARQ-K-X1-A1-F05-20-R1	<ul style="list-style-type: none"> • Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30 x 80 mm, shaft height 20 mm • Included in the scope of delivery of the sensor box and pre-assembled 	16
2 Mounting adapter DARQ-K-X1-A1-F05-30-R1	<ul style="list-style-type: none"> • Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30 x 80 mm, shaft height 30 mm • Can be ordered separately as an accessory 	16
3 Mounting adapter DARQ-K-X1-A2-F05-30-R1	<ul style="list-style-type: none"> • Mounting adapter for mounting sensor boxes on quarter turn actuators with hole pattern 30 x 130 mm, shaft height 30 mm • Can be ordered separately as an accessory 	16
4 Cable connector NETC-P-M20	<ul style="list-style-type: none"> • Polymer cable connector M20x1.5 • Included in the scope of delivery of the sensor box • Further cable connectors can be ordered separately as an accessory 	17
5 Connecting cable NEBV	<ul style="list-style-type: none"> • For valve connection for sensor box with terminal rail connection • Can be ordered separately as an accessory 	17

Sensor boxes SRBC

Type codes SRBC

SRBC – C – A3 – YR – 90 – N – 1 – N – C2 – P20 –

Type

SRBC	Limit switch attachment
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Design

C	Sensor box
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Mechanical interface

A3	Mounting adapter, hole pattern 30 x 80 mm, shaft height 20 mm
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Display type

YR	Position indicator yellow/red
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Measuring range

90	0 ... 90°
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Sensor principle

N	Proximity sensors, inductive
R	Reed with contact
MW	Floating contact, changeover switch

Nominal operating voltage

2A	110 V AC, 50-60 Hz
20N	8.2 V DC, NAMUR
22A	250 V AC
1	24 V DC

Electrical output

N	NPN
P	PNP
1W	1-pin toggle switch
ZC	2-wire N/C contact
ZU	2-wire N/O contact

Electrical connection

C2	Screw terminal
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Cable connector

P20	M20x1.5, polymer
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EU certification

–	None
EX4	II2GD

Mounting kits DARQ

Type codes DARQ

DARQ – K – X1 – A1 – F05 – 20 – R1

Type

DARQ	Mounting adapter
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Function

K	Mounting kit
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Designation

X1	Sensor box version with short shaft
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Drive outlet

A1	Hole pattern 30 x 80 mm
A2	Hole pattern 30 x 130 mm

Adapter or reducing outlet

F05	Hole pattern F05
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Length

20	20 mm
30	30 mm

Corrosion protection

R1	Stainless steel
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Sensor boxes SRBC, electromechanical and magnetic reed

Technical data

- Measuring principle: electromagnetic or magnetic reed
- Switching element function: toggle switch, single-pole (SPDT)
- For DC and AC voltage
- Pre-assembled mounting adapter 80 x 30 H20
- Cable connector and blanking plug included in the scope of delivery



General technical data		
Type SRBC-...	-MW	-R
Setting range for angle 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 characteristic 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] Alternating current AC	0 ... 250	0 ... 120
Max. output current AC [mA]	3000 (at 250 V)	250 (at 120 V)
Operating voltage range [V] Direct current DC	0 ... 30	0 ... 175
Max. output current DC [mA]	3000 (at 30 V)	250 (at 175 V)

Electromechanical components		
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 ²]	0.25 ... 2.5	
Information on materials, cable connection	PA	
Information on materials, blanking plug	PA	

Sensor boxes SRBC, electromechanical and magnetic reed

Technical data

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) ¹⁾		To EU Low Voltage Directive
Approval certificate		c CSA us (OL)
Safety integrity level (SIL)		SIL 2

1) Additional information www.festo.com/sp → Certificates.

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

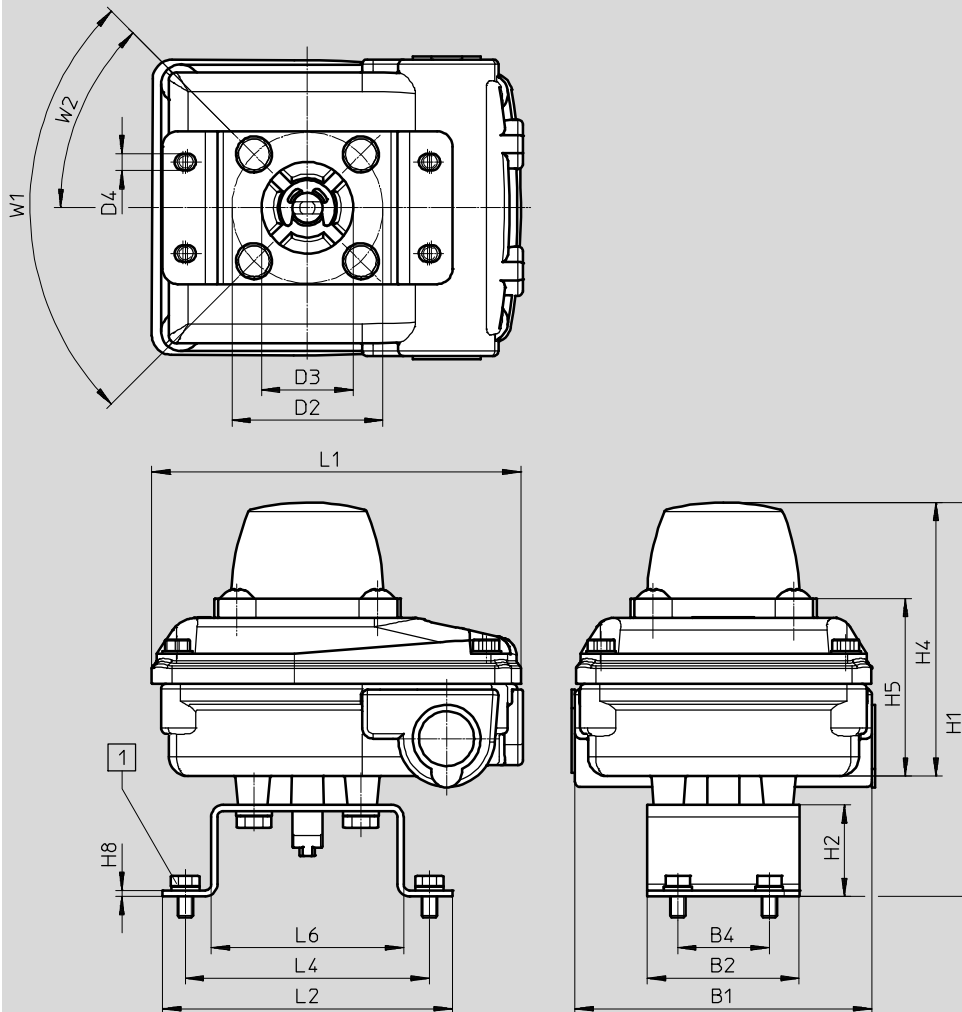
Sensor boxes SRBC, electromechanical and magnetic reed

Technical data

Dimensions

Download CAD data → www.festo.com

SRBC



1 Screw DIN 933 M5x8

Type	B1	B2	B4	D2 Ø	D3 Ø	D4 Ø	H1	H2	H4
With DARQ-K-X1-A1-F05-20-R1	98	50	30	50	30	5.5	129	30	90
With DARQ-K-X1-A1-F05-30-R1							139	40	

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

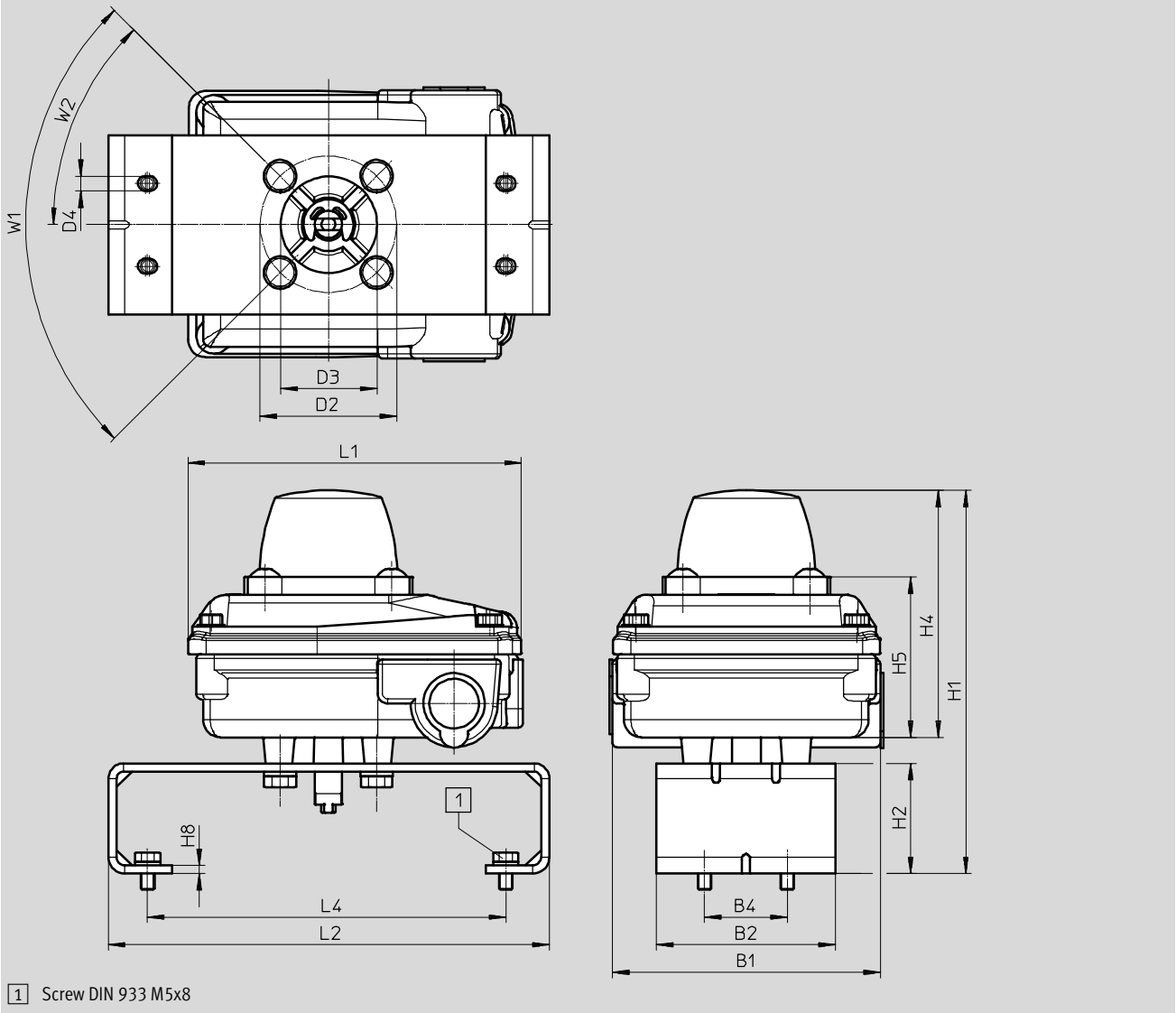
Sensor boxes SRBC, electromechanical and magnetic reed

Technical data

Dimensions

Download CAD data → www.festo.com

SRBC



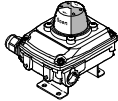
Type	B1	B2	B4	D2	D3	D4	H1	H2
With DARQ-K-X1-A2-F05-30-R1	98	65	30	50 Ø	35 Ø	5.4 Ø	139	40

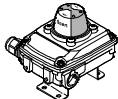
Type	H4	H5	H8	L1	L2	L4	W1	W2
With DARQ-K-X1-A2-F05-30-R1	90	58.2	3	120	160	130	90°	45°

Sensor boxes SRBC, electromechanical and magnetic reed

Technical data

★ Core product range

Ordering data					
	Brief description	Dimensions 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	30 x 80, H: 20	800	★ 3482805	SRBC-CA3-YR90-MW-22A-1W-C2P20

Ordering data					
	Brief description	Dimensions 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	30 x 80, H: 20	800	3482811	SRBC-CA3-YR90-R-2A-1W-C2P20

Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Sensor boxes SRBC, inductive

Technical data

- Inductive measuring principle
- Switching outputs PNP, NPN, 2-wire DC, NAMUR
- Pre-assembled mounting adapter 80 x 30 H20
- Cable connector and blanking plug included in the scope of delivery



General technical data					
Type SRBC-...	-1-P	-1-N	-1-ZU	-20N	-20N-...-EX4
Setting range for angle acquisition [°]	0 ... 90				
Based on standard	ISO 5211				
	VDI/VDE 3845				
	EN 60947-5-2			EN 60947-5-6	
Type of mounting	On flange to ISO 5211				
	With mounting bracket				

Electrical characteristic data					
Type SRBC-...	-1-P	-1-N	-1-ZU	-20N	-20N-...-EX4
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. output current DC [mA]	100			3	
Voltage drop [V]	≤ 3		≤ 5	-	
Idle current [mA]	≤ 15		-	-	
Residual current [mA]	≤ 0.5		0...1	-	
Minimum load current [mA]	-		4	-	
Reverse polarity protection	For all electrical connections				-
Protection against short circuit	Pulsed		-	-	

Electromechanical components					
Type SRBC-...	-1-P	-1-N	-1-ZU	-20N	-20N-...-EX4
Cable connector	M20x1.5				
Permissible cable diameter [mm]	5 ... 13			5.5 ... 13	
Electrical connection	10-pin				
	Screw terminal				
Nominal conductor cross section that can be connected [mm ²]	0.25 ... 2.5				
Information on materials, cable connection	PA				
Information on materials, blanking plug	PA				

Sensor boxes SRBC, inductive



Technical data

Operating and environmental conditions						
Type SRBC-...		-1-P	-1-N	-1-ZU	-20N	-20N-...-EX4
Ambient temperature	[°C]	-20 ... +70		-20 ... +80		-20 ... +70
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)		To EU EMC Directive ¹⁾				To EU Explosion Protection Directive (ATEX)
Approval certificate		c CSA us (OL) RCM mark				-
ATEX category for gas		-				II 2G
ATEX category for dust		-				II 3D
Type of ignition protection for gas		-				Ex ia IIC T6...T4 Ga
Type of ignition protection for dust		-				Ex tc IIIC T75°C X Dc
Explosion ambient temperature	[°C]	-				-20°C ≤ Ta ≤ +70°C
Safety integrity level (SIL)		SIL 2				

- 1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → Certificates.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

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

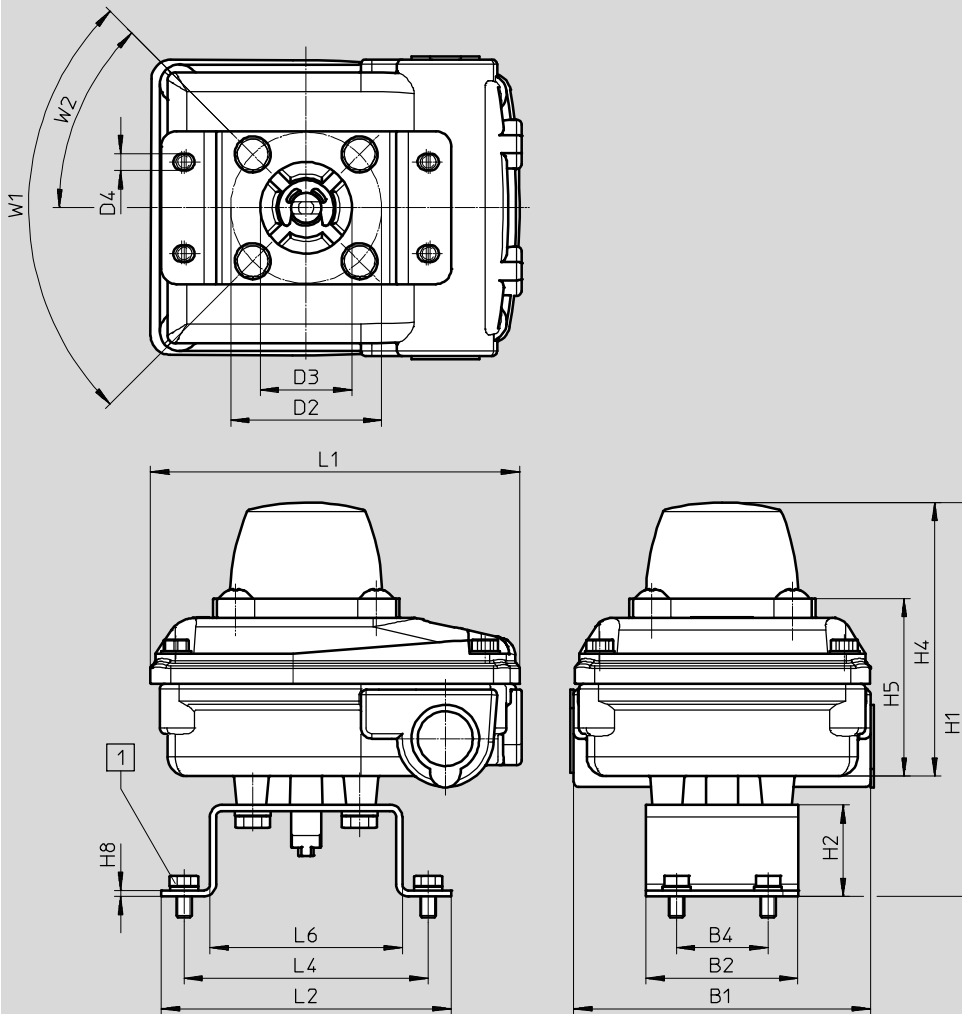
Sensor boxes SRBC, inductive

Technical data

Dimensions

Download CAD data → www.festo.com

SRBC



1 Screw DIN 933 M5x8

Type	B1	B2	B4	D2 Ø	D3 Ø	D4 Ø	H1	H2	H4
With DARQ-K-X1-A1-F05-20-R1	98	50	30	50	30	5.5	129	30	90
With DARQ-K-X1-A1-F05-30-R1							139	40	

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

Sensor boxes SRBC, inductive

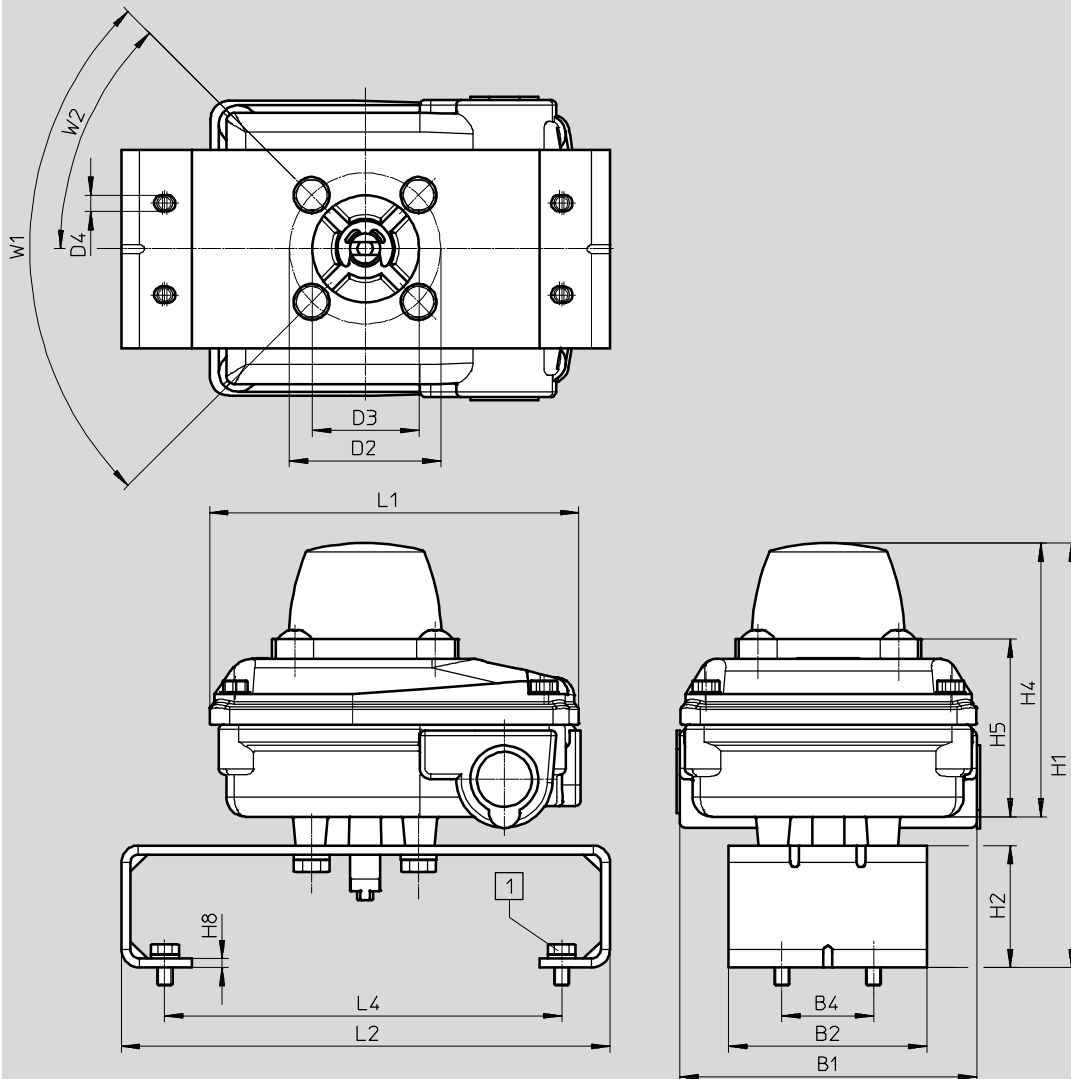
Technical data



Dimensions

Download CAD data → www.festo.com

SRBC



1 Screw DIN 933 M5x8

Type	B1	B2	B4	D2	D3	D4	H1	H2
With DARQ-K-X1-A2-F05-30-R1	98	65	30	50 Ø	35 Ø	5.4 Ø	139	40

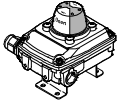
Type	H4	H5	H8	L1	L2	L4	W1	W2
With DARQ-K-X1-A2-F05-30-R1	90	58.2	3	120	160	130	90°	45°

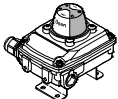
Sensor boxes SRBC, inductive

Technical data

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★ Core product range

Ordering data					
	Brief description	Dimensions 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	30 x 80, H: 20	800	★ 3482807	SRBC-CA3-YR90-N-20N-ZC-C2P20-EX4
				★ 3482808	SRBC-CA3-YR90-N-1-P-C2P20

Ordering data					
	Brief description	Dimensions 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	30 x 80, 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

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

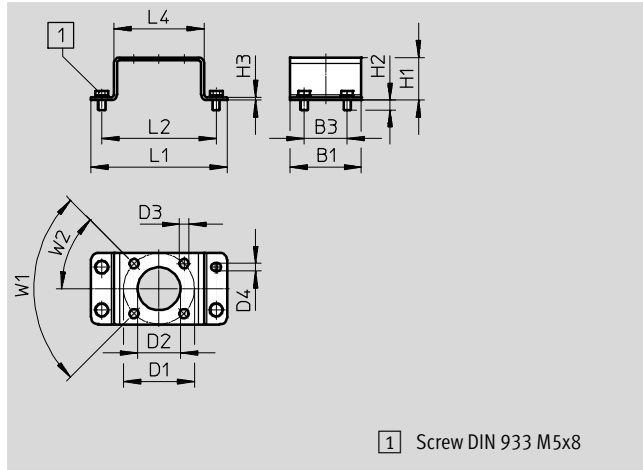
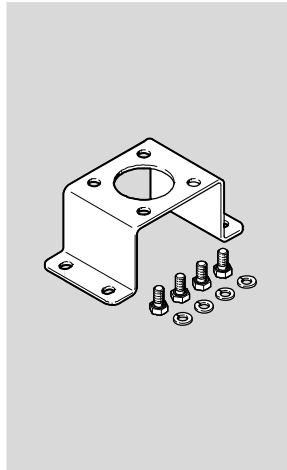
Sensor boxes SRBC

Accessories



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

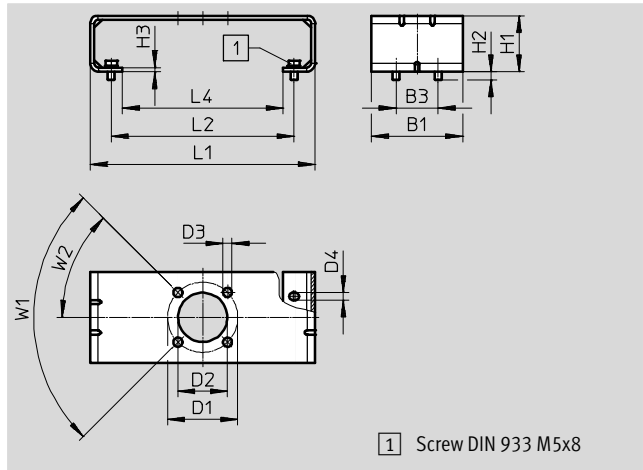
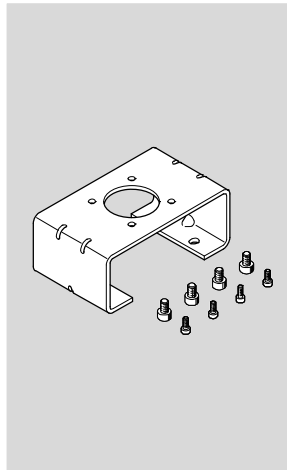
- Mounting adapter for mounting on standard drives as per VDI/VDE 3845
- Size 30x80, height 20 or 30x80, high 30
- Mounting screws included in the scope of delivery
- Material: High-alloy stainless steel
- Contains paint-wetting impairment substances, RoHS compliant



Dimensions and ordering data																
B1	B3	D1	D2	D3	D4	H1	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 drives as per 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




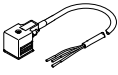
Dimensions and ordering data																
B1	B3	D1	D2	D3	D4	H1	H2	H3	L1	L2	L4	W1	W2	Weight [g]	Part No.	Type
65	30	50	35	6.5	5.4	40	5.8	3	160	130	114	90°	45°	460	3886114	DARQ-K-X1-A2-F05-30-R1

Sensor boxes SRBC

Accessories

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Ordering data					
	Description	Material	Colour	Part No.	Type
Cable connector NETC					
	M20x1.5	Metal	Metal	568279	NETC-M-M20-P4
	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, connection 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, connection 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