

## Limit switch attachments SRBE

**FESTO**



## Key features and product range overview

### Function

Limit switch attachments SRBE are used for electrical feedback and control of the position of process valves actuated using pneumatic quarter turn actuators. They are suitable for use in potentially explosive environments. They can be mounted

quickly and easily on quarter turn actuators with a port pattern to VDI/VDE 3845 using mounting adapters.

### 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 the current position of the quarter turn actuator to be quickly detected

### Versatile

- Worldwide certifications (ATEX, IECEX, cCSAus, INMETRO) for use in potentially explosive environments
- The type of protection of the flame-proof enclosure enables installation without safety barriers or NAMUR amplifier in potentially explosive environments
- Weather-tight housing for outdoor applications too
- Mechanical, inductive or magnetic switch variants for virtually all areas of application
- Two cable inputs for common power supply for the limit switch attachment and solenoid valve as standard

### Design

- Sturdy aluminium housing with two cable inputs
- Captive stainless steel screws on the housing cover
- Pre-assembled stainless steel mounting adapter 30x80 mm, shaft height 20 mm for ease of mounting on standard actuators to VDI/VDE 3845

- 3D OPEN/CLOSED position indicator
- Mechanical, inductive or magnetic switch variants
- Number of switches: 2
- IP67, NEMA 4/4x
- ATEX, IECEX, cCSAus, INMETRO
- SIL 2 to IEC 61508



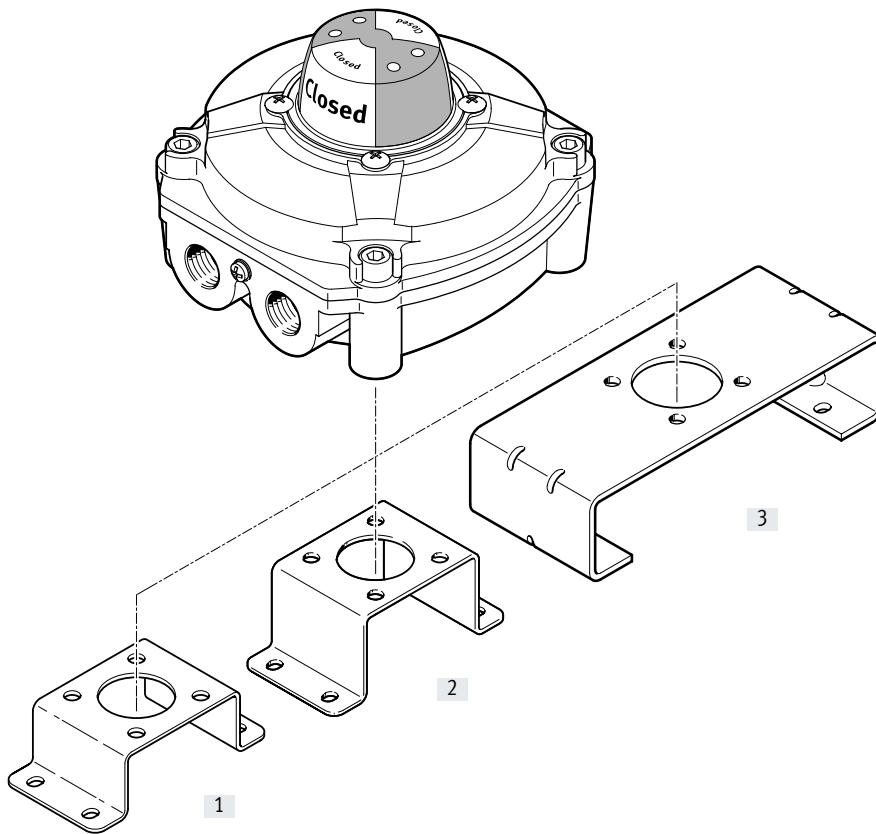
## Key features and product range overview

## Product range overview



Measuring principle	Type	EX certifications	Operating voltage range	Switching output	Switching element function
Electromechanical	SRBE-...-MW-22A-1W-...-EX	ATEX, IECEX, INMETRO	0 ... 250 V AC	Contacting	Toggle switch, single-pole (SPDT)
	SRBE-...-MW-22A-1W-...-C1	cCSAus	0 ... 30 V DC		
Electromechanical	SRBE-...-MW-22A-2W-...-EX	ATEX, IECEX, INMETRO	0 ... 250 V AC	Contacting	Toggle switch, double-pole (DPDT)
	SRBE-...-MW-22A-2W-...-C1	cCSAus	0 ... 30 V DC		
Magnetic reed	SRBE-...-R-2A-1W-...-EX	ATEX, IECEX, INMETRO	0 ... 240 V AC	Contacting	Toggle switch, single-pole (SPDT)
	SRBE-...-R-2A-1W-...-C1	cCSAus	0 ... 30 V DC		
Inductive	SRBE-...-N-20N-ZC-...-EX	ATEX, IECEX, INMETRO	8.2 V DC	NAMUR	N/C contact
	SRBE-...-N-20N-ZC-...-C1	cCSAus			
Inductive	SRBE-...-N-1-P-...-EX	ATEX, IECEX, INMETRO	10 ... 30 V DC	PNP	N/O contact
	SRBE-...-N-1-P-...-C1	cCSAus			
Inductive	SRBE-...-N-1-N-...-EX	ATEX, IECEX, INMETRO	10 ... 30 V DC	NPN	N/O contact
	SRBE-...-N-1-N-...-C1	cCSAus			
Inductive	SRBE-...-N-1-ZU-...-EX	ATEX, IECEX, INMETRO	5 ... 60 V DC	Contactless, 2-wire	N/O contact
	SRBE-...-N-1-ZU-...-C1	cCSAus			

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 limit switch attachments on quarter turn actuators with hole pattern 30 x 80 mm, shaft height 20 mm</li> <li>• Included in the scope of delivery of the limit switch attachment and pre-assembled</li> </ul>	16
[2] Mounting adapter DARQ-K-X1-A1-F05-30-R1	<ul style="list-style-type: none"> <li>• Mounting adapter for mounting limit switch attachments on quarter turn actuators with hole pattern 30 x 80 mm, shaft height 30 mm</li> <li>• Can be ordered separately as an accessory</li> </ul>	16
[3] Mounting adapter DARQ-K-X1-A2-F05-30-R1	<ul style="list-style-type: none"> <li>• Mounting adapter for mounting limit switch attachments on quarter turn actuators with hole pattern 30 x 130 mm, shaft height 30 mm</li> <li>• Can be ordered separately as an accessory</li> </ul>	16

## Type codes SRBE

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

007	Nominal operating voltage
<b>1</b>	24 V DC
<b>2A</b>	110 V AC/50-60 Hz
<b>20N</b>	8.2 V DC (Namur)
<b>22A</b>	250 V AC
008	Electrical output 1
<b>N</b>	NPN
<b>P</b>	PNP
<b>1W</b>	1-pin toggle switch
<b>2W</b>	2-pin toggle switch
<b>ZC</b>	2-wire N/C contact
<b>ZU</b>	2-wire N/O contact
009	Electrical connection
<b>C2</b>	Screw terminal
010	Connecting thread
<b>M20</b>	M20
<b>N12</b>	1/2 NPT
011	Certification
<b>C1</b>	CSA mark (Canada)
<b>EX</b>	EX certification (ATEX)

## Data sheet

- Measuring principle:  
electromagnetic or magnetic reed
- Switching element function:  
toggle switch, single-pole (SPDT)  
and double-pole (DPDT)
- For DC and AC voltage
- Pre-assembled mounting adapter  
30 x 80 mm, shaft height 20 mm



General technical data		-MW-...-1W	-MW-...-2W	-R
Type SRBE-...				
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 characteristic data		-MW-...-1W	-MW-...-2W	-R
Type SRBE-...				
Measuring principle		Mechanical/electrical		Magnetic reed
Switching output		Contacting		
Switching element function		Toggle switch, single-pole	Toggle switch, double-pole	Toggle switch, single-pole
Operating voltage range	[V]	0 ... 250		0 ... 240
Alternating current AC				
Max. output current AC	[mA]	3000 (at 250 V)		416 (at 240 V)
Operating voltage range	[V]	0 ... 30		
Direct current DC				
Max. output current DC	[mA]	6000 (at 30 V)		3000 (at 30 V)

Electromechanics		-MW-...-1W	-MW-...-2W	-R
Type SRBE-...				
Electrical connection		10-pin	14-pin	10-pin
		Screw terminal		
Nominal conductor cross section that can be connected	[mm <sup>2</sup> ]	0.25 ... 2.5		
Cable connector		M20x1.5 for ...-C2M20-...		
		1/2 NPT for ...-C2N12-...		

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

## Data sheet

Operating and environmental conditions				
Type SRBE-...		-MW-...-1W	-MW-...-2W	-R
Ambient temperature	[°C]	-20 ... +60		
Storage temperature	[°C]	-20 ... +60		
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		To EU Low Voltage Directive <sup>1)</sup>		
Safety Integrity Level (SIL)		SIL 2		
Certifications for EX variants		-MW-...-1W	-MW-...-2W	-R
Degree of protection		IP67		
CE marking		To EU Explosion Protection Directive (ATEX)		
ATEX category gas		II 2G		
ATEX category for dust		II 2D		
Explosion-proof ambient temperature		-20 ... +60		
Type of ignition protection for gas		Ex d IIC T6 Gb		
Type of ignition protection for dust		Ex tb IIIC T75°C Db		Ex tb IIIC T61°C Db
Explosion protection certification outside the EU		EPL Db (IEC Ex)		
		EPL Db (BR)		
		EPL Db (CN)		
		EPL Gb (IECEX)		
		EPL Gb (BR)		
		EPL Gb (CN)		
Certificate issuing authority		18-GA4BO-0430X		-
		18-GA4BO-0431X		-
		-		18-GA4BO-0518X
		-		18-GA4BO-0519X
		DNV 16.0067X		
		FTZU 15 ATEX 0095X		
		GYJ 16.1497X		
		IECEX FTZU 15.0014X		
	KCC-18-GA4BO			
Certifications for ...C1 variants		-MW-...-1W	-MW-...-2W	-R
Degree of protection		IP67		
		NEMA 4/4X		
Type of ignition protection for gas		AEx d IIB T5 Gb		
		Ex d IIB T5 Gb		
				AEx nA IIC T5 Gc
				Ex nA IIC T5 Gc
Type of ignition protection for dust		AEx tb IIIC T108°C Db		
		Ex tb IIIC T108°C Db		
Explosion protection certification outside the EU		Class I, Div. 1 (CA)		
		Class I, Div. 1 (US)		
				Class I, Div. 2 (CA)
				Class I, Div. 2 (US)
		Class II, Div. 1 (CA)		
		Class II, Div. 1 (US)		
		Class III (CA)		
		Class III (US)		
		EPL Db (CA)		
		EPL Db (US)		
		EPL Gb (CA)		
		EPL Gb (US)		
				EPL Gc (CA)
			EPL Gc (US)	
Certificate issuing authority		CSA 263311		

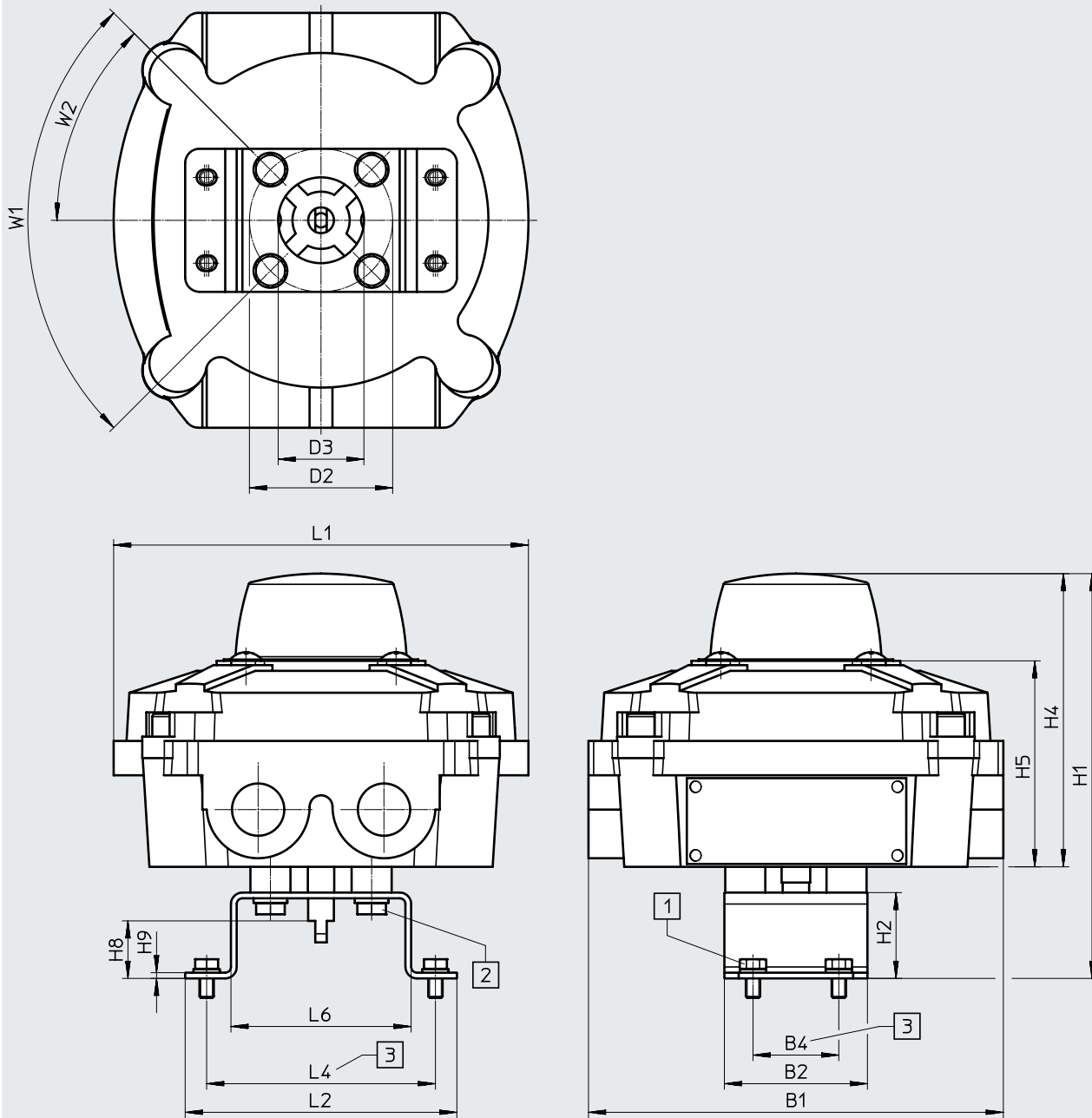
1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/SRBE](http://www.festo.com/catalogue/SRBE) → Support/Downloads.

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.

Data sheet

Dimensions

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



[1] Screw M5x8 (4x)

[2] Screw M6x10 (4x)

[3] Flange hole pattern F05 to ISO 5211

SRBE	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-KX1-A1-F05-20-R1	145	50	30	50	30	141.5	30	102.5
With DARQ-KX1-A1-F05-30-R1						151.5	40	

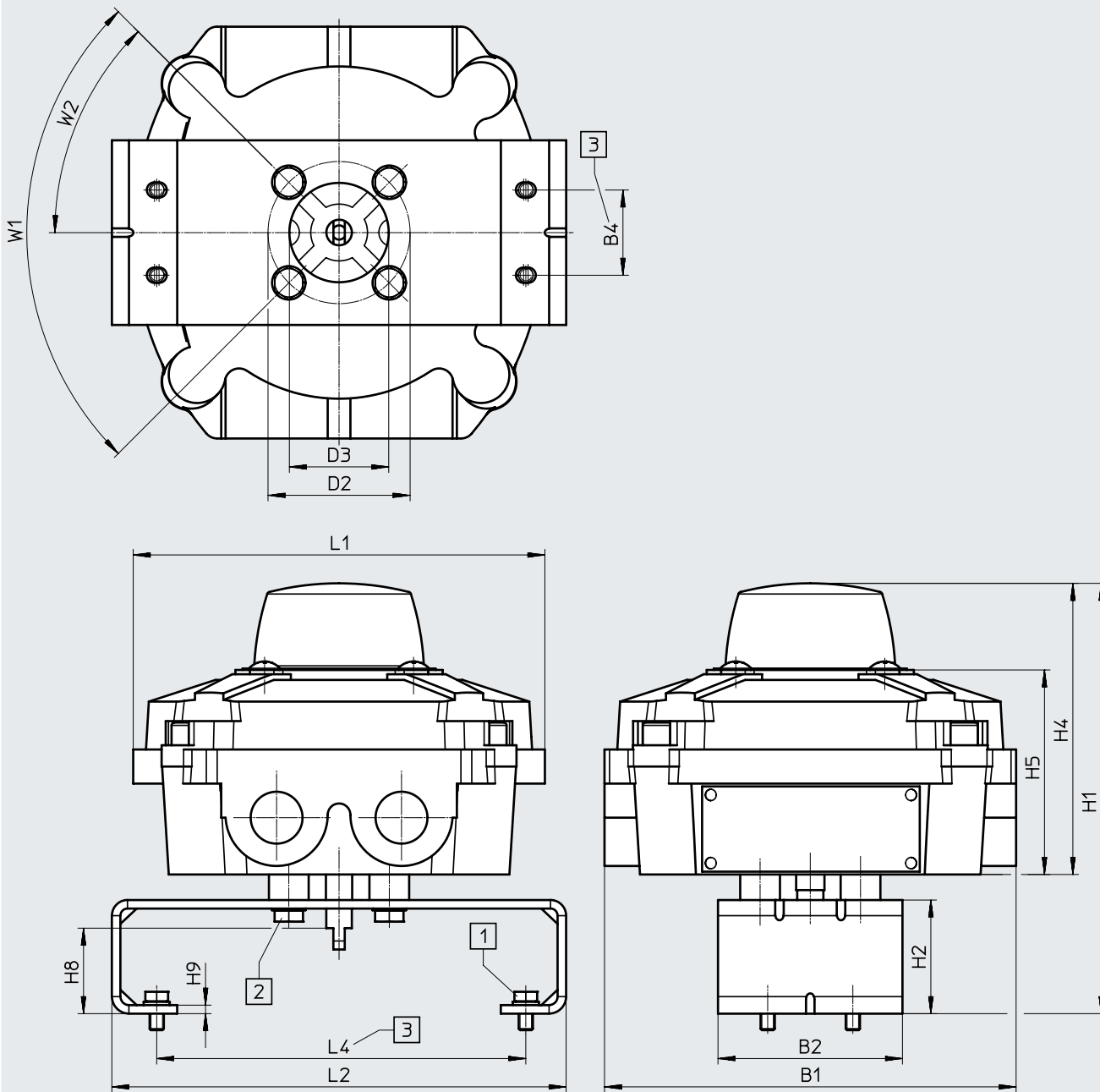
SRBE	H5	H8	H9	L1	L2	L4	L6	W1	W2
With DARQ-KX1-A1-F05-20-R1	72	20	2	145	95	80	63	90°	45°
With DARQ-KX1-A1-F05-30-R1		30							



Data sheet

Dimensions

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



[1] Screw M5x8 (4x)

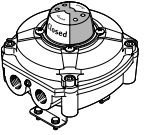
[2] Screw M6x10 (4x)

[3] Flange hole pattern F05 to ISO 5211

SRBE	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-KX1-A2-F05-30-R1	145	65	30	50	35	151.5	40	102.5

SRBE	H5	H8	H9	L1	L2	L4	W1	W2
With DARQ-KX1-A2-F05-30-R1	72	30	3	145	160	130	90°	45°

## Data sheet

Ordering data	Brief description	Dimensions Mounting adapter [mm]	Weight [g]	Part no.	Type
	Limit switch attachment including pre-assembled mounting adapter	30x80, H: 20	1700	<b>3471008</b>	<b>SRBE-CA3-YR90-MW-22A-1W-C2N12-EX</b>
				<b>3471009</b>	<b>SRBE-CA3-YR90-MW-22A-1W-C2M20-EX</b>
				<b>3471010</b>	<b>SRBE-CA3-YR90-MW-22A-2W-C2N12-EX</b>
				<b>3471011</b>	<b>SRBE-CA3-YR90-MW-22A-2W-C2M20-EX</b>
				<b>3471020</b>	<b>SRBE-CA3-YR90-R-2A-1W-C2N12-EX</b>
				<b>3471021</b>	<b>SRBE-CA3-YR90-R-2A-1W-C2M20-EX</b>
				<b>3998917</b>	<b>SRBE-CA3-YR90-MW-22A-1W-C2N12-C1</b>
				<b>3998918</b>	<b>SRBE-CA3-YR90-MW-22A-2W-C2N12-C1</b>
				<b>3998923</b>	<b>SRBE-CA3-YR90-R-2A-1W-C2N12-C1</b>

## Data sheet

- Inductive measuring principle
- Switching outputs PNP, NPN, 2-wire DC, NAMUR
- Pre-assembled mounting adapter  
30 x 80 mm, shaft height 20 mm



General technical data		-1-P	-1-N	-1-ZU	-20N
Type SRBE...					
Setting range for angular detection	[°]	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		-1-P	-1-N	-1-ZU	-20N
Type SRBE...					
Measuring principle		Inductive			
Switching output		PNP	NPN	Contactless, 2-wire	NAMUR
Switching element function		N/O contact			
Operating voltage range	[V DC]	10 ... 30		5 ... 60	8.2
Voltage drop	[V]	≤ 3		≤ 5	–
Max. output current	[mA]	100			
No-load supply current	[mA]	≤ 15		–	3
Residual current	[mA]	0 ... 0.5		0 ... 1	–
Minimum load current	[mA]	–		4	–
Reverse polarity protection		For all electrical connections			
Short circuit current rating		Pulsed		–	–

Electromechanics	
Electrical connection	10-pin
	Screw terminal
Nominal conductor cross section that can be connected	[mm <sup>2</sup> ] 0.25 ... 2.5
Cable connector	M20x1.5 for ...-C2M20-...
	1/2 NPT for ...-C2N12-...

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

## Data sheet

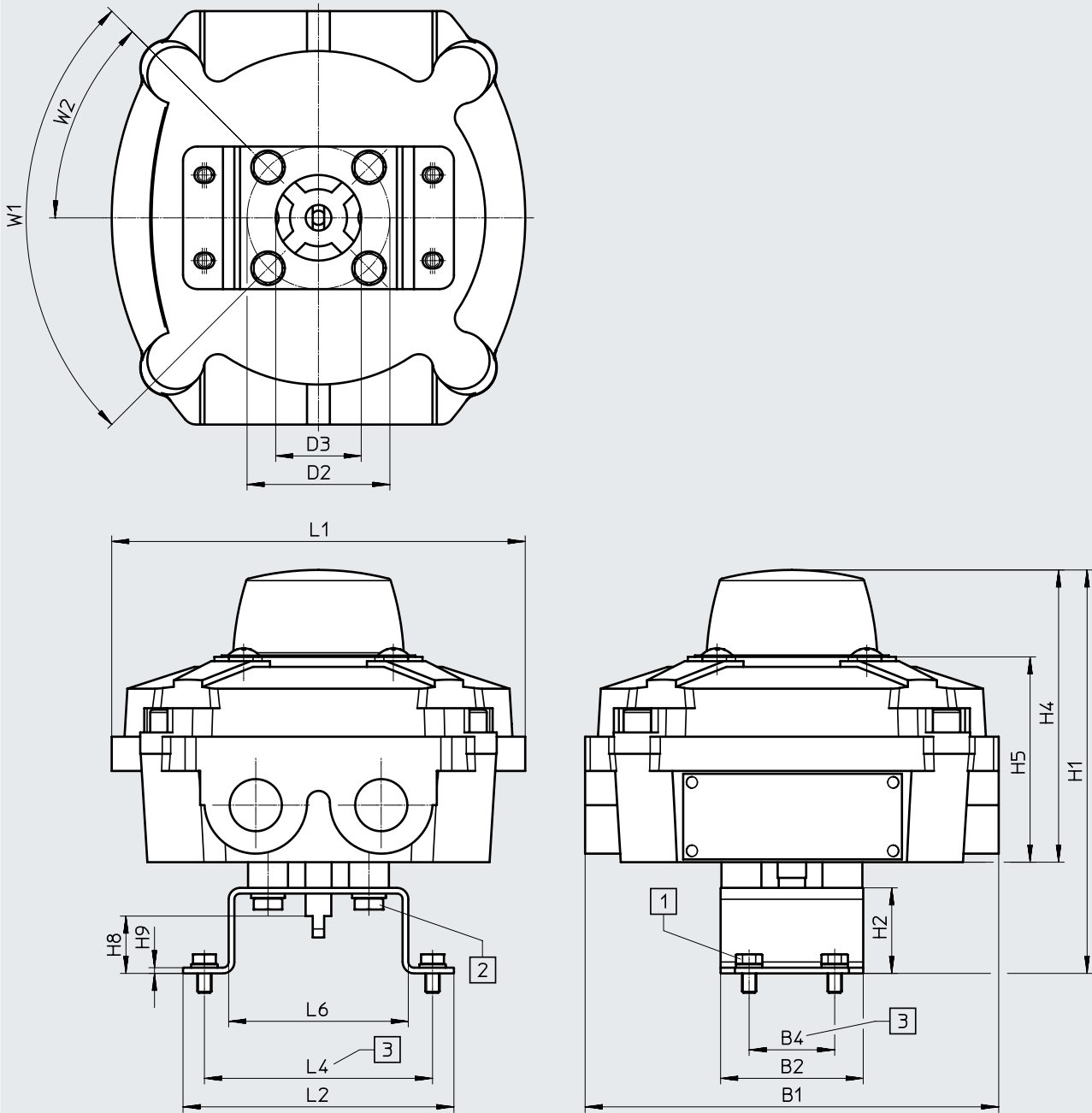
Operating and environmental conditions		
Type SRBE-...		
Ambient temperature	[°C]	-20 ... +60
Storage temperature	[°C]	-20 ... +60
CE marking		To EU EMC Directive <sup>1)</sup>
Certification		RCM
Shock resistance		Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Vibration resistance		Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6
Safety Integrity Level (SIL)		SIL 2
Certifications for EX variants		-1-ZU
Degree of protection		IP67
CE marking		To EU Explosion Protection Directive (ATEX)
ATEX category gas		II 2G
ATEX category for dust		II 2D
Explosion-proof ambient temperature		-20 ... +60
Type of ignition protection for gas		Ex d IIC T6 Gb
Type of ignition protection for dust		Ex tb IIIC T61°C Db
Explosion protection certification outside the EU		Ex tb IIIC T75°C Db
		EPL Db (IEC Ex)
		EPL Db (BR)
		EPL Db (CN)
		EPL Gb (IECEX)
		EPL Gb (BR)
Certificate issuing authority		EPL Gb (CN)
		18-GA4BO-0516X
		18-GA4BO-0517X
		DNV 16.0067X
		FTZU 15 ATEX 0095X
		GYJ 16.1497X
	IECEX FTZU 15.0014X	
	KCC-18-GA4BO	
Certifications for ...-C1 variants		
Degree of protection		IP67
		NEMA 4/4X
Type of ignition protection for gas		AEx d IIB T5 Gb
		Ex d IIB T5 Gb
		AEx nA IIC T5 Gc
		Ex nA IIC T5 Gc
Type of ignition protection for dust		AEx tb IIIC T108°C Db
		Ex tb IIIC T108°C Db
Explosion protection certification outside the EU		Class I, Div. 1 (CA)
		Class I, Div. 1 (US)
		Class I, Div. 2 (CA)
		Class I, Div. 2 (US)
		Class II, Div. 1 (CA)
		Class II, Div. 1 (US)
		Class III (CA)
		Class III (US)
		EPL Db (CA)
		EPL Db (US)
		EPL Gb (CA)
		EPL Gb (US)
		EPL Gc (CA)
		EPL Gc (US)
Certificate issuing authority		CSA 263311

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/catalogue/SRBE](http://www.festo.com/catalogue/SRBE) → Support/Downloads.  
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.

Data sheet

Dimensions

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



[1] Screw M5x8 (4x)

[2] Screw M6x10 (4x)

[3] Flange hole pattern F05 to ISO 5211

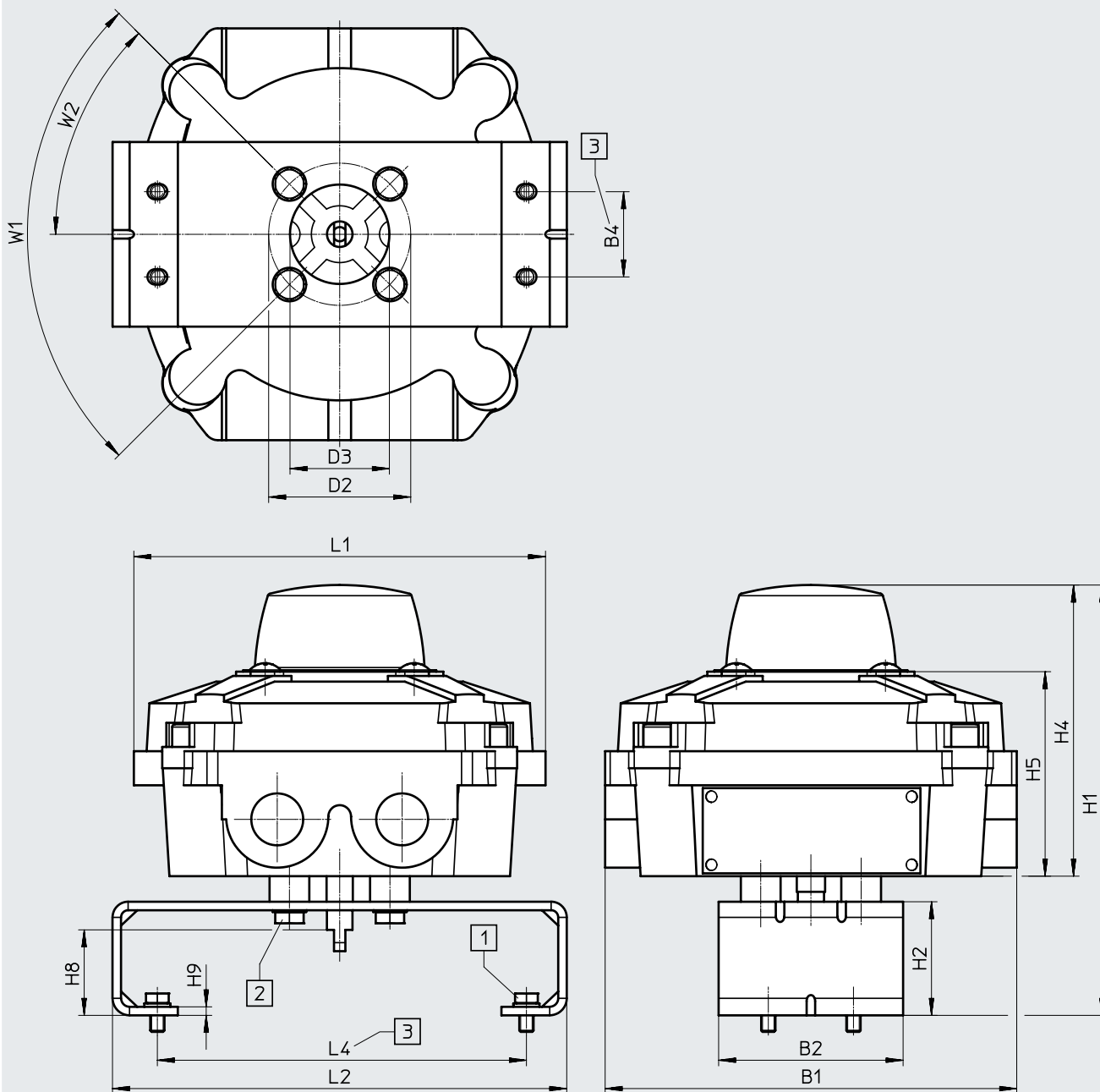
SRBE	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-KX1-A1-F05-20-R1	145	50	30	50	30	141.5	30	102.5
With DARQ-KX1-A1-F05-30-R1						151.5	40	

SRBE	H5	H8	H9	L1	L2	L4	L6	W1	W2
With DARQ-KX1-A1-F05-20-R1	72	20	2	145	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)



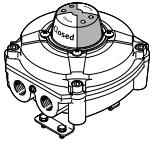
[1] Screw M5x8 (4x)

[2] Screw M6x10 (4x)

[3] Flange hole pattern F05 to ISO 5211

SRBE	B1	B2	B4	D2 ∅	D3 ∅	H1	H2 +0.5	H4
With DARQ-K-X1-A2-F05-30-R1	145	65	30	50	35	151.5	40	102.5
SRBE	H5	H8	H9	L1	L2	L4	W1	W2
With DARQ-K-X1-A2-F05-30-R1	72	30	3	145	160	130	90°	45°

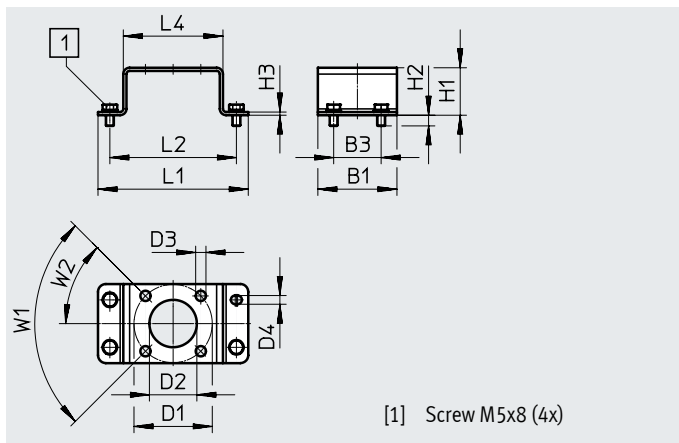
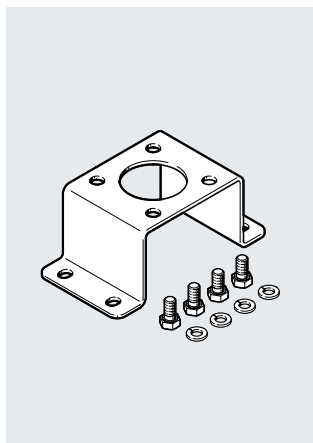
## Data sheet

Ordering data	Brief description	Dimensions Mounting adapter [mm]	Weight [g]	Part no.	Type
	Limit switch attachment including pre-assembled mounting adapter	30x80, H: 20	1700	3471012	SRBE-CA3-YR90-N-20N-ZC-C2N12-EX
				3471013	SRBE-CA3-YR90-N-20N-ZC-C2M20-EX
				3471014	SRBE-CA3-YR90-N-1-P-C2N12-EX
				3471015	SRBE-CA3-YR90-N-1-P-C2M20-EX
				3471016	SRBE-CA3-YR90-N-1-N-C2N12-EX
				3471017	SRBE-CA3-YR90-N-1-N-C2M20-EX
				3471018	SRBE-CA3-YR90-N-1-ZU-C2N12-EX
				3471019	SRBE-CA3-YR90-N-1-ZU-C2M20-EX
				3998919	SRBE-CA3-YR90-N-20N-ZC-C2N12-C1
				3998920	SRBE-CA3-YR90-N-1-P-C2N12-C1
				3998921	SRBE-CA3-YR90-N-1-N-C2N12-C1
				3998922	SRBE-CA3-YR90-N-1-ZU-C2N12-C1

## Accessories

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

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



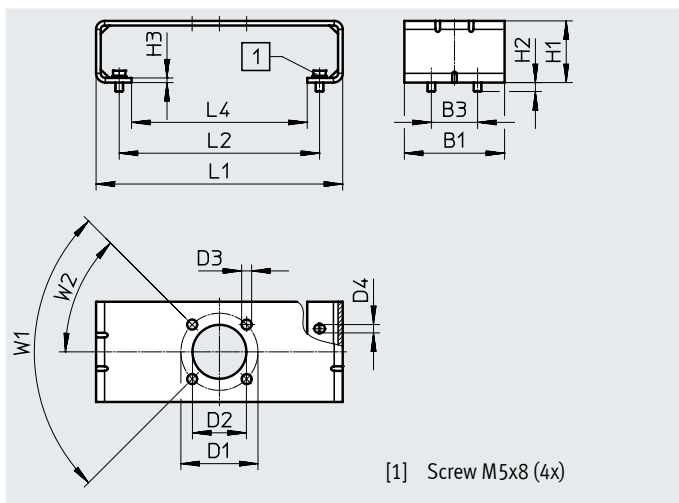
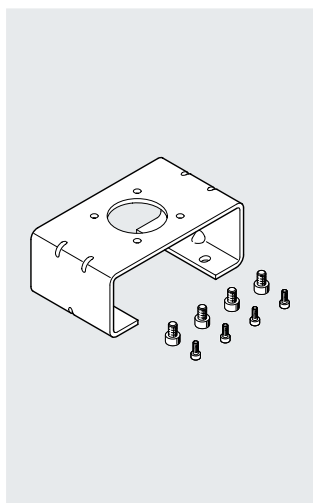
[1] Screw M5x8 (4x)

#### 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
- Retaining screws included in the scope of delivery
- Size 30x130
- Material: High-alloy stainless steel
- Contains paint-wetting impairment substances, RoHS-compliant



[1] Screw M5x8 (4x)

#### 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