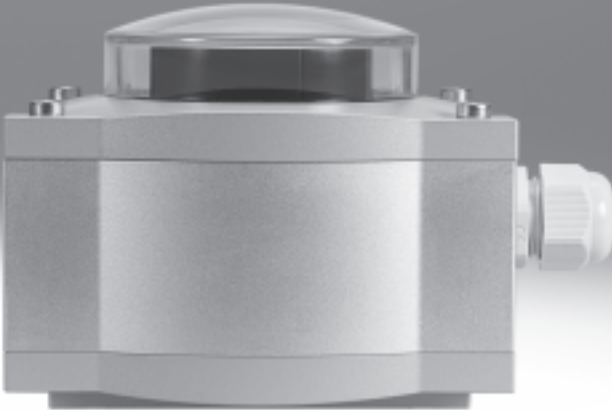


Sensor boxes SRAP, analogue



Sensor boxes SRAP, analogue

Key features

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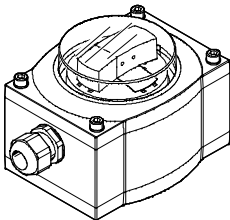
General information

- Analogue sensor box for greater functionality. The analogue sensor box monitors the position of semi-rotary actuators and reports this back to the controller via an analogue 4 ... 20 mA output signal.

Advantages

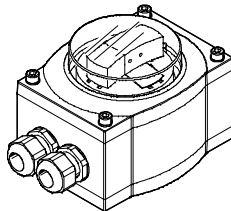
- Simple mounting and commissioning: can be mounted directly on the semi-rotary actuator DFPB without the need for mounting accessories, with teach-in function for flexible adjustment of the zero point within a range from 0 – 270°
- Everything in view, including from a distance: colour-based indication of the current position of the semi-rotary actuator
- Innovative and intelligent: homing to the actual swivel angle makes optimum use of the initial range
- Sturdy and explosion-proof: a match for even harsh, corrosive and potentially explosive environments thanks to corrosion-resistant and waterproof metal housing
- Insensitive to vibration. Always supplies a stable signal as there is no contact between the shaft and sensor
- Quick and easy integration in existing systems thanks to the industrial analogue output signal
- Cost and time savings thanks to the common power supply for the sensor box and solenoid valve
- Cost-efficient regulation in combination with 5/3-way valve compared with positioner solution
- Festo know-how in automation: concept and solution from a single source
- You can find information on the media resistance of the product at → www.festo.com

1 cable connector



- Power supply for sensor box only

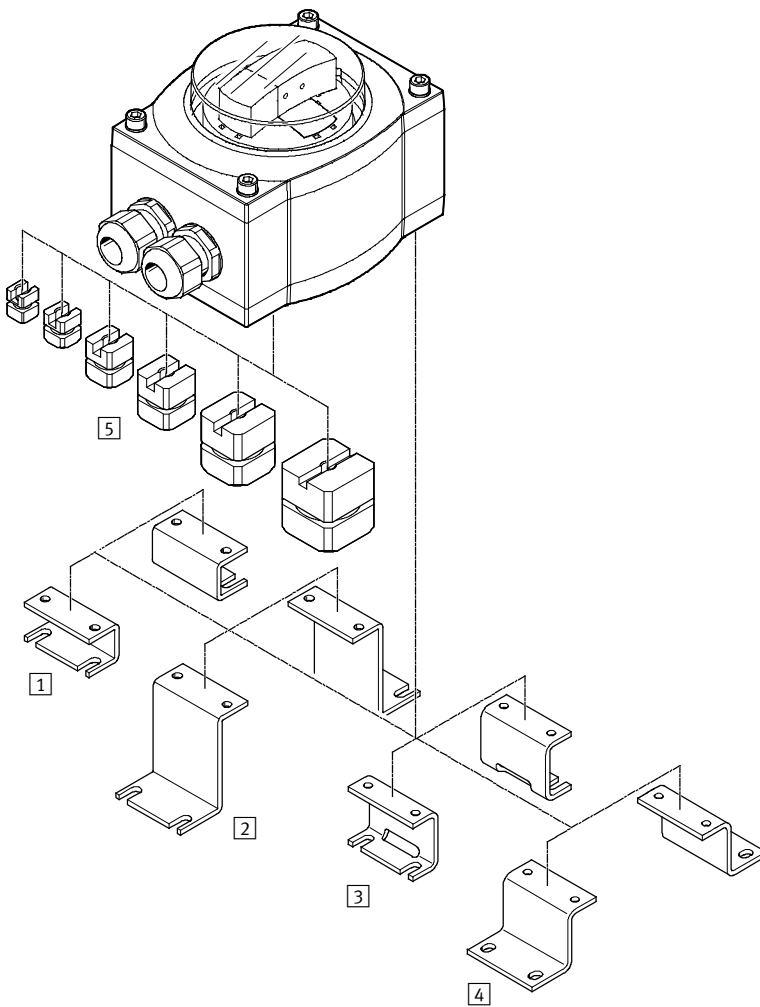
2 cable connectors



- Common power supply for sensor box and solenoid valve

Sensor boxes SRAP, analogue

Peripherals overview



Mounting attachments and accessories		
	Brief description	→ Page/Internet
1	Adapter kit DASB-P1-HA-SB ¹⁾	Hole pattern 30x80 mm, height 20 mm dasb
2	Adapter kit DASB-P1-HL-SB	Hole pattern 30x130 mm, height 50 mm dasb
3	Adapter kit DASB-P1-HB-SB	Hole pattern 30x80 mm, height 30 mm dasb
4	Adapter kit DASB-P1-HC-SB	Hole pattern 30x130 mm, height 30 mm dasb
5	Coupling DARQ-C-S9	For direct mounting on semi-rotary actuators DFPB darq
	Coupling DARQ-C-S11	For direct mounting on semi-rotary actuators DFPB darq
	Coupling DARQ-C-S14	For direct mounting on semi-rotary actuators DFPB darq
	Coupling DARQ-C-S17	For direct mounting on semi-rotary actuators DFPB darq
	Coupling DARQ-C-S22	For direct mounting on semi-rotary actuators DFPB darq
	Coupling DARQ-C-S27	For direct mounting on semi-rotary actuators DFPB darq

1) The adapter kit DASB-P1-HA-SB can optionally be used for all DFPB actuators.

Sensor boxes SRAP, analogue

Type codes

SRAP - M - CA1 - BB270 - 1 - A - T2P20 - EX2

Function

SRAP	Analogue sensor box
------	---------------------

Product version

M	Primarily metal
---	-----------------

Design

C	Sensor box
---	------------

Mechanical interface

A1	Direct mounting, hole pattern 30x80 mm
----	---

Indicator type

	No indicator
BB	Blue/black position indicator
GR	Green/red position indicator
YB	Yellow/black position indicator

Measuring range

270	0 ... 270°
-----	------------

Nominal operating voltage

1	24 V DC
---	---------

Electrical output

A	4 ... 20 mA
---	-------------

Electrical connection

T	Terminal box
---	--------------

Valve connection

	None
2	With valve connection

Cable connector

M20	M20x1.5, metal
P20	M20x1.5, polymer

Temperature range

	Standard -20 ... +80 °C
--	-------------------------

EU certification

	None
EX2	II 3GD

Sensor boxes SRAP, analogue

Technical data

- The analogue sensor box not only reports the open/closed position of the semi-rotary actuator, but also detects the entire swivel range and reports this back to the controller via an analogue signal
- The integrated sensors are based on proven 2D Hall technology



General technical data			
Adjustment range for angle detection	[°]		0 ... 270
Based on standard			VDI/VDE 3845 (NAMUR)
Design			Angular
Mounting position			Any
Measured variable			Swivel angle
Measuring principle			Magnetic Hall
Adjustment options			Teach-in
			Teach-in via electrical connection
Idle current	[mA]		12 ... 20
Analogue output	[mA]		4 ... 20
Repetition accuracy of analogue output			+/- 1 deg
Operating voltage range	Direct voltage DC	[V]	15 ... 30
Insulation voltage		[V]	50
Surge capacity		[kV]	0.8
Protection against short circuit			Yes
Protection against overloading			Yes
Reverse polarity protection			For all electrical connections
Electrical connection			9-pin
			Screw terminal
			Plug-in
Cable connector			M20x1.5
Max. cable length	[m]		30
Permissible cable diameter	[mm]		5 ... 13
Connectable nominal conductor cross section	[mm ²]		2.5
Product weight	[g]		1,000
Housing material			Wrought aluminium alloy
Note on materials			RoHS-compliant

Sensor boxes SRAP, analogue

Technical data

Operating and environmental conditions	
Certification	C-Tick
	c UL us - Recognized (OL)
Ambient temperature [°C]	-20 ... +80 °C
Protection class	IP65
CE mark (see declaration of conformity)	To EU EMC Directive
Electrical protection class	III
Degree of contamination	3
Corrosion resistance class CRC ¹⁾	3

1) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Operating and environmental conditions with explosion protection	
Certification	C-Tick
	c UL us - Recognized (OL)
Ambient temperature [°C]	-20 ... +80 °C
Protection class	IP65
CE mark (see declaration of conformity)	To EU EMC Directive
	To EU Explosion Protection Directive (ATEX)
ATEX category for gas	II 3G
Explosion ignition protection type for gas	Ex nA IIC T5 X Gc
ATEX category for dust	II 3D
Explosion ignition protection type for dust	Ex tc IIIC T90°C X Dc IP65
Explosion-proof ambient temperature	-20 °C ≤ Ta ≤ +80 °C
Explosion protection certification outside the EU	EPL Dc (RU)
	EPL Gc (RU)
Electrical protection class	III
Degree of contamination	3
Corrosion resistance class CRC ¹⁾	3

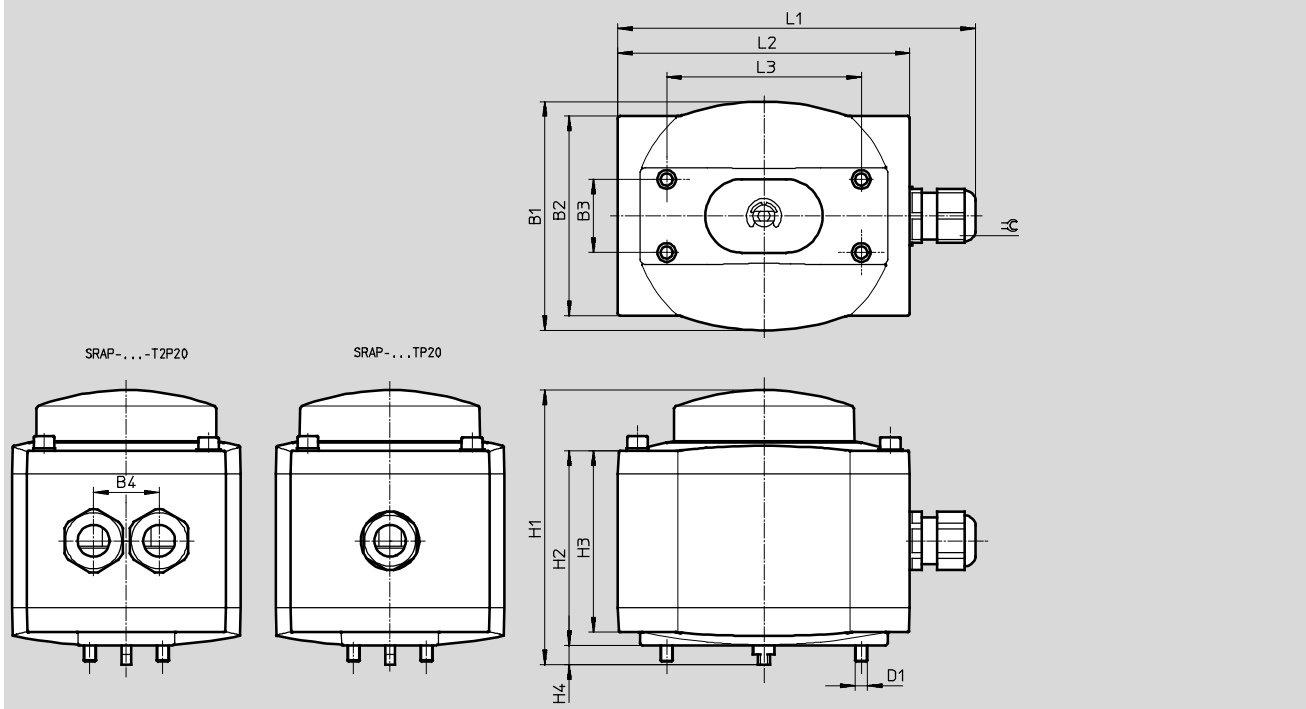
1) Corrosion resistance class 3 according to Festo standard 940 070
Components subject to high corrosion stress. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Sensor boxes SRAP, analogue

Technical data

Dimensions



Download CAD data → www.festo.com





Type	B1	B2 ±1	B3	B4	D1	H1	H2	H3	H4	L1	L2 ±1	L3	⌀
SRAP-M-CA1-BB270-1-A-TP20	94	82	30	-	M5	112.7	80	74.5	7.8	148	120	80	24
SRAP-M-CA1-BB270-1-A-TP20-Ex2										147			22
SRAP-M-CA1-GR270-1-A-TM20										148			24
SRAP-M-CA1-GR270-1-A-TP20										147			22
SRAP-M-CA1-GR270-1-A-TP20-Ex2										148			24
SRAP-M-CA1-YB270-1-A-TM-20										147			22
SRAP-M-CA1-YB270-1-A-TP-20										148			24
SRAP-M-CA1-YB270-1-A-TP-20-Ex2													
SRAP-M-CA1-GR270-1-A-T2P20													
SRAP-M-CA1-GR270-1-A-T2P20-Ex2													
SRAP-M-CA1-270-1-A-T2P20													
SRAP-M-CA1-270-1-A-T2P20-Ex2													
SRAP-M-CA1-270-1-A-T2P20-Ex2													

Sensor boxes SRAP, analogue

Technical data

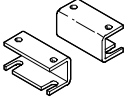
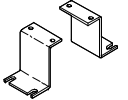
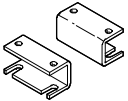
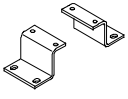



Ordering data – Sensor boxes SRAP, analogue without explosion protection			
	Position indicator	Part No.	Type
	Blue/black	568236	SRAP-M-CA1-BB270-1-A-TP20
	Red/green	568238	SRAP-M-CA1-GR270-1-A-TM20
	Red/green	568239	SRAP-M-CA1-GR270-1-A-TP20
	Yellow/black	568242	SRAP-M-CA1-YB270-1-A-TM20
	Yellow/black	568243	SRAP-M-CA1-YB270-1-A-TP20
	Red/green	568246	SRAP-M-CA1-GR270-1-A-T2P20
	No indicator	570527	SRAP-M-CA1-270-1-A-T2P20

Ordering data – Sensor boxes SRAP, analogue with explosion protection			
	Position indicator	Part No.	Type
	Blue/black	568237	SRAP-M-CA1-BB270-1-A-TP20-Ex2
	Red/green	568241	SRAP-M-CA1-GR270-1-A-TP20-Ex2
	Yellow/black	568245	SRAP-M-CA1-YB270-1-A-TP20-Ex2
	Red/green	568247	SRAP-M-CA1-GR270-1-A-T2P20-Ex2
	No indicator	570528	SRAP-M-CA1-270-1-A-T2P20-Ex2

Sensor boxes SRAP, analogue

Accessories

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Dimensions and ordering data			
	Brief description	Part No.	Type
Adapter kit			
	Adapter kit for DRD/DRE, DAPS and DFPB, shaft height 20 mm, hole patterns 80x30 mm	568275	DASB-P1-HA-SB
	Adapter kit for third-party drives, shaft height 50 mm, hole patterns 130x30 mm	568276	DASB-P1-HL-SB
	Adapter kit for DRD/DRE and DAPS, shaft height 30 mm, hole patterns 80x30 mm	572418	DASB-P1-HB-SB
	Adapter kit for DRD/DRE and DAPS, shaft height 30 mm, hole patterns 130x30 mm	572419	DASB-P1-HC-SB
Couplings			
	Couplings for direct mounting of sensor boxes SRBP/SRAP on quarter turn actuators DFPB. Technical data → Internet: dfpb	568674	DARQ-C-S9
		568675	DARQ-C-S11
		568676	DARQ-C-S14
		568677	DARQ-C-S17
		568678	DARQ-C-S22
		568679	DARQ-C-S27
Cable connector			
	Polymer cable connector M20x1.5	568278	NETC-P-M20-P4
	Metal cable connector M20x1.5	568279	NETC-M-M20-P4