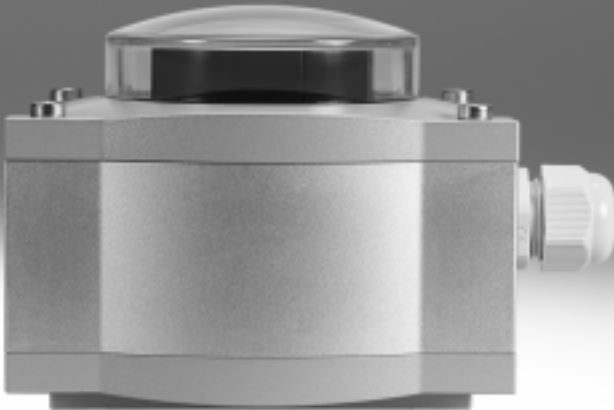


Sensor boxes SRAP, analogue



# Sensor boxes SRAP, analogue

Key features

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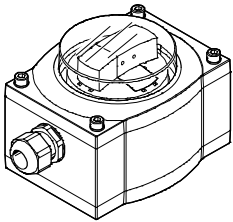
## General information

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

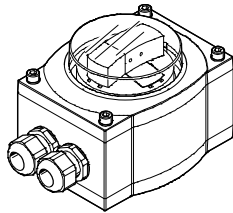
- Simple mounting and commissioning: with teach-in function for flexible adjustment of the zero point within a range from 0 – 270°
- Everything in view, including from a distance: colour-based indication of the current position of the semi-rotary actuator
- Innovative and intelligent: homing to the actual 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](http://www.festo.com)

## 1 cable connector



- Power supply for sensor box only

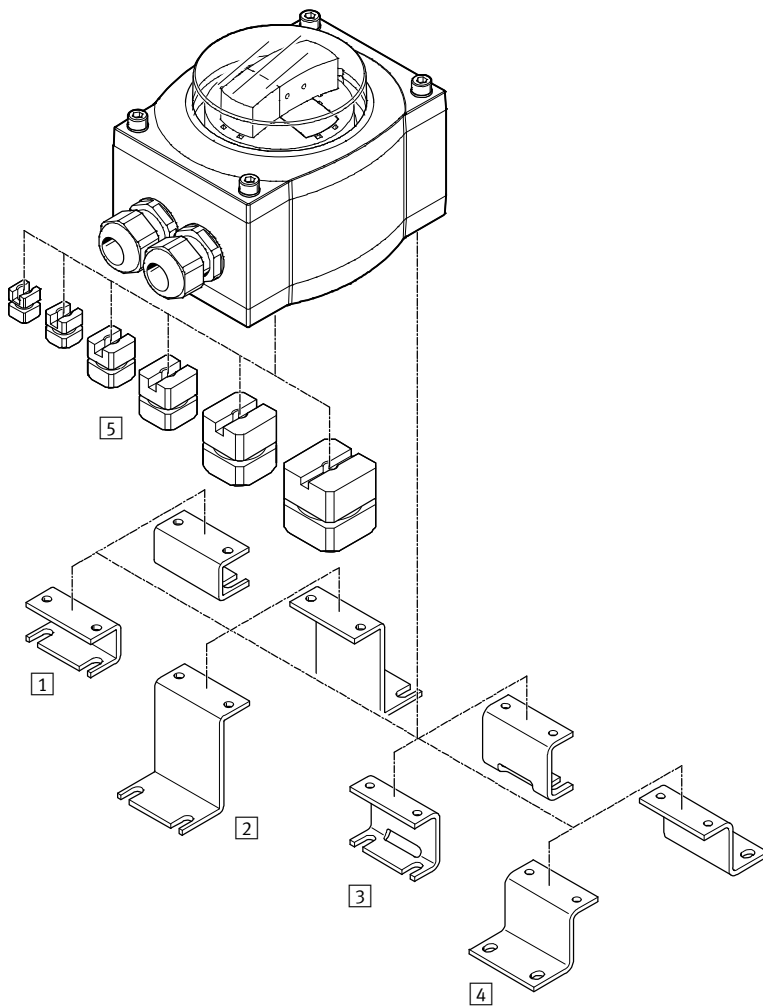
## 2 cable connectors



- 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 Hole pattern 30x80 mm, height 20 mm	9
2	Adapter kit DASB-P1-HL-SB Hole pattern 30x130 mm, height 50 mm	9
3	Adapter kit DASB-P1-HB-SB Hole pattern 30x80 mm, height 30 mm	9
4	Adapter kit DASB-P1-HC-SB Hole pattern 30x130 mm, height 30 mm	9
5	Coupling DARQ-C-S9 For direct mounting of sensor boxes SRAP	9
	Coupling DARQ-C-S11 For direct mounting of sensor boxes SRAP	9
	Coupling DARQ-C-S14 For direct mounting of sensor boxes SRAP	9
	Coupling DARQ-C-S17 For direct mounting of sensor boxes SRAP	9
	Coupling DARQ-C-S22 For direct mounting of sensor boxes SRAP	9
	Coupling DARQ-C-S27 For direct mounting of sensor boxes SRAP	9

# Sensor boxes SRAP, analogue

Type codes

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

### Function

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

### Product version

M	Primarily metal
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### 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
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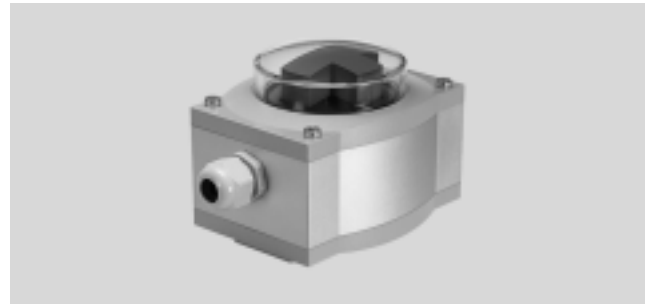
### EU certification

-	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	[V DC]	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 <sup>2</sup> ]	2.5
Product weight	[g]	1000
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)
	RCM trademark
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 <sup>1)</sup>	3

- 1) Corrosion resistance class CRC 3 to Festo standard FN 940070  
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Operating and environmental conditions with explosion protection	
Certification	C-Tick
	c UL us - Recognized (OL)
	RCM trademark
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 <sup>1)</sup>	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.

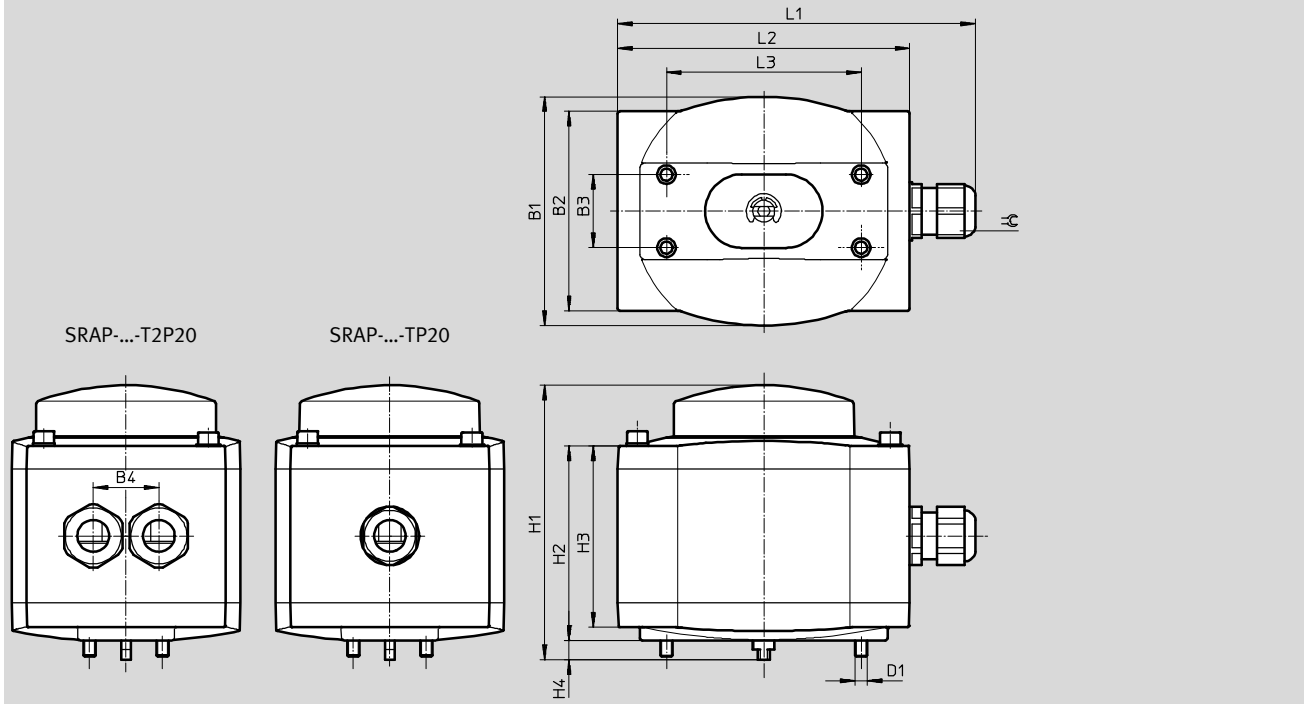
# Sensor boxes SRAP, analogue

Technical data

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## Dimensions

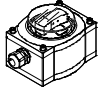
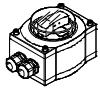
Download CAD data → [www.festo.com](http://www.festo.com)

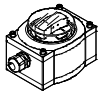
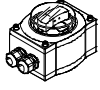


Type	B1	B2 ±1	B3	B4	D1	H1	H2	H3	H4	L1	L2 ±1	L3	⌀	
SRAP-M-CA1-BB270-1-A-TP20	94	82	30	-	M5	112.7	80	74.5	7.8	148	120	80	24	
SRAP-M-CA1-BB270-1-A-TP20-EX2										147			22	
SRAP-M-CA1-GR270-1-A-TM20										148			24	
SRAP-M-CA1-GR270-1-A-TP20										147			22	
SRAP-M-CA1-GR270-1-A-TP20-EX2										148			24	
SRAP-M-CA1-YB270-1-A-TM-20														
SRAP-M-CA1-YB270-1-A-TP-20														
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										27			95,5	24
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

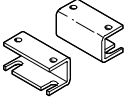
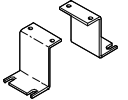
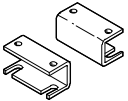
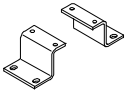



Ordering data – Sensor boxes SRAP, analogue with explosion protection			
	Position indicator	Part No.	Type
	Blue/black	568237	SRAP-M-CA1-BB270-1-A-TP20-Ex2
	Red/green	568241	SRAP-M-CA1-GR270-1-A-TP20-Ex2
	Yellow/black	568245	SRAP-M-CA1-YB270-1-A-TP20-Ex2
	Red/green	568247	SRAP-M-CA1-GR270-1-A-T2P20-Ex2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



# Sensor boxes SRAP, analogue

Accessories



Dimensions and ordering data		Part No.	Type
<b>Adapter kit</b>			
	<ul style="list-style-type: none"> <li>• Adapter kit for DAPS</li> <li>• Shaft height 20 mm, hole patterns 80x30 mm</li> </ul>	<b>568275</b>	<b>DASB-P1-HA-SB</b>
	<ul style="list-style-type: none"> <li>• Adapter kit for third-party drives</li> <li>• Shaft height 50 mm, hole patterns 130x30 mm</li> </ul>	<b>568276</b>	<b>DASB-P1-HL-SB</b>
	<ul style="list-style-type: none"> <li>• Adapter kit for DAPS</li> <li>• Shaft height 30 mm, hole patterns 80x30 mm</li> </ul>	<b>572418</b>	<b>DASB-P1-HB-SB</b>
	<ul style="list-style-type: none"> <li>• Adapter kit for DAPS</li> <li>• Shaft height 30 mm, hole patterns 130x30 mm</li> </ul>	<b>572419</b>	<b>DASB-P1-HC-SB</b>
<b>Couplings</b>			
	Couplings for direct mounting of sensor boxes SRAP	<b>568674</b>	<b>DARQ-C-S9</b>
		<b>568675</b>	<b>DARQ-C-S11</b>
		<b>568676</b>	<b>DARQ-C-S14</b>
		<b>568677</b>	<b>DARQ-C-S17</b>
		<b>568678</b>	<b>DARQ-C-S22</b>
		<b>568679</b>	<b>DARQ-C-S27</b>
<b>Cable connector</b>			
	Polymer cable connector M20x1.5	<b>568278</b>	<b>NETC-P-M20-P4</b>
	Metal cable connector M20x1.5	<b>568279</b>	<b>NETC-M-M20-P4</b>