

## Signal converter SCDN

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# Signal converter SCDN

Key features

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## At a glance

### Connections for up to 2 sensor transmitters

#### Flexible use

- Transmitter signal area scalable (e.g.: 1 ... 5 V)
- Measured value indicator can be individually configured
- Lots of integrated switching functions

#### Values can be displayed in many

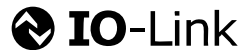
- |              |                        |        |
|--------------|------------------------|--------|
| <b>units</b> | • inchH <sub>2</sub> O | • GPM  |
| • bar        | • kgf/cm <sup>2</sup>  | • mm   |
| • kPa        | • l/min                | • inch |
| • MPa        | • l/h                  | • V    |
| • psi        | • scfm                 | • MA   |
| • mmHg       | • scfh                 | • %    |
| • inchHg     |                        |        |



#### Many integrated functions

- Min./max. monitoring
- PNP/NPN, switchable
- Eco mode
- Tamper protection with security code
- Filter can be adjusted to smooth the signals
- The switching points can be easily set via teach-in
- Parameters can be easily copied to other devices

#### Communication interface



#### Easy operation

- Blue display with high-contrast white text and red switchover
- Intuitive menu navigation, as for pressure sensors SPAU and SPAN

## Product description

The signal converter detects analogue current or voltage signals from sensors (transmitters). Connection to the higher-level system is provided by 1 or 2 switching outputs or alternatively by an IO-Link® interface. The signal converter has a display for visualising the signals and parameters, and can thus be used as a remote display for transmitters.

The switching outputs can be configured to monitor a threshold value, signal range or signal change. The outputs can be set as PNP or NPN and normally open (NO) or normally closed (NC).

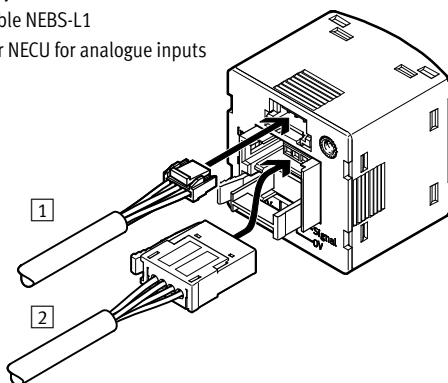
Process values can be read out and parameters changed and transmitted to additional devices via the IO-Link® interface.

## Area of application

- Converts analogue signals into digital switching signals
- Conversion of analogue signals in IO-Link®
- Reduction in analogue signals to the control systems
- Fast and decentralised signal processing to reduce the load on the control system
- Remote visualisation of process values, the display is detached
- Quantity detection, e.g. pressure transmitters, vacuum transmitters, flow transmitters
- Object detection, e.g. inductive sensors with analogue output, distance sensors
- Position detection, e.g. position sensors for pneumatic cylinders
- Auto difference monitoring, e.g. leak test

## Connection in 2 steps

- 1 Connecting cable NEBS-L1
- 2 Plug connector NECU for analogue inputs



The signal converter can be used with the following Festo products, for example.

- Pressure transmitters SPTE, SDE5-NF-V, SPTW
- Vacuum generator OVEL with SPTE
- Flow transmitters SFET-F, SFET-R
- Position sensors SDAT, SMAT-8E, SMAT-8M
- Analogue sensor box SRAP
- Inductive sensors with analogue output SIEA

## Signal converter SCDN

Key features

### Mounting options (shown here with SPAN)

Front panel mounting



Manifold mounting with mounting bracket



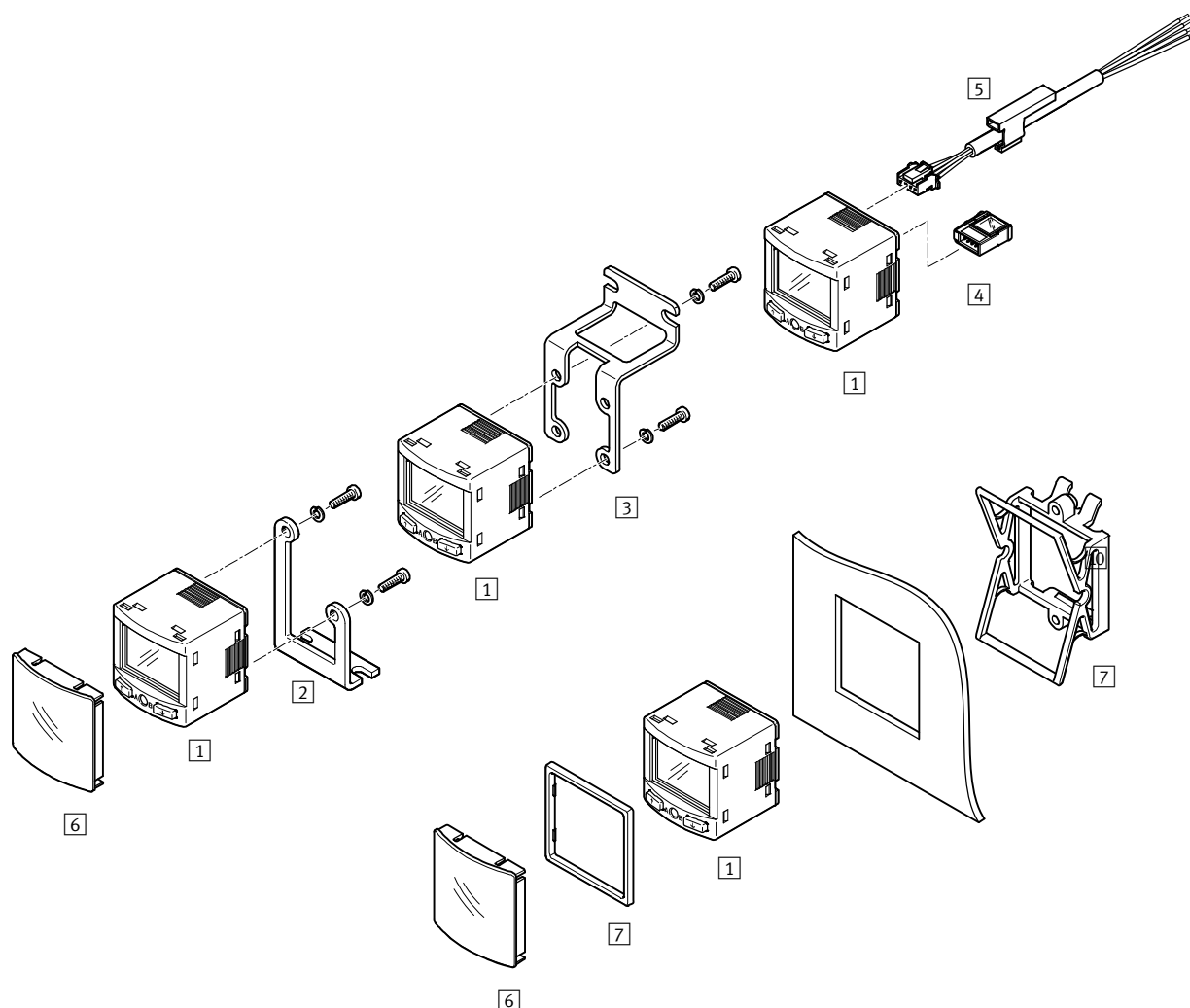
Wall mounting



## Signal converter SCDN

Peripherals overview

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Accessories	→ Page/ Internet
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[4] Plug connector for analogue inputs NECU-S-ECG4-HX-Q3	10

Accessories	→ Page/ Internet
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# Signal converter SCDN

Type codes

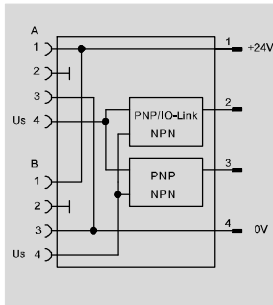
		SCDN	-		-	EC4	-	PNLK	-	L1
<b>Type</b>										
SCDN	Signal converter									
<b>Electrical input</b>										
2A	2x 0 ... 20 mA									
2V	2x 0 ... 10 V									
<b>Electrical connection, input</b>										
EC	Socket EC (ECON)									
<b>Number of pins, input</b>										
4	4-pin									
<b>Electrical output</b>										
PNLK	PNP or NPN or IO-Link®									
<b>Electrical connection</b>										
L1	Plug connector, design L1									

## Signal converter SCDN

Technical data

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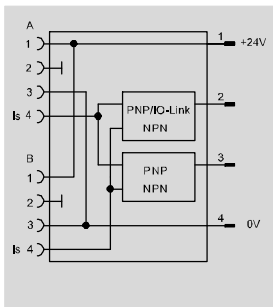
Variant for 0 ... 10 V



- Connections for 2 sensor transmitters
- Device variants for 0 ... 10 V and 0 ... 20 mA
- 2 switching outputs + IO-Link®
- Flexible in use owing to scaling of the signal inputs, e.g.: 1 ... 5 V and scaling of the measured value indicator e.g.: -1 ... 1 bar



Variant for 0 ... 20 mA



General technical data	
Certification	RCM trademark c UL us - Listed (OL)
Certificate issuing authority	UL E322346
CE marking (see declaration of conformity)	In accordance with EU EMC Directive
Ambient temperature [°C]	0 ... +50
Note on materials	RoHS compliant

Input signal	-2V	-2A
Measured variable	Voltage	Current
Signal range [V]	0 ... 10	-
[mA]	-	0 ... 20
Sampling interval [ms]	1	

Output, general	
Accuracy FS [%]	0.5
Repetition accuracy [%]	0.2


Switching output	
Switching output	2 x PNP or 2 x NPN, switchable
Switching function	Freely programmable
Switching element function	N/C or N/O contact, switchable
Max. output current [mA]	100
Short circuit protection	Yes

# Signal converter SCDN

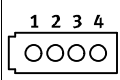
Technical data

Electronics		
Operating voltage range DC	[V]	15 ... 30
Reverse polarity protection		For all electrical connections
Electrical connection, input		
Function		Analogue input, power supply
Connection type		2x socket
Connection technology		Plug pattern EC
Number of pins/wires		4
Electrical connection, output		
Function		Power supply, communication, switching output
Connection type		Plug connector
Connection technology		Plug pattern L1J
Number of pins/wires		4

IO-Link® device to IEC 61131-9	
Protocol	IO-Link®
Protocol version	Device V 1.1
Profile	Smart sensor profile
Function classes	Binary data channel (BDC)
	Process data variable (PDV)
	Identification
	Diagnostics
	Teach channel
Communication mode	COM2 (38.4 kBaud)
SIO mode support	Yes
Port class	A
Process data width OUT	0 bytes
Process data width IN	5 bytes
Process data content IN	14 bit PDV (measured value InA)
	14 bit PDV (measured value InB)
	2 bit BDC (measured value monitoring)
Minimum cycle time	5 ms
Data memory required	0.5 kilobyte

Pin allocation, output			
Plug connector L1J	Pin	Wire colour <sup>1)</sup>	Allocation
	1	Brown	Operating voltage +24 V DC
	2	Black	Switching output A / IO-Link®
	3	White	Switching output B
	4	Blue	0 V DC

1) Wire colour applies to NEBS-L1

Pin allocation, input			
EC socket	Pin	Wire colour	Allocation
	1	–	Operating voltage for the connected signal converter +24 V DC
	2	–	NC
	3	–	0 V DC
	4	–	Analogue input

# Signal converter SCDN

Technical data

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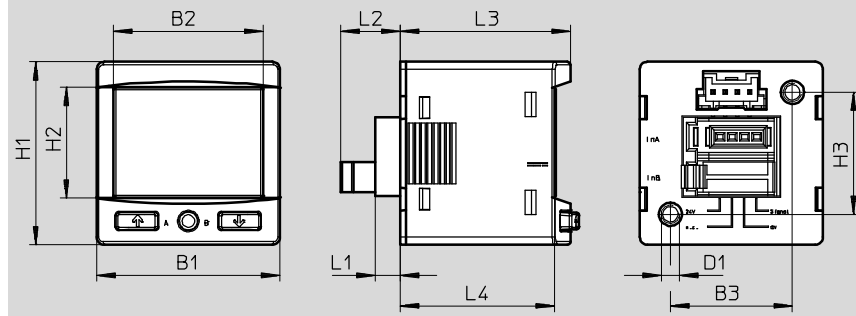
Mechanical system	
Type of mounting	Front panel mounting Via wall/surface bracket
Product weight [g]	23
Housing material	Reinforced PA

Display/operation	
Display type	Illuminated LCD, multi-colour
Setting options	Teach-in IO-Link® Via display and keys
Protection against tampering	IO-Link® PIN code

Immissions/emissions	
Degree of protection	IP40
Corrosion resistance class CRC <sup>1)</sup>	2

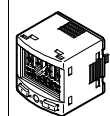
- 1) Corrosion resistance class 2 according to Festo standard 940070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment or media such as coolants or lubricating agents.

**Dimensions**



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

Type	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4
SCDN-2V-EC4-PNLK-L1	30	24.5	20	M3	30	18.2	20	4.1	9.7	27.9	~25.3
SCDN-2A-EC4-PNLK-L1											

Ordering data			
	Measured variable	Part No.	Type
	Voltage	8035555	SCDN-2V-EC4-PNLK-L1
	Current	8035556	SCDN-2A-EC4-PNLK-L1



# Signal converter SCDN

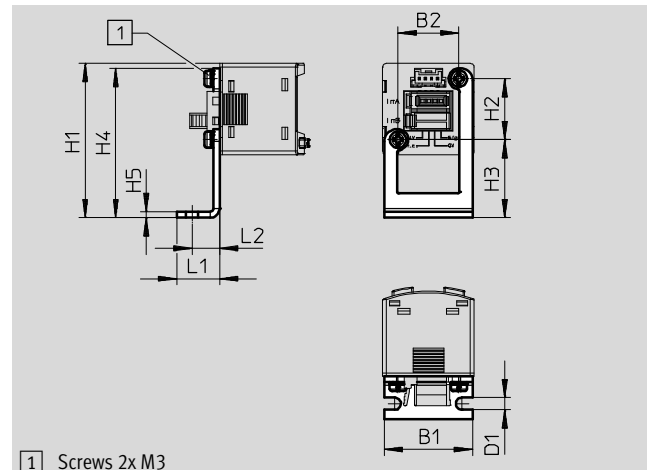
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Accessories – Ordering data

## Mounting bracket SAMH-PU-A

Material: High-alloy stainless steel

Note on materials: RoHS compliant



Ordering data													
Type	B1	B2	D1 Ø	H1	H2	H3	H4	H5	L1	L2	CRC <sup>1)</sup>	Part No.	Type
SAMH-PU-A	29	20	4	50.6	20	25.6	49	2	14	9	2	8003354	SAMH-PU-A

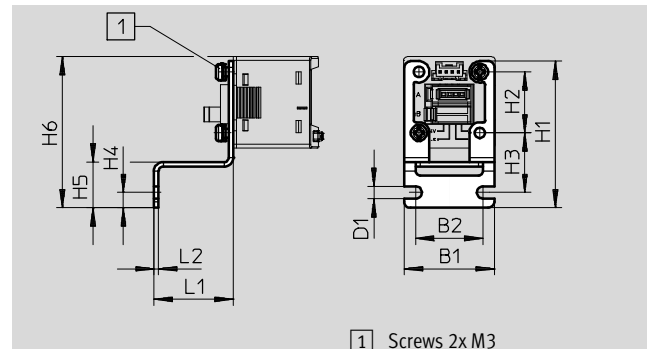
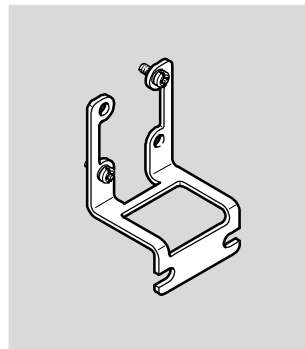
1) Corrosion resistance class 2 to Festo standard 940070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment or media such as coolants or lubricating agents.

## Wall mounting SAMH-PN-W

Material: High-alloy stainless steel

Note on materials: RoHS compliant



Dimensions and ordering data														
Type	B1	B2	D1 Ø	H1	H2	H3	H4	H5	H6	L1	L2	CRC <sup>1)</sup>	Part No.	Type
SAMH-PN-W	29.5	22	4	48	20	19.5	5	15	49.5	26	1.5	2	8035563	SAMH-PN-W

1) Corrosion resistance class 2 to Festo standard 940070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with the surrounding industrial environment or media such as coolants or lubricating agents.

## Signal converter SCDN

Accessories – Ordering data

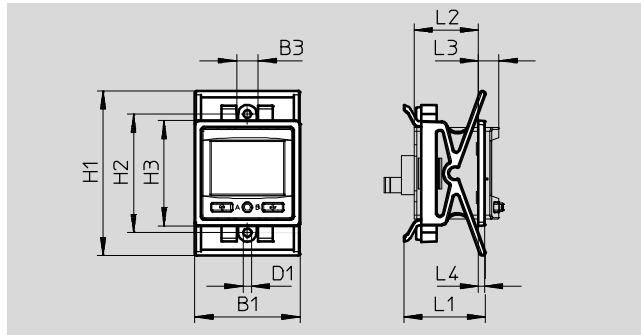
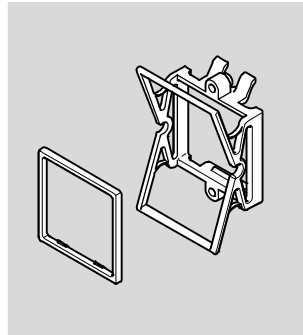
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### Front panel mounting kit

#### SAMH-PN-F

Mounting kit for front panel

Material: PA, POM



Dimensions and ordering data													
Type	B1	B3	D1 Ø	H1 Min.	H1 Max.	H2	H3	L1	L2	L3	L4	Part No.	Type
SAMH-PN-F	34.5	7	2.5	54	57.5	38.9	34.5	26.8	~21.2	~6.7	2	8035561	SAMH-PN-F

### Protective cover

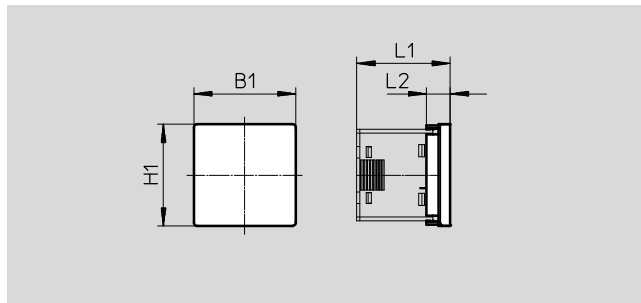
#### SACC-PN-G

To protect the display and control elements

Material: PA

Note on materials:

RoHS compliant



Dimensions and ordering data						
Type	B1	H1	L1	L2	Part No.	Type
SACC-PN-G	33.5	33.5	~31	7.7	8035560	SACC-PN-G

### Ordering data – Connecting cables

	Number of wires	Cable length [m]	Part No.	Type
Socket, rectangular design L1				Technical data → Internet: nebs
	4	2.5	572576	NEBS-L1G4-K-2,5-LE4
		5	572577	NEBS-L1G4-K-5-LE4

### Ordering data – Plug connector

	Description	Part No.	Type
EC plug connector for analogue inputs (3M Mini Clamp)			
Technical data → Internet: necu			
	One plug connector required for each transmitter/signal	570922	NECU-S-ECG4-HX-Q3