

## Signal converter SCDN

**FESTO**



## Key features

### At a glance

#### Connections for up to 2 sensor transmitters

#### Flexible in use

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

#### Numerous display units

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



#### Many integrated functions

- Min./max. monitoring
- PNP/NPN, switchable
- Eco mode
- Tamper protection with security code
- Filter can be adjusted to smooth the signals
- Fast and straightforward setting of switching points via teach-in
- Easy copying of parameters to further devices

#### Easy operation

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

#### Communication interface



### Product description

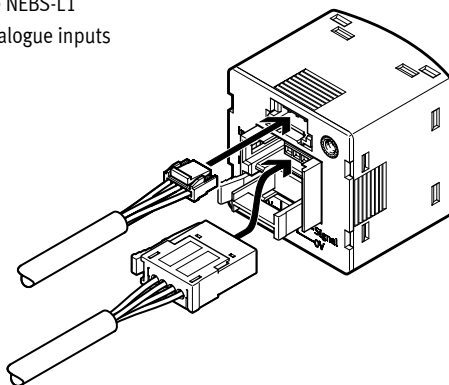
The signal converter detects analogue current or voltage signals from sensors (transmitters). Connection to the higher-level system is provided by 1 or 2 switching outputs or alternatively by an IO-Link interface. The signal converter has a display for visualising the signals and parameters, and can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

#### 2-step connection

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



### Area of application

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

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 transmitters SDAT, SMAT-8E, SMAT-8M
- Analogue sensor box SRAP
- Inductive sensors with analogue output SIEA

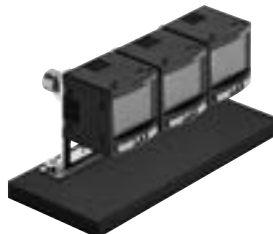
## Key features

### Mounting options (shown here with SPAN)

Front panel mounting



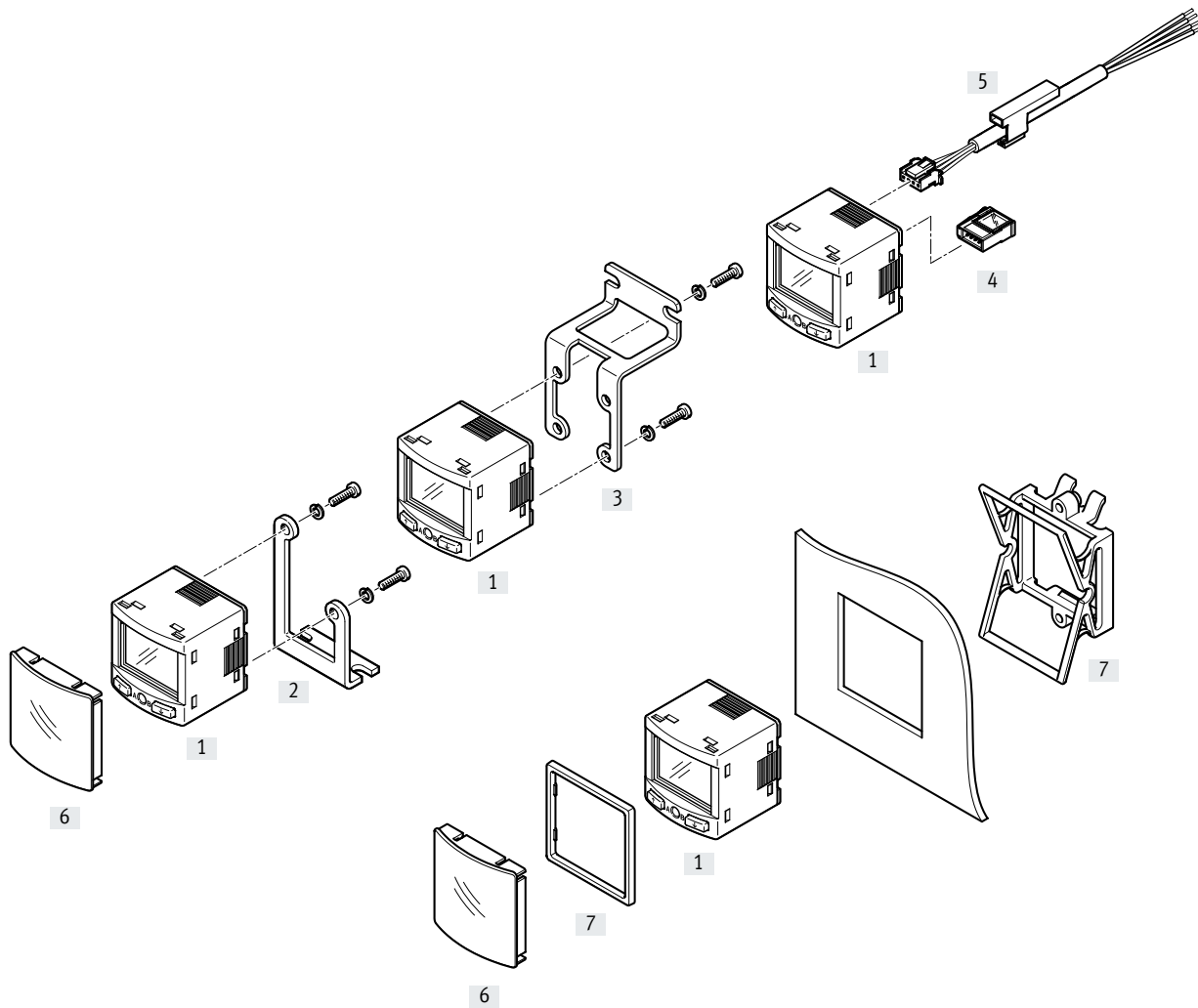
Manifold mounting with mounting bracket



Wall mounting



Peripherals overview



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[2]	Mounting bracket SAMH-PU-A	9
[3]	Wall mounting SAMH-PN-W	9
[4]	Plug for analogue inputs NECU-S-ECG4-HX-Q3	10
[5]	Connecting cables NEBS-L1G4-...	10
[6]	Safety guard SACC-PN-G	10
[7]	Front panel mounting kit SAMH-PN-F	10

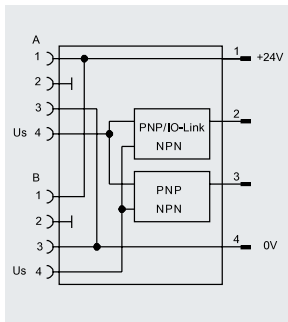
## Type codes

001	Series
<b>SCDN</b>	Signal converter
002	Electrical input
<b>2A</b>	2 x 0 ... 20 mA
<b>2V</b>	2 x 0 ... 10 V
003	Electrical connection, input
<b>EC</b>	Socket EC

004	Number of pins, input
<b>4</b>	4-pin
005	Electrical output 1
<b>PNLK</b>	PNP/NPN/IO-Link
006	Electrical connection
<b>L1</b>	Plug type L1

## Data sheet

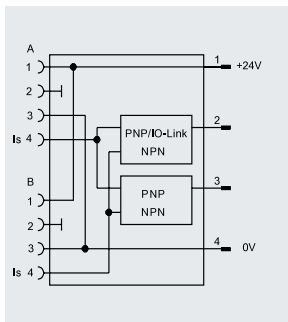
Variant for 0 ... 10 V



- 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 c UL us listed (OL)	
CE marking (see declaration of conformity)	To EU EMC Directive To EU RoHS Directive	
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions	
Certificate issuing authority	UL E322346	
Ambient temperature [°C]	0 ... +50	
Note on materials	RoHS-compliant	

Input signal	-2 V	-2 A
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, switchable
Max. output current [mA]	100
Short circuit current rating	Yes

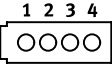
## Data sheet

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	2 x socket
Connection technology	Connection pattern EC
Number of pins/wires	4
Electrical connection output	
Function	Power supply, communication, switching output
Connection type	Plug
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 kBd)
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 (measurement monitoring)
Minimum cycle time	5 ms
Data memory required	0.5 kilobyte

Pin allocation, output			
Plug 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

## Data sheet

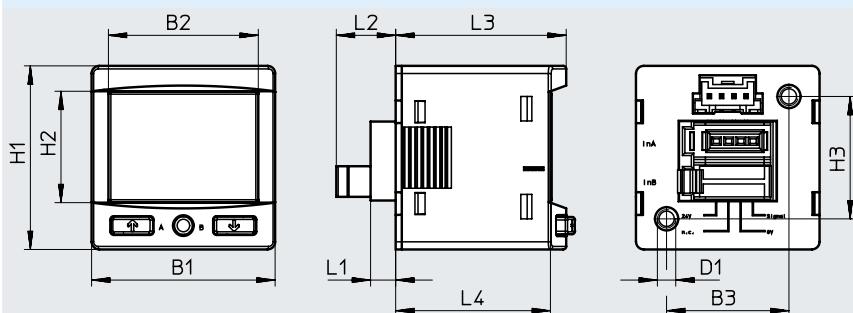
Mechanics	
Type of mounting	Front panel mounting Via wall/surface bracket
Product weight [g]	23
Housing material	Reinforced PA
Display/operation	
Display type	Multi-coloured, illuminated LCD
Setting options	Teach-in
	IO-Link
	Via display and buttons
Protection against tampering	IO-Link
	PIN code
Immission/emission	
Degree of protection	IP40
PWIS conformity	VDMA24364-B2-L
Corrosion resistance class CRC <sup>1)</sup>	2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.


### 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

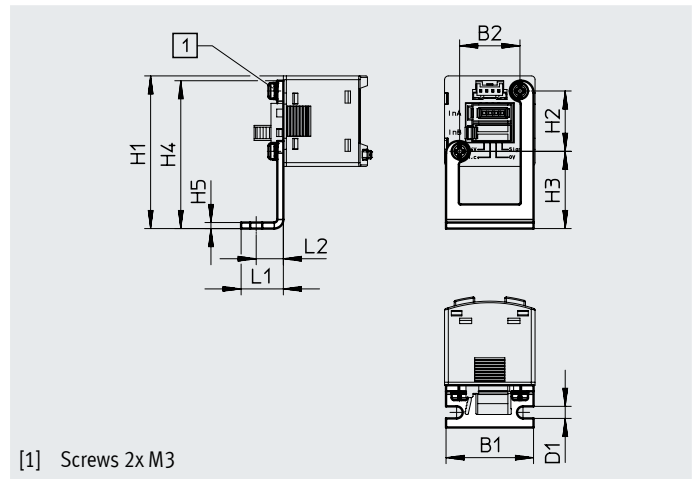


## Accessories – Ordering data

**Mounting bracket  
SAMH-PU-A**

Material: High-alloy stainless steel

Note on materials: RoHS-compliant



Ordering data													
Type	B1	B2	D1 @	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

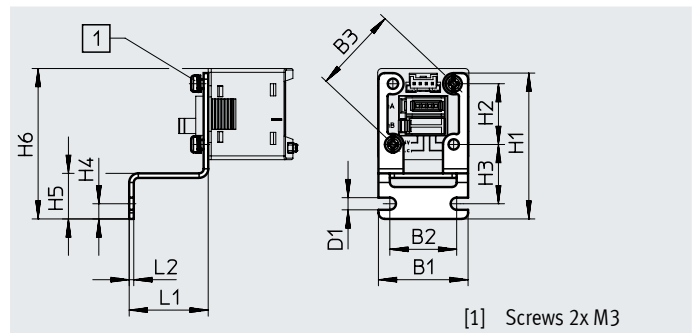
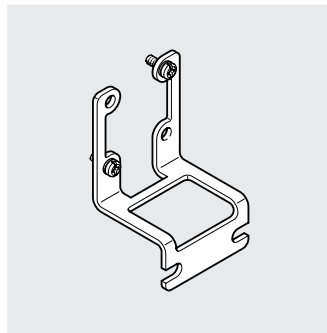
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

**Wall mounting  
SAMH-PN-W**

Material: High-alloy stainless steel

Note on materials: RoHS-compliant



Dimensions and ordering data														
Type	B1	B2	D1 @	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 CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

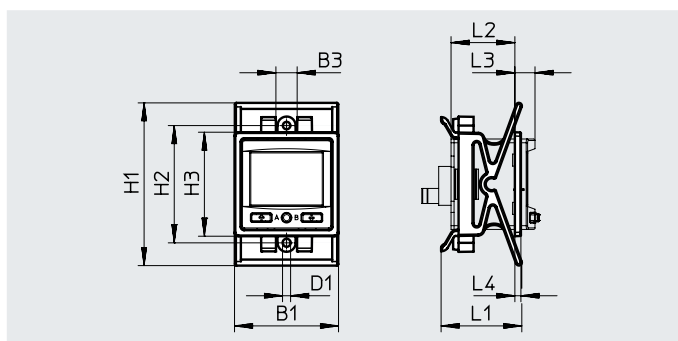
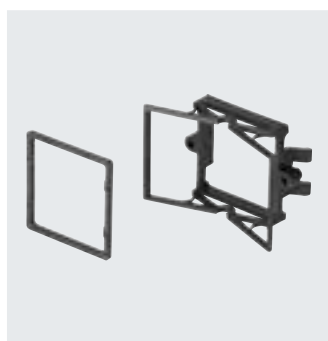
## Accessories – Ordering data

### Front panel mounting kit

#### SAMH-PN-F

Mounting kit for front panel

Material: PA, POM



#### Dimensions and ordering data

Type	B1	B3	D1 @	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

### Safety guard

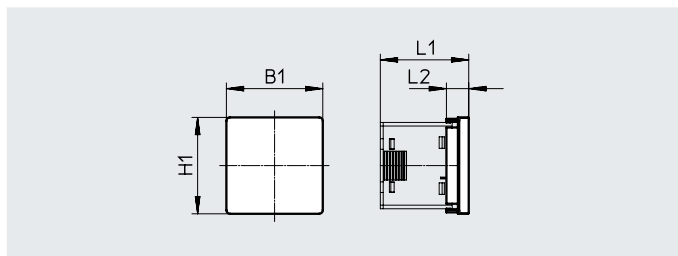
#### SACC-PN-G

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
<b>Socket, rectangular design L1</b> <span style="float: right;">Data sheets → Internet: nebs</span>				
	4	2.5	572576	NEBS-L1G4-K-2.5-LE4
		5	572577	NEBS-L1G4-K-5-LE4

#### Ordering data – Plug

	Description	Part no.	Type
<b>EC plug for analogue inputs (3M Mini Clamp)</b> <span style="float: right;">Data sheets → Internet: necu</span>			
	One plug required for each transmitter/signal	570922	NECU-S-ECG4-HX-Q3