

Signal converter SCDN



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

- | | | |
|----------|------------------------|--------|
| units | • inchH ₂ O | • GPM |
| • bar | • kgf/cm ² | • 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

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

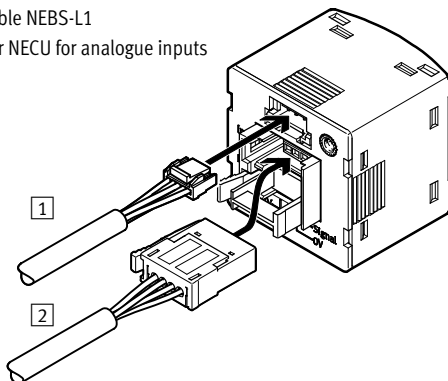
The signal converter detects analogue current or voltage signals from sensors (transmitters). Connection to the higher-level system is provided by 1 or 2 switching outputs or alternatively by an IO-Link® interface. The signal converter has a display for visualising the signals and parameters, and can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

Connection in 2 steps

- 1 Connecting cable NEBS-L1
- 2 Plug connector 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 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

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

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Key features

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Mounting options (shown here with SPAN)

Front panel mounting



Manifold mounting with mounting bracket



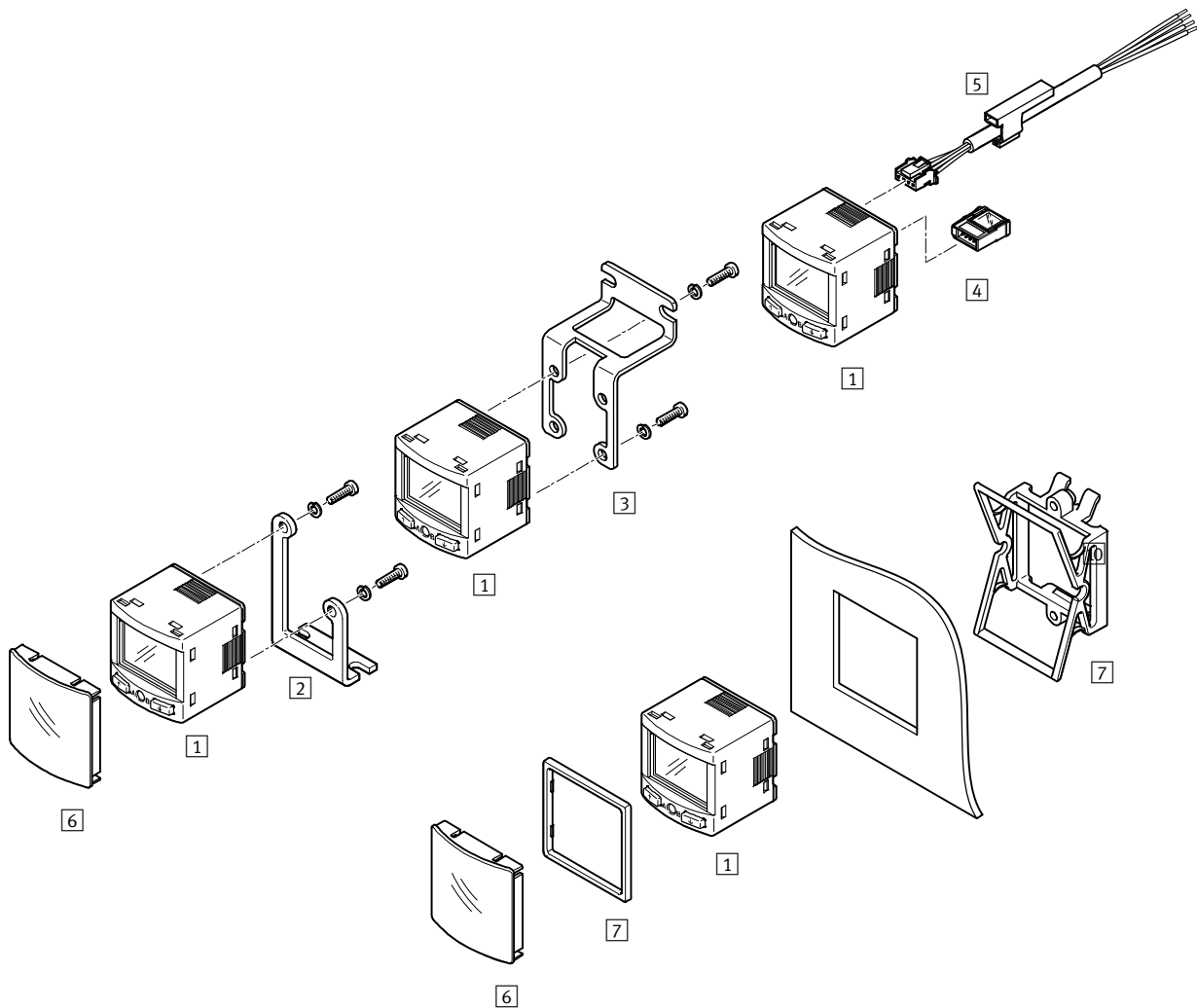
Wall mounting



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Peripherals overview

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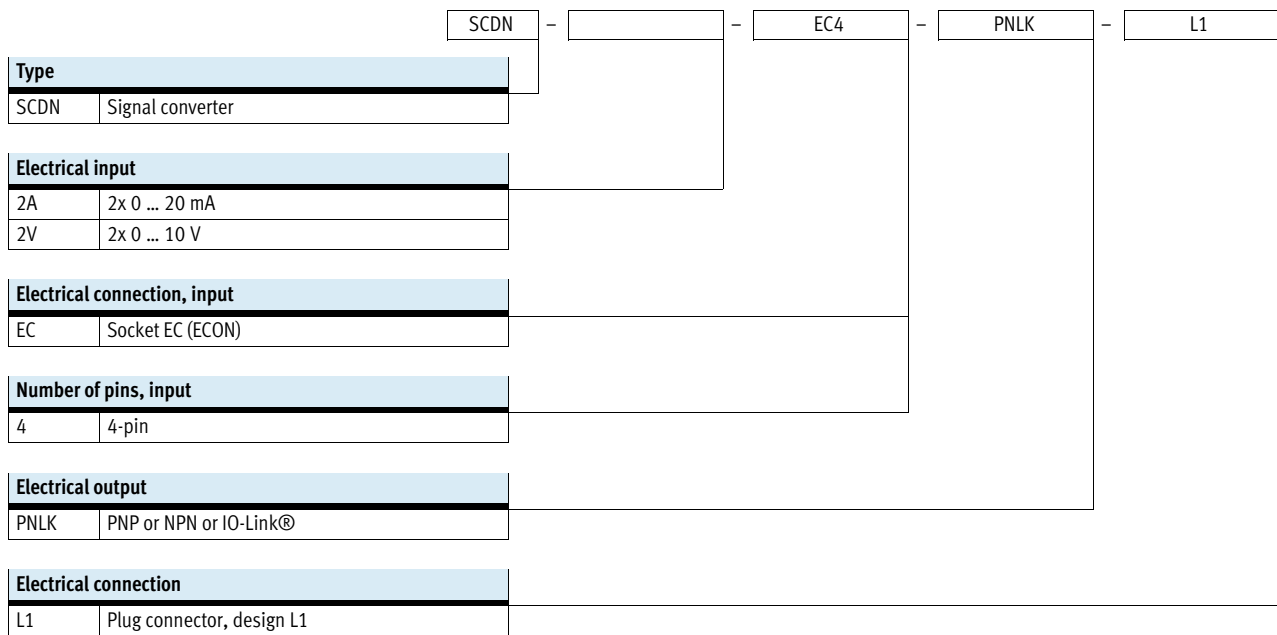


Accessories	→ Page/ Internet
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Accessories	→ Page/ Internet
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Signal converter SCDN

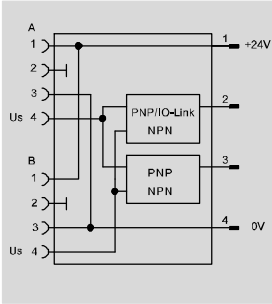
Type codes



Signal converter SCDN

Technical data

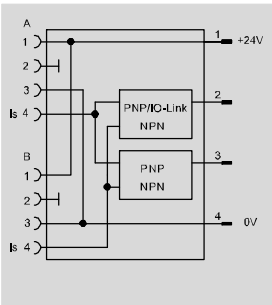
Variant for 0 ... 10 V



- 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 In accordance with EU RoHS Directive	
KC marking	KC-EMC	
Ambient temperature [°C]	0 ... +50	
Note on materials	RoHS compliant	

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

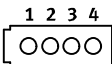
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Electronics		
Operating voltage range DC	[V]	15 ... 30
Reverse polarity protection		For all electrical connections
Electrical connection, input		
Function		Analogue input, power supply
Connection type		2x socket
Connection technology		Plug pattern 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 ¹⁾	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

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Technical data

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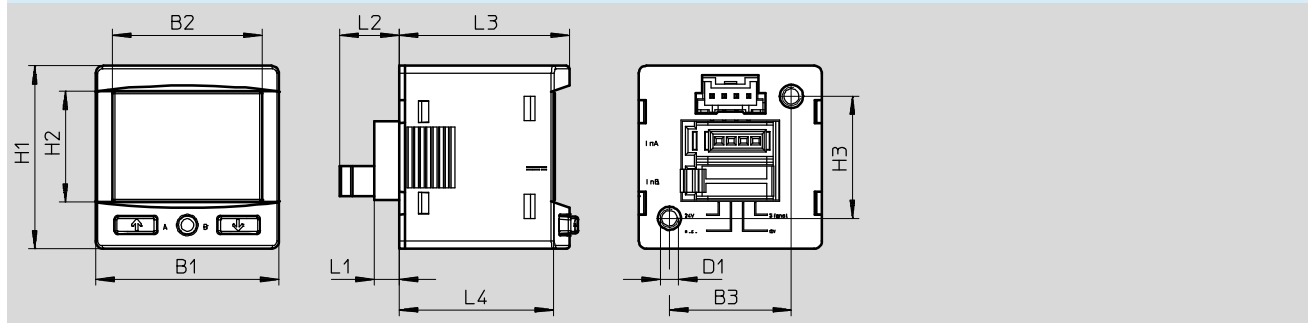
Mechanical system	
Type of mounting	Front panel mounting Via wall/surface bracket
Product weight [g]	23
Housing material	Reinforced PA

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 ¹⁾	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



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

Signal converter SCDN

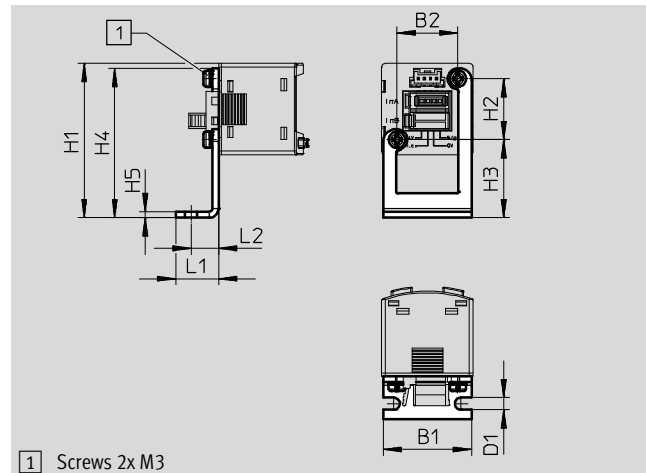
Accessories – Ordering data



Mounting bracket SAMH-PU-A

Material: High-alloy stainless steel

Note on materials: RoHS compliant



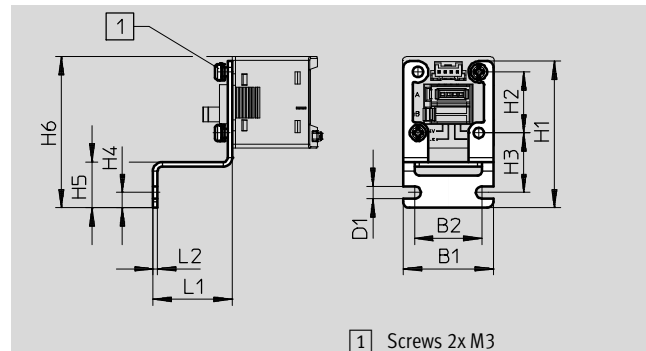
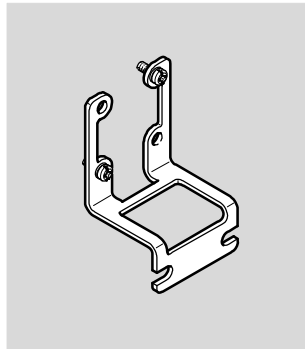
Ordering data													
Type	B1	B2	D1 ∅	H1	H2	H3	H4	H5	L1	L2	CRC ¹⁾	Part No.	Type
SAMH-PU-A	29	20	4	50.6	20	25.6	49	2	14	9	2	8003354	SAMH-PU-A

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 ∅	H1	H2	H3	H4	H5	H6	L1	L2	CRC ¹⁾	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

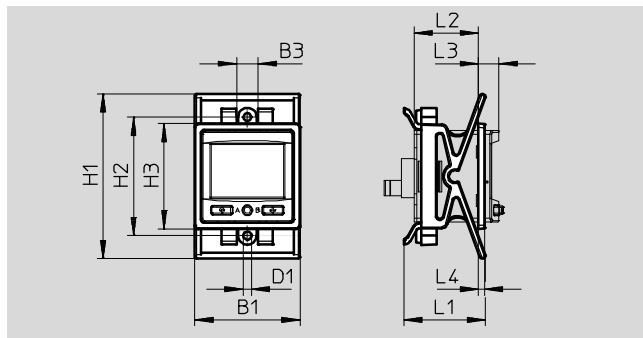
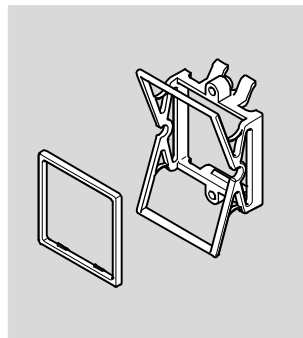
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Front panel mounting kit

SAMH-PN-F

Mounting kit for front panel

Material: PA, POM



Dimensions and ordering data

Type	B1	B3	D1 ∅	H1		H2	H3	L1	L2	L3	L4	Part No.	Type
				Min.	Max.								
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

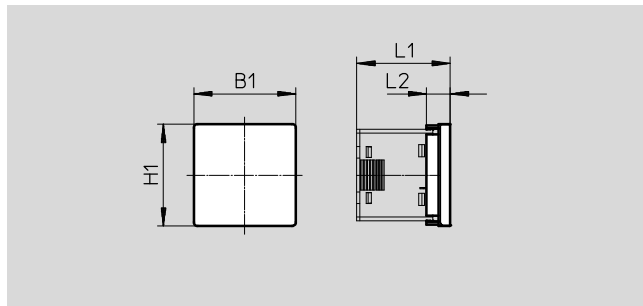
SACC-PN-G

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
				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	
				Technical data → Internet: necu
	EC plug connector for analogue inputs (3M Mini Clamp)	570922	NECU-S-ECG4-HX-Q3	
	One plug connector required for each transmitter/signal			