

# Series SWCN electronic vacuum/pressure switches

**New models**

With digital display  
High precision, easy to use



- » Compact and lightweight
- » Digital indicator: precise electronic insertion with two separated switch outputs
- » Switching point and hysteresis can be programmed with a membrane keypad
- » Upper and lower limit values can be programmed through two PNP switch outputs
- » Analog output 4-20 mA
- » IP65 protection

#### APPLICATIONS:

- electronic vacuum/pressure switch for safety monitoring, optimization of cycle times or energy saving devices;
- it can be installed directly on the gripping point of a handling system;
- setting of the limit vacuum value and continuous vacuum control;
- perfectly suitable for customer needs.

#### ELECTRIC CONNECTION:

the device is available with hardwired cable of 2 meters or can be supplied with M8 connector. Accessories and extensions have to be ordered separately. Codes can be found at the end of this section.

#### GENERAL DATA

Type of pressure/vacuum switch	electronic with polycarbonate housing
Port	with external thread G1/8 and internal thread M5
Display	3 digit display with membrane keypad for the values set up
LED	integrated LED indicators for switching state
Electric connection	with M8 4-pole connector or pre-wired cable of 2 meters

#### New models

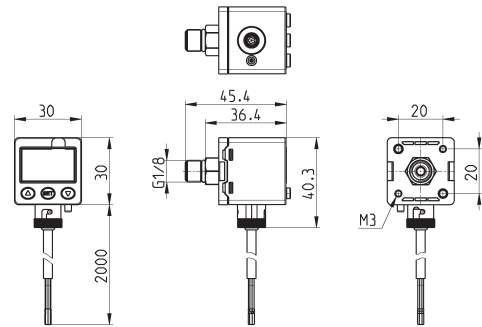
**CODING EXAMPLE**

<b>SWCN</b>	<b>-</b>	<b>V01</b>	<b>-</b>	<b>P3</b>	<b>-</b>	<b>2</b>
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<b>SWCN</b>	SERIES
<b>V01</b>	SET PRESSURE RANGE: V01 = from -1 bar to 1 bar P10 = from 0 bar to 10 bar
<b>P3</b>	TYPE OF ELECTRIC CONNECTION: P3 = 2 PNP outputs + 1 analog output 1 - 5 V DC (this version is available with 5-pole cable only) P4 = 2 PNP outputs P6 = 2 PNP outputs + 1 analog output 4-20 mA (this version is available with 5-pole cable only)
<b>2</b>	ELECTRIC CONNECTION: 2 = cable of 2 meters M = M8 4 pin connector

SERIES SWCN ELECTRONIC VACUUM/PRESSURE SWITCHES

**Series SWCN Vacuum/Pressure switch with 4-20 mA output**

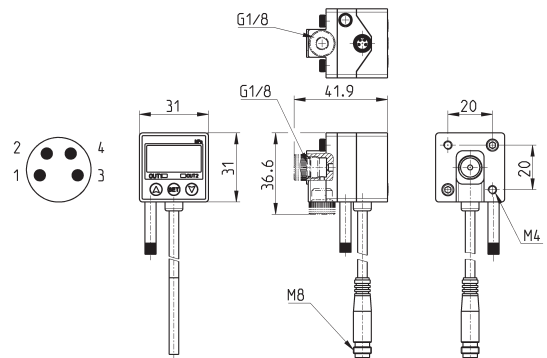


Mod.
SWCN-V01-P6-2
SWCN-P10-P6-2

**Series SWCN Vacuum/Pressure switch**



- 1 = brown (+)
- 2 = white (OUT 2)
- 3 = blue (-)
- 4 = black (OUT 1)
- Analog output = orange



Mod.
SWCN-V01-P3-2
SWCN-V01-P4-2
SWCN-V01-P4-M
SWCN-P10-P3-2
SWCN-P10-P4-2
SWCN-P10-P4-M

## TECHNICAL DATA Version P3 and P4

CHARACTERISTICS		
		SWCN-V01-...      SWCN-P10-...
<b>Rated pressure range (set-value)</b>		-1 ÷ 1 bar      0 ÷ 10 bar
<b>Setting pressure range (it can be displayed on the screen)</b>		-1 ÷ 1 bar      -1 ÷ 10 bar
<b>Withstand (Maximum) pressure</b>		3 bar      15 bar
<b>Fluid</b>		Air, non-corrosive gases, incombustible gases
<b>Set pressure resolution</b>	kPa	0,1
	MPa	-
	Kgf/cm <sup>2</sup>	0,001
	bar	0,001
	Psi	0,01
	InHg	0,1
	mmHg	1
	mmH2O	0,1
		-
<b>Power supply voltage</b>		12-24 VDC ± 10%, ripple (P-P) 10% or less
<b>Current consumption</b>		≤ 55mA
<b>PNP switch output</b>		2 outputs with open collector max. load current of 80mA max. power supply voltage of 24VDC residual voltage ≤ 1V (with load current of 80mA)
<b>Repeatability (switch output)</b>		≤ ± 0,2% F.S. ± 1 digit
<b>Analog output (where foreseen)</b>		1 - 5V ± 5% F.S.      1 - 5V ± 2,5% F.S. (within the linearity range: ≤ ± 1% F.S.)
<b>Hysteresis</b>	<b>Hysteresis mode</b>	Adjustable
	<b>Window comparator mode</b>	Fixed (3 digits)
<b>Response time</b>		≤ 2,5ms (chattering-proof function: 24ms, 192ms and 768ms)
<b>Output short circuit protection</b>		YES
<b>7 segment LED display</b>		3 ½ digit (sampling rate of 5 times/sec)
<b>Indicator accuracy</b>		≤ ± 2% F.S. ± 1 digit (ambient temperature: 25 ± 3°C)
<b>Indicator</b>		green LED (OUT1), red LED (OUT2)
<b>Environment</b>	<b>Protection class</b>	IP65
	<b>Temperature</b>	Operation: 0 ÷ 50°C Storage: -20 ÷ 60°C (without condensation or freezing)
	<b>Relative humidity</b>	Operation/Storage: 35 ÷ 85% (without condensation)
	<b>Withstand (Max.) voltage</b>	1000 VAC in 1 min ((between case and lead wire)
	<b>Insulation resistance</b>	50MΩ min. (at 500VDC between case and lead wire)
	<b>Vibration</b>	Total amplitude 1.5 mm 10Hz-55Hz-10Hz scan for 1 minute 2 hours each direction of X, Y and Z
	<b>Shock</b>	980 m/s <sup>2</sup> (100G) 3 times each direction of X, Y and Z
	<b>Changes due to temperature</b>	≤ ± 2% F.S. of detected pressure (25°C) within the operating temperature range
	<b>Port size</b>	G1/8 - M5
	<b>Lead wire</b>	Oil-resistance cable(0,15 mm <sup>2</sup> )
<b>Weight</b>	About 105 g for the version with 2-meter lead wire About 71 g for the version with male connector	

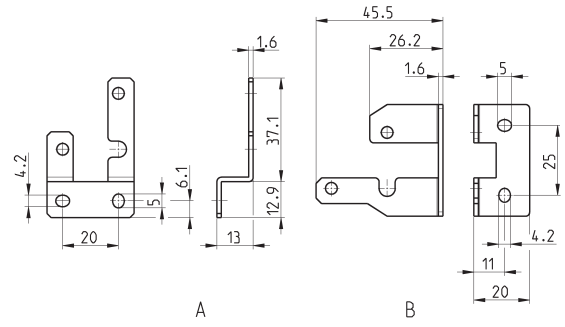
**TECHNICAL DATA Version P6**

CHARACTERISTICS			
<b>Fluid</b>	Filtered air, Non-corrosive / Non-flammable gas		
<b>Set pressure resolution</b>	kPa	0,1	-
	MPa	-	0,001
	Kgf/cm <sup>2</sup>	0,001	0,01
	bar	0,001	0,01
	Psi	0,01	0,1
	InHg	0,1	-
<b>Power supply voltage</b>	12 ~ 24 V DC ± 10%, ripple (P-P) ≤ 10% ( UL class 2 )		
<b>Current consumption</b>	≤ 40 mA ( with no load )		
<b>Switch output</b>	2 PNP : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Residual Voltage : ≤ 1.5 V		
<b>Repeatability</b>	± 0.2 % F.S. ± 1 digit		
<b>Hysteresis</b>	One Point Set Mode Hysteresis mode Window comparator mode	Adjustable	
<b>Response time</b>	≤ 2.5 ms ( Chattering-proof function : 25 ms, 100 ms, 250 ms, 500 ms, 1000 ms and 1500 ms selectable )		
<b>Output short circuit protection</b>	YES		
<b>Display</b>	3 ½ digital, 7 segment LCD display ( Red / Green / Orange ) ( Sampling rate : 5 times / sec. )		
<b>Indicator accuracy</b>	± 2 % F.S. ± 1 digit ( Ambient temperature : 25 ± 3 °C )		
<b>Switch on Indicator</b>	Orange Indicator 1 : OUT1 & Orange Indicator 2 : OUT2		
<b>Analog Output ( Voltage Output )</b>	Output Voltage : 1 ~ 5 V ± 2.5 % F.S. ( within rated pressure range ) Linearity : ± 1 % F.S. Output Impedance : about 1 kΩ		
<b>Analog Output ( Current Output )</b>	Output Current : 4 ~ 20 mA ± 2.5 % F.S. ( within rated pressure range ) Linearity : ± 1 % F.S. Max. Load Impedance : 250 Ω at power supply of 12 V 600 Ω at power supply of 24 V Min. Load Impedance : 50 Ω		
<b>Environment</b>	<b>Enclosure</b>	IP65	
	<b>Ambient Temp. Range</b>	Operation : 0 ~ 50 °C, Storage : -10 ~ 60 °C ( No condensation or freezing )	
	<b>Ambient Humidity Range</b>	Operation / Storage : 35 ~ 85 % RH ( No condensation )	
	<b>Withstand Voltage</b>	1000 V AC in 1-min ( between case and lead wire )	
	<b>Insulation resistance</b>	≥ 50 MΩ ( at 500 V DC, between case and lead wire )	
	<b>Vibration</b>	Total amplitude 1.5 mm or 10 G, 10 Hz ~ 55 Hz ~ 10 Hz scan for 1 minute, 2 hours each direction of X, Y and Z	
	<b>Shock</b>	100 m/s <sup>2</sup> ( 10 G ), 3 times each in direction of X, Y and Z	
<b>Temperature Characteristic</b>	≤ ± 2% F.S. of detected pressure (25°C) within the operating temperature range		
<b>Port size</b>	F1 : R1/8", M5 ; F2 : NPT1/8", #10-32 UNF ; F3 : G1/8" ( BSPP ), M5 F1C : Rc1/8" ; F2C : NPT1/8" ; F3C : G1/8" ( BSPP )		
<b>Lead wire</b>	Ø4 Oil-resistance cable ( PVC ) - 26 AWG ( 0.15 mm <sup>2</sup> ) - 5 cores		
<b>Weight ( with 2 Meter Lead Wire )</b>	Approx. 86 g ( Port F1 ~ F3 ) ; Approx. 114 g ( Port F1C ~ F3C )		

**Mounting bracket Mod. SWCN-B**

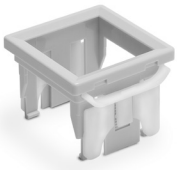


- Supplied with:
- 4 fixing screws M4x5 ISO 724 (fine pitch)
  - 1 fixing bracket for surface mounting (A)
  - 1 fixing bracket for wall mounting (B)

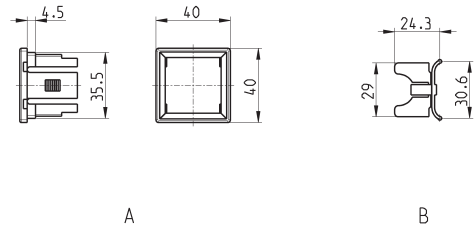


Mod.
SWCN-B

**Panel mounting set Mod. SWCN-F**



- Supplied with:
- 1 pressure switch holder (A)
  - 2 panel mounting brackets (B)

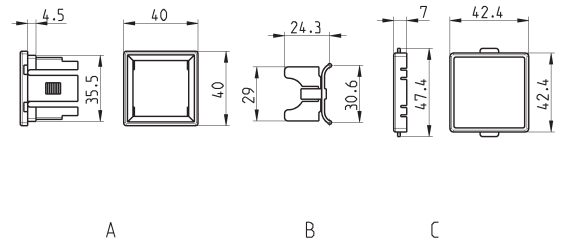


Mod.
SWCN-F

**Panel mounting set + transparent cover Mod. SWCN-FP**



- Supplied with:
- 1 pressure switch holder (A)
  - 2 panel mounting brackets (B)
  - 1 transparent cover (C)

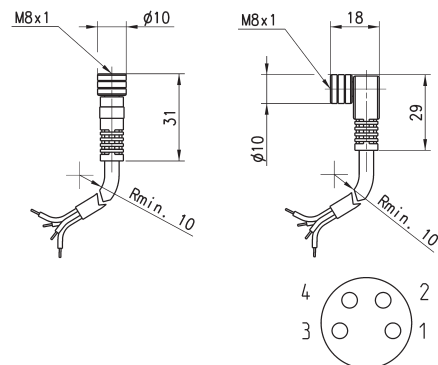


Mod.
SWCN-FP

**Circular M8 4-pole connectors, Female**



With PU sheathing, non shielded cable.  
Protection class: IP65



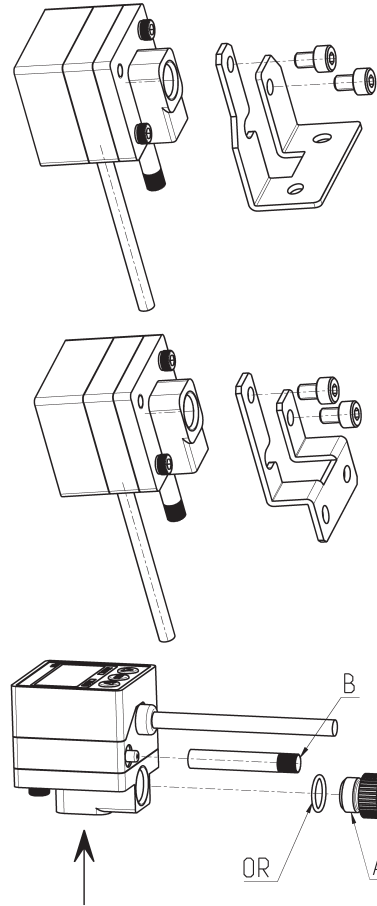
Mod.	Type of connector	Cable length (m)
CS-DF04EG-E200	straight	2
CS-DF04EG-E500	straight	5
CS-DR04EG-E200	right angle (90 degrees)	2
CS-DR04EG-E500	right angle (90 degrees)	5

**Example of mounting with bracket Mod. SWCN-B and standard accessories**

**A: ADDITIONAL POWER SUPPLY**

In case of use, please unscrew plug A from one side and mount it on the other one.

B: Use of the AIR FILTER TUBE to reach the IP 65 protection class.



**Example of mounting with panel mounting set Mod. SWCN-F**

A = PANEL MOUNTING SET MOD. SWCN-F

B = PRESSURE SWITCH MOD. SWCN-...

C = PANEL

