Datasheet
Pressure Transmitter SP300 - Display

Introduction

The SP300 series employs ceramic sensors for pressure measurement. Signals are processed and converted into standard industrial electrical signals for output and display. Featuring an all-metal housing and high-brightness LED digital display, it is suitable for diverse industrial applications. The dual-key design and user-friendly menu enhance operational convenience. Multiple connection options fully accommodate specific installation requirements. The 330° rotatable display head ensures optimal viewing angles regardless of mounting orientation.

Characteristics

330° rotatable display

Pressure up to 12,000 psi

4-digit LED display

PNP / NPN programmable

4…20mA 、 0…5V + 2 alarms output

Applications

Applicable to liquid / gas

Hydraulic and Pneumatic

Pump and Air Compressor

Machine Tools

Machinery Manufacturing

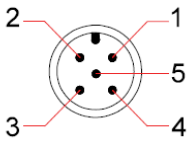
Specifications

Measuring range	See order code for details
Power supply	12…30 VDC
No-load current consumption	Max. 30mA (24VDC)
Current output	3-wire 4…20mA
	Load resistance: ≤0.5 KΩ
Voltage output	3-wire 0…5V
	Load resistance: ≥ 10 KΩ
Alarm output	Push-Pull (PNP / NPN), NC, NO programmable
	Output current < 500mA
	Response time: ≤ 10 ms
	Voltage drop: < 1V
	Accuracy: 0.25% FS
Wiring protection	Reverse polarity, Overvoltage and Short-circuit
Display	4-idgit LED display
	Range: -1999…9999
Accuracy	0.25% FS
Stability (drift / year)	<0.3% FS
Ambient temperature	-4…185°F / -20…85°C
Medium temperature	-40…185°F / -40…85°C
Material	House: SS304
	Sealing: FKM (Optional NBR, PTFE, EPDM, FEM, FVMQ)
	Wetted parts: SS316
Electrical connection	M12×1
Process connection	NPT, G

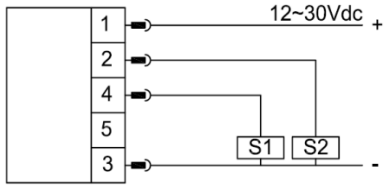
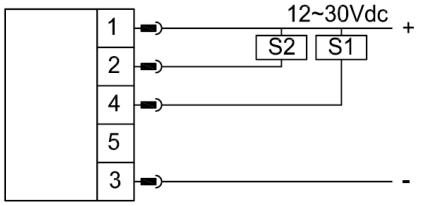
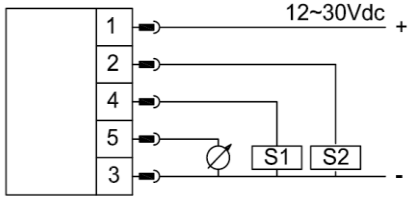
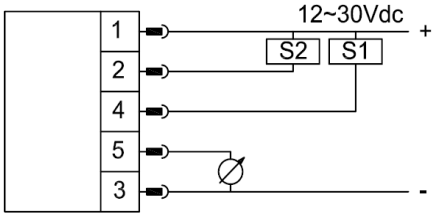
Measuring range

Code	Measuring range		Over-pressure	Burst pressure
	psi	bar		
P1	-15…15	-1…1	x5	x6
P2	-15…30	-1…2		
P3	-15…75	-1…5		
P4	-15…145	-1…10	x3	x4
P5	0…15	0…1	x5	x6
P6	0…30	0…2		
P7	0…75	0…5		
P8	0…145	0…10	x3	x4
P9	0…230	0…16		
P10	0…360	0…25		
P11	0…600	0…40	x2	x3
P12	0…900	0…60		
P13	0…1500	0…100		
P14	0…2300	0…160		
P15	0…3600	0…250	x1.5	x2
P16	0…6000	0…400		
P17	0…9000	0…600	x1.3	x1.6
P18	0…11600	0…800		

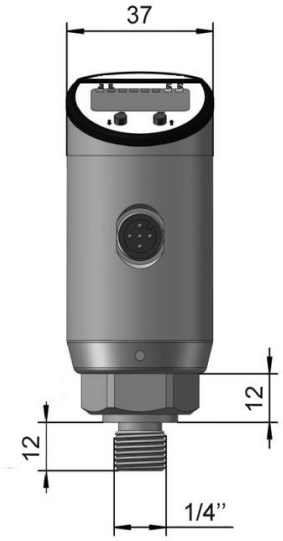
Wiring

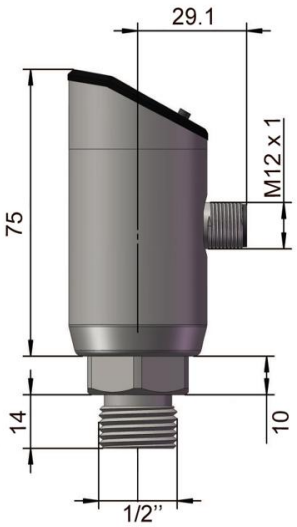


Signal	Pin	Color
Power +	1	Brown
Power -	3	Blue
Alarm S1	4	Black
Alarm S2	2	Wite
Analog Output (4…20mA / 0…5V)	5	Gray

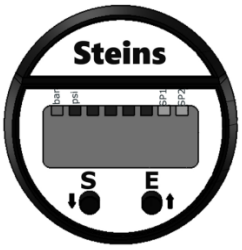
PNP	NPN
 2 x PNP	 2 x NPN
 2 x PNP + Analog	 2 x NPN + Analog

Dimensions in mm





Panel



Keys

keys	Function
(S) + (E)	Press and hold for 3 seconds to enter setting mode / Confirm
(S)	Shift menu down / change a setting value
(E)	Shift menu up / move cursor

Menus

Menus	Description	Options
unit	Display unit	bar / psi
SP1	Switch 1 set point	2%...100% of measuring range
rP1	Switch 1 reset point	0…98% of measuring range
out1	Switch 1 output mode	Hno / Hnc / Fno / Fnc*
SP2	Switch 2 set point	2%...100% of measuring range
rP2	Switch 2 reset point	0…98% of measuring range
out2	Switch 2 output mode	Hno / Hnc / Fno / Fnc*
Sfun	Switch output type	PnP / nPn
Afr	Analog output lower limit	0…75% of measuring range
Ato	Analog output upper limit	25%...100% of measuring range
Aout	Analog output range	0…20mA / 4…20mA
dAp	Damping of switching output	0…8s
Sto	Save	YES / NO

*

Hno - Hysteresis normally open

Hnc - Hysteresis normally close

Fno - Window normally open

Fnc - Window normally close

Others	Description
OL	Higher than upper limit alerting
UL	Lower than low limit alerting

Note:

1) The difference between set point and reset point must be at least 2% of measuring range, or one of them will be adjusted automatically.

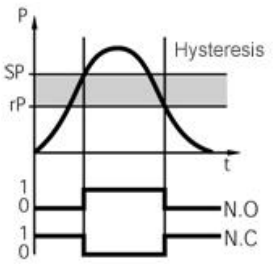
2) The difference between analog output upper limit and lower limit must be at least 25% of measuring range, or it will be adjusted automatically.

Output mode - Window / Hysteresis

Hysteresis

Hysteresis is used to have a stable output if the pressure fluctuates around set point.

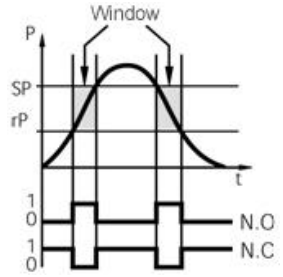
Use NC (normally closed) as example:
The Hysteresis(SP-rP) is shown as gray area in right diagram.
For rising pressure, switch opens when pressure is higher than set point (SP).
For falling pressure, switch closed only when pressure is lower than reset point (rP).



Window

Window is used to monitor whether the pressure is in a certain range. Alerting will be activated if the pressure is out of the range.

Use NC (normally closed) as example:
The window range is shown as gray area in right diagram.
If pressure is inside the range of set point (SP) and reset point (rP), switch is closed.
If pressure is high than SP or lower than rP, switch opens.



Order Code

Example: SP300-P101AN12

1. Model	
SP300-	Pressure transmitter with display

2. Measuring range	
P1…P18	Select a range code from measuring range table.

3. Output	
2S	2 alarms output
1A	4…20mA output
3A	4…20mA + 2 alarms output
1V	0…5V output
3V	0…5V + 2 alarms output

4. Process connection	
N12	NPT1/2" male thread
N14	NPT1/4" male therad
G12	G1/2" male thread
G14	G1/4" male thread
	other connection on request

Accessory - power/signal cable with socket

1. Connecting cable with socket	
ET04-	4-pin M12 x 1 connecting cable with socket
ET05-	5-pin M12 x 1 connecting cable with socket
	5-pin cable is for 2 switching + analog output

2. Material	
PU	Material: PUR

3. Length	
02	6.5ft / 2m (default)
05	16.5ft / 5m

4. Type	
R	Regular cable
S	Shielded cable

5. Connector	
G	Straight socket
W	Angled socket

Accessory - Welding socket

1. Model

TT01- Welding socket

2. Thread

N12	Fitting thread: 1/2" NPT thread
N14	Fitting thread: 1/4" NPT thread
G12	Fitting thread: 1/2" G thread
G14	Fitting thread: 1/4" G thread