Product Description

ES Series digital pressure switches are the perfect solution designed for use in harsh industrial conditions.

It has long-term stability and overload resistance. It provides high linearity, adjustable hysteresis and flexible use over the entire measuring range.



- Different pressure options in the range of -1...600 bar
- Pressure measurement with ±0.5 % accuracy
- Adjustable hysteresis and window function outputs
- Flexible configurable switching output (PNP, NPN) and Relay Output
- Optional Analog 4...20 mA output
- Instant pressure reading with LED display
- Display can be rotated 180° Digitally

Areas of Application

- Machine tools
- Hydraulics and Pneumatics
- Pumps and compressors
- Machine building

Technicial Specifications

Connection Type	G1/4" - G1/2" - 1/4" BSPT - 1/2" BSPT - 1/2" NPT - 1/4"NPT
Accuracy @ 25°C for 5 min	< % ±0.5 FS
Operating temperature	-20°C...+80°C
Body Material	Aluminum Body
Output Signal	Relay Output (NO/NC), Switching(PNP, NPN), Analog(4...20 mA)

Measuring Range Specifications	
Vacuum Resistance	Yes
Pressure Resistance	Examine Table 1. (Page:2)
Digital Display	
Indication range	14 segment
Measurement units	bar, mbAr, psi, MPa,
Display Color	Blue (LED)
Character size	13 mm [0.51 in]
Digits	4-digits
Display	Display can be rotated 180° Digitally

Order Codes

Table 1

ES	-	-		-			-	-
Model	**Sealing Type**	**Mechanical Connection**	**Connection Type**	**Pressure & Vacuum**			**Output Signal**	**Analog Output (Optional)**
				Code	**Pressure & Vacuum Range**	**P max bar**		
ES	**V** VITON **E** EPDM **H** HNBR If the sealing material Type is not selected, it is considered as "NBR".	**A3** G1/4" **A5** G1/2" **S3** 1/4" BSPT **S5** 1/2" BSPT **N4** 1/4"NPT **N5** 1/2" NPT When ordering, you must specify the Connection Type as "Male" or "Female".	**F** Female **M** Male	V0	-1...0 bar	6	**K2** Switch Output (PNP,NPN)	**Z1** Analog Output (4...20 mA) If Z1 is not selected, analog output will not be added.
				V1	-1...1 bar	6		
				V3	-1...3 bar	15		
				V6	-1...6 bar	30		
				V10	-1...10 bar	30		
				V16	-1...16 bar	60		
				V24	-1...25 bar	75		
				M50	0..50 mbar	0,15		
				M100	0..100mbar	0,30		
				M250	0..250 mbar	0,75		
				M600	0..600 mbar	1,8		
				2,5	0 ... 2,5 bar	15		
				6	0 ... 6 bar	30		
				10	0 ... 10 bar	30		
				16	0 ... 16 bar	60		
				25	0 ... 25 bar	75		
				40	0 ... 40 bar	100		
				60	0 ... 60 bar	175		
				100	0 ... 100 bar	250		
				160	0 ... 160 bar	500		
				250	0 ... 250 bar	700		
				315	0 ... 315 bar	700		
				400	0 ... 400 bar	700		
				600	0 ... 600 bar	1050		

Electrical Connection

Connection Type	DIN 436500 A Connector
Pin Assignment	Pin assignments vary according to the output signals. Please see "Table 2" for detailed explanation.
Reverse Polarity Protection	U+ vs. U
Insulation Voltage	DC 500 V

Table 2



DIN 436500 A

K1	
U+	1
U-	2
SP1	3
SP2/S+(1)	4

Pin Assignment:

U+ Positive power supply terminal
U- Negative power supply terminal
SP1 1.Switching point
SP2 2. Switching point
S+ 4...20 mA

(1) If analog output is requested, pin "2" will be used as analog pin.

Properties of Output Signal		
Digital Output		
Swithing Output 1	PNP(1)	
	NPN (1)	
	Factory Setting:PNP	
Swithing Output 2	PNP (1)	
	NPN (1)	
	Factory Setting:PNP	
Analog Output	4...20 mA	
Switching Function	• Window (2) • Hysteresis (2)	
	Factory setting: Hysteresis Contact function	
Setting range of the switch points	• Factory settings • Customer-specific Switching point	
	Switching point 1 and switching point 2 can be set independently → See operating instructions	
Switch hysteresis	Minimum 0.25 % of FS (3)	
Load		
Analog Output (4 ... 20 mA)	≤ 500 Ω	
PNP	Max. 300 mAh	
NPN	Max. 300 mAh	
Switching delay time	Configurable from 0 to 65 sr	
Reset Delay Time	Configurable from 0 to 65 s	
Supply Voltage		
Product Operating Voltage Range	5 - 24 VDC	
Switching voltage	Supply voltage	
Current Consumption	Models without 4 ... 20 mA output signal	Max. 70 mA
	Models with 4 ... 20 mA output signal	Max. 95 mA
Overvoltage protection	DC 40 V	
Dynamic behaviour		
Settling time per IEC 61298-2	Analog signal	≤ 2 ms
	Switching output	≤ 2 ms
Switch-on time	2 s	

(1) For detailed explanation, refer to the page “8” of the user manual. Please review the “Table 2” on that page.
(2) For detailed explanation, see the page “12 and 13” of the user manual. Please review “Table 3” and “Table 4” on those pages.
(3) Full Scale

Technical Dimensions







