

# Diaphragm Seal Piston Press. Switches

## Type E1S

Mechanical single switch  
Repeatability  $\pm 2.0$  % at constant temperature

### Features

Diaphragm seal piston pressure switch,  
scale for setpoint reference

### Adjustment ranges

-0.28 ... -0.9 bar, vacuum  
0.1 ... 34 bar, pressure

### Applications

Machine and tool engineering,  
Dosing machines,  
Plant engineering,  
Lubricant monitoring



### Technical Data

<b>Wetted parts:</b> Diaphragm:	NBR Optional: FKM, PTFE, EPDM, CR anodized aluminium
Process connection:	Optional: brass, polysulfone, aluminium nickel-plated
<b>Repeatability:</b>	$\pm 1$ % at constant temperature
<b>Switching rate:</b>	max. 20/min
<b>Temperature range:</b>	-30 °C... +70 °C
<b>Protection class:</b>	IP00
<b>Housing:</b>	Without housing for installation in control panels
<b>Process connection:</b> Pressure switches:	1/4" NPT female <b>Optional:</b> 1/8" NPT female + 1/2" NPT male (P6) G1/4 female (P7)
Vacuum switches (VAC):	1/4" NPT female (P4) 1/8" NPT female +1/2" NPT male (P6)

<b>Electrical connection:</b>	Screw terminals
<b>Electrical rating and hysteresis:</b>	Many micro switch versions with different switching powers and hysteresis are applicable and make it possible to make customized changes.
<b>Weight:</b>	E1S-...: approx. 0.35 kg
<b>Set point adjustment:</b> Pressure switches:	Turn the adjustment screw clockwise to increase the set point.
Vacuum switches:	Switching point lowers by turning the adjustment screw clockwise.
<b>Intrinsically safe:</b>	The switches are designed for intrinsically safe applications. Please add "Exi" to your ordering details when placing an order. To comply with the intrinsically safe approval following max. ratings must not be exceeded: U <sub>max</sub> = 28 V I <sub>max</sub> = 50 mA
<b>Approval:</b>	---

### Pressure Ranges

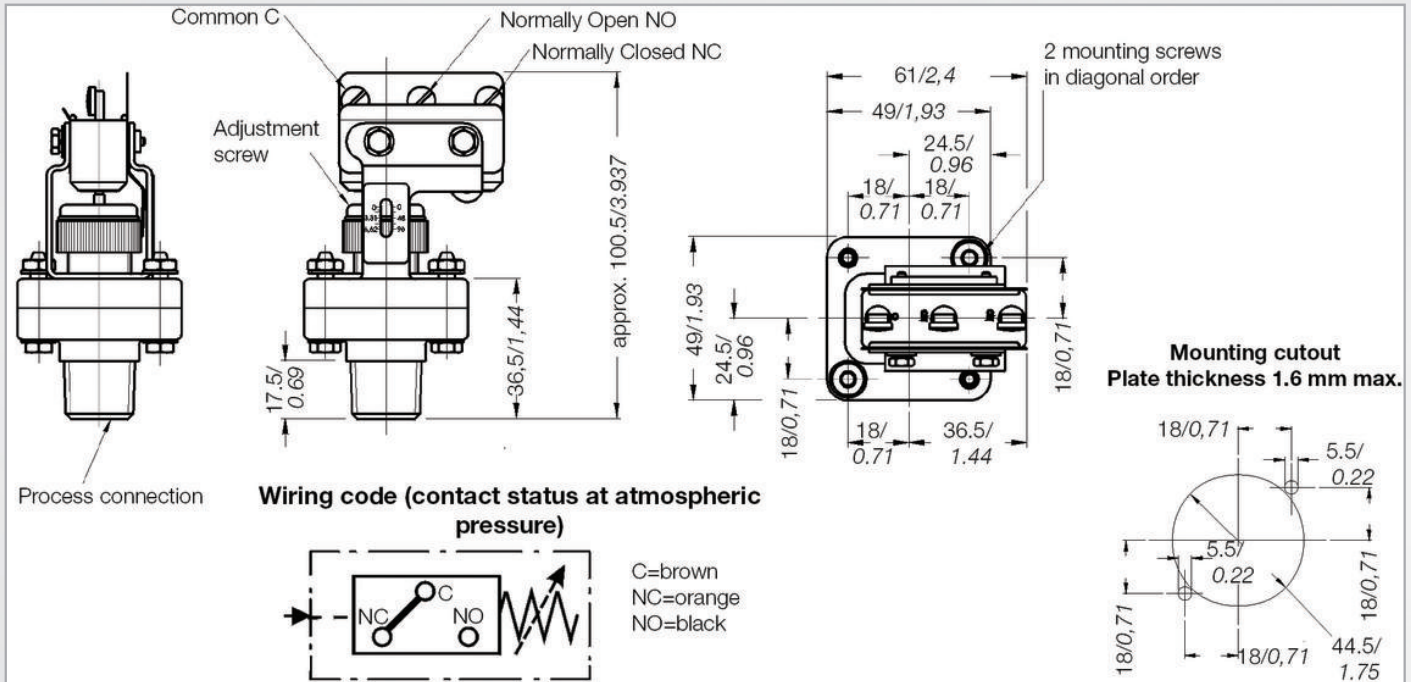
\* Designed for 70 bar proof pressure, for practical production reasons, however, the standard proofing pressure is 30 bar.

Pressure range code	Adjustment range [bar]		Max. operating pressure [bar]	Proof pressure [bar] * (short term)	Max. hysteresis of switch types in bar (end of range)	
	Increasing press.	Decreasing press.			H, GH [bar]	M, GM [bar]
Pressure switches						
15	0.10 ... 1.0	0.04 ... 1.0	46	30 / 70	0.08	0.080
90	0.80 ... 6.0	0.20 ... 5.0	46	30 / 70	0.55	0.680
250	2.10 ... 17.0	0.70 ... 16.0	46	30 / 70	1.37	1.440
500	3.70 ... 34.0	1.72... 32.0	46	30 / 70	1,93	2.750
Vacuum switches						
VAC	-0.28 ... -0.9	-0.20... -0.82	2.0	-1.0	0.08	0.077

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### Dimensions (mm / inch)



### Electrical Ratings

Micro switch	Special features	Volt AC 50/60 Hz	Ind. load A	Res. load A	Volt DC	Ind. load A	Res. load A	Comments
H	Micro switch with silver contacts	125 250	10 10	10 10	6 to 24	0.50	0.50	Small hysteresis; High AC / low DC loads
M	Micro switch with silver contacts	125 250	10 10	10 10	12 24 250	5.00 1.00 0.25	15.0 2.0 0.4	Medium hysteresis; High AC and DC loads
GH	Micro switch with gold-plated contacts for low voltage and/or low current	125	1	1	24	1.00	1.00	Small hysteresis
GM		30	0.1	0.1	30	0.10	0.1	Medium hysteresis

### Process Connection / Diaphragm

Process connection		Diaphragm	
Pressure switches	Vacuum switches	VAC	not VAC
(P4) 1/4" NPT female	(P4) 1/4" NPT female	( ) NBR	( ) NBR
(P6) 1/8" NPT female + 1/2" NPT male	(P6) 1/8" NPT female + 1/2" NPT male	(V) FKM	(V) FKM
(P6-PLS) material PLS, up to 17 bar only			(T) PTFE
(P7) G1/4 female			(N) CR *
			(E) EPDM *

\* on request

### Order Code

Example for order number

Type	Micro switch	Pressure range code	Process connection	Diaphragm
E1S	H	250	P6	V

Your order number

Type	Micro switch	Pressure range code	Process connection	Diaphragm