

EDS 300 Series Shipbuilding Pressure Switch with Display



Applications



Description

The EDS 300 is a compact, electronic pressure switch with digital display. The pressure measurement is based on a strain gauge sensor cell on stainless steel. All parts in contact with the medium are stainless steel, and are welded together. Since no seals are required in the sensor interior, the potential for leakage is eliminated.

Two relay switch outputs with N/O function and an additional analog output signal (4 to 20 mA) enable the pressure switch to be incorporated into the most modern control concepts.

The switching points and the corresponding hystereses can be adjusted easily via the keypad.

For optimum adaptation to a particular application, the unit has many additional adjustment parameters, e.g. switching direction of the relays and switching delay times.

Areas of application are pressure for maximum value monitoring on marine transmissions, diesel engines, pumps and general hydraulic and pneumatic systems.

Approvals

CE CE mark is a mandatory conformity mark on many products placed on the single market in the European Economic Area

ABS American Bureau of Shipping

GL German Lloyd - GL

Bureau Veritas

Lloyds Register of Shipping - LRS

Det Norske Veritas - DNV

Technical Details

Sensor Specifications	
Measuring ranges - psi	-14.5 to 75, 150, 1000, 3000, 6000, 9000
Overload pressure - psi	290, 290, 2900, 7250, 11600, 14500
Burst pressure - psi	1450, 1450, 7250, 14500, 29000, 29000
Mechanical connection	G1/4A DIN 3852 male (<i>bar ranges only</i>) SAE 4 7/16-20 UNF 2B, female (<i>psi ranges only</i>)
Tightening torque	G1/4A: 15 ft-lb (20 Nm) SAE 4: 11 lb-ft (15 Nm)
Parts in contact with media	Stainless steel
Accuracy (B.F.S.L.) including linearity, hysteresis, and repeatability	≤ ±0.5% BFSL
Temperature compensation zero point	≤ ±0.0085% / °F typ. ≤ ±0.017% / °F max.
Temperature compensation over range	≤ ±0.0085% / °F typ. ≤ ±0.017% / °F max.
Long-term drift	≤ ±0.3% FS typ. / year
Life expectancy	10 million load cycles (0 to 100% FS)
Weight	Approximately 300 g
Output signal	4 to 20 mA, 2 wire, $R_{Lmax} = (UB - 10V) / 20 \text{ mA}$ [kΩ]
Switching Specifications	
Type	2 relay contacts (N/O)
Repeatability	≤ ±0.5% FS max.
Switching voltage	max 60 V (AC or DC)
Switching power	max. 30 W / 30 VA (<i>for inductive load use varistors</i>)
Switching current	max. 1.0 A
Switching cycles	20 million at minimum load 0.5 million at maximum load
Reaction time	< 10 ms
Environmental Condition	
Compensated temperature range	14° to 158°F (-10° to 70°C)
Operating temperature range	-13° to 176°F (-25° to 80°C)
Storage temperature range	-40° to 176°F (-40° to 80°C)
Media temperature range	-13° to 176°F (-25° to 80°C)
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 to 500 Hz	≤ 10g
Environmental protection	IP 65
Electrical Specifications	
Supply voltage	20 to 32 VDC
Residual ripple supply voltage	≤ 5%
Current Consumption	100 mA (<i>plus switching current</i>)
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	Standard
Electrical connection	plug to DIN 43651 (6 pole + earth)
Display	4-digit, 7-segment LED red

Model Code

EDS 3 X X - X - XXXX - S4X PSI

Mechanical Connection*

4 = G1/4A DIN 3852 male (*bar ranges only*)
 5 = SAE 4 7/16-20 UNF 2B, female (*psi ranges only*)

Electrical Connection*

7 = DIN 43651 plug, 6 pole + ground (*connector ZBE 10 not included*)

Output

4 = 2 Switching outputs and 1 analog output

Pressure Range

For EDS 35X only (*SAE 4 7/16-20 UNF2B*)
 0089 (-14.5 to 75), 0150, 1000, 3000, 6000, 9000 psi

Modification Number

S40 = Standard in psi (*except for -14.5 to 75 psi*)
 S41 = Vacuum version in -14.5 to 75 psi

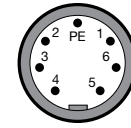
(psi)

psi version (*leave blank for bar version*)

**Other options available upon request*

Pin Connections

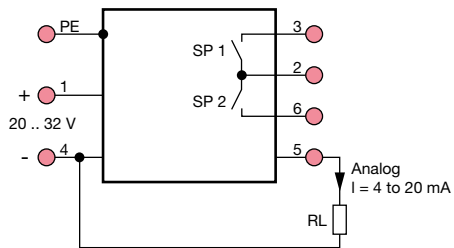
DIN 43651



Pin 347-4

1	+U _B
2	center relay 1 and 2
3	relay contact 1 (SP 1)
4	0 V
5	analog
6	relay contact 2 (SP 2)
⊥	PE

Circuit Diagram



Plug Connection

ZBE 10



Available Adapter

SAE-4 (m) to 1/4 NPT (m) Stainless Steel
 Part #02701426



Dimensions

