

HYDAC

INTERNATIONAL

Electronic Pressure Switch EDS 601

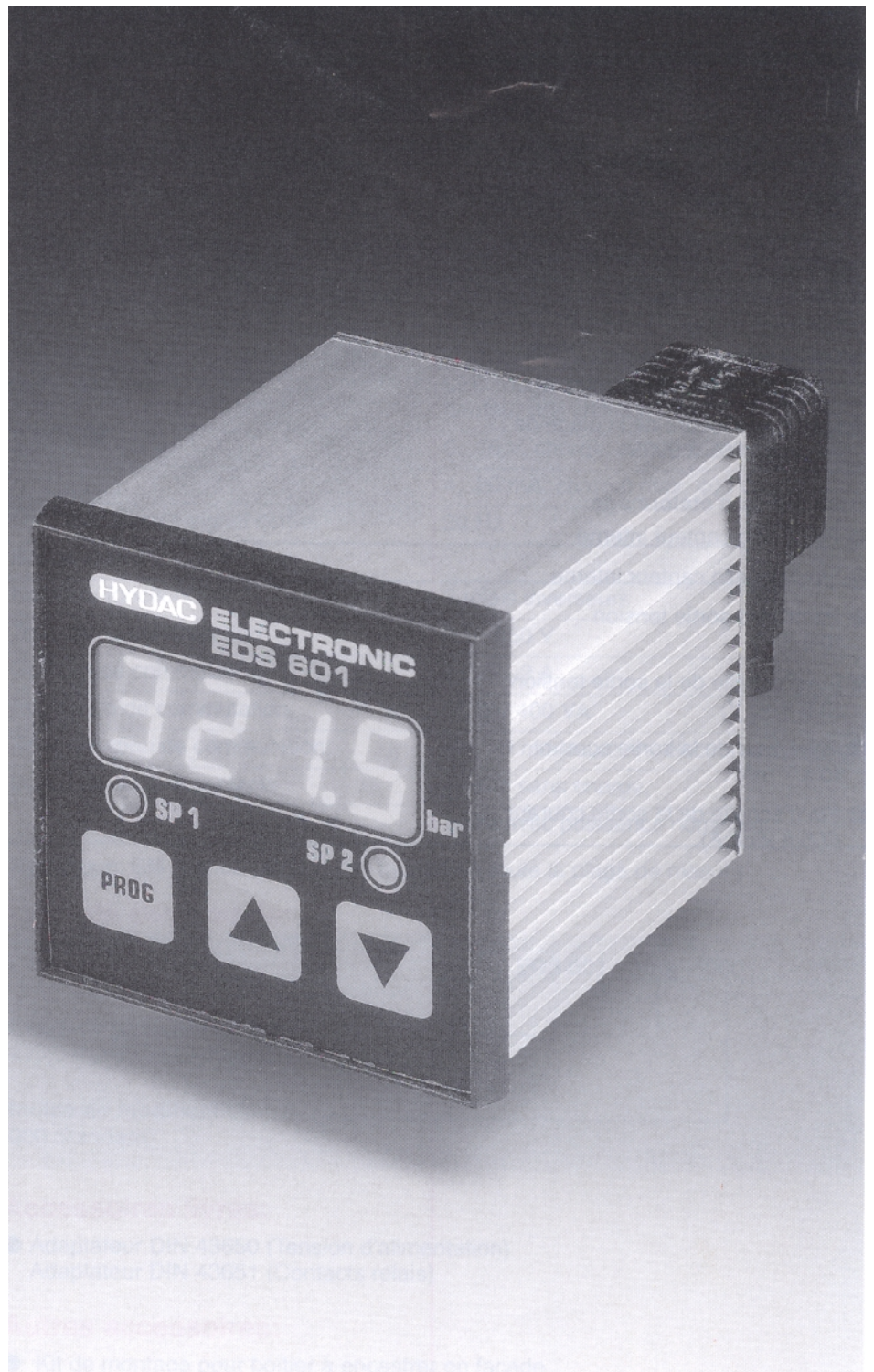
Applications:

The EDS 601 is an electronic two-channel pressure switch with display and analogue output. Its digitally adjustable switching points and switching hystereses make it particularly suitable for applications requiring frequent change-overs or accurate switching point setting.

The variety of setting parameters ensures versatility for use in all control and monitoring tasks in hydraulics, pneumatics, process controls and in general test and control engineering applications.

Special Features:

- Two-channel pressure switch with change-over contacts
- 4-digit LED display
- Signal output can be selected 0 .. 10 V or 4 .. 20 mA
- Can be installed as a pressure gauge or as a front panel mounted unit
- Digitally adjustable parameters
- Optional permanent display of the switching point or of the pressure peak value
- Can be set to display values in any unit of measurement e.g. KN, Kg, psi, ..



Setting options:

The EDS 601 combines a multitude of functions with clear operation which enables speedy alteration of frequently used parameters.

Switching point settings:

- Switching point relay 1 and 2 (1% .. 100% FS)
- Switching hysteresis 1 and 2 (0.5% .. 99% FS)

Basic settings:

- Switching direction relay 1 and 2 (pull in/release)
- Switching delay relay 1 and 2 (0.00 .. 90 seconds)
- Switch-back delay relay 1 and 2 (0.00 .. 90 seconds)
- Primary display (pressure/switching point/peak value)
- Display filter (slow/medium/fast)
- Output signal (current or voltage)

Measuring range setting:

- Number of decimal places (0 .. 3; 4 digits in total)
- Lower measuring range limit (-995 .. 9995)
- Upper measuring range limit (-995 .. 9995)

Calibration options:

- Zero point of the internal sensor
- Final value of the internal sensor
- Zero point voltage output (approx. 0 .. 3 V)
- Final value voltage output (approx. 3.5 .. 10 V)
- Zero point current output (approx. 0 .. 7 mA)
- Final value current output (approx. 7.5 .. 24 mA)

Application example – Accumulator charging circuit:

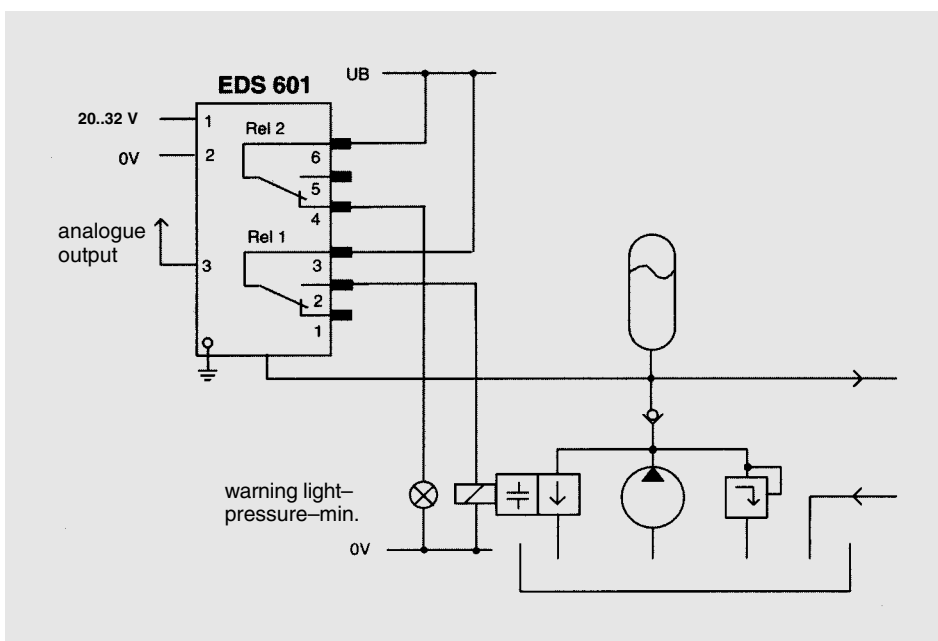
In the example shown, the basic settings of the EDS 601 were programmed so that relay 1 is set to "OFF". In this way relay 1 pulls in when the pressure switch supply voltage is applied and the system pressure has not yet been reached. The system pressure begins to build up via the pump. When switching point 1 is reached, relay 1 drops and the pump is switched to bypass. If the system pressure falls below the value of the switch-back point 1, relay 1 pulls in, ie pressure begins to build up again.

When no voltage is supplied to the pressure switch, relay 1 always

returns to its quiescent state which causes the pump to work in bypass operation, for safety reasons.

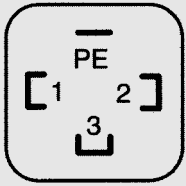
Relay 2 switches a warning light which lights up when the system pressure is too low. As it also needs to light up if the EDS 601 is switched off, the switching direction of relay 2 was set to "ON" and the N/C contact was used. To bridge short-term pressure drops, the switch-back delay was programmed to 2 seconds.

For documentation purposes, the analogue output can be connected to a central data acquisition unit (DAU).



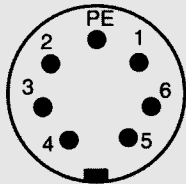
Pin connections:

Voltage supply



PE = Earth
 Pin 1: 24V
 Pin 2: 0V
 Pin 3: analogue output

Relay outputs



Pin 1: relay 1 N/C contact
 Pin 2: relay 1 N/O contact
 Pin 3: relay 1 common supply
 Pin 4: relay 2 N/C contact
 Pin 5: relay 2 N/O contact
 Pin 6: relay 2 common supply

Technical data

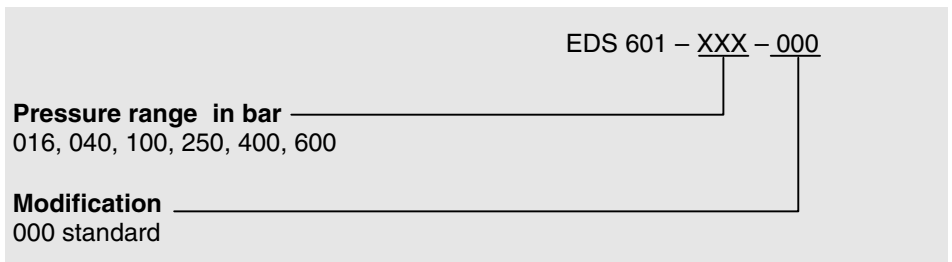
Housing material:	aluminium, anodised
Dimensions:	approx. 72x72x110 mm (WxHxD)
Pressure ranges:	16; 40; 100; 250; 400; 600 bar
Overload pressures:	24; 60; 150; 375; 600; 900 bar
Burst pressure:	300 % FS
Accuracy:	≤1 % FS
Repeatability switching point:	≤0.5 % FS
Temperature range:	-25 .. +70° C
Temperature of media:	-25 .. +85° C
Temperature drift:	≤0.5 % / 10 K; typ 0.25% / 10K FS
Protection class:	IP 65
Vibration resistance:	25 g/ 0 .. 500 Hz
Shock resistance:	50 g/ 1 ms
CE mark	EN 50081-1, EN 50081-2 EN 50082-1, EN 50082-2
Connection supply voltage:	plug to DIN 43650/ ISO 4400 (3 pole + earth)
Connection relay:	plug to DIN 43651 (6 pole + earth)
Pressure connection:	threaded port to DIN 3852 – G 1/4
Supply voltage DC:	20 .. 32 V
Current consumption:	approx. 120 mA
Switch-on current:	approx. 1.5 A (0.1 sec)
Display:	7 segment LED display, 4 digits, 13 mm high
Signal output:	0 .. 10 V ohmic resistance: min. 2 kΩ 4 .. 20 mA ohmic resistance: max. 400Ω
Max. frequency signal output:	20 Hz

Relay outputs

Number/function:	2 relays with change-over contacts
Switching voltage:	0.1 .. 250 V
Switching current:	0.025 .. 2 A
Switching capacity:	50 W / 400 VA
Reaction time:	approx. 10 ms incl. electronics
Life expectancy of contacts:	10 million without load 1 million at nominal load

Note: **FS (Full Scale)** = relative to the full measuring range

Model code:



Accessories included:

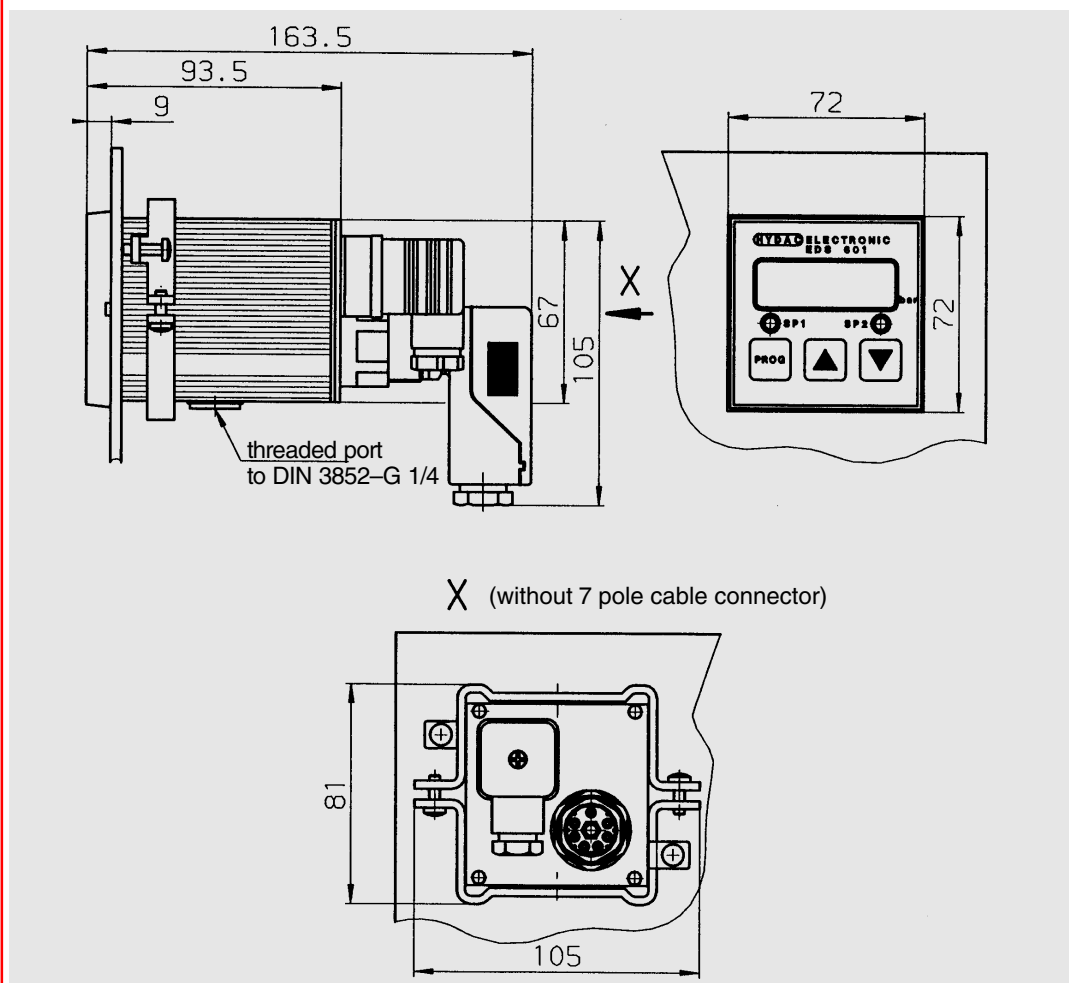
- Mating plug to DIN 43650 (supply voltage)
Mating plug to DIN 43651 (relay contacts)

Other accessories:

- Assembly set for front panel mounting

Dimensions:

View: Front panel mounted with mounting set.



Note:

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.