

# Differential pressure transmitter

## EL-PSa-xxx

### 1. Technical data

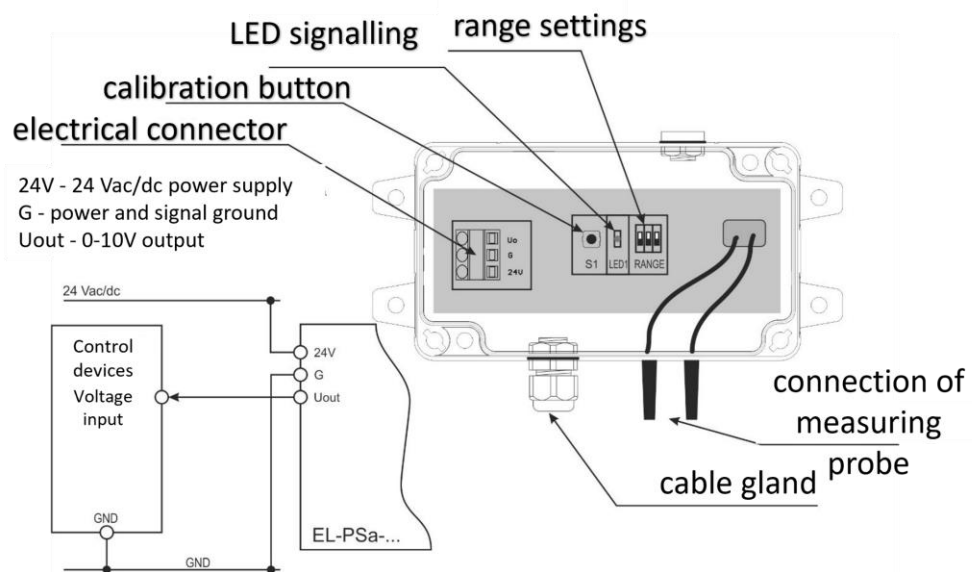


- Long-term stability, estimated service life of the pressure sensor up to 18 years without exceeding the rated parameters.
- Zero drift: <math><0.1\%</math> change (60 deg C for 168 h).
- Measurement accuracy  $\pm 1.5\%$  of full scale (for EL-PSa-2.5, EL-PSa-7, EL-PSa-35, EL-PSa-100, EL-PSa-200)
- Measurement accuracy  $\pm 3\%$  of full scale (EL-PSa-500 only)
- Supply voltage 24 V AC / DC
- Outputs:
  - voltage 0-10V
- Operating temperature -20...50 °C
- Built-in LED indicator and calibration button
- Degree of protection IP55
- Differential pressure measurement in the range:
  - EL-PSa-2.5: 0...2.5 kPa
  - EL-PSa-7: 0...7.0 kPa
  - EL-PSa-35: 0...35 kPa
  - EL-PSa-100: 0...100 kPa
  - EL-PSa-200: 0...200 kPa
  - EL-PSa-500: 0...500 Pa
- Measurement resolution
  - EL-PSa-2.5: 0.38 Pa
  - EL-PSa-7: 1.14 Pa
  - EL-PSa-35: 5.34 Pa
  - EL-PSa-100: 15.26 Pa
  - EL-PSa-200: 30.52 Pa
  - EL-PSa-500: 16bit
- Dimensions: 140 x 100 x 43mm

## 2. Description

The EL-PSa-xxx differential pressure transmitter measures the differential pressure and, based on this, generates a proportional analogue signal at the voltage output in the range 0-10V. The signal level at the analogue output is scaled according to the relevant settings. The user can select one of 8 sub-ranges narrowing the maximum measurement range. If the measured pressure is in the negative range, the sign of the measurement will be changed. For example, a pressure of -1300 Pa is treated as a measurement of 1300 Pa and the corresponding analogue signal output level is determined according to it. In addition, the device has a built-in LED indicator which indicates the current operating status of the device. It is possible to manually calibrate the device.

## 3. Scheme



## 4. Operation and configuration

The EL-PSa-xxx transmitter has an LED indicator, a calibration button and a three-track switch for setting the transmitter parameters. It is possible to set one of 8 range limits.

### 4.1 Calibration

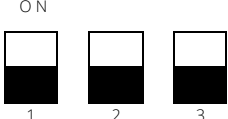
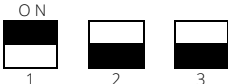
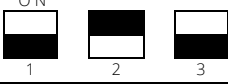
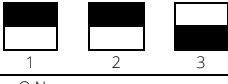
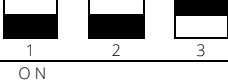

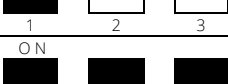
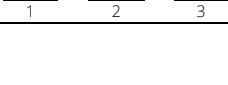
**NOTE!**

*Calibration should only be performed when it is certain that no differential pressure is acting on the transmitter. In order to do this, the pressure supply tubes to the transmitter should be disconnected.*

To calibrate, hold down the calibration button for a minimum of 3 seconds. The LED should go out for a further 3 seconds and then come back on. This indicates the completion of the calibration process.

### 4.2 Selection of pressure measurement range

The selection of the range is made using a group of three switches on the electronic board of the pressure transmitter inside the housing. The analogue output provides a voltage in the range 0-10V which covers the selected range. A value of 0V corresponds to a pressure of 0 Pa, while a value of 10V indicates the maximum pressure within the selected range. The table below shows the possible ranges:

No. zakr.	Status of switches	Range for EL-PSa-2.5	Range for EL-PSa-7	Range for EL-PSa-35	Range for EL-PSa-100	Range for EL-PSa-200	Range for EL-PSa-500
0		100Pa	1000Pa	1kPa	2kPa	4kPa	10 Pa
1		250Pa	1500Pa	2kPa	5kPa	10kPa	25Pa
2		500Pa	2000Pa	5kPa	10kPa	20kPa	50Pa
3		750Pa	2500Pa	10kPa	15kPa	30kPa	75Pa
4		1000Pa	3000Pa	15kPa	30kPa	50kPa	125Pa
5		1500Pa	4000Pa	20kPa	50kPa	100kPa	250Pa
6		2000Pa	5000Pa	30kPa	70kPa	150kPa	375Pa
7		2500Pa	7000Pa	35kPa	100kPa	200kPa	500Pa

### 4.3 LED signalling

The LED indicates the operation of the device. When it is lit, it means that the device is powered and working. Continuous lighting of the diode means that the transmitter does not register any changes in pressure. If a significant pressure change occurs (minor changes are ignored by the LED indicator), the

diode starts flashing. Depending on the magnitude of the pressure change, the diode changes its flashing frequency. The greater the pressure change, the faster the diode flashes.

## 5. Standards

The device meets the requirements of standards and directives:

Directive 2004/108/EC - Electromagnetic compatibility (EMC).

Directive 2001/95/EC - General principles: product safety.

EN 60730-1:2002 - Automatic electrical controls for household and similar use - Part 1: General requirements.

## 6. Assembly

The pressure transmitter is suitable for wall mounting. In order to maintain the declared IP degree of protection, the device must be mounted with the glands facing downwards and the connection lines, both electrical and air, must be laid accordingly. The lines must be laid with an "overhang" to prevent water running down the lines onto the unit.

