

OPERATING INSTRUCTION KULLANMA KILAVUZU

Pressure Switch Model ES

1 - 19 pages

ENG

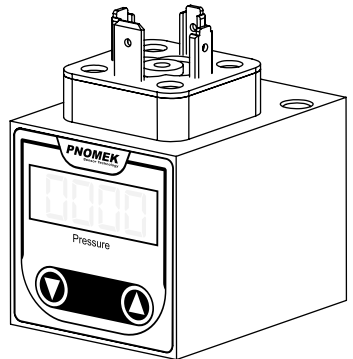
Basınç Anahtarı Model ES

20 - 37 pages

TR

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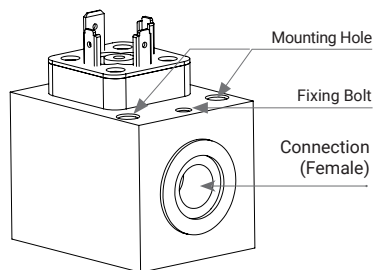
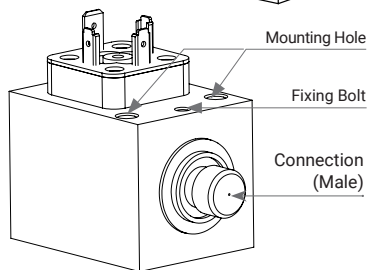
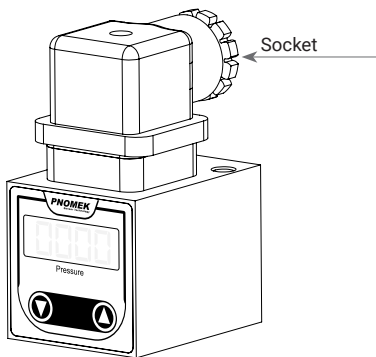
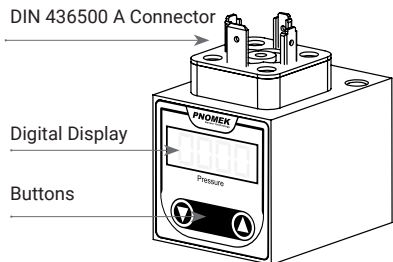
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GENERAL INFORMATION

- The Digital Display Pressure Switch, whose operating instructions are explained, is designed and manufactured using the latest technology.
- All the manufactured parts were manufactured in accordance with the mandatory quality and environmental criteria that must be complied with.
- Our quality management systems are certified according to ISO 9001: 2015.
- Digital Display Pressure switches are not safety elements of the systems.
- The operating instructions are part of the product and must be kept within reach at all times.
- Personnel who will use Digital Display Pressure Switches must carefully read and understand the user manual.
- The user is responsible for meeting all safety conditions.
- Make sure that the Digital Display Pressure switch is selected for its purpose.
- Before assembly, make sure that the product is not damaged during transportation.
- PNOMEK® is not responsible for problems caused by incorrect installation.
- The values on the product identification label are the maximum values and cannot be used at the same time.
- Consult PNOMEK® company when it is necessary to work at high temperatures, aggressive chemicals or fluids.
- It is strongly recommended that you comply with the hydraulic oil (liquid) cleanliness class standards.
- Use filtration to prevent system failures. It is effective in prolonging system life.
- Avoid shock pressures and exceeding the specified values in order to prolong the working life.

OVERVIEW



Display and Operating Unit

⏏ + ⏏ Down + Up Button

Display Mode ⁽¹⁾

Long Press 3sec.

Accessing the Programming Mode Settings

Programming Mode ⁽²⁾

▶ PdS: Display Setting (⏏ Short Press)

- ▶ UNIT: Set Unit Value
- ▶ PAS: Password

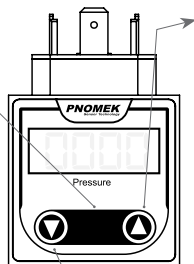
▶ POU: Output Setting (⏏ Short Press)

- ▶ SP1: Switch Point 1
- ▶ SP2: Switch Point 2
- ▶ RP1: Reset Point 1
- ▶ RP2: Reset Point 2
- ▶ POL1: Switching Output Selection 1 (PNP, NPN)
- ▶ POL2: Switching Output Selection 2 (PNP, NPN)
- ▶ EP: Extended Programming Mode
- ▶ RT: Switching Delay Time
- ▶ OSET: Setting the Zero Point
- ▶ DISM: Display Value In Display Mode
- ▶ RR: Refresh Rate
- ▶ CLR: : Erase Memory
- ▶ RES: : Return the set parameters to the factory settings

(It is necessary to long press the OK button to save the values in the Display setting and Output Setting Menu.)

(1) Display of Pressure Value

(2) Setting parameters



⏏ Up Direction Button

Display Mode ⁽¹⁾

Short Press

Shows Max. Pressure Value

Programming Mode ⁽²⁾

Short Press

Move up in menu options

Long Press

Returning to the Display Mode

⏏ Down Direction Button

Display Mode ⁽¹⁾

Short Press

Shows Min. Pressure Value

Programming Mode ⁽²⁾

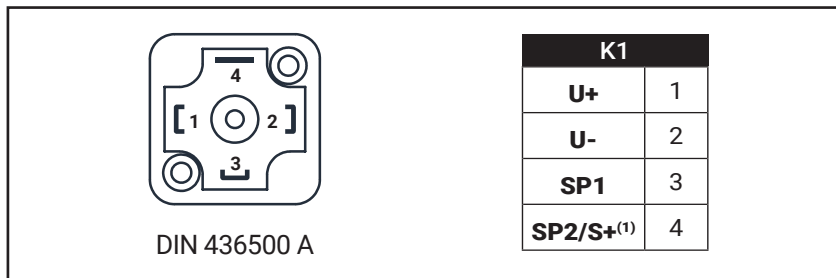
Short Press

Move down in menu options

Electrical connection

Connection Type	DIN 436500 A
Pin Assignment	See the table below for pin assignment.
Reverse Polarity Protection	U+ vs. U
Insulation Voltage	DC 500 V

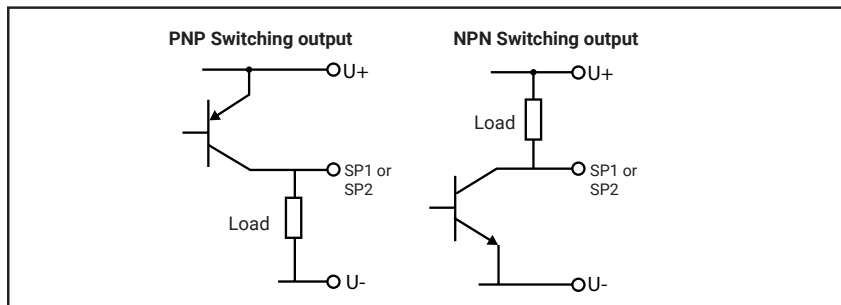
Table 1

**Pin Assignment:**

- U+** Positive power supply terminal
U- Negative power supply terminal

- SP1** 1. Switching Point
SP2 2. Switching Point
S+ 4...20 mA

Table 2



Operating the Product

Setting the Zero Point

Be sure to check the zero point indicated on the digital display during commissioning. The zero point offset should be displayed as a result of the installation.



The OSET parameter in programming will be used to reset the zero point offset.

For absolute pressure measuring ranges, the setting must be made at absolute 0 bar.

We recommend that this be done only by the manufacturer, as appropriate references are required for this.

Enter the OSET value before entering the SP and RP values. Note that the entered OSET value cannot change the SP and RP values. Check the SP and RP value after the OSET value change.

Operating mode

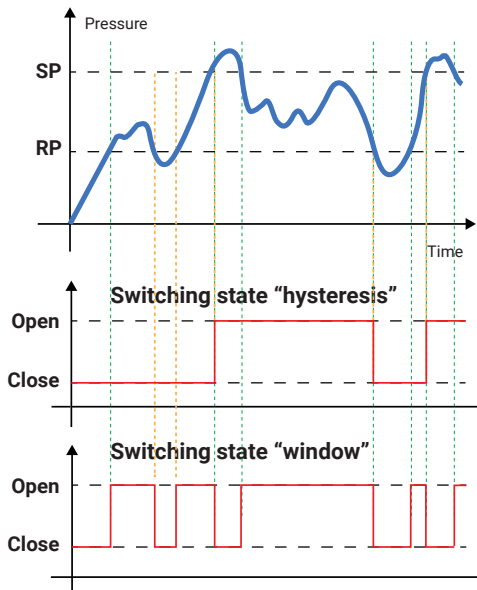
Mode	Description
Opening Time	The Digital Display will turn on after 2s
Display Mode	<p>It is the mode where the pressure output, minimum pressure value and maximum pressure value can be displayed.</p> <p>Long press the  key to return to the display mode.</p>
Programming Mode	<p>It is the mode where parameters are set.</p> <p>Click the  button to enter the programming mode. The security password option is normally turned off in the product.</p> <p>If it is desired to be activated, the default password (Pass:0000) can be selected from the settings or a new password can be created optionally.</p>

Parameters Overview

Menu item	Description	Parameter	Factory Setting
PdS	Display setting (In order to save the values in the Display setting Menu, it is necessary to long press the OK button.)	UNIT, PAS	
POU	Output Setting (It is necessary to long press the OK button to save the values in the Output Setting Menu.)	SP, RP, POL1, POL2, RES, RT, OSET, RR, CLR	
SP	Switching Point (Hysteresis Function and Window Function)	0,25...100% of measuring range	Nominal Pressure
RP	Reset Point (Hysteresis Function and Window Function)	0...(Switching Point - 0.25% of measuring range)	Nominal Pressure -10%
POL1	Switching Output Selection 1	PNP, NPN	PNP
POL2	Switching Output Selection 2	PNP, NPN	PNP
EP	Extended Programming Mode (Check the Page 12 for Detailed Explanation)	EP used to switch from hysteresis function to windows function mode. Since EP is not active, the device is parameterized as a hysteresis function by default. In settings, EP can be enabled to set the Windows function mode	

Menu item	Description	Parameter	Factory Setting
RES	Return the set parameters to the factory settings (Restore set parameters to factory settings)	Yes / No	
RT	Switching Delay Time (Switching delay time, which must occur without interruption before any electrical signal change occurs) <i>(Check the Page 12 for Detailed Explanation)</i>	0...65 s	0 s
OSET	Setting the Zero Point Adjustability of the zero point/execution of "Autozero" (max. ± 4 % of span)	Yes / No	0 s
DISM	Display Value In Display Mode	<ul style="list-style-type: none"> ▶ ACT= Min & Max System Pressure ▶ Off: Display Off ▶ SP1: Set 1 ▶ SP2: Set 2 ▶ RP1: Reset 1 ▶ RP2: Reset 2 	
RR	Refresh Rate (Digital Display Refresh Rate)	100-200-500-1000 ms	200 ms
CLR	Erase Memory (Min/Max Pressure)	Yes / No	
UNIT	Unit (Change the unit value)	Bar, mBar, mA Kpa, Psi	Order-related
PAS	Password (Setting the Security Password)	4 digit password	"0000"

Table 2



The switch always changes the status when a limit value is

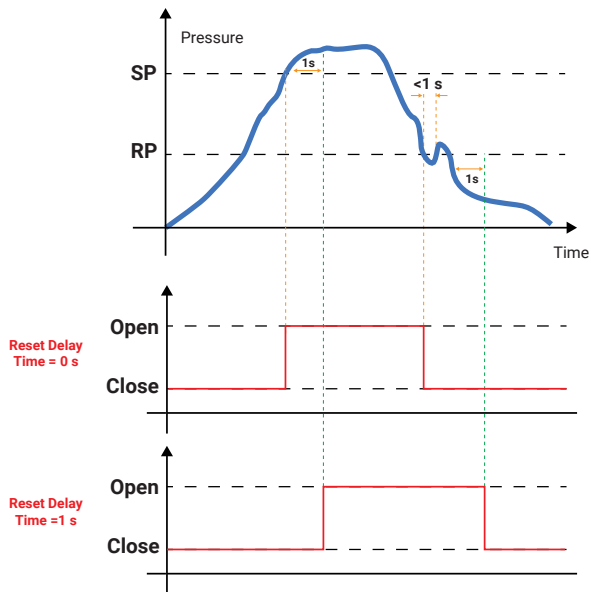
exceeded or the set range is exceeded above or below. We can have switching

from active to inactive or, open to closed.

Hysteresis Function: it monitors a limit value. Thus, the switching hysteresis function monitors whether a critical value has been exceeded. (Either the upvalue SP or lower value RP)

Window Function: it monitors a set of range. Thus, the window switching function monitors whether the monitored process is within the set range. (within the upper SP and lower limits RP)

Table 3



The reset delay time is a necessary feature that we use to control the reset output timing. Switching occurs after the minimum or maximum limit has been exceeded for at least 1 second.

PROGRAMMING MODE

DISPLAY SETTING (PdS)

UNIT → Select → Bar, mBar, mA, Kpa, Psi — Unit Select

PAS → Yes/No → Value — Setting a security password

OUTPUT SETTING (POU)

SP1 → Value — Setting a Switching Point 1

RP1 → Value — Setting a Reset Point 1

SP2 → Value — Setting a Switching Point 2

RP2 → Value — Setting a Reset Point 2

EP — Activating the Extended Programming Mode

↳ **POL1** → Select — PNP, NPN — Switching Output Selection 1

POL2 → Select — PNP, NPN — Switching Output Selection 2

RT → Value — Setting the Switching Delay Time

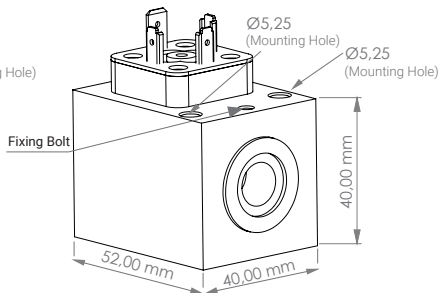
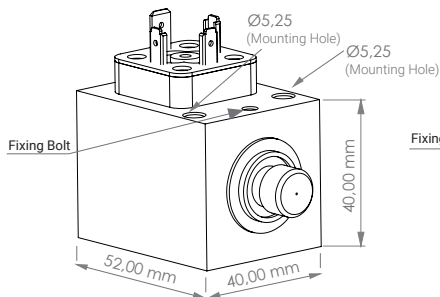
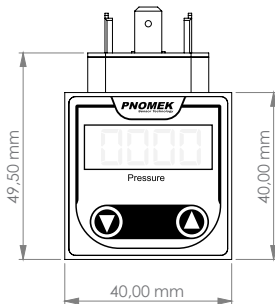
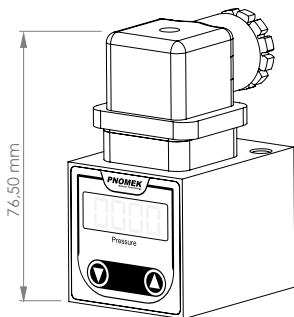
OSET → Value — Adjust the zero point

DISM → Select — Display Value In Display Mode

RR → 100-200-500-1000 ms — Adjust display refresh rate

CLR → Yes/No — Return the set parameters to the factory

Technical Dimensions



Product Care and Cleaning

Product Care

The Digital Display Pressure Switch does not need any maintenance. Product repair is carried out only by the manufacturer.

Product Cleaning

To clean the product, the digital display pressure switch should be depressurized and the surface should be cleaned with a soft damp cloth.

The pressure transmitter must be cleaned carefully. It should be cleaned without damaging the product or the product label.

While cleaning the product, water or normal dish soap should not be used.

Abrasive cleaning materials that are not suitable for pressure transmitter cleaning, or sharp sharp objects will damage the product.

The use of these substances should be avoided

Product Assembly

Installation of the Product

1. Cleaning the joint.
2. Hand-tighten the product into the joint.
3. Tighten the product with a flat wrench
4. Make the electrical connection.

Dismantling the product

1. Depressurize the product.
2. Disconnect the electrical connection.
3. Unscrew the product with the flat key.

Product Return and Disposal

Product Return

Consider the following when sending the product:

If the products to be delivered to PNOMEK contain dangerous chemicals, they must be cleaned before the return process.

The products to be returned must not contain dangerous chemicals while being sent. When returning the product, send it in its original box, packaging or using a suitable shipping packaging.

Product Disposal

Disposing of the product incorrectly may pose a risk to the environment.

For this, while the product is being destroyed, it should be disposed of in accordance with the special waste disposal rules of the country in which it is used and compatible with the environment.

Disposal according to European Directives 2002/96/EC and 2003/108/EC.

Faults



WARNING!

Risk of injury, property damage and environmental damage;

- If the fault cannot be eliminated with the measures taken, the pressure switch should be removed from use
- Secure it against accidental starting.
- Contact the manufacturer.



Risk of injury, property damage and damage to the environment due to hazardous material; Contact with dangerous substances (eg oxygen, acetylene, flammable or toxic substances), harmful substances (eg corrosive, toxic, carcinogenic, radioactive), refrigeration systems and compressors may result in physical injury, property damage and environmental damage.

If a malfunction occurs, the product may contain abrasives or vacuum under extreme heat and high pressure.

In addition to all standard regulations for these substances, appropriate existing codes or regulations must also be followed.

- Wear the necessary protective equipment.

*See the back page of the owner's manual for contact information.

FAULTS	REASONS	PRECAUTION
Display not working	Connector connection error (M12x1)	Check the connector connection.
Display not working	Connector connection error	Check the wiring diagram in "Table 1". (Page:7).
Incorrect pressure measurement	Wrong OSET value entered	Check the OSET value
Incorrect pressure measurement	Wrong unit chosen (UNIT)	Choose the correct pressure unit (Page:11 - UNIT)