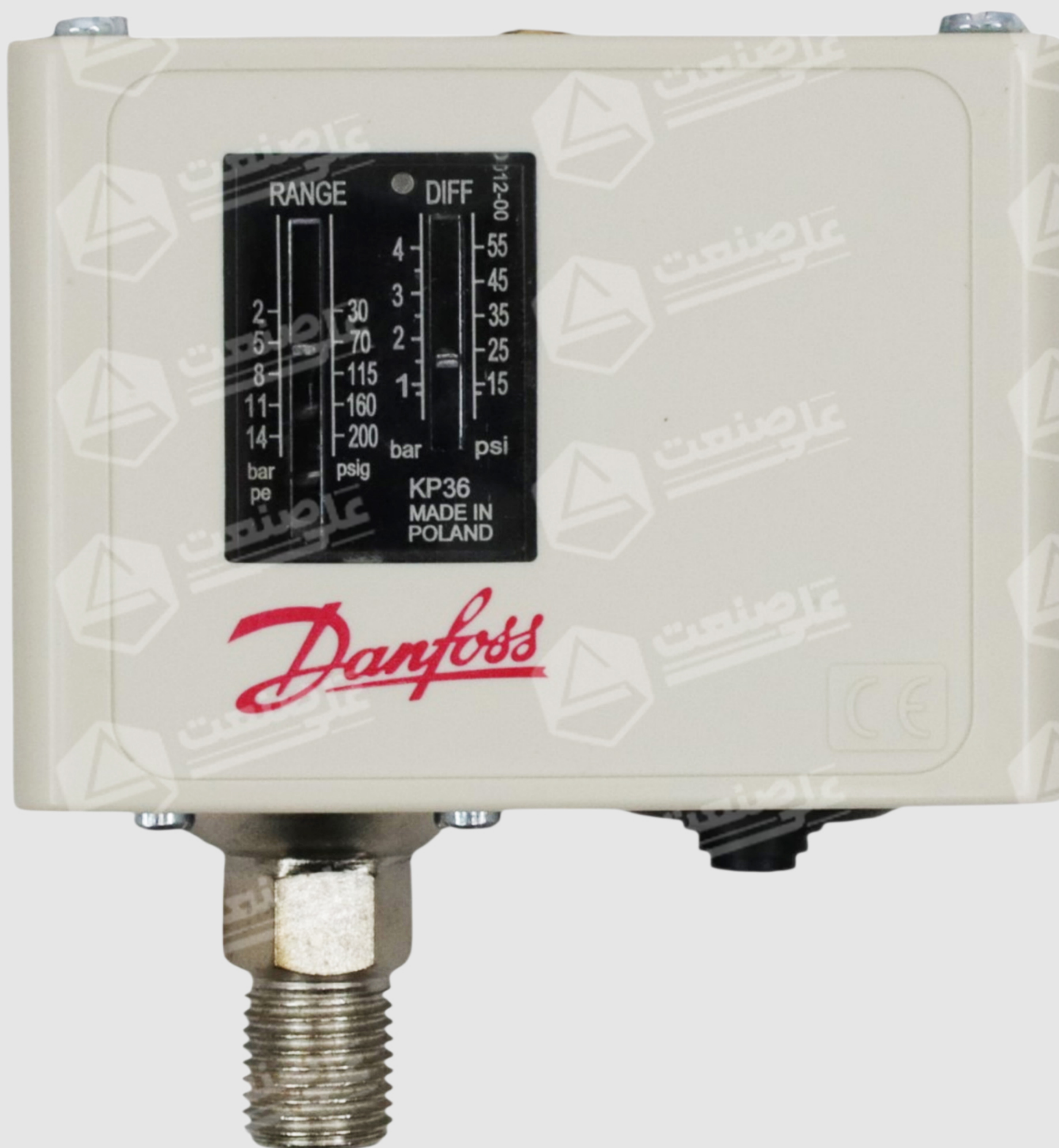


پرشر سوئیچ دانفوس

MODEL : KP36



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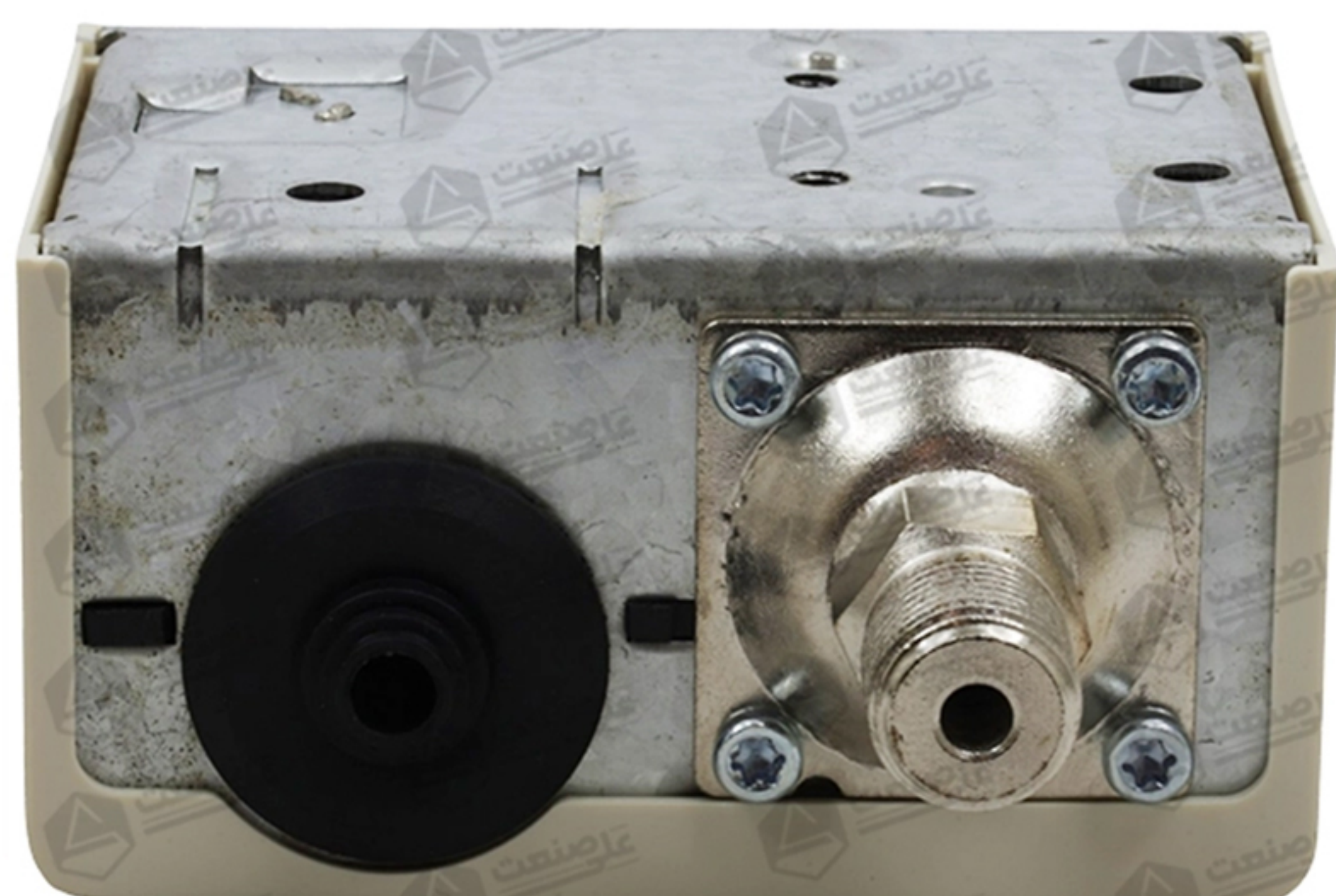
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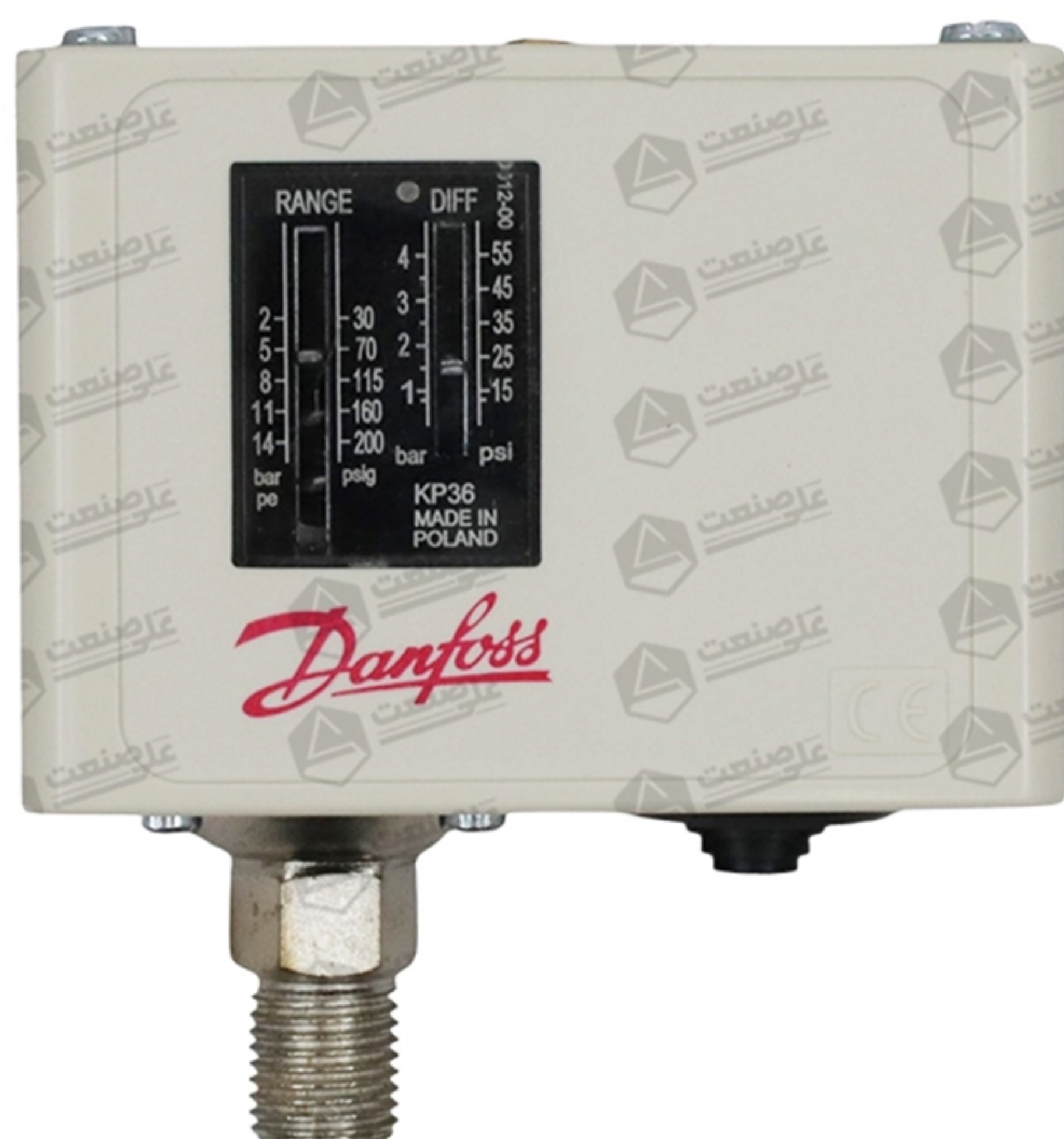
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Pressure and temperature switches, type KP

Features



- Wide regulating range
- Small dimensions
Space-saving, easy to install in panels
- Shock and impact resistant
- Ultra-short bounce time.
Limits wear to an absolute minimum and increases reliability
- Snap action electrical contacts minimize chatter, bounce, and wear, and ensure long term electrical and mechanical reliability
- Electrical connection from front of the unit.
Makes rack mounting easier and also saves space
- Suitable for alternating current and direct current
- Manual trip allows electrical function test without tools
- Versions with automatic and manual reset available

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Data sheet Pressure switches type KP34, KP35, KP36 and KP37

Description

Danfoss KP switches are used for regulating, monitoring and alarm systems in the industry. They provide automatic limit protection or manual reset limit protection for pressure systems. Can be used with steam, air, gaseous and liquid media.

The pressure switches are fitted with single-pole changeover switch (SPDT). The position of the switch depends on the setting of the pressure switch and the pressure in the connector.

Approvals

UL listed for USA and Canada according to UL 353 and UL 873.

CE marked in accordance to EN 60947-4/05 .

Ordering Pressure switches, type KP

Type	Range [psig]	Differential [psi]	Reset	Pressure connection	Max. operating pressure [psig]	Min. burst pressure [psig]	Code nos
KP 34	2....15	2....6	Automatic	¼" 18 NPT	58	435	060-214966
KP 34	2....15	3 fixed	Manual		58	435	060-214866
KP 35	6....50	6....32	Automatic		145	1015	060-215166
KP 35	6....50	7 fixed	Manual		145	900	060-215066
KP 36	15....150	10....58	Automatic		245	1015	060-214466
KP 36	15....150	10 fixed	Manual		245	1015	060-214566
KP 37	58....300	26....45	Automatic		405	1450	060-214666
KP 37	58....300	43 fixed	Manual		405	1450	060-214766

Technical data
Ambient temperature

-40 to 150 °F (175 °F for short period of time)

Media temperature

-40 to 212 °F

Parts in contact with medium:

Bellows: stainless steel

Pressure connection: free-cutting steel, nickel plated

Enclosure

NEMA 1

Wire dimension

12 AWG max

Contact system

Single pole changeover switch (SPDT)

Contact material AgCdO

Contact load

Alternating current

FLA = 16 A @ 120 Vac

8 A @ 240 Vac

LRA = 96 A @ 120 Vac

48 A @ 240 Vac

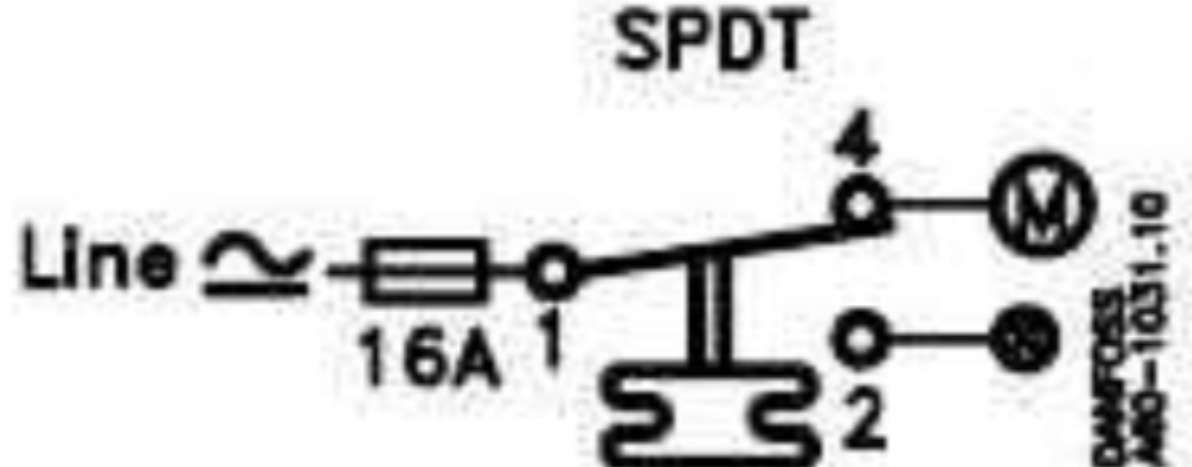
Direct current

240 VDC: 12W pilot duty

Cable entry

Integral ½ in. female NPSM swivel cable connector, allows direct attachments of ½ in. male pipe thread connector

Contact system and application

Switch type - single pole double throw	Switch action	Application
	1. Terminals 1 - 4 close high and open low Terminals 1 - 2 can be used as low pressure alarm	1. Low pressure cut-out
	2. Terminals 1 - 2 open high and close low Terminals 1 - 4 can be used as high pressure alarm	2. High pressure cut-out

Data sheet	Pressure switches type KP34, KP35, KP36 and KP37
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Setting

Cut-in and cut-out pressures of the system should always be checked with an accurate pressure gauge.

Pressure setting for switches with automatic reset.

Set the cut-out pressure on RANGE scale and differential on DIFF scale.

Note:

Restart pressure is equal to cut-out pressure minus differential value.

Pressure switches with manual reset

Set the cut-out pressure on the RANGE scale. Pressure limiters can be manually reset by pressing reset button when the pressure is equal to the cut-out pressure minus fixed value of the differential.

Terminology

Set point

A predetermined value to which a switch is adjusted and at which it performs its intended function.

Reset

1. Manual reset

A unit with manual reset can only be restored to operational mode by activation of the external reset button.

2. Automatic reset

A unit with automatic reset is restored to operational mode automatically.

Maximum working pressure

The maximum permissible pressure for safe functioning of a heating system or any of its part.

Snap function

A specific contact force is maintained until snap is initiated. The time over which contact force reaches zero is a few milliseconds; therefore, contact bounce cannot occur as a result, for example, of slight vibrations before cut-out. The snap-action contact system will continue to function even when micro-welds are created between the contacts during cut-in. The force created to separate the contacts is strong, and instantly shears off all contact surface welds that have been created as the result of cut-in action.

These design features ensure that the cut-out point of the KP switch remains very accurate and completely independent of the magnitude of the current load.

FLA - Motor Full Load Amperes

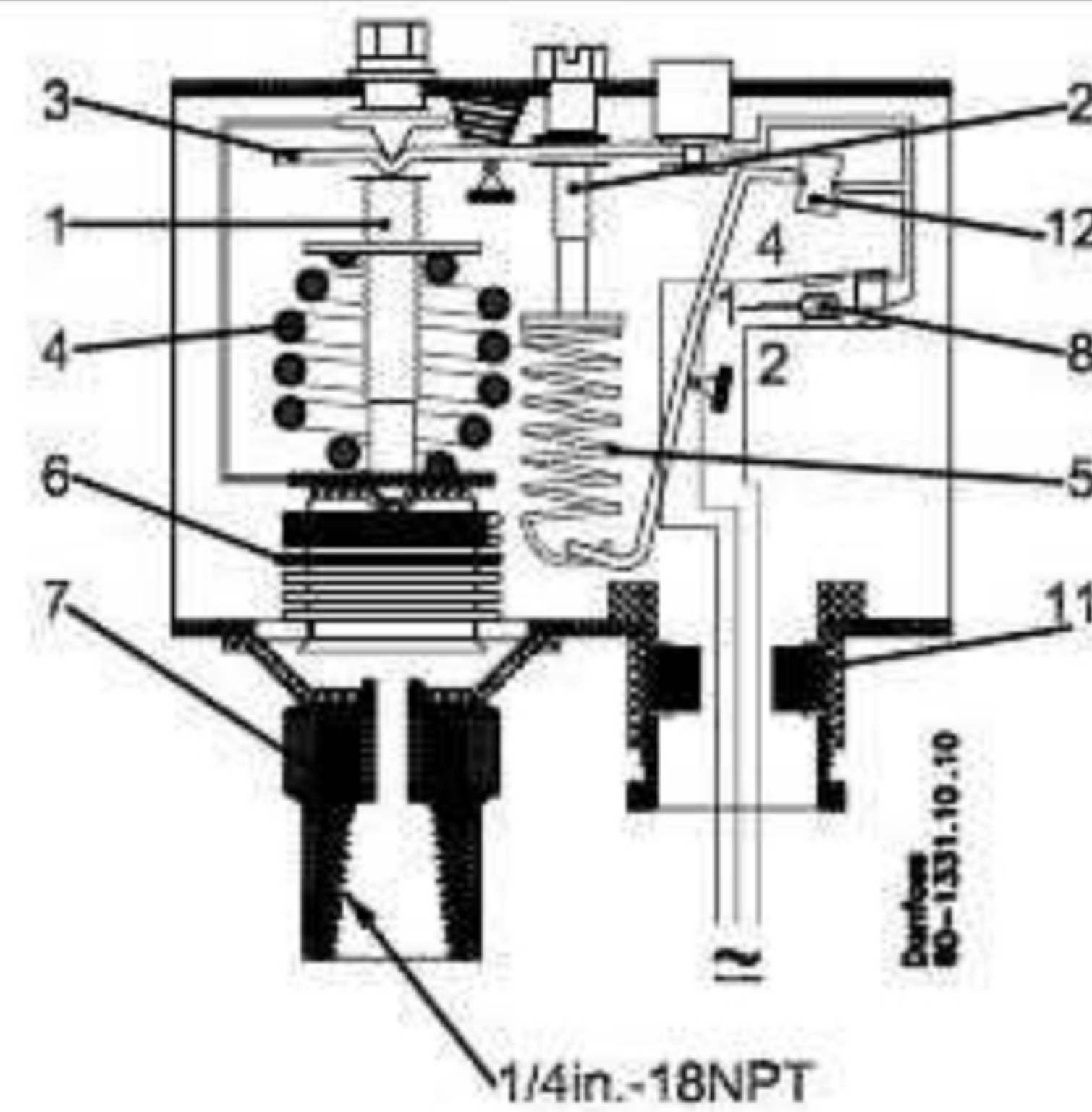
The current rating, in amperes, of the motor when a full load is applied to it for work being done.

LRA - Locked Rotor Amperes

The current drawn, in amperes, by an electric motor with the shaft or rotor stopped and locked in position.

Design and function

1. Range setting spindle
2. Differential setting spindle
3. Main arm
4. Main spring
5. Differential spring
6. Bellows
7. Pressure connector
8. Contact system
9. Switch terminals
10. Ground terminal
11. Cable entry: ½ in. female cable gland
12. Tumbler
13. Locking screw
14. Manual reset
15. Distance plate

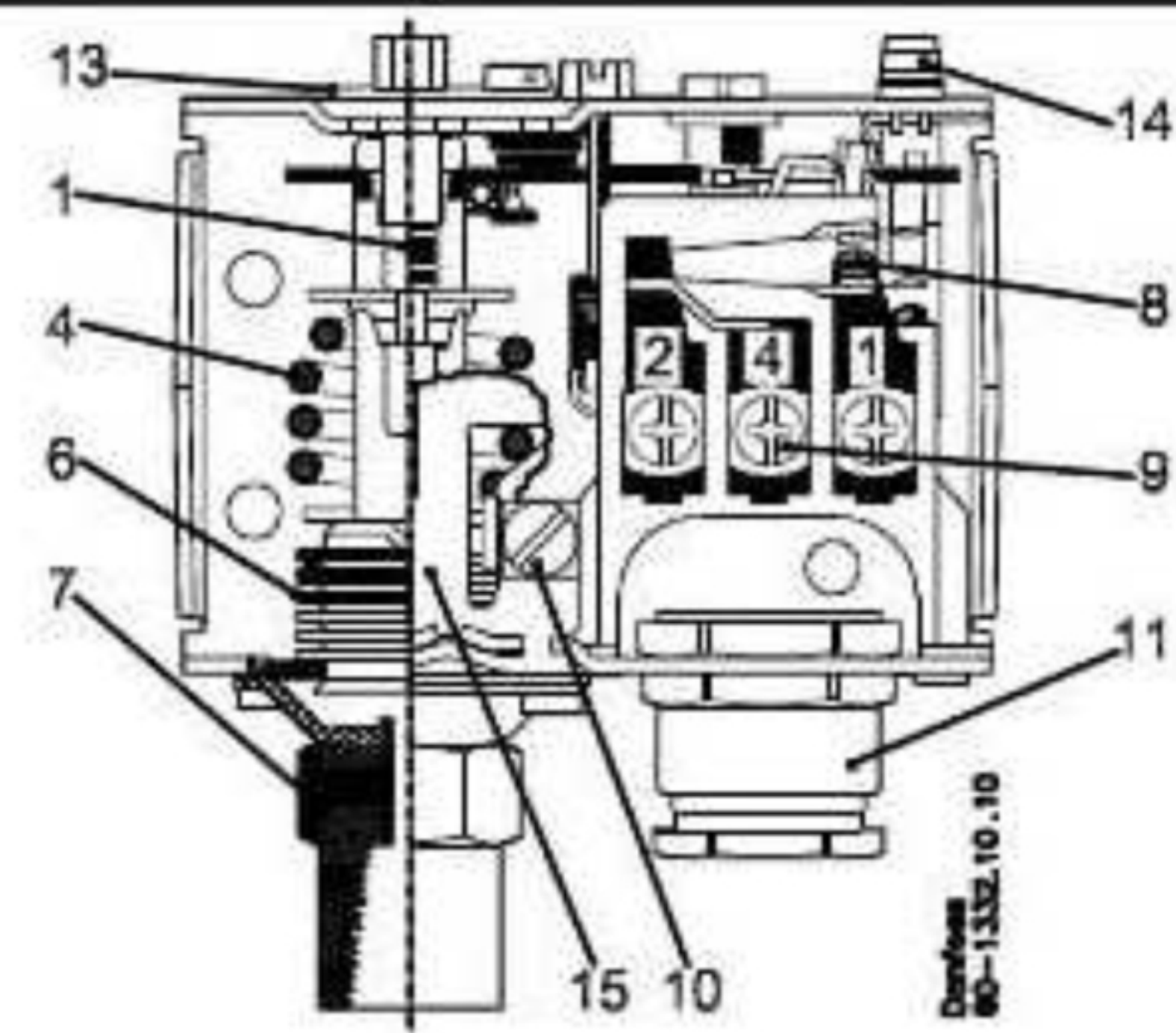


Key sketch of KP pressure switch

The contact system of KP switches has a snap-action function and the bellows moves only when cut-in or cut-out set point is reached.

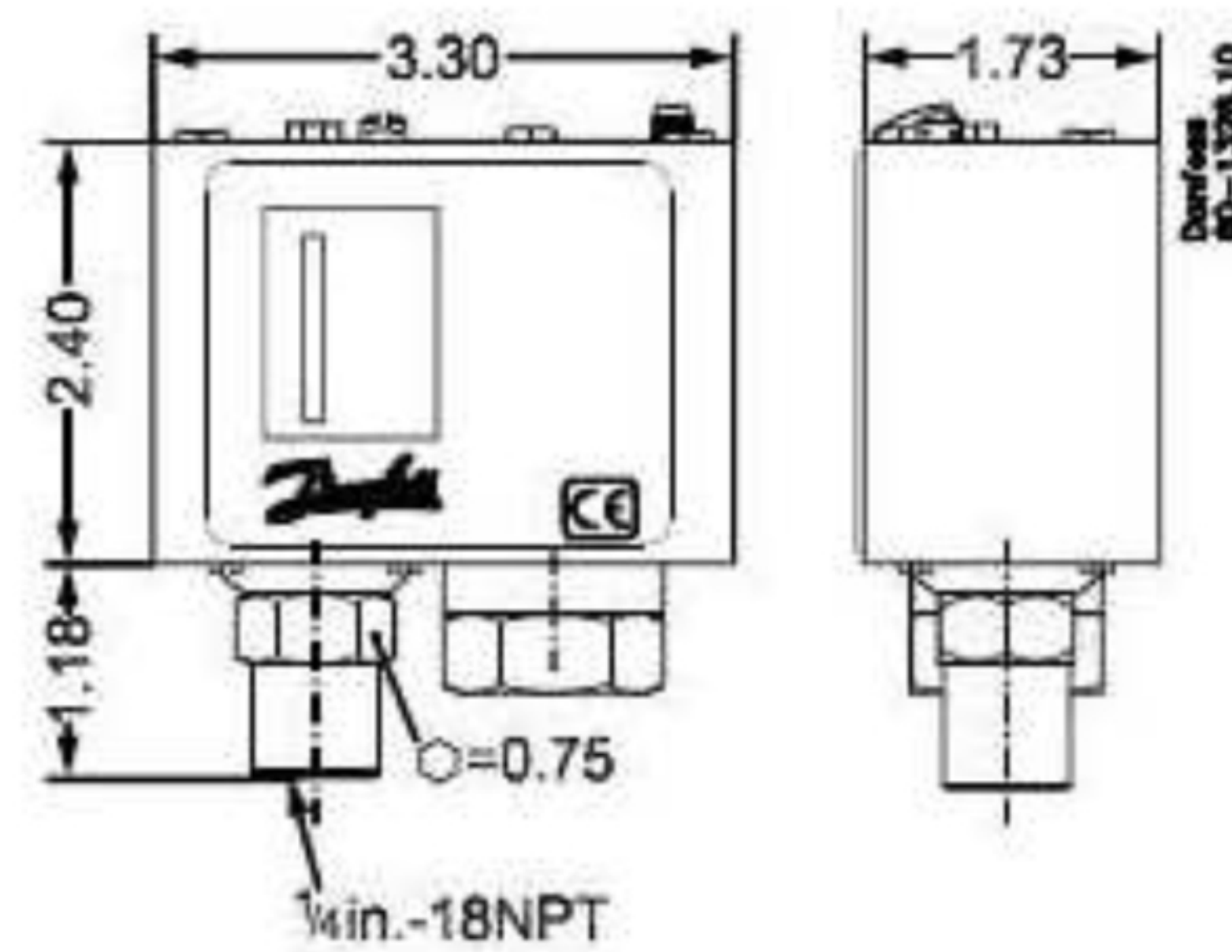
The design has the following advantages:

- higher contact load
- ultra short bounce time
- long mechanical and electrical lifetime
- high resistance to vibrations and pulsations

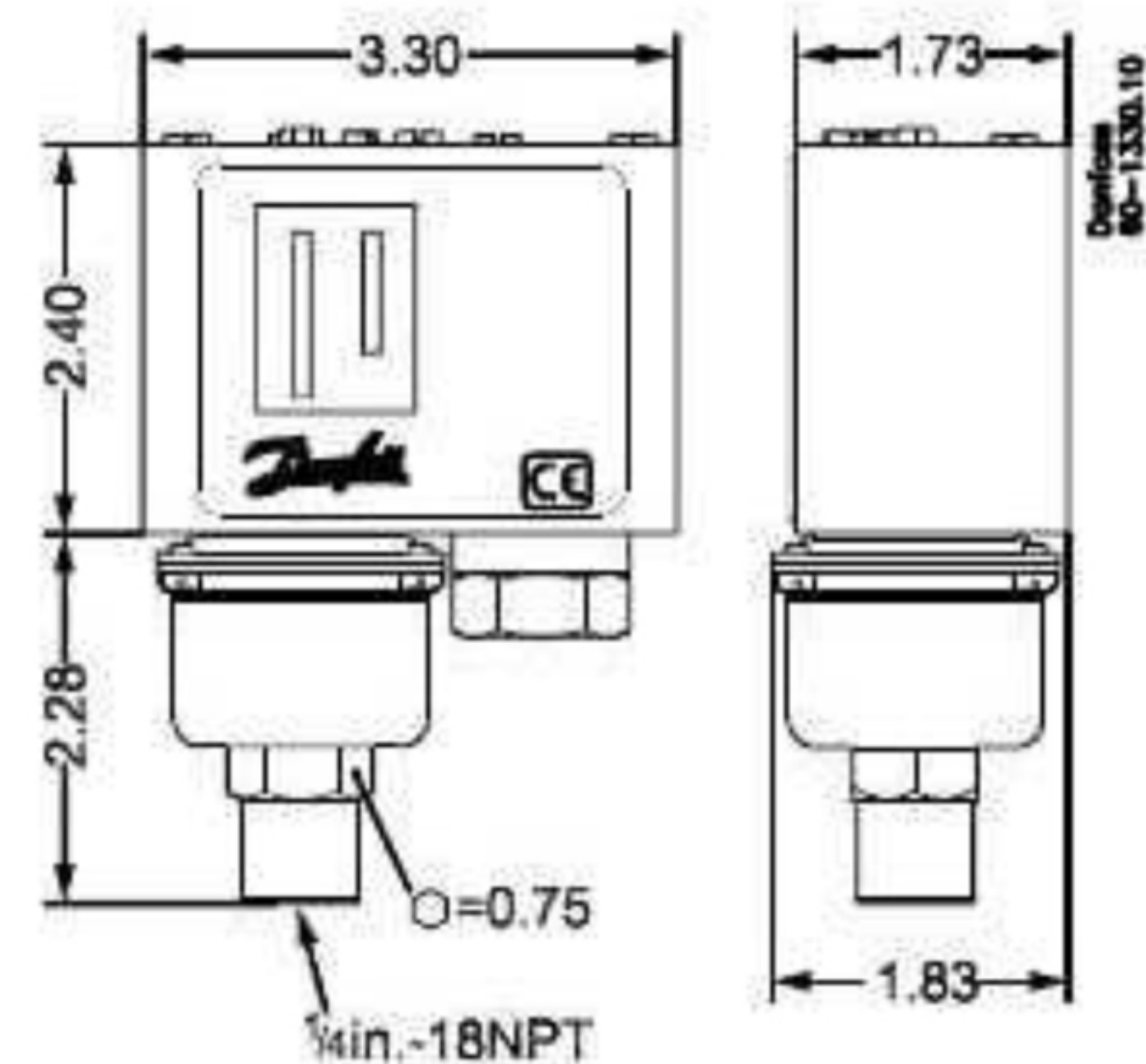


Simplified drawing of KP pressure switch without front cover and scale. Version with manual reset.

Dimensions and weight



KP 35, KP 36 and KP 37
(all dimensions in inches)
Approximate weight: 0.83 lb



KP 34 pressure switch
(all dimensions in inches)
Approximate weight: 0.9 lb

Pressure and temperature switches type KP

Technical drawing of the KP79/KP81 sensor assembly, showing three views: front, side, and detail.

Front View Dimensions:

- Overall height: 3.58
- Overall width: 3.30
- Internal height: 2.40

Side View Dimension:

- Width: 1.73

Detail View Dimensions:

- Top diameter: $\varnothing 0.44$
- Threaded section length: 4.41
- Threaded section diameter: $\varnothing 5.43$
- Thread specification: $\frac{1}{2}-14\text{NPT}$
- Hexagonal section diameter: Hex. $\frac{7}{16}$ in.
- Hexagonal section diameter: Hex. $\frac{3}{4}$ in.
- Bottom diameter: 0.375
- Bottom length: 3.348

Sensor pocket for KP79/ KP81,
code no.: 017-437866

Sensor of KP79/ KP 81,
Material: tinned copper
CuSn5

Part	Symbol	Description	Code no.
Brackets with mounting screws and washers for pressure and temperature switches		Wall bracket Angle bracket 4 screws 10-32 UNC + 4 washers	060-105266 060-105366 060-105166
Top cover for pressure and temperature switches		When the bracket is mounted on the back plate of the housing, the grade of enclosure of the KP switch is IP 44. Top cover covers the setting spindles.	060-109766
Brass made sensor pocket for KP temperature switch		Sensor pocket, gasket and union nut to screw into ½ in. connector welded onto tubes, containers etc.	017-437866
Knob for KP temperature switch			060-106366

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