



Product overview


The AX-LDPS-FD113 Differential Pressure Switch is a pressure monitoring solution for liquids and non aggressive gases. The unit is designed for both flow proving and flow failure detection to cover the range of 0.3 to 4.5 Bar. Approximate setpoint can be viewed on the dial at the front of the unit.

The AX-LDPS-FD113 uses the differential pressure between the two inputs to operate an electrical switch. Applications include refrigeration and air-conditioning systems according to EN378 e.g. Compressor oil pressure control.

Features

- Adjustable Differential
- Changeover contacts to suit many applications
- Fully mechanical switching
- Suitable for use with mains voltage

Product specifications

Range:		0.3 to 4.5 Bar
Differential:		0.2 Bar
Factory Setting:		0.7 Bar
Maximum Pressure:	Operating	12 Bar
	Test PT	25 Bar
Pressure Connections:		1/4" BSP Female
Electrical Connection:		Screw Terminals - max conductor size 1.5mm ²
Switch Rating:	AC	3A @ 230Vac (inductive)
	DC	0.1A @ 230Vdc
Ambient Temperature:		-20°C to 70°C
Media Temperature:		Max. 70°C
Protection class (EN60529):		IP30
Weight:		0.79kg
Vibration Resistance:		4g (10...1000 Hz)
Medium Compatibility:		HFC, HCFC
		CE according to Low Voltage Directive
Marking:		 AB28
Materials:	Fittings	Brass
	Wetted Parts	Phosphor Bronze
	Switch Back Plate	Zinc plated mild steel
	Housing Cover	Flame resistant polycarbonate
Country of Origin:		Czech Republic

Order codes

AX-LDPS-FD113 Liquid Differential Pressure Switch 0.3Bar to 4.5Bar

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Safety Instructions

- Read the installation instructions thoroughly. Failure to comply can result in device failure, system damage or personal injury
- It is intended for use by persons having the appropriate knowledge and skill
- Before opening any system make sure pressure in system is brought to and remains at atmospheric pressure
- Ensure supply voltage and current of electric device match rating of the AX-LDPS-FD113. Disconnect supply voltage from system and AX-LDPS-FD113 before installation or service
- Do not exceed test pressure
- Keep temperature within nominal limits
- Do not apply torsional force to switch housing during assembly (see Fig. 4)

Installation

The AX-LDPS-FD113 should be installed by a suitably qualified technician in accordance with prevailing regulations and any guidelines for the equipment to which it is to be connected. The AX-LDPS-FD113 is suitable for use with mains voltage and power must be isolated before opening the cover.

The AX-LDPS-FD113 is for use in systems under pressure and should be installed in accordance with practices relevant to the intended use only by persons qualified to do so. The AX-LDPS-FD113 should be mounted on a wall or other suitable surface using the bracket provided (Fig. 5). Pipework should then be installed to the unit and terminated at the high and low parts using the 1/4" BSP fittings. It is the responsibility of the installer to ensure that the pipework is suitable for the system pressure.

Differential Pressure Setting

The cut-out pressure can be adjusted between 0.3 bar and 4.5 bar, the factory setting is 0.7 bar. Cut-in pressure is fixed at 0.2 bar above cut-out pressure.

Reset

The AX-LDPS-FD113 automatically resets

Mounting Direction

The unit can be mounted in any direction, preferably with pressure connections vertically.

Function / Type of Switch (See Fig. 1)

Differential pressure controls

Pressure Connection (See Fig. 4)

Apply Teflon sealant to adapter thread.

Leakage Test

After completion of installation, a test pressure must be carried out as follows:

- According to EN378 for systems which must comply with European pressure equipment directive 97/23/EC
- To a maximum working pressure of system for other applications

Warning : Failure to correctly test the system could result in loss of refrigerant and personal injury. The pressure test must be conducted by skilled persons with due respect regarding the danger related to pressure.

Maintenance / Service

In case of repair work or replacing the control always **use new sealant**.

Electrical Connection

Note: Comply with local electrical regulations when wiring. Wire size must be suitable for electric device connected to the AX-LDPS-FD113.

Connection

Electrical:

Electrical connections are made as follows:

Remove power before opening or closing the cover.

1. Remove the plug from the body by unscrewing the retaining bolt in the top of the plug.
2. Ensure the unit is not subjected to ingress by water.
3. Ensure all wiring passes through the rubber grommet.
4. Always use the supplied screw to mount the unit to the base.

If the supplied screw is lost an M 0.7 x 8 screw can be used (must have a depth of 5mm or less).

5. Connect the wiring as shown in the diagram below depending upon the type of unit.
6. Set the switching point by inserting a screwdriver into the slots wheel above the scale.

Electrical connections

1. Normally Closed
2. Normally Open
3. Common

Wiring & Dimensions

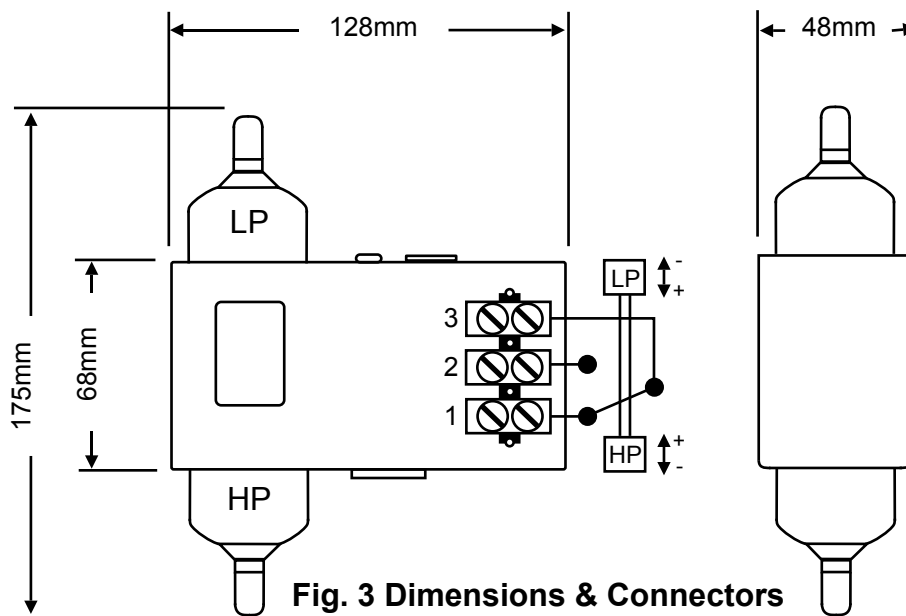


Fig. 3 Dimensions & Connectors

Testing

Pushing Lever 1 (Fig. 2) upwards simulates a pressure rise at the HP side. Pushing the level down during operation simulates a lack of HP.

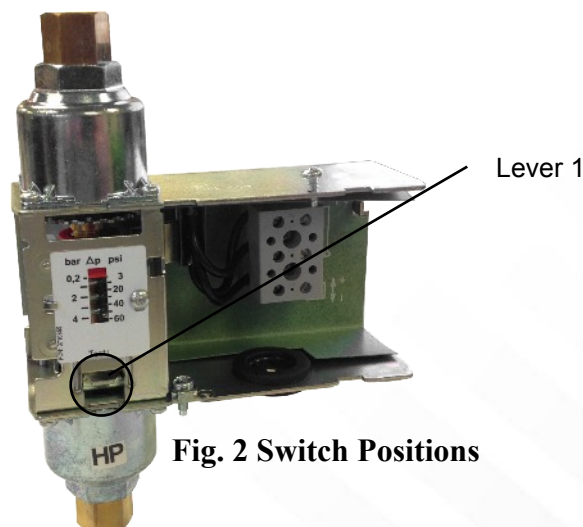


Fig. 2 Switch Positions

Other Drawings & Information

Fig. 3 Example Wiring Diagram for 3 Phase Compressor

This is an application example to further demonstrate appropriate use of the AX-LDPS-FD113

- A. Thermal overload relay (motor protection)
- B. Motor fuses
- C. Control circuit fuse gL, max 4A
- D. Differential pressure control
- T. Thermostat
- H. Indicator lamp "Oil Pressure"
- K. Compressor contactor
- M. Compressor motor

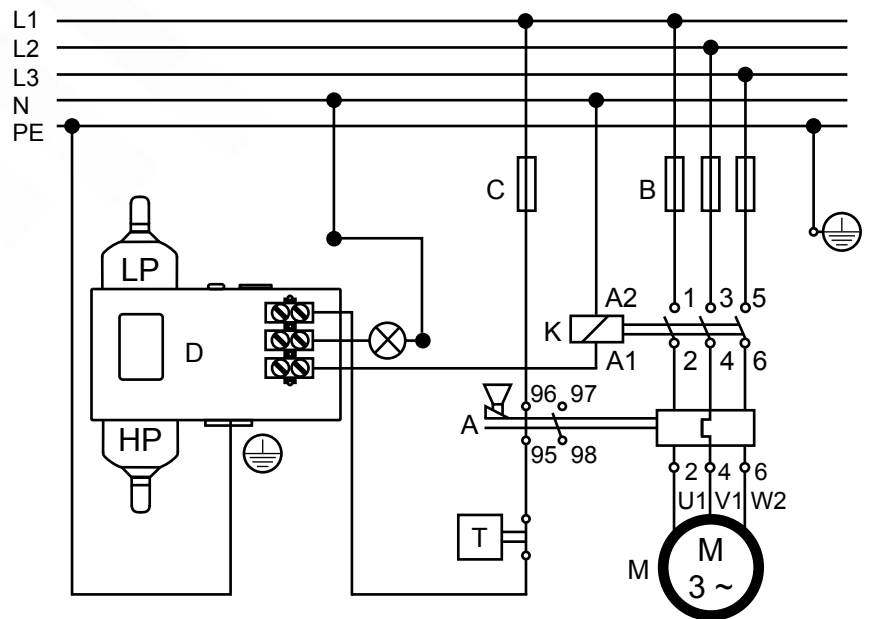


Fig. 4 Pressure Connection

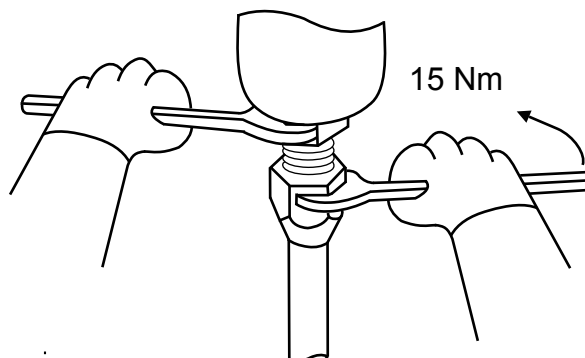
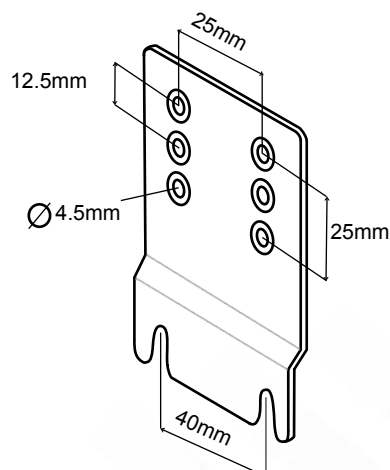


Fig. 5 Mounting Plate



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