

Product Overview

The AX-LSPSTXL is an electronic pressure switch with a volt-free contact output for use in HVAC applications. The display allows the user to set the switching points with ease compared to mechanical pressure switches. The LCD displays the pressure on both ports as well as the differential. Since the settings are done electronically, much higher accuracy can be achieved at the switching point, with complete control over the hysteresis. An analogue output is also available for BMS controllers to continuously monitor the differential pressure.

Applications:

- Monitoring and control of pumps in HVAC applications
- Liquid flow detection



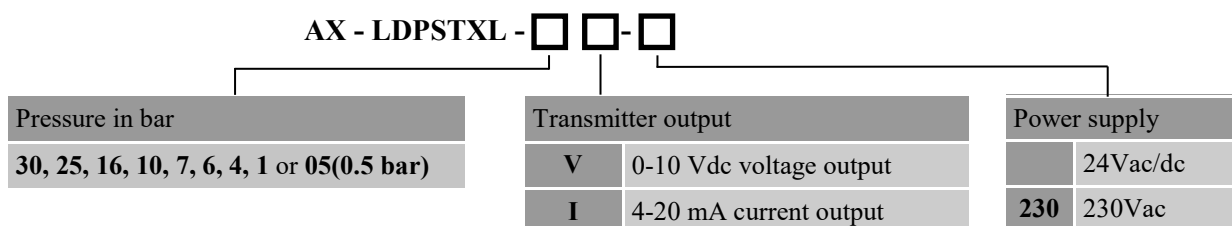
Products Features

- LCD readout for pressure on both sides and differential
- Adjustable switch ON and switch OFF points
- Analogue differential pressure output 4-20 mA/0-10 V
- High accuracy pressure sensors
- IP-65 Enclosure for covered outdoor application
- Two part plug-in connectors for easy installation

Product Specifications

Power Supply:	24Vac/dc ±10%
	-230 Version: 85-265Vac
Relay Output:	Type: 1CO
	Contact Rating: 8A resistive at 250Vac/24Vdc
Analog Output:	4-20 mA (<600 Ohms) / 0-10 Vdc(>10K Ohms) (See order codes)
Accuracy:	±0.5% FS for Range1, ±1% FS for Range2, ±1.5% FS for Range3, ±2% FS for Range4
Display:	4 digit 9.5mm high character blue backlit LCD
Relay ON Point Adjustability:	0.1bar to FS.(0.01bar for 500mbar units)
Relay OFF Point Adjustability:	0 - Relay ON point
Terminals:	Rising clamp for 0.5-1.5mm ² . Two part pluggable connectors
Pressure connections:	G1/4" Male.
Medium temperature:	-20°C - +85°C
Wetted Parts:	SS 316L, NBR
Maximum Static Pressure:	1.5 times the selected pressure range.
Burst Pressure:	3 times the selected pressure range
Sensor cable length:	1 metre
Enclosure:	Flame retardant ABS, IP65, white with clear lid
Weight & Dimensions	TBD
Ambient Operating Conditions:	0°C to 60°C / 10 - 90%RH
Country of Origin	United Kingdom

Product Order codes



e.g. AX-LDPSTXL-16V for 16 bar differential pressure switch with 0-10Vdc output, 24Vac/dc power supply

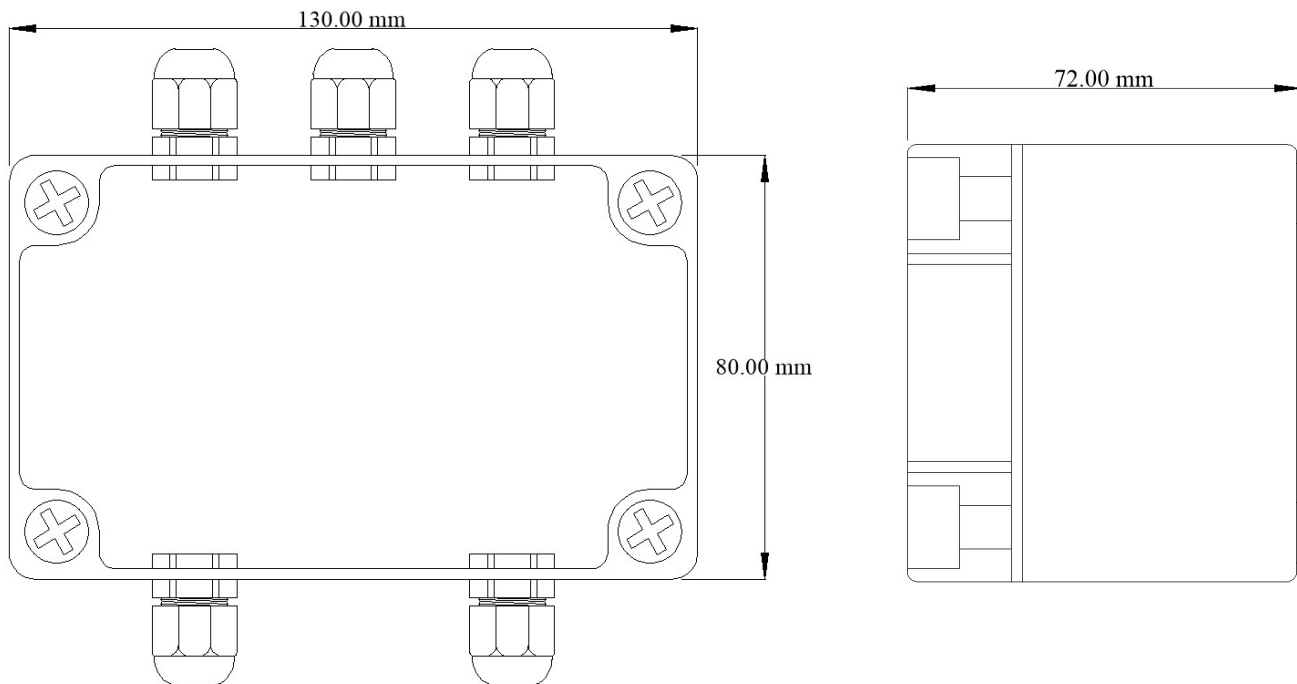
AX-LDPSTXL



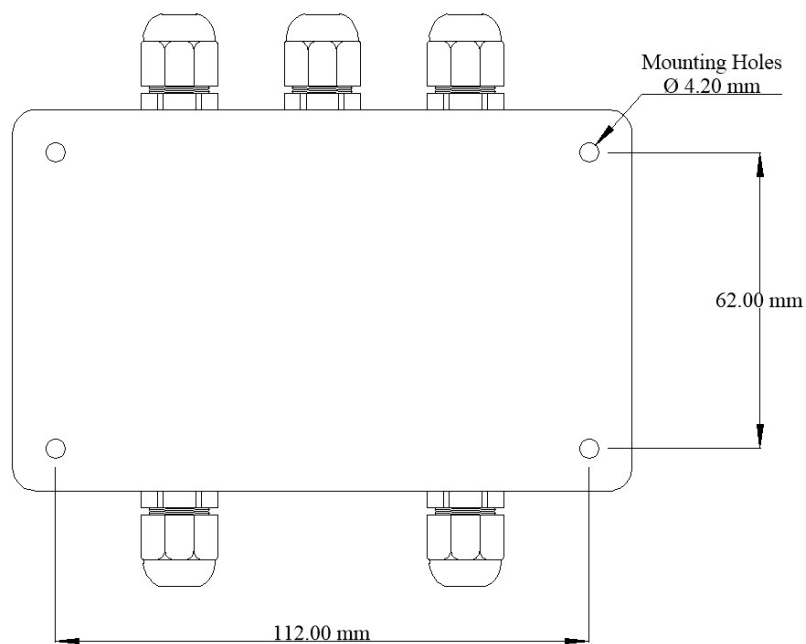
Liquid Differential Pressure Switch with Transmitted output

Dimensions

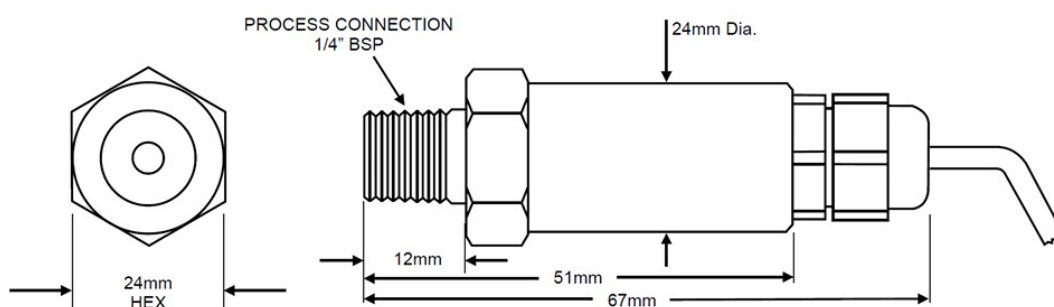
Enclosure



Mounting Holes



Pressure Sensors



Installation

The unit should be installed by a suitably qualified technician, following the guidelines for the equipment it will be connected to, as well as any applicable local regulations. Field wiring must be installed in accordance with the requirements specified by the manufacturer of the equipment to which the unit is connected.

Mounting the enclosure

Use the provided mounting holes to secure the unit to a flat surface. Do not drill additional holes in the enclosure, as this may compromise its ingress protection.

Mount the unit in a covered area to avoid direct sunlight, which can raise the unit temperature above the rated ambient temperature and affect measurement accuracy.

Fitting the pressure sensors.

The pressure sensors feature a G1/4" (1/4" BSPP male) thread and can be fitted directly onto piping or via a copper extension tube. A hexagonal surface is cast into the body for turning the sensor with a spanner. Do not use gripping devices such as stilson wrenches or swan-neck pliers on the smooth cylindrical part of the body, as this may damage the sensor.

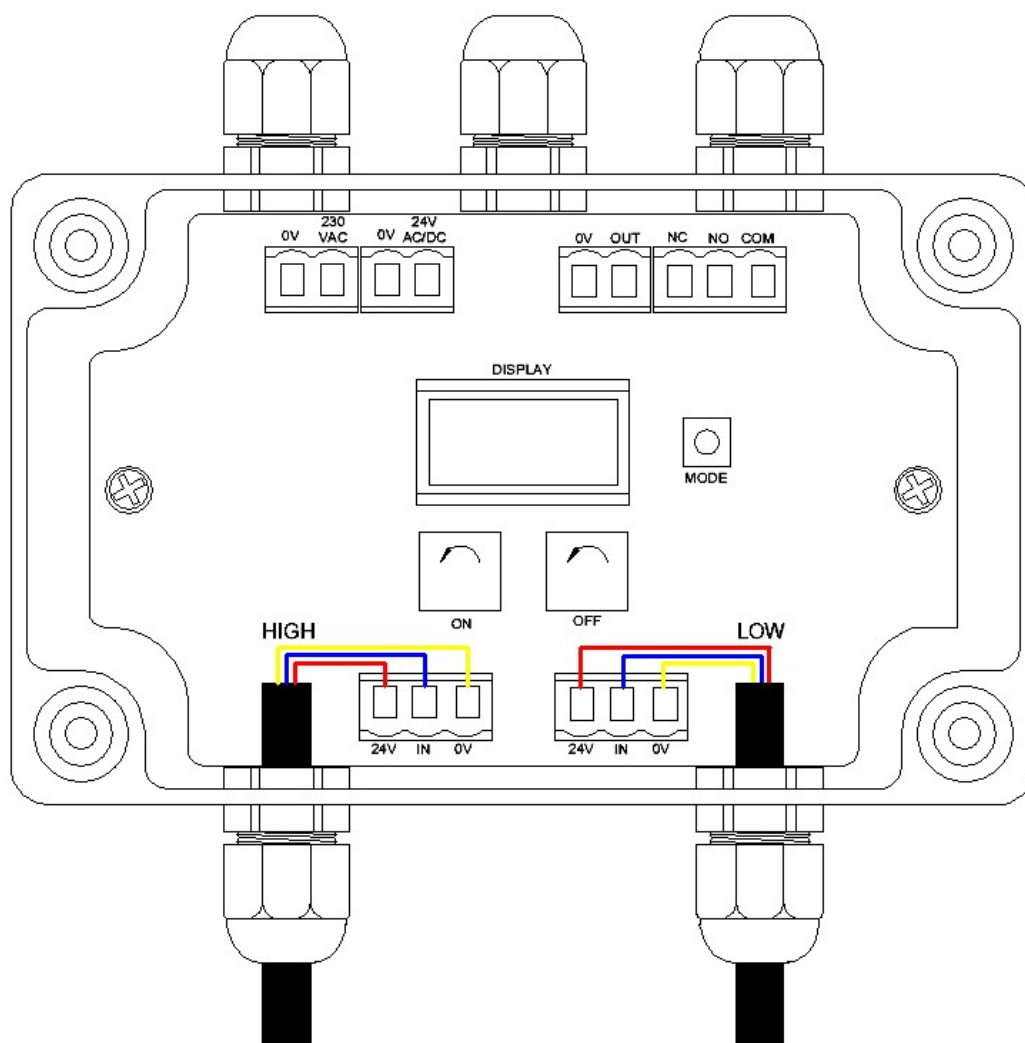
To reduce fluctuations caused by pressure pulsations in the measured line, use pressure snubbers as needed.

Connections

The pressure sensors should be connected to the main unit after they have been installed on the pipes. Each sensor comes with a 1-metre-long cable, with the wires stripped and tinned. Pass the cables through the cable glands and connect them to the terminal blocks. The wire colours should match the colour codes Red(R), Blue(B), Yellow(Y) on the printed circuit board.

Connect the power supply (24 V or 230 V, depending on the version) and the output wires as required by the application.

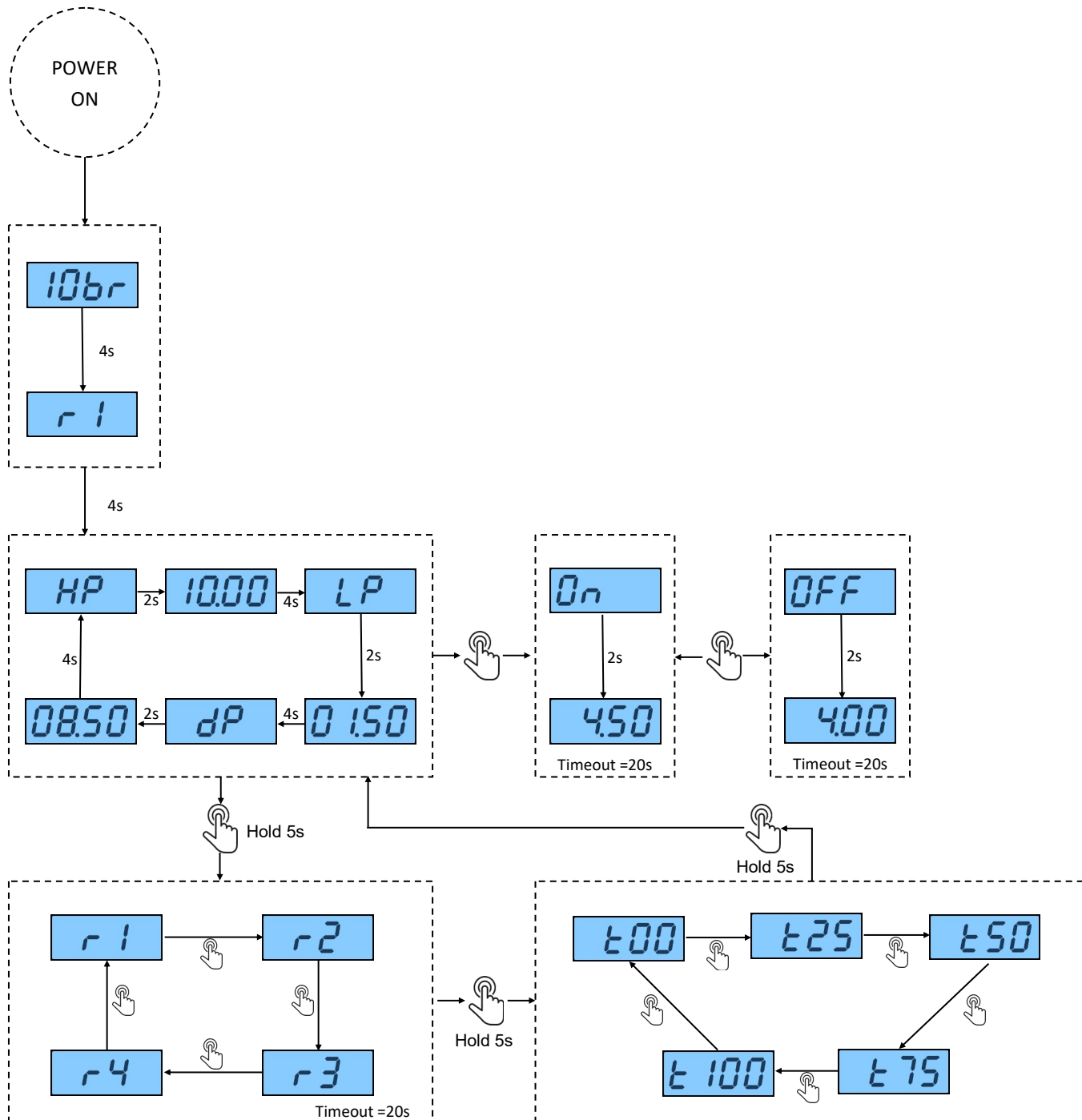
For analogue outputs, use shielded cable and connect the shield to earth at the control panel. Do not route signal cables alongside high-current power cables, as this can cause signal degradation.



Set Up

When the unit is powered on, the display will show the pressure range (in bar) for a few seconds and the selected range before switching to the normal screen. Ensure that this value matches the part number you have ordered. Do not press the button or adjust the preset until the display returns to the normal screen.

The sensor engraving should read AX-LSPTA-V-x, where x indicates the pressure range in bar.



During normal operation, the display will sequentially toggle between the pressure at the HIGH port, pressure at the LOW port, and the differential pressure. Press the push-button switch once to display the switch ON point on the LCD. Adjust the ON preset to set it to the desired pressure. Press the push-button switch again to display the switch OFF point on the LCD. Adjust the OFF preset to set it to the desired pressure. If the push-button is not pressed or the preset is not adjusted for 20 seconds, the display will automatically return to the normal operation screen.

Liquid Differential Pressure Switch with Transmitted output

Differential pressure transmitter output range selection

The display must be on the normal operation screen. Press and hold the push-button for 5 seconds. The display will show the selected range. Four ranges are available r1 through r4. Note that the output accuracy will vary depending on the selected range.

Part No	Differential Pressure Output			
	r4	r3	r2	r1
AX-LDPSTXL-05	0-500 mbar	0-400 mbar	0-250 mbar	0-125 mbar
AX-LDPSTXL-1	0-1000 mbar	0-750 mbar	0-500 mbar	0-250 mbar
AX-LDPSTXL-4	0-4 bar	0-3 bar	0-2 bar	0-1 bar
AX-LDPSTXL-6	0-6 bar	0-4.5 bar	0-3 bar	0-1.5 bar
AX-LDPSTXL-7	0-7 bar	0-5 bar	0-3.5 bar	0-2 bar
AX-LDPSTXL-10	0-10 bar	0-7.5 bar	0-5 bar	0-2.5 bar
AX-LDPSTXL-16	0-16 bar	0-12 bar	0-8 bar	0-4 bar
AX-LDPSTXL-25	0-25 bar	0-18 bar	0-12 bar	0-6 bar
AX-LDPSTXL-30	0-30 bar	0-22.5 bar	0-15 bar	0-7.5 bar

Test Output

Use test mode to verify the unit and the output wiring. In test mode, the relay is turned ON, and the transmitted output takes the following values:

t00 : 0.0V/4.0mA

t25 : 2.5V/8.0mA

t50 : 5.0V/12.0mA

t75 : 7.5V/16.0mA

t100 : 10.0V/20.0mA

Press and hold the push button switch for 5 seconds to return to main screen.

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