HK INSTRUMENTS ltd
Keihästie 7
FIN-40950 MUURAME
FINLAND
Tel. +358 14 337 2000
Fax. +358 14 337 2020
Email: info@hkinstruments.fi
www.hkinstruments.fi
Bank: Leonia 800019-01847385
Vat Reg: FI 08730729
Reg no: 404.989

DIFFERENTIAL PRESSURE SWITCH DPI

Model summary

Each device has 4 selectable measuring ranges. Each device is individually temperature compensated.

4 range model *- AZ for autozero element* *- 2R for 2 relays*	**range 1**	**range 2**	**range 3**	**range 4**	**Accuracy from range -10...+50°C**	**Long term stability** *typical 1 year*	
						-AZ	without -AZ
DPI+/-500 (-AZ-2R)	±100Pa	±250Pa	±300Pa	±500Pa	±1,5% or (±3Pa <250 Pa)	≤ ± 1 Pa	≤ ± 8 Pa
DPI2500 (-AZ-2R)	100Pa	250Pa	1000Pa	2500Pa	±1,5% or (±6Pa <250 Pa)	≤ ± 1 Pa	≤ ± 8 Pa

*) -AZ model recommended when measured pressure is ≤ 250Pa

The Differential Pressure Switch is delivered individually packed with standard accessories (see accessories).

HK INSTRUMENTS ltd
Keihästie 7
FIN-40950 MUURAME
FINLAND
Tel. +358 14 337 2000
Fax. +358 14 337 2020
Email: info@hkinstruments.fi
www.hkinstruments.fi
Bank: Leonia 800019-01847385
Vat Reg: FI 08730729
Reg no: 404.989

Technical data

Bursting pressure	30 kPa	
Suitable media	Air and non-aggressive gases	
Measuring element	Piezoresistive	
Electrical interface	Supply voltage	18-35VDC/24VAC ± 10%
	with AZ option	24VDC/VAC ± 10%
	Current consumption	35mA + relays (7mA each) + AZ (20mA) + 0…10V output (10mA)
	Output signals	Relay output 1 (250VAC / 30VDC / 6A) Optional relay output 2 (250VAC / 30VDC / 6A) Optional 0…10V, L min 1kΩ
Materials	Housing	ABS
	Cover	PC
	Pressure connections	ABS
	Duct connectors	ABS
	Tubing	PVC, soft
Connections	Electrical connections	
	Power and 0…10V out	3 x screw terminals, max 1.5 mm^2
	Relays 2 x SPDT	6 x screw terminals, max 1.5 mm^2
	Cable entries	M16 and M20
	Pressure connections	Male ∅ 5,0 mm and 6,3 mm
Weight	150 grams, with accessories 290 grams	
Dimensions	90,0 x 71,5 x 36,0 mm	
General ambient condition		
	Temperature range	
	Operation	-10…+50°C (-5…+50°C for –AZ model)
	Storage	-20…+70°C
	Ambient humidity	0 to 95% RH
Safety	Protection standard	IP54
	Conformance	Meets the requirements for CE marking: EMC directive 89/336/EEC Rohs Directive 2002/95/EY

Accessories

Standard accessories:

- 2 fixing screws
- 2 plastic duct connectors
- 2 m tube ∅ 4 / 7 mm

Optional accessories:

- Metallic duct connectors

HK INSTRUMENTS ltd
Keihästie 7
FIN-40950 MUURAME
FINLAND
Tel. +358 14 337 2000
Fax. +358 14 337 2020
Email: info@hkinstruments.fi
www.hkinstruments.fi
Bank: Leonia 800019-01847385
Vat Reg: FI 08730729
Reg no: 404.989

Zero-point adjustment

Note! Supply voltage must be connected one hour before the 0-point adjustment is carried out.

1) Loose both tubes from the pressure inlets + and –
2) Push zero button until the green led blinks.
3) Wait until LED stops blinking and then install tubes again to the pressure inlets

It is recommended to adjust the zero point every 12 months during normal operation

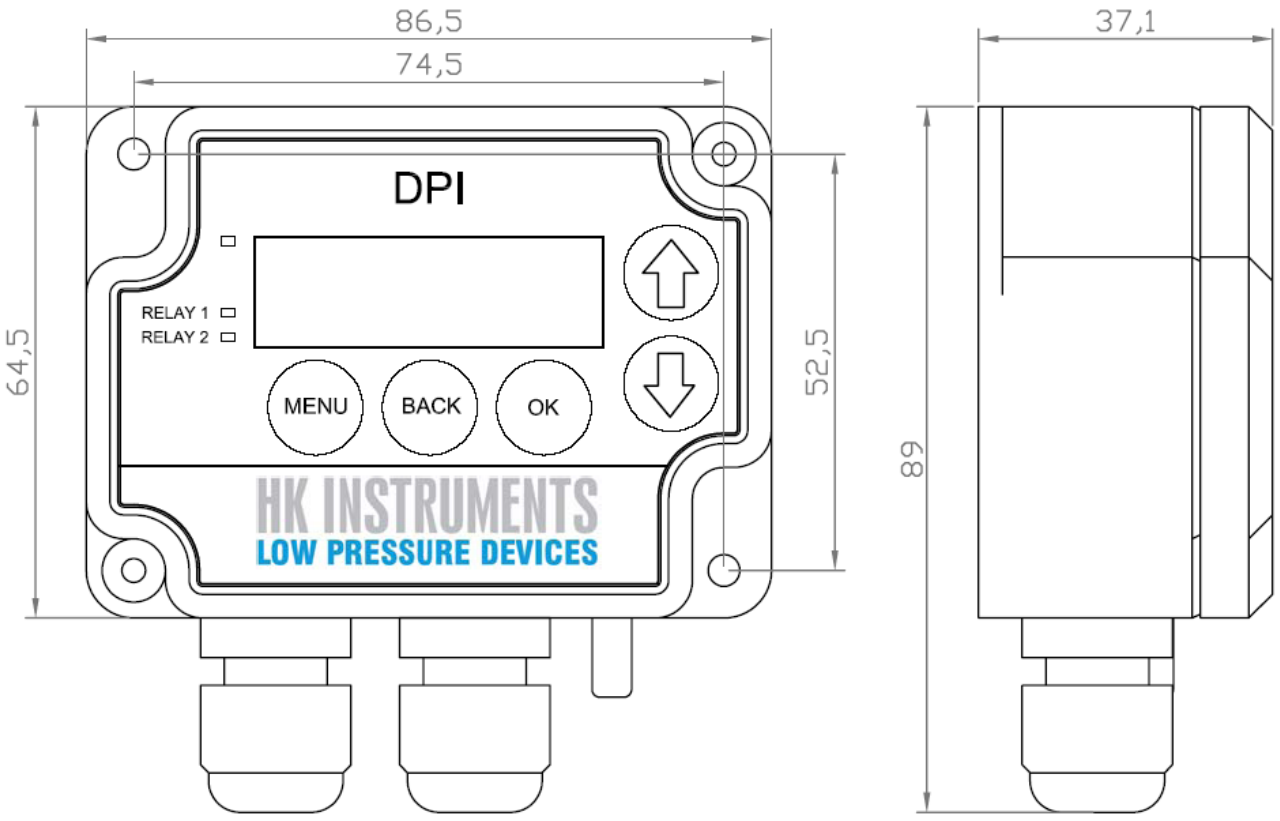
* If the transmitter is equipped with automatic zero element the manual push button adjustment is not required.

Optional auto zero element *

Optional auto zero element makes the DPT transmitter maintenance free for periodical push button zeroing. Element automatically adjusts the transmitters zero point from time to time, this eliminates the zero point long term drift of the piezoresistive sensing element.

Zero point adjustment is carried out every 10 minutes. During zero point adjustment the output and display values will freeze to the latest measured value. The automatic zero point adjustment takes 4 seconds.

Dimensions



HK INSTRUMENTS ltd
Keihästie 7
FIN-40950 MUURAME
FINLAND
Tel. +358 14 337 2000
Fax. +358 14 337 2020
Email: info@hkinstruments.fi
www.hkinstruments.fi
Bank: Leonia 800019-01847385
Vat Reg: FI 08730729
Reg no: 404.989

Installation

Notes, when using high voltage for relay (115VAC...250VAC)!

The supply cable and control cable for relays should be separate, if high voltage (115...250VAC) is used as relay contact. Both of the cables have their own cable entry.

The settings are done via push buttons and the display according to the instructions below:

1 relay model (Type DPI xxx)

1.	to select the pressure range:	±100Pa → ±250Pa → ±300Pa → ±500Pa →
2.	to adjust the switching point relay 1:	0Pa ... max Pa (acceleration)
3.	to adjust the hysteresis relay 1:	0Pa ... 10% of the maximum range
4.	to adjust the response time relay 1:	0,8...20s
5.	to activate the alarm LED on the lid:	relay 1 → relay 2 → Off →
6.	to adjust the zero point of the P measurement:	Zeroing
7.	to adjust the span point of the P measurement:	stepless high point adjustment

2 relay model (type DPIxxx–VIS)

1.	to select the pressure range:	±100Pa → ±250Pa → ±300Pa → ±500Pa →
2.	to adjust the switching point relay 1:	0Pa ... max Pa (acceleration)
3.	to adjust the hysteresis relay 1:	0Pa ... 10% of the maximum range
4.	to adjust the response time relay 1:	0...16s
5.	to adjust the switching point relay 2:	0Pa ... max Pa (acceleration)
6.	to adjust the hysteresis relay 2:	0Pa ... 10% of the maximum range
7.	to adjust the response time relay 2:	0,8...20s
8.	to activate the alarm LED on the lid:	relay 1 → relay 2 → Off →
9.	to adjust the zero point of the P measurement:	Zeroing
10.	to adjust the span point of the P measurement:	stepless high point adjustment

Electrical connection diagram