

## Ventil'O Delta P & Input



The Ventil'O Delta P sensor measures the depression established by an external sanitary or gas ventilation unit or by an Air Handling Unit. It may also report the status of a local mechanical pressure switch. The sensor regularly transmits its data on the public or private LoRaWAN® radio network.

### APPLICATIONS

- Supervision of sanitary ventilation, boiler gas evacuation and HVAC installations.

### BENEFITS & FEATURES

- LoRaWAN®, Class A.
- Easy to install and use.
- Measurement of vacuum
  - Measuring range: 0 / + 500Pa
  - Accuracy  $\pm 10$ Pa from 0 to 200Pa;  $\pm 5.5\%$  above
  - Resolution 1 Pa
- Status report of a local pressure switch (or other).
- Extract air temperature measurement (can be activated).
- IP65
- Up to 10 years of autonomy.

### CERTIFICATION

- RoHS, CE.



The Ventil'O Delta P device monitors a centralized ventilation unit by periodically taking vacuum measurements. If the vacuum threshold is exceeded, an alert is immediately transmitted via a public or private LoRaWAN® network.

The status of a local mechanical pressure switch can be reported if required. A trigger forces a measurement associated with an alert report.

Installation and commissioning is quick and easy.

The sensor is equipped with :

- the necessary components for connection to the ventilation system,
- a switch (ILS) to enable and disable the Sensor.
- LEDs to monitor configuration and network association.

Each sensor is identified by a QR code on the label and an NFC tag in the box.

At regular intervals, the sensor measures the vacuum achieved by the ventilation unit or the air handling unit.

Between two transmissions the sensor calculates :

- the middle depression,
- the minimum and maximum lows observed.

The sensor regularly transmits these values on the public or private LoRaWAN® network.

During the measurement, if a vacuum threshold is crossed or if the input is triggered, the sensor immediately transmits the vacuum measurement. A hysteresis and a count of occurrences make it possible to avoid false alarms on "gale" for example.

To accurately monitor the operation of a system, the sensor can also be configured in batch mode to report all measurements taken.

Powered by a 3.6V/3600mAh battery, the sensor's autonomy is at least 10 years for a configuration performing a vacuum measurement every 15 minutes and a transmission every 6 hours.

The battery voltage level can be monitored regularly from a distance.

## THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

nke WATTECO is a European leader in the design and manufacture of intelligent IoT devices to fit to all remote reading and data collection solutions.

nke WATTECO is a LoRa Alliance® member.

## TECHNICAL CHARACTERISTICS

RADIOFREQUENCY		
Frequency (MHz)	EU: 863-870	
Tx power (dBm)	14	
Sensitivity (dBm)	-140	
FIRMWARE CONFIGURATION		
Protocol	LoRaWAN®, Class A	
Measurement periodicity	Configurable from 10 minutes to 24 hours	
Transmission interval	Average, minimum, maximum pressures calculated and transmitted every 60mn to 48h (configurable); otherwise batch every 30mn to 48h (configurable)	
Data compression	By differential coding (configurable)	
Activation method	ABP or OTAA	
Data encryption	AES128	
MEASURES		
	Depression	Extract air temperature (can be activated)
Range	0 to 500 Pa	20°C to +60°C
Accuracy	+/-10Pa in the range 0 to 200Pa otherwise +/-5.5% from 200Pa to 500Pa	2°C in the range 0°C and 50°C
Resolution	1 Pa	0,1°C
ALERTS		
Depression thresholds	Adjustable in the range 0 to 500Pa in 1Pa steps: - min: start of alert 100Pa / end of alert 120Pa (configurable), - max: start warning 480Pa / end warning 450Pa (configurable). Hysteresis and counter of occurrences after crossing (configurable).	
Triggering on input	On/off change retransmitted	
POWER SUPPLY		
Characteristics	Lithium battery 3,6V / 3600mAh on holder (battery can be changed after removing the cover) Transmitted battery voltage level (configurable in 0.1V steps)	
Autonomy in the range of +10°C to +25°C	10 years with SF12, 1 measurement / 15 minutes and 1 transmission / 6 hours	
USER INTERFACE		
ILS + LED switch	Monitoring association on the network; signalling visible sensor status closed sensor	
Vacuum measurement	Via 2 x 200cm tubes and 2 x pipettes to be attached to the housing or the ducts	
Trigger input	Cable connection (not supplied) on/off on spring connectors on electronic board	
BOX		
Dimension (mm) / Sealing Material	92x92x56 / IP65 ABS UL94-V0 HB	
Mounting	2 screws and 2 dowels (supplied)	
TEMPERATURE		
Operation	-20 / +60°C To be placed away from direct weather and direct sunlight (e.g. Plexo box) to avoid rapid temperature changes that can affect the quality of the measurement.	
Storage temperature (°C; rH)	10°C / +30°C; between 20%rH and 60%rH	
STANDARDS & REGULATIONS		
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1		
  		

## PRODUCT REFERENCES

REFERENCE	DESCRIPTION
50-70-166	VENTIL'O DELTA P