



BUMBLEBEE

**ATEX WIRELESS SOLUTION FOR
PRESSURE AND TEMPERATURE
MONITORING OF YOUR WELLS**

Bumblebee is the turnkey solution for monitoring your production installations in ATEX areas. It automatically and regularly transmits reliable data via LoRa radio technology. Easy to deploy and maintain, it fits easily into your data management system.



LoRaWAN

THE MONITORING SOLUTION TO ENHANCE YOUR OPERATIONS



REMOTE MONITOR THE STATUS OF YOUR WELLS
Instantly view indicators related to your production facilities.



IMPROVE YOUR DECISION MAKING
Organize your operations based on remote information.



OPTIMIZE YOUR RESOURCES
Eliminate routine visits to the field, and reduce production shutdowns.

MONITORING PARAMETERS



PRESSURE



TEMPERATURE



ALERT ON
THRESHOLD



Bumblebee Long Range Wireless Plug-in Temperature Sensor provides secured data on predefined time intervals to client seamlessly. It can replace any conventional Temperature Sensor.

Bumblebee Real Time Monitoring of Surface Installation in ATEX environments provide:

- OPEX and CAPEX reduction
- Condition based maintenance
- HSE improvement

Application

- Process Monitoring
- Flow Line Monitoring

Benefits

- Long Range Wireless
- Plug in Installation
- Reduce Installation Cost
- Secured Data transmission

Features

- ATEX Certified
- 180 deg C / 350 F
- 5 years autonomy
- 12 km wireless communication
- 500 sensors per Gateway
- Can be combined with Bumblebee Pressure Sensors

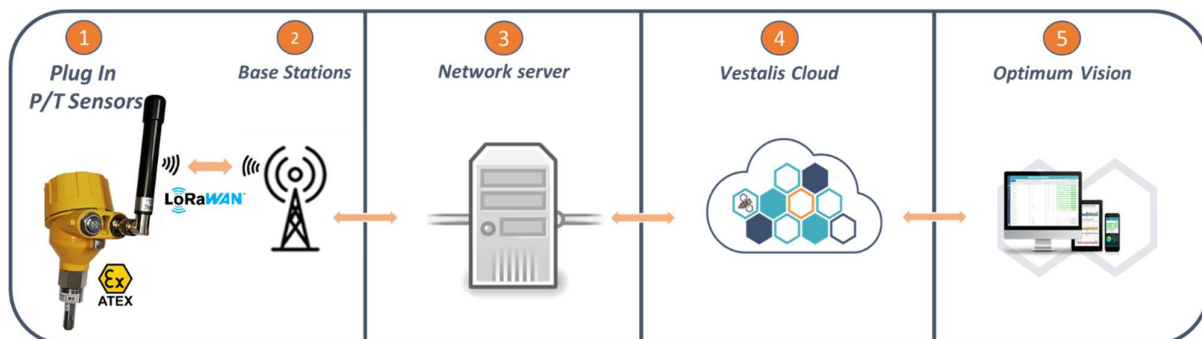
How it works

The Bumblebee Temperature Sensor incorporates leading-edge technologies to consistently provide the best-in-class Long Range Wireless Remote Monitoring Temperature measurements in ATEX environment.

Bumblebee Plug-In Sensor will be installed seamlessly on any installation or replace any Temperature Gauge already installed. Within 2 minutes, data will flow wirelessly to the gateway. Data will then be sent and stored on Vestalis cloud and delivered to the client on Optimum Vision platform. Data can also be pulled from Vestalis cloud and integrated directly into client servers.

Optimum Vision Platform enable client to set up Alarm and threshold to better monitor their infrastructures.

Data security is provided via fully encrypted transmission and secured Protocol.



MONITORING PARAMETERS



PRESSURE



TEMPERATURE



ALERT ON THRESHOLD

BUMBLEBEE TEMPERATURE SPECIFICATIONS P/N 1001920 or T*****2	
General	
Weight (including battery)	1.3 kg
Dimensions	110x110x80 mm
Thermowell length availability	380 / 450 / 500 / 550 / 600 / 650 mm
Protection class	IP66
Internal memory for measurement records	10 years, FIFO
Material in contact with process effluents	Inconel
Minimum acquisition period	2 min
Acquisition period by default	1h
ATEX Certification	CE0081: II 1/2 G Ex ia IIC T4 Ga/Gb.
Autonomy	
30 minutes acquisition period	5,0 years
15 minutes acquisition period	3,5 years
10 minutes acquisition period	2,5 years
05 minutes acquisition period	1,5 years
Temperature	
Process Temp range Calibrated	-20 ° C to 180 ° C
Process Temp max range for safe operations	-60°C to 200 ° C
Storage Temp	-40°C to 60°C
Operating Temp in explosive atmospheres	-20°C to 55 ° C
Safe Operating Temp in explosive atmospheres	-20°C to 70 ° C
Accuracy	±0.5°C
Resolution	0,1°C
Communication: Long Range Wireless	
LoRa protocol	LoRaWan 1.0.2
Frequency band (MHz)	EU 863-870; US 902-928 ; AS 919-923
Encryption	Provided by LoRaWan protocol
Transmission range (Typical)	2-3 km Urban Area 5-7 km Rural area 12 km Direct line of sight 25 km with 50 m mast Antenna
Communication: Short Range Wireless	
Short Range Wireless	
BLE protocol	Version 4.1, low energy consumption
Frequency bandwidth	2.400-2.4835 GHz
Encryption	Provided by BLE protocol
Operating range	2 meters

<https://www.srett.com/>

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