

WIRELESS GAS & STEAM LEAK DETECTOR SWWRF61.20 (LoRa IoT)

General Description

The BiTherm SWWRF61.20 wireless electronic device is a non-intrusive and continuous gas & steam leak detector based on LoRa technology, with a range to several kilometers, even in industrial environments.

The SWWRF61.20 includes temperature and ultrasound sensors and is powered by a battery designed for ultra low energy consumption and extra-long lasting battery life.

SWWRF61.20 features a compact size for easy clamp-on installation for any size pipe, valve or steam trap.

Typical Applications

BiTherm SmartWatchWeb system can be used to detect and survey steam leaks and gas leakages on any steam trap, relief & safety valve, or other type of valves. Among the typical applications for this product we can list:

- Improving energy efficiency.
- Reducing deployment cost.
- Autonomous monitoring nodes.
- Network support for other Bitherm products.



Main Features

- Communications :
 - LoRa frequency bands.
- Measurement channels:
 - Temperature.
 - Ultrasounds.
- Low power:
 - <math><100 \mu\text{A}</math> sleeping mode.
 - Down to $500 \mu\text{A}$ equivalent continuous consumption in active mode (configuration dependent).
- IP65 Protection Grade.

Installation

The SWWRF61.20 equipment is easy to install, using a non-invasive system where penetration is not required inside pipes or valves.

The device can be installed in any type of steam trap, safety valve or on-off valve. The installation process is done through a clamp attached to the pipe.



BiTherm steam traps do not require the use of clamps to install the SWWRF61.20 device due to the existence of a specific connector on the top of the trap itself.



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SWWRF61.20 – Technical Specifications

Enclosure		Internal antenna (HxLxW)	7.7x5.1x3.7in. (195x130x95 mm)	
		Weight	17.7 lbs. (800 gr)	
		Material	Aluminium (body) / Polymer (cover)	
		Protection grade	IP65	
Communications	Radio	(LoRa Frequency Plan)	US915, AS923-1/2/3/4, AU915, EU868, IN865, KR920, RU864, CN470	
	Output Power		20 / 23 dBm	
Operating Range	Process Temp.	Thermocouple (type K)	-20°C to 260°C (-4°F to 500°F)	
	Ultrasound	Piezoelectric sensor	40 KHz ± 2KHz	
	Humidity		0 to 99 %RH, non-condensing	
	Variant 20 SWWRF61.20	Battery type		Lithium-thionyl chloride (Li-SOCl ₂)
		Battery voltage		3.6 V
Battery nominal capacity			8500 mAh	
Power Consumption	Sleep		< 100 uA	
	Active	Idle	< 0.5 mA	
		RX	< 30 mA	
		TX	< 65 mA	
Ex Certification	IECEX	Marking	Ex ia IIC T4 Ga, -40°C < Ta < 80 °C (-40°F < Ta < 176 °F)	
	ATEX	Marking	II 1 G Ex ia IIC T4 Ga, -40°C < Ta < 80 °C (-40°F < Ta < 176 °F)	

For more information please visit <https://bitherm.com> or contact your local BiTherm distributor.

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