



WIRELESS GAS & STEAM LEAK DETECTOR SWWRF51 (LTE-M / NB-IoT)

General Description

The Bitherm SWWRF51 wireless electronic device is a non-intrusive and continuous gas & steam leak detector based on the Internet of Things (IoT) Technology to extend its radio distance range for hundreds of Kilometers even in industrial environments.

The SWWRF51 includes temperature and ultrasound sensors and is powered by a battery of Li-SOCl₂ designed for ultra low energy consumption and extra-long lasting battery life.

SWWRF51 features a compact size for easy clamp-on installation for any size pipe or valve.

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 :
 - NB-IoT (180 KHz) (available only for NB-IoT variant).
 - LTE-M (1.4 Mhz) (available only for LTE-M variant).
- Measurement channels:
 - Temperature.
 - Ultrasounds.
 - Pressure (optional).
- Low power:
 - <100 μ A sleeping mode.
 - Down to 500 μ A equivalent continuous consumption in active mode (configuration dependent).
- IP 67 Protection Grade.

Installation

The SWWRF51 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 SWWRF5X device due to the existence of a specific connector on the top of the trap itself.





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SWWRF51 – Technical Specifications

Enclosure	Size	With antenna (HxLxW)	275x130x95mm (10.8x5.1x3.7 in)
		Without antenna (HxLxW)	195x130x95 mm (7.7x5.1x3.7in)
	Weight		1.5 kg (3.3 lbs)
	Material		Stainless steel 316L
	Protection		IP67
Communications	Radio	(available only for NB-IoT variant)	NB-IoT (180 KHz)
		(available only for LTE-M variant)	LTE-M (1.4 MHz)
	Output Power		20 / 23 dBm
Operating Range	Process Temp.	Thermocouple (type K)	-20°C to 540°C
	Ultrasound	Piezoelectric sensor	40 KHz ± 2KHz
	Humidity		0 to 99 %RH, non-condensing
		Type	Lithium -thionyl chloride (Li-SOCl ₂)
		Voltage	3.6V
		Nominal capacity	19000 mAh
Power Consumption	Sleep		< 100 uA
		Idle	< 0.5 mA
	Active	RX	< 30 mA
		TX	< 65 mA
Ex Certification	IECEX	Marking	Ex ia IIC T4 Ga, -20 < Ta < 70 °C Ex ia IIIC T135 °C Da, -20 < Ta < 70 °C
		Marking	II 1 G Ex ia IIC T4 Ga, -20 < Ta < 70 °C II 1 D Ex ia IIIC T135°C Da, -20 < Ta < 70 °C

For more information please visit www.bitherm.com or contact your Bitherm distributor.

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