

WIRELESS GAS & STEAM LEAK DETECTOR

SWWRF41 (ISA100.11a)

General Description

Bitherm SmartWatchWeb SWWRF41 is an intrinsically safe wireless device for steam and gas leak detection on steam traps and valves. SWWRF41 allows to detect steam leakage on valves by monitoring ultrasounds and temperature.

SWWRF41 is powered by a lithium thionyl chloride battery. Its design is optimized for low power operation, improving lifetime of battery. High output power allows to improve link quality and maximum distance between nodes even in industrial environments.

SWWRF41 has a small size which makes easy to install on small steam traps.

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 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:
 - 2.4 GHz ISM Band RF
 - ISA 100.11A.
 - 802.15.4 standard compliant.
- Measurement channels:
 - Temperature.
 - Ultrasounds.
- Low power:
 - <100 µA sleeping mode.
 - Down to 500 µA equivalent continuous consumption in active mode (configuration dependent).
- IP 67 Protection Grade.

Installation

Bitherm SWWRF41 is easy to install, it being a non invasive system, no penetration is required.

Field devices can be installed on any kind of steam trap, safety valve or on-off valve. Installation process is made with a clamp or brackets fixed to the pipeline.



Bitherm steam traps do not require brackets, as the transmitter can be mounted directly on the available connector located on the top of the steam trap.





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SWWRF41 – Technical Specifications

Enclosure	Size	With antenna (HxLxW) Without antenna (HxLxW)	275x130x95mm (10.8x5.1x3.7 in) 195x130x95 mm (7.7x5.1x3.7in)
	Weight		1.5 kg (3.3 lbs)
	Material		Stainless steel 316L
	Protection		IP67
Communications	Radio		2.4 GHz ISM Band, ISA100.11A / 802.15.4 standard compliant
	RSSI	Range	-128 to 127 dBm
Operating Range	Process Temperature	Thermocouple (type K)	-20°C to 540 °C
	Ultrasound	Piezoelectric sensor	40 KHz ± 2 KHz
	Humidity		0 to 99 %RH, non-condensing
	Battery	Type	Lithium -thionyl chloride (Li-SOCl2)
		Voltage	3.6V
		Nominal capacity	19000 mAh
Power Consumption	Sleep		< 100 µA
	Active	Idle	< 0.5 mA
		RX	< 30 mA
		TX	< 65 mA
Ex Certification	IECEx	Expedient No.	IECEx UL 19.0073X
		Marking	Ex ia IIC T4 Ga, -20 < Ta < 80 °C Ex ia IIIC T135 °C Da, -20 < Ta < 80 °C
	ATEX	Expedient No.	DEMKO 19ATEX1868X
		Marking	II 1 G Ex ia IIC T4 Ga, -20 < Ta < 80 °C II 1 D Ex ia IIIC T135°C Da, -20 < Ta < 80 °C

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

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Headquarters

BITHERM SISTEMAS S.A.
Ulises 89
28043 Madrid (Spain)
Tel: (+34) 91 404 80 87
email: ventas@bitherm-sistemas.com

Factory

PURGADORES DE CONDENSADO S.L.
Artes y oficios 24, nave 9
30360 La Unión, Murcia (Spain)
Tel: (+34) 968 54 04 45
email: purgasa@bitherm.com