

DESCRIPTION AND OPERATION

SmartWatch™ is a monitoring system based on microprocessor whose management is performed remotely via Web platform LAMP (Linux, Apache, MySQL, PHP).

Each field unit SWW-10 has four input channels designed for different types of signals: ultrasound, temperature, pressure and gas detection. The signals from the sensors are processed by the field units SWW-10 and sent to the remote management system through control units WCU-10.

Each WCU-10 is connected to field units SWW-10 with a 4-wire cable (2 wires for power and 2 wires for data) in a line up to 1200 m in length, which can contain up to 125 field units SWW-10.

The system can handle up to 250 Control Units WCU-10, each of which can control up to 125 field units SWW-10 through an RS-485 bus. Thus, the system can handle up to 31.250 field units SWW10.

Alternatively, communications can be wireless RF.

TECHNICAL SPECIFICATIONS

- Communication: Bidirectional
- Data transmission: Half Duplex
- Ultrasound Sensor: Piezoelectric 40KHz
- Temperature sensor: NTC (-20 / + 170 °C)
- Pressure sensor: 0-25 bar
- Gas detection: pellistor or infrared types
- A/D converter: 10 channels, 10 bits
- Cable: 2x1.5 + 2x0.5, SAC HG 1.5 BC FLEX, armoured type, external diameter 18,5 mm, covered by PCV, fireproof.
- Power:
 - Wired: 125/250 VAC, 7.5 VCC
 - Wireless SWW: Lithium battery 7.2 VDC
 - Wireless WCU: Rechargeable battery Li-ion 3,75 VDC and solar panel.
- Protection: IP65, NEMA 4X weather-proof housing
- Certification: ATEX II 1G (EEx ia IIC T4). Intrinsically Safe Zone 0, Division 1.
- Maximum wire length: 1200 mt. (wire length longer than 1200 mt is available using RS-485 repeaters).
- Maximum range RF system: Several Km (depending on environment conditions and number of repeaters)
- RF Frequency: 2,4 GHz

OPERATING RANGE

- Pressure: 0 - 25 bar
- Process Temperature: -30 °C a 220 °C
- Ambient Temperature: -40 °C to 80 °C
- Gas detection: ppm (depending of gas type)



MATERIALS

- Brass/Cast aluminum base.
- Cast aluminum cover.
- Cover bolts: stainless steel.
- Optional stainless steel hardware.

DIMENSIONS AND WEIGHT

- SWW-10 body: 90x90x80 mm (3.54x3.54x3.15 in)
- SWW-10 body and connections: 90x115x110 mm (3.54x4.52x4.33 in)
- Weight SWW-10: 0,7 Kg (1,55 lbs).

TYPICAL APPLICATIONS:

SmartWatchWeb system can be used for detecting and monitoring leaks of gases, steam and presence of dangerous gases on atmosphere on lots of applications:

- Improving energy efficiency
- Reducing leaks of process gas
- Reducing steam leaks
- Reducing CO2 emissions
- Prevention of risky situations.
- Improving safety conditions
- Monitoring steam traps and safety valves
- Reducing inspection costs
- Reducing maintenance costs

INSTALLATION

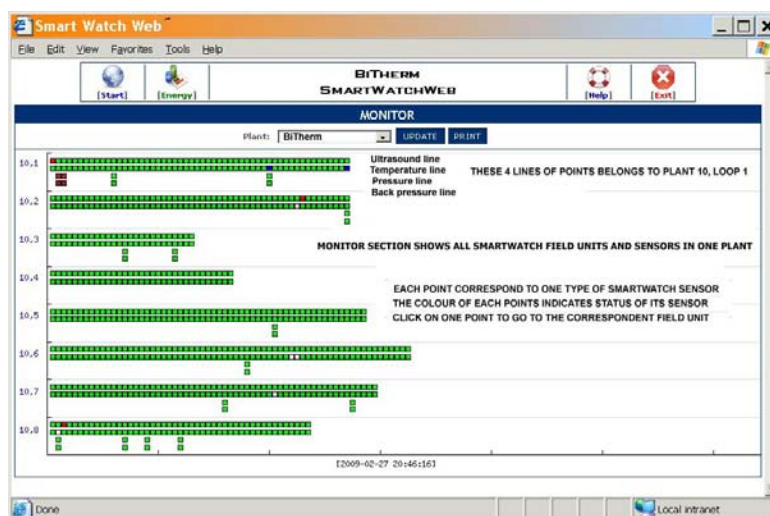
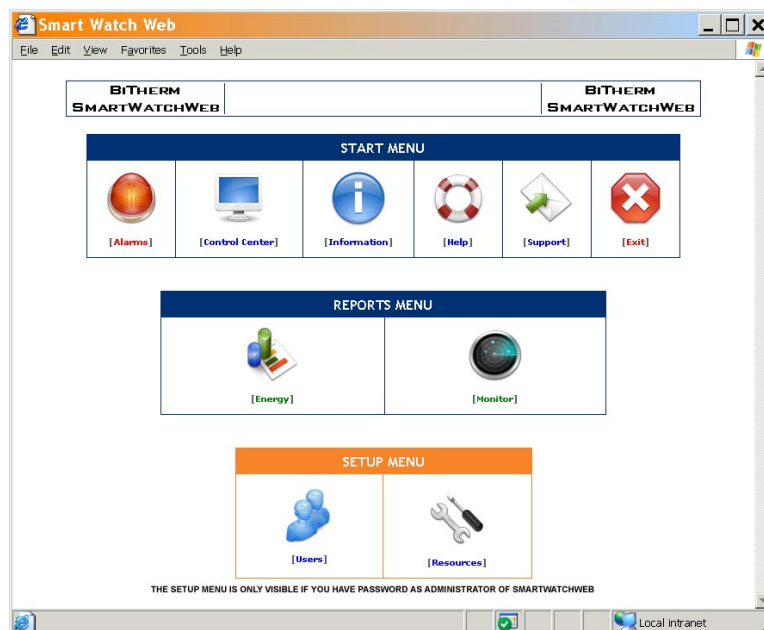
Easy to install. Non-invasive system, no penetration required (except pressure sensor applications). Field units can be installed on any kind of steam trap, safety valve or on-off valve.

Installation of field units on steam traps, safety valves, on-off valves is made by clamps or brackets. BiTherm steam traps do not require brackets, the sensor is mounted directly on the available connector on the top of the trap.



ARCHITECTURE AND USER INTERFACE

The system is remotely handled by a friendly graphic interface shown below:



Technical modifications reserved

Copyright BiTherm 2011-06-01

PURGADORES DE CONDENSADO S.L.
Condesa de Venadito, 16, 11° C. 28027-MADRID (Spain)
<http://www.smartwatchweb.com>