

# LEAKWISE® WSP-220 Wireless Digital Signal Processor

For Leakwise ID-220 Series Sensors

## WSP-220 Description

The Leakwise WSP-220 Wireless Digital Signal Processor transmits hydrocarbons spill/leak alerts from Leakwise ID-220 series sensors to users via ORBCOMM satellites and cellular networks. The WSP-220 is designed to control Leakwise ID-221, ID-223, ID-225 and ID-227 Oil on Water Monitoring Sensors in remote locations or large areas where data wires are not available. Optional solar panels can be used in sites where power is not available.



The basic unit includes data acquisition hardware for up to five sensors, VHF transceiver and antenna for ORBCOMM communication and/or cellular transceiver and antenna, RS-232 serial communication port and a backup battery and charger. Communication options include a dual-mode satellite/cellular link and GPS. Users can change operational parameters or download new software locally via a laptop or remotely via ORBCOMM and/or cellular networks.

## WSP-220 Outputs

Leakwise WSP-220 processed signals are transferred via satellite as *Alert* e-mail messages to users' PCs or as an update to a web page, whenever oil is detected, together with an indication of the oil layer thickness. *Status* messages confirm that the system is alive or *Fail* messages indicate a system problem. Users of cellular communications will receive the same data in SMS messages. Users can set five adjustable alarms, the first when oil is detected and the other four when the layer has reached a predetermined thickness. The WSP-220 has optional relay outputs for local audio alarm and for control of externally wired devices such as pumps and valves.

## Applications

Typical Leakwise wireless system applications include oil spill/leak monitoring in: hydrocarbon pipeline pumping stations, vaults of pipeline shutoff valves, tank farms sumps, unattended hydroelectric power plants, transformer substations, groundwater monitoring wells and remediation sites, and off-shore terminals, rigs and platforms.

The WSP-220 can control up to five Leakwise ID-220 Series sensors or a combination of Leakwise sensors and other monitoring devices (for example: one Leakwise ID-223/500 detector plus four pressure gauges for level monitoring liquid levels in tanks).

The Leakwise ID-227WL off-shore detector has a WSP-220 and solar panel mounted on its wave rider buoy for totally independent off-shore operation.



# WSP-220 Technical Specifications

Specifications subject to change without prior notice.

## Signal Processor

Hardware	High performance wireless signal processor with low power consumption
Sensor Support	Up to five Leakwise ID-220 series sensors can be monitored
Message Types	1- STATUS message (Air, Water, Oil) at predetermined, programmable intervals. Serves also as an indication that the sensor is alive 2- ALERT message when any one of five oil thresholds is crossed or when the sensor detects a change in the previous site condition (i.e., when a dry sump starts filling up with water, the "Air" indication is changed to "Water" and an ALERT message is transmitted) 3- FAIL message when internal checks detect a problem or when the backup battery is low
Message Format	Status/Alert/Fail, Date, Time, Sensor ID, Liquid Status, Sensor Signal, Wave or Turbulence indication signal, Battery Voltage
Programmability	Direct connection to a PC for a thorough setup or software updates. Over-the-air parameters setup and calibration

## Wireless Configurations

ORB	VHF transceiver and antenna for ORBCOMM satellite system
GSM900	GSM 900 MHz cellular transceiver with antenna
GSM1900	GSM 1900 MHz cellular transceiver with antenna
DUAL	ORBCOMM and cellular transceivers and antennas
PTP	Point-to-Point radio link – consult factory

## Output Options

AUD	Local audio oil alarm
RL	One relay for alarm/control of externally wired devices
GPS	Global positioning receiver with antenna

## Operating Specifications

Power Supply	12 VDC/15 VDC/24 VDC/115 VAC/230 VAC
Backup Battery	12 V @ 2.1 Ah – other batteries available
Optional Power	12 V @ 10 W weather proof solar panel – other solar panels available
Enclosure	Weather proof NEMA 4x (IP-65) – standard Explosion proof – consult factory
Temperature	-15 to 50° C standard -40 to 85° C available



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