PERSEC TECHNOLOGIES.

PERSEC – PSM SERIES ANALYZER

PSM SERIES Analyzer

Overview

The PSM microphonic analyzer is a high-security, dual-zone processor for microphonic intrusion-detection cables installed on fences or structures.

It receives the signals generated by the sensor cable and applies advanced digital signal processing (DSP) to distinguish genuine intrusion attempts such as cutting or climbing from environmental noise. All detection parameters are fully programmable to achieve optimal performance in a wide range of site conditions.

Key Features

- High-security design with independent cut and climb detection for each zone
- Two fully independent zones, each with separate cut/climb settings
- TCP/IP and RS-485 communication for local and remote management
- Two monitored external inputs for 3rd-party devices
- Two programmable outputs linkable to alarm events or manual control from the map in the PSM Management Software
- Comprehensive LED test indicators to simplify commissioning and troubleshooting
- Network connection to the ACU and PSM Management software via RS-485 / TCP/IP

Product Design and Components

➢ Signal-processing core

- Analyzer processes microphonic signals from the sensor cable to determine the nature of the intrusion (cut, climb, impact).
- All cut/climb detection parameters including sensitivity, impulse count, and time window are configurable per zone.

➢ High-security cut & climb detection

- Each of the two zones provides independent cut and climb channels, allowing fine tuning for different perimeter sections or threat profiles.
- Settings are stored in non-volatile memory, so configurations are retained even when power is removed.

➢ External Inputs & Outputs

- 2 × monitored external inputs for voltage free contacts (programmable NO/NC) to integrate additional devices.
- 2 × programmable outputs that can be associated with specific alarm events or manually triggered via the PSM Management Software.

PSM Analyzer Enclosure

➢ Automatic Environmental Control (AEC)

- Built-in environmental controller monitors vibration patterns caused by wind and rain along the perimeter fence/structure and automatically adjusts thresholds to maintain reliable detection while minimizing false alarms.

➢ Status and Test Indication

- Multiple LEDs display alarm, tamper, output status, cut/climb impulses, time-window activity, cable open/short, AEC activity, and communications Transit/Receive (Tx/Rx), ensuring fast and accurate installation and diagnostics.

➢ System Topology

- Sensor cable runs along the perimeter fence/structure in two zones and terminates in end-of-line termination boxes.
- Each analyzer connects to the sensor cable, external devices, and the ACU via RS-485/TCP-IP.
- The ACU and analyzers are supervised by the central computer running PSM Management software, which displays zone locations, alarm conditions, and allows remote configuration.

Microphonic sensor cable and Analyzer installed on a conventional fence

Technical Data

➢ Zones

- Number of zones: 2
- Programmable Functions for each zone:
  Cut: Sensitivity, impulse count, time window
  Climb: Sensitivity, impulse count, time window

➢ Inputs and Outputs

- External inputs: 2, supervised using termination resistors
- Input type: Volt-free contact, selectable normally open or normally closed
- Programmable outputs: 2 (software-configurable)
- Optional: Volt-free relay outputs for alarm, tamper and outputs

➢ Indicators

- Alarm, Tamper, Output On, Cut Impulse, Climb Impulse, Cut Time Window, Climb Time Window, Cable Open Circuit (OC), Cable Short Circuit (SC), AEC activity, Tx, Rx

➢ Communications

- Interface: RS-485 / TCP-IP
- Baud rate: 9,600 bps

➢ Electrical

- Supply voltage: 15–21 VDC
- Current consumption: approx. 35 mA
- Optional audio output: 1 V p-p in 600 Ω

➢ Environmental and Mechanical

- Operating temperature: –35 °C to +75 °C
- Enclosure IP rating: IP65 (IP66, IP67, or IP68 optional at order)
- Enclosure size: 220 × 120 × 80 mm, Weight: approx. 1.75 kg

Parameter	Specification
Number of zones	2
Zone functions	Cut and Climb detection
Programmable parameters	Sensitivity, impulse count, time window (per zone)
External inputs	2, supervised with termination resistors
Input type	Volt-free contact, selectable NO or NC
Programmable outputs	2, software-configurable
Optional outputs	Volt-free relay outputs for alarm, tamper, and system outputs
Visual indicators	Alarm, Tamper, Output On, Cut Impulse, Climb Impulse, Cut Time Window, Climb Time Window, Cable OC, Cable SC, AEC activity, Tx, Rx
Communication interface	RS-485 / TCP-IP
Baud rate	9,600 bps
Supply voltage	15–21 VDC
Current consumption	Approx. 35 mA
Optional audio output	1 V p-p into 600 Ω
Operating temperature	–35 °C to +75 °C
Enclosure protection	IP65 (IP66/IP67/IP68 optional)
Enclosure size	220 × 120 × 80 mm
Weight	Approx. 1.75 kg

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