

MICROVEN-ALARM LPDL – WIND ALARM SYSTEM (WIND SPEED AND DIRECTION) (Rev.6 120722)



General description

MicroVen-ALARM is a system designed to continuously monitor the **anemometric** data by alerting the available personnel in situations of strong wind. The datalogger acquires, processes, stores (black box function) and transmits the anemometric data; it has 2 adjustable thresholds for the wind speed and 2 for the wind direction (understood as sector start and end). When an overcoming occurs, the datalogger activates a relay contact.

MicroVen-Alarm has the main following features:

- ✓ **Display** of wind speed and direction
- ✓ **Black box:** backup storage of anemometric measures and silence events on **SD Card**
- ✓ **Management of 2 alarm levels** for the activation of external devices (eg. sirens, optical signals, actuators such as nebulizers, pumps, motors, valves, etc ...):
 - **Level 1 (low):** warning or pre-alert condition
 - **Level 2 (high):** alarm or critical condition
- ✓ **Temporary silence** of alarms and relays check
- ✓ **Hysteresis control** on the anemometric measurements to prevent false alarms caused by temporary wind gusts

Main applications

- 1) **Shipyards and Construction:** excavation and ground handling (**LCPC Setra 2000 Guidelines**), inert, calcify, cement plants, construction sites
- 2) **Structures:** civil and naval cranes, scaffolding, lattice masts, mobile structures, stages, ...
- 3) **Public facilities:** gyms with inflatable structures, schools, fun fairs, campsites, marquees, etc...
- 4) **Civil and industrial plants:** greenhouses, farms, deposits of volatile material, etc.
- 5) **Sports facilities:** ski lifts, playgrounds, airfields, shooting ranges, sports competitions
- 6) **Environmental monitoring** of control and anemometric alarm



Advantages

- ✓ Easy mounting, using and user's control and minimum required maintenance
- ✓ Very high accuracy of measurement, reliability over time, **setting**
- ✓ Data storage on SD Card with anti-manipulation protection system
- ✓ Sensors and dataloggers compliant to **WMO - Annex 8 guidelines** (World Meteorological Organization)
- ✓ Professional Anemometer **Measnet** or **Accredia** certifiable, also in anti-icing heated version
- ✓ Conformity to **LCPC Setra 2000 Guidelines** (construction sites and roads)
- ✓ Fully Italian Technology

Technical Data

Model	mVEN-ALARM-LPDL – Wind alarm Datalogger
I/O channels	n.1 analog input (0...5Vdc, 4...20mA, potentiometer, etc...) n.1 digital input in frequency (typ. 0...250Hz), for anemometers with Reed Switch or Hall effect or TTL 5Vdc outputs n.2 outputs (pre-alarm and alarm) on two double contact relays (V=12Vdc, I _{max} =500mA) with status led
Measure sampling	1s
Programming	Date and hour; anemometric constants; threshold values of pre-alarm and alert; anemometric unit of measure: m/s, km/h, mph, kn;
Typical data storage	5' (WMO standard) on SD Card 2GB max (autonomy 511 days)
Power supply	From external 24Vdc power or power supplier 220Vac/24Vdc 40W included (cod. AL220-24i); photovoltaic panel on request
WMO Elaborations	min, max, arithmetic-trigonometric average, std. dev., turbulence



AL220-24i Indoor power supplier (included)

User Interface	2r. 16 crt. display LCD with sliding pages, n.3 multifunction + n.2 buttons of test and temporary alarm silence; pre-alarm (amber) and alarm (red) lights
Compliance	WMO, LCPC Setra 2000, IEC61400-12
Operative Temperature	-40...+80°C
Box IP65	polycarbonate enclosure with transparent cover (or white cover for outdoor), dim. Lxhxp: 240x190x90mm. Brackets for fastening on walls.



Outdoor Box
(option)

Model	mWS1 – Wind speed sensor (mod. WS2R with anti-icing heater)
Range	0...75m/s (gust)
Transducer	Magnetic with sinusoidal AC signal not powered
Rotation	On special bearings in oil bath
Output	Vers. –N: Sinusoidal AC wave (typ. constant: 4.3 Hz/m/s)
Accuracy	±0.1m/s
Housing	Anodized Aluminium



SBS2 – Anemometer bracket for
ø25...60mm poles (other diameters on
request)

Model	mWD1 – Wind direction sensor (mod. WD2R with anti-icing heater)
Range	0...359° (real electric angle 0...352° ±4°)
Transducer	Linear Potentiometer with continuous 360°
Rotation	On special bearings in oil bath
Output	Vers. –N: 10KOhm potentiometer
Accuracy	±2°
Housing	Anodized Aluminium



Optional low consumption external devices

Model	mVEN-AL_2L - Optical indicator with 2 lamps (indicative picture)
Lamp colors	Orange: pre-alarm/warning; Red: alarm
Lamp type	Long-life leds (up to 50.000 hours)
Power and Consumption	12/24Vdc @ 50mA per lamp
Degree of protection	IP65 for outdoor
Mounting	On horizontal or vertical poles ø25...43mm or on the wall



Model	mVEN-AL_SIR – Acoustic siren (indicative picture)
Sound power	up to 115dB max
Type of siren	Electromagnetic buzzer with continuous operation
Power	12/24Vdc
Degree of protection	IP65 for outdoor
Mounting	On horizontal or vertical poles ø25...43mm or on the wall



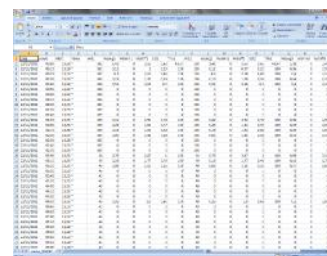
Model	mVEN-AL_LS – Optical indicator with buzzer (indicative picture)
Sound power	up to 80dB max ±1m
Type of indicators	8 Leds SMT red lamp, flashing (FPM160) or continuous Electromagnetic buzzer with intermittent or continuous sound
Typ. Power	12Vdc
Degree of protection	IP65 for outdoor
Mounting	On horizontal or vertical poles ø25...43mm or on the wall



IMPORTANT NOTE: The optical and acoustic signaling devices shown above are purely indicative, therefore their sizing in terms of sound power and brightness must be carried out by a qualified professional based on current legislation and application needs. Geoves is released from any liability if the signaling devices are chosen in an inappropriate manner.

Software and user's manuals

MicroVEN dataloggers are always provided of user manuals in Italian or English. Furthermore every datalogger is supplied with **Geodesk** software that allows to import the acquired meteorological data in text format (CSV Comma Separated Value) to get a only aggregation in Excel format; in this way it's possible to get easy tabular reports and charts.

A screenshot of the Geodesk software interface, displaying a large table of meteorological data. The table has multiple columns with headers such as "Data", "Temp", "Humid", "Wind", "Press", "Rain", "Solar", "WindDir", "WindSpd", "TempMax", "TempMin", "HumidMax", "HumidMin", "WindMax", "WindMin", "PressMax", "PressMin", "RainMax", "RainMin", "SolarMax", "SolarMin", "WindDirMax", "WindDirMin", "WindSpdMax", "WindSpdMin", "TempMax2", "TempMin2", "HumidMax2", "HumidMin2", "WindMax2", "WindMin2", "PressMax2", "PressMin2", "RainMax2", "RainMin2", "SolarMax2", "SolarMin2", "WindDirMax2", "WindDirMin2", "WindSpdMax2", "WindSpdMin2". The data rows show various numerical values for these parameters over time.