

# Rockfall, avalanche and landslide monitoring



#### Intellectual property: KRIA S.r.l.

#### Features:

- High resolution camera
- Embedded CPU
- Integrated Wi-Fi

### **Functions:**

- Rockfall and avalanche real-time monitoring
- Event video
- Hourly images and video
- Landslide reconstruction

Acquisition unit	
High resolution camera	Monochrome, 12 MPixel minimum*
Lens	from 25 to 350 mm*
Distance from the target	Up to 1,6 km / 1,0 mi
Horizontal tilt	From 30° up to 30° down
Processing unit	
Embedded processing unit	CPU + GPU
Wired ethernet	RJ-45 1000 Mbit/s
Wireless connection	2.4 GHz Wi-Fi (optional antennas)
Storage	Internal SD-card
Input trigger	Opto-isolated input sync
Output trigger	Output PIN
Electrical/environmental features	
Power supply	24 VDC
Power consumption	15 W (max. 45 W)
Operating temperature/humidity	-20°C / + 50°C up to 93% (H)
IP protection	IP66
Dimensions	31 x 20 x 36 cm (W x L x H)
Weight	11 Kg

\* The sensor size and the lens focal may vary to fulfill the required spatial resolution of the monitored site.

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# Off-grid power supply

An off-grid power kit can be integrated whenever the electric power supply is not available.

Considering the remote location of the device, the kit is made up of two independet energy sources (wind and solar energy). The charge controller is able to collect both energy sources getting the kit redundant and capable to make it operating despite wind or sun absence.

The battery pack included within the supply kit is specifically designed for low temperatures and self-sufficiency even in bad energy source conditions.

Technical specifications	
Nominal maximum power input	700 W
Voltage	24 V
Battery pack	24 V, 200 Ah
Self-sufficiency of the battery pack	5 days
Anchor	Two poles (48 mm and 60 mm of diameter)
Battery pack installation	Isolated, underground
Remote control unit	
Battery monitor	State of charge of the battery pack, net consumption
Temperature sensor	Temperature of the battery pack
Connection to GeoSurveyor	Ethernet cable
Data supply	Real time

## **Optional items**

### External shield

If GeoSurveyor is installed in remote places where there are not pre-exhisting protective housing, its optional external shield is strongly suggested.

The protruding roof and the double front panels keep snow flakes, drop of rain and dust apart from the device so that the image quality of the monitored area will not be affected.

### **Double Support Pole**

GeoSurveyor device is required to be installed at 1.5 mt from the ground in order not to be affected by snowcover, bush growth, wild animals that may compromise the monitoring accuracy (customized and ad hoc solutions can also be realized for extreme installations sites).

The special pole, provided as an optional item, is made up of two coaxial independent cilinders with the aim of fixing the device to the ground avoiding any vibration effect due to the wind or other external forces.

The pole also protects the internal electrical power and network cables from vandalisms or against rodents.



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