

MADE • network expertise

POWER LINE DETECTOR

power line detector

POWER LINE DETECTOR



MADE

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Field of activity

Electricity distribution maintenance
Underground network locators
Specific telecom equipment
Power line detectors
Personal Protective Equipment
Defence

Manufacturing and sales

Engineering office

Long-time partners

Magirus, Rosenbauer,
Emadel, Holcim,
Klubb, Versalift, etc.

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Power line detector

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MADE is IPAF member

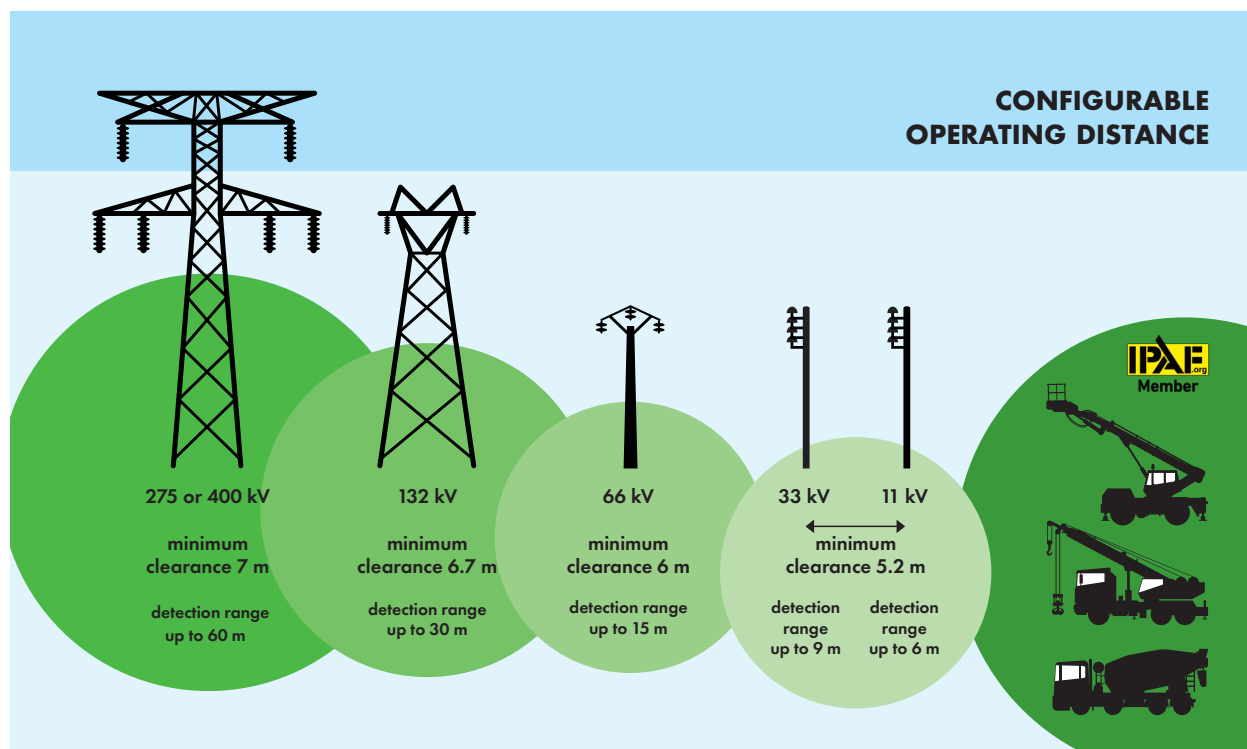
INTERNATIONAL POWERED ACCESS FEDERATION (IPAF) SUMMARIZED

The IPAF, International Powered Access Federation, is an organization that records accidents occurring in various industrial sectors.

IPAF's goal is to promote the safe and efficient utilization of mobile height access equipment on a global scale. Report accidents to help saving lives !

- ♦ Since 1983
- ♦ ISO 18878 certified
- ♦ ISO 9001
- ♦ 56 countries
- ♦ 200,000 active members in our formations
- ♦ 1700 members
- ♦ 614 training facilities

DLDS DETECTION RANGE GUIDE



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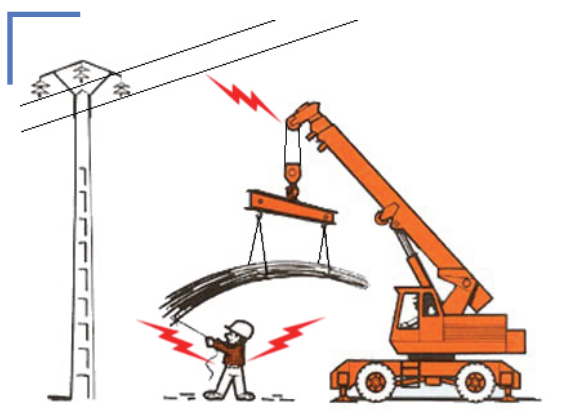
Overhead lines detection

The overhead MV and HV lines are each year a source of work accidents...

SIX GOOD REASONS TO USE OUR DETECTORS

- ♦ Because overhead lines are of long standing, field operators no longer notice them.
- ♦ Because the height of mechanical excavators, cradles, tractors continue to increase, the number of electrocution accidents is growing each year.
- ♦ Because each day the operators take lot of risks at work near electrical overhead lines.
- ♦ Protect your people and vehicles.
- ♦ Experience of 20 years in the cement market, aerial bucket market...
- ♦ 60 % of the concrete pump trucks use MADE systems in France.
- ♦ Customer references : Inter Service Pompe, Holcim, Theam, Orange, and fire brigade.

REMINDER



Electrocution can occur without touching the line !

OUR SOLUTIONS

DETECT LINE NG, SKY NG NACELLE, SKY RADIO 3 and DETECT LINE LDS are overhead electric detectors for the prevention of electrical accidents. They are intended for any type of vehicle likely to accidentally come into contact with a high voltage electrical line. When the moving part of a work at height vehicle approaches the line, the device detects the presence of the line and triggers an audible and visual alarm while blocking the movement of the moving part (optional). The blocking and alarms can be deactivated once the line has been located and under the responsibility of the operator. The sensitivity of the device is calibrated by default for the detection of 10 kV medium voltage lines, but can be adapted for higher voltages.

MEAN OF PREVENTION

Our solution, by detecting the proximity of overhead lines, is a means of preventing accidents but does not exempt operators from following the safety rules in force.



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Power line detector with wire sensors

DETECT LINE NG - SKY NG NACELLE

Detect line is a prevention system with a single antenna fixed on the roof of a vehicle. it warns of the presence of overhead power lines around the vehicle to be protected.

APPLICATION

- ♦ Concrete pump
- ♦ Conveyor belt
- ♦ Auxiliary cranes
- ♦ Hydraulic excavators
- ♦ Aerial bucket
- ♦ Food tanker
- ♦ Agricultural machinery
- ♦ Fire-fighting vehicles

OPERATION

DETECT LINE NG senses the electric field around a high voltage power line.

DETECT LINE NG alerts the user with an audible signal and a warning light when the vehicle enters a danger area (20 to 30 meters configurable distance from a high voltage power line).

After the system has detected an electric line, it can be acknowledged on the central unit, using one of the two control monitors, and set in "vigilance" mode.

A sound alert will then be emitted at regular intervals to indicate the danger. This mode will maintain the operator's vigilance as long as the vehicle stays in the danger area.

- ♦ Self-test system at each power-on
- ♦ Sensitivity limits of the system do not allow the detection of 230 V - 380 V line
- ♦ The system does not detect the presence of DC voltage



Central unit



Cabin control monitor



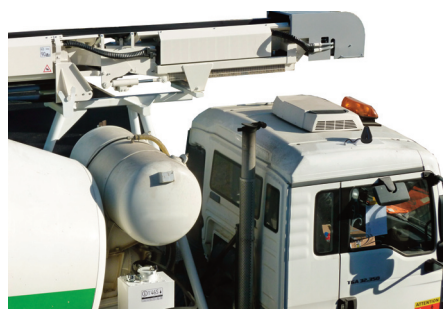
Outside control monitor



Sensor for basket



Sensor



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Power line detector with wireless sensors

SKY RADIO 3

SKY RADIO 3 is a prevention system which operates according to a principle of proximity detection based on several sensors, depending on the number of arms of the crane/aerial bucket/machine to be equipped.

It warns the operator by an audible signal and a visual alarm when the moving parts of work at height of the vehicle are approaching the risk zone.

The detection distance can be configured between 3 and 6 meters (10 to 17 feet) from the high voltage line.

APPLICATION

- ♦ Concrete pump
- ♦ Conveyor belt
- ♦ Auxiliary cranes
- ♦ Hydraulic excavators
- ♦ Aerial Bucket
- ♦ Food tanker
- ♦ Agricultural machiner

OPERATION

SKY RADIO 3 is activated when the Power Take-Off of the vehicle (PTO) is engaged.

When the device detects the presence of the line, it triggers an audible and visual alarm while blocking the movement of the moving part at risk (optional). The blocking and alarms can be remotely deactivated under the responsibility of the operator, from the cabin control monitor or the external control monitor.

Acknowledgment by the operator deactivates the blocking of movement and the audible alarm for a configurable time, before returning to nominal operation. However the visual alarm remains active as long as a danger is present.

- ♦ Self-test system at each power-on
- ♦ Sensitivity limits of the system do not allow the detection of 230 V - 380 V line
- ♦ The system does not detect the presence of DC voltage



Cabin control monitor



Central unit



Outside control monitor



Sensor



VIDEO

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Product range summary

Products	Volumetric detection from 20 to 40 m configurable		Proximity detection from 3 to 6 m configurable			
	DETECT LINE with outside control monitor	DETECT LINE with cabin control monitor	SKY RADIO 3 (Wireless) with outside control monitor	SKY RADIO 3 (Wireless) with cabin control monitor	SKY NG NACELLE	SKY NG NACELLE RADIO (Wireless)
Conveyor belt	√ 1 sensor		√ 4 sensors			
Concrete Pump 3 arms	√ 1 sensor		√ 5 sensors			
Concrete Pump 4 arms	√ 1 sensor		√ 7 sensors			
Concrete Pump 5 arms	√ 1 sensor		√ 9 sensors			
Basket ≤ 16m					√ 4 sensors	
Basket from 16 to 22m						√ 4 sensors
Basket from 22 to 30m						√ 6 sensors
Auxiliary cranes ≤ 16m	√ 1 sensor		√ 2 sensors			
Auxiliary cranes from 16 to 22m			√ 4 sensors			
Auxiliary cranes from 22 to 30m			√ 6 sensors			
Hydraulic excavators		√ 1 sensor		√ 2 sensors		
Food tanker		√ 1 sensor		√ 1 sensors		
Agricultural machinery		√ 1 sensor				
Fire-Fighting vehicles		√ 2 sensors			√ 4 sensors	



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Detector with wire sensors

DETECT LINE - LDS

DETECT LINE LDS is a prevention system. It warns of the presence of overhead power lines around the vehicle to be protected.

DETECT LINE LDS is composed of a sensor placed on the roof of the vehicle which communicates permanently with the central unit (CU).

The central unit is placed in the visual field of the driver in the vehicle cabin. It allows the visualization and the acknowledgment of the alarms.

APPLICATION

- ♦ Lorries tipper
- ♦ Truck tipper
- ♦ Aerial bucket
- ♦ Excavator
- ♦ Crane

OPERATION

DETECT LINE LDS senses the electric field around a high voltage power line.

DETECT LINE LDS alerts the user with an audible signal and a warning light when the vehicle enters a danger area (up to 50 meters configurable distance from a high voltage power line).

After the system has detected an electric line, it can be acknowledged on the central unit, and set in "vigilance" mode.

A sound alert will then be emitted at regular intervals to indicate the danger. This mode will maintain the operator's vigilance as long as the vehicle stays in the danger area.

TECHNICAL CHARACTERISTICS

- ♦ Self-test system at each power-on and continue verification between the sensor and the central unit
- ♦ Power supply : 24 V DC or 12 V DC
- ♦ Compact design : 150 x 90 x 35 mm (CU) and 110 x 40 mm (sensor) waterproof standard : IP 54 (CU) and IP 68 (sensor)
- ♦ Temperature range : -20 °C to +50 °C
- ♦ Sensitivity limits of the system do not allow the detection of 230 V - 380 V line
- ♦ The system does not detect the presence of DC voltage



Sensor



Central unit

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Work assistance near high risk zones

GABARIT SKY LASER

The GABARIT SKY LASER is designed to monitor boundaries and objects.

It is complementary to classic signage around a works zone near structures considered to be hazardous (HVA/HVB lines, live transformers, HV lines, railway lines, etc.).

The purpose is to create :

- ✦ Either a horizontal plane.
- ✦ Or a virtual wall that is not to be crossed.

This monitoring is provided using a laser scanner (LIDAR).

If the virtual barriers are crossed, audible and visible alarms are triggered.

The audible and visible alarms can also be sent to repeater boxes.

FUNCTION

The active laser scanner is a two-dimensional, contactless detection system that sweeps a freely programmable zone. Using an invisible infrared laser beam, the detection is immune to parasite light, even in total darkness.

This laser detection solution operates effectively in all weather conditions masking of ambient factors (fog, rain, etc.), lighting, size and type of object.



Work in a substation

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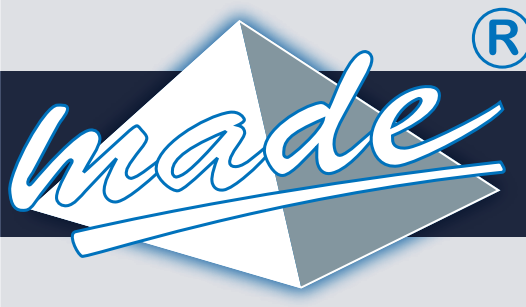


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POWER LINE DETECTOR Specific telecom equipment
DEFENCE ELECTRICITY DISTRIBUTION MAINTENANCE

UNDERGROUND NETWORK LOCATOR

electricity distribution maintenance DEFENCE power
line detector PERSONAL PROTECTIVE EQUIPEMENT under-
ground network locator specific telecom equip-
ment **ELECTRICITY DISTRIBUTION MAIN-**

TENANCE POWER LINE DETECTOR Specific telecom
equipment DEFENCE UNDERGROUND NETWORK LOCATOR elec-

tricity distribution maintenance power line detector

SPECIFIC TELECOM EQUIPMENT PERSONAL

PROTECTIVE EQUIPEMENT underground network locator

ELECTRICITY DISTRIBUTION MAINTENANCE **POWER LINE**

DETECTOR SPECIFIC TELECOM EQUIPMENT DE-

FENCE power line detector UNDERGROUND NETWORK

EQUIPMENT power line detector **PERSONAL**

PROTECTIVE EQUIPMENT electricity distri-

bution maintenance specific telecom equip-

ment **DEFENCE** power line detector PERSONAL PRO-

TECTIVE EQUIPMENT underground network locator DEFENCE

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