



ALM-6800. Management and Control Panel Solar Defender, to manage and control the Solar Defender Systems at Optical Sensor (model ALM-6811) and in Optical Fiber (Model ALM-6813/12, ALM-6815/14).

The panel allows an extreme flexibility in the choice of the anti-theft system to be implemented, in accordance with the requirements of safety and technical of the photovoltaic plant to be protected.

ALM-6800 can manage, simultaneously, anti-theft systems on the photovoltaic panels and on the perimeter, in the versions with optical sensor, in optical fiber and mixed.

Anti-theft System at Optical Sensors on the panels

It is based on a system of optical sensors (model ALM-6000), appropriately addressed by a dedicated programming device, and directly applied on the single photovoltaic panel to be alarmed.

When an optical change inside the sensor, a tear from the installation surface or a tamper with the cable occur, an alarm is generated and transmitted to a system of concentrator modules (model ALM-6811), that communicated with the management panel Solar Defender. This one interviews in "polling" the single module, detects the status and provides detailed information about the specific photovoltaic panel in alarm.

Anti-theft and Fire detection Systems in Optical Fiber on the panels

It is based on the installation of the plastic optical fiber, M-Fiber series, as a "loop" between the photovoltaic panels, so that them can not be stolen without to break or twist the same fiber.

Also when fiber is in contact with an heat source with an operation range higher then its one, there is a twist by possible fire and this generate an alarm.

In any case a change, however small, of the light transmitted by the

Management Panel Solar Defender

- Manage up to 48 Solar Defender Concentrator Modules, by 2 BUS Lines
- Manage up to 5.760 Solar Defender Optical Sensors
- Manage up to 19.200 m. of Solar Defender Plastic Optical Fiber
- Italian driven Menu
- BUS communication by owner protocol
- Security password
- Back-light LCD display with 4 rows x 20 characters
- Alpha-numerical anti-dust keyboard with 16 keys
- Function: auto-learning peripherals
- Memory up to 1.024 events
- Interface with any alarm communication and anti-intrusion devices
- Signal Outputs: *alarm, box tamper, fault, lack of power on the line, battery fault, maintenance*
- Identification of the single sensor and concentrator module
- Metal Box
- Patented MARSS

fiber, generates an alarm that is communicated to the management panel Solar Defender through a system of concentrator modules, (model ALM-6813/12, ALM-6815/14), equipped with an optical receiver.

The management panel Solar Defender interviews in "polling" the single modules, detects the status, manages the alarm and identifies the line or group of panels in alarm.

Anti-theft and Fire detection Systems in Optical Fiber on the fence

It is based on the installation of the plastic optical fiber, M-Fiber series, between the meshes of the fence. When the fiber is interrupted, twisted, or is in contact with a fire, a system of concentrator modules, (model ALM-6813/12, ALM-6815/14), equipped with an optical receiver, detects the change, however small, in the light transmitted by the managed fiber and generates an alarm. The management panel Solar Defender interviews in "polling" the single concentrator modules, detects the status, manages the alarm and identifies the section of the fence interested by the alarm.

Qualities of the Solar Defender systems

MODULAR SYSTEM

The panel ALM-6800 can manage a growing number of concentrators modules and then of sensors and plastic optical fiber, depending on the number of panels added to the plant during construction.

“CANTIERE PROTETTO”

Solar Defender systems operate independently from the photovoltaic plant to be protected and their installation is so quick and easy, that can be applied works in progress, to ensure the protection of the plant already at “*building site*”.

INTEGRABLE SYSTEMS

The management panel Solar Defender interfaces itself with any alarm communication devices (communicators, GSM, radio, etc..) through the signal outputs on board.

SELF-LEARNING TECHNIQUE

Thanks to a self-learning algorithm, the panel ALM-6800 can acquires the addresses of all the peripheral devices managed (concentrator modules and optical sensors): it simplifies the configuration and the programming of the system.

FEATURES

The sophisticated system architecture, unique in its kind, makes Solar Defender the first anti-theft system dedicated to photovoltaic.

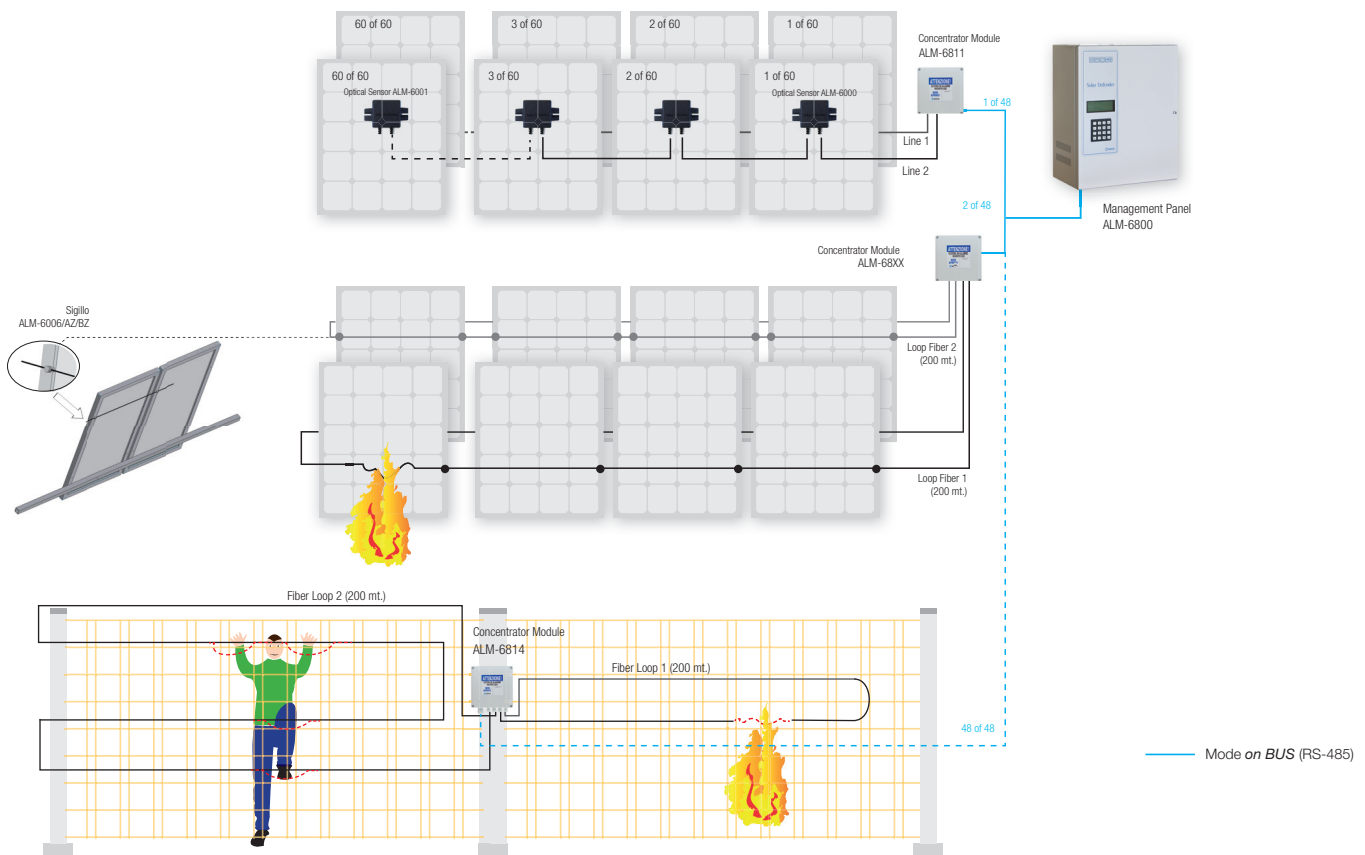
Guaranteed by false alarms, it has very low maintenance costs, it is immune to bad weather (hail, thunderstorms, fog, sun, rain and wind), to magnetic fields, electrical frequency, radio interference and vibration.

SPECIFICATIONS CODE

ALM-6800

Description	Management Panel Solar Defender
Optical Sensor Managed	Up to 5.760
Optical Fiber Managed	Up to 19.200 (m.)
Concentrator Modules Managed	Up to 48
Number of BUS Lines on board	2 (Line 1, Line 2)
Number of Concentrator Modules per Line	Up to 24
Communication protocol	Owner MARSS
Management and programming	LCD Display and Keypad integrated, remote
Driven Menu	Italian
Events Memory	1.024 (description, data, hour)
User	Master
Access	Password (8 characters)
Relè Outputs	4 (alarm, tamper, fault, peripheral exclusion)
O.C. Outputs	3 (lack of power on the line, battery fault, maintenance)
Max Line power	230 Vac 0.1A 50/60Hz
Auxiliary power	Battery 2x12 Vdc/7,2 Ah
Operating Values	Max 80mA@13,8Vdc- <15W@230Vac
Feeder	24 V 1.1A
Box type	Metal
Box tamper	Tamper
Dimension (mm) (LxAxP)	305x375x170

SOLAR DEFENDER SYSTEMS SCHEME



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