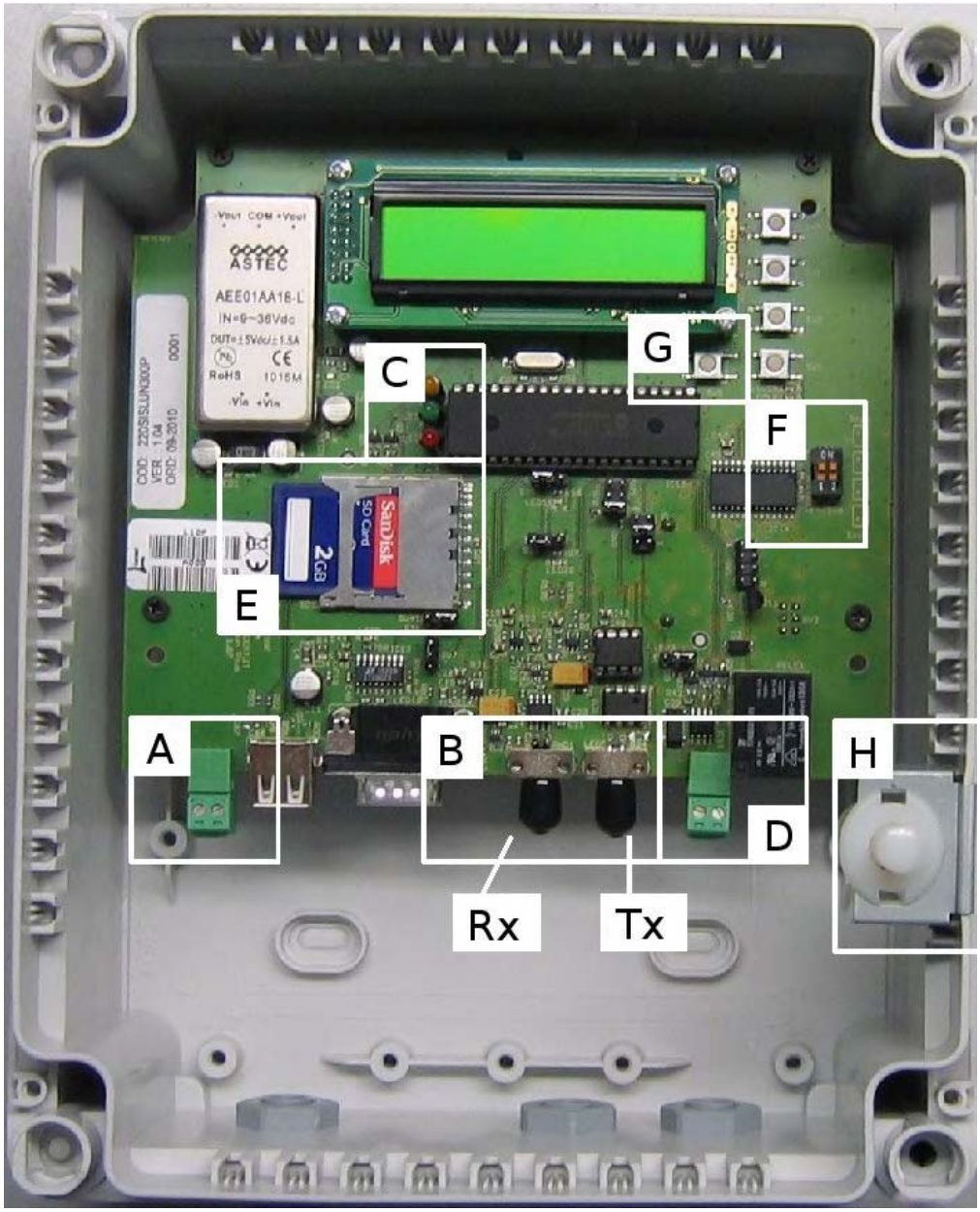


A - Power connector 12VDC

B - Optical ports

Tx - Transmitter for *Litewire* cable, FSMA connector

Rx - Receiver for *Litewire* cable, FSMA connector

C - Operating leds

Green = device is operating, closed contact
Red = device in alarm, open contact
Yellow = device initialization

D - Relay (alarm output)

E - SD card

F - Manual sensitivity adjust buttons

G - Reset button

H - Anti-tampering sensor

LiteSUN Plus Technical specifications

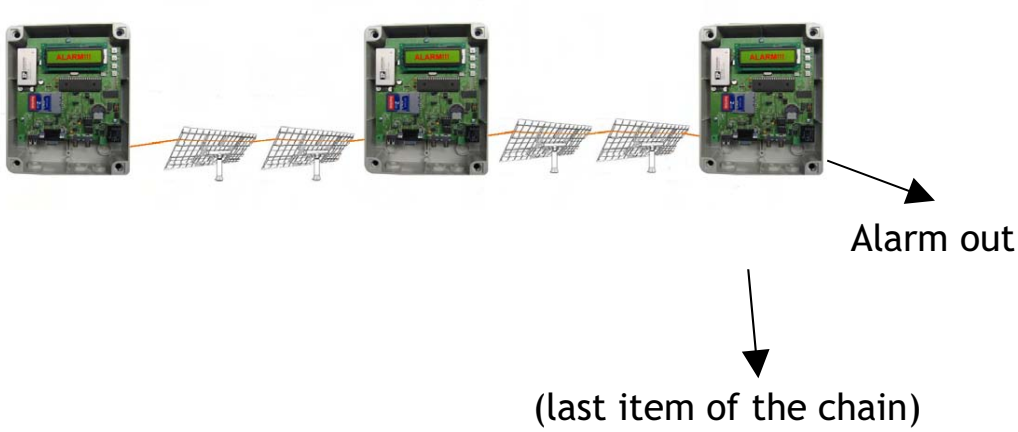
Protection rate	IP55
Transmission distance	0-300m*
Optical power budget	30dB
Alarm output	10A/240 VAC
Power	9-18VDC
Operating temperature	-20° ~ +70°C
Humidity	from 5 to 90%
Consumption at 12VDC	140mA
Max. power	2,4W
Weight in IP55 box	640g
Dimensions IP55 box	220 x 170 x 86 mm
Output optical connector	F-SMA
Immunity to EMI/RFI	100%

* In case of installation as perimeter protection on a mesh fence, we suggest considering 250m as max. distance, due to the several bends/curves brought to the fiber.

LiteSUN Plus Connection scheme

"Loop" connection

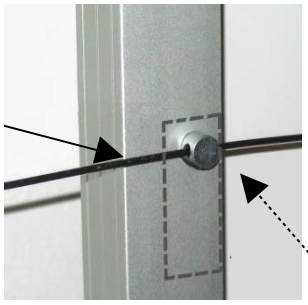
"Bus" or "chain" connection



LiteSUN Plus How to fix the cable to the panels

Using special drilled bolts

Fiber prevents a cut of the frame



The nut cannot be unscrewed (blocked by the frame)

Making cable "buttonholes"

Fixing the cable with "buttonholes" is <u>not recommended</u> because if the cable is blocked with adhesive tape, the device may not detect a cut of the frame on the mounting hole.
The use of drilled bolts is more reliable because they couldn't be removed without causing variations in the light signals over the fiber.

LiteSUN Plus How to fix the cable to a mesh fence

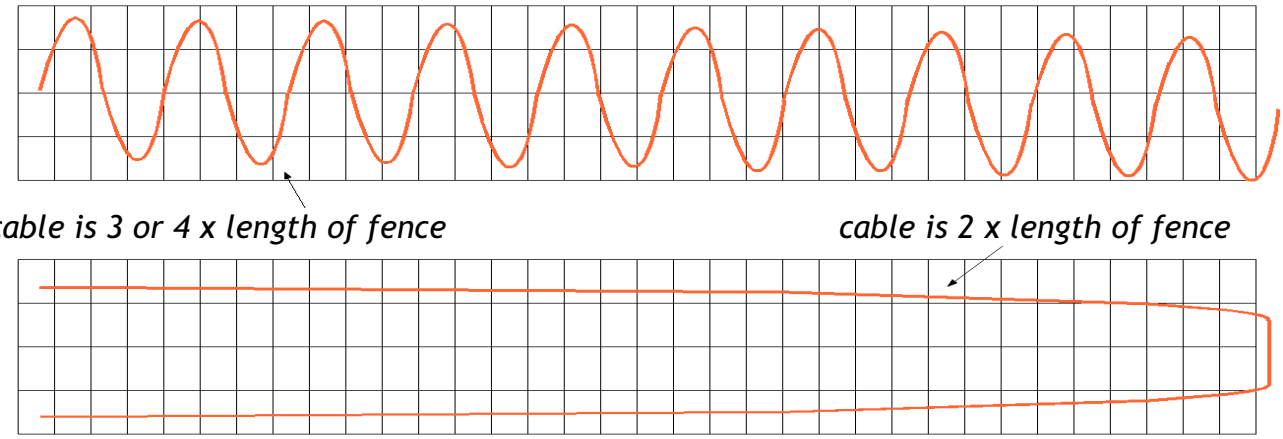
Mesh fence
recommended: it emphasizes the natural bending of the fence in case somebody climbs over it, so the device is more sensitive

Welded mesh fence
it can be used, though it has a lower sensitivity as it doesn't deforms much in case somebody climbs over it

<u>*The cable should be inserted through the mesh - cable ties should be avoided*</u>

The Litewire cable may be inserted through the mesh in two different ways:

- ***zig-zag:*** in this way the device is more sensitive and it guarantees a better protection, though it increases the length of cable required.
- ***ring***



LiteSUN Plus detects a possible bend caused by the movement of the mesh, activating an alarm. The device <u>*doesn't detect any vibrations*</u> of the mesh so it <u>*doesn't give any*</u>

false alarms caused e.g. by wind.

LiteSUN Plus Installation

1) Connect the cable to the device

Insert the Litewire cable ends through the cable glands of the IP55 box, put the FSMA connectors and connect them to the device (B).

2) Connect to the alarm set

Connect the alarm output (D) to your alarm set; if LiteSUN Plus devices are placed in "bus" or "chain", only the last item of the chain must be connected.

The circuit is usually closed, so the contact is closed.

The circuit opens in case of disconnection, breaking of the fiber, no power or bending of the fiber. Connect the relays (alarm outputs) to the alarm set.
An additional "anti-tampering" resistance could also be placed in series on your alarm set.

3) Connect to power supply (e.g. battery of alarm set)

After connecting the fiber and the alarm set to the device, connect to the power supply. The yellow led will glow for some seconds, then the green led will glow.

From this moment on, the transmission output (Tx) emits an encoded signal going through the plastic fiber to the receiving output (Rx). LiteSUN Plus regularly checks the power of the signal received.

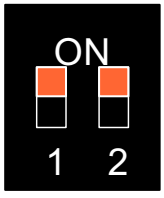
When the device detects a difference in power of the light signal received (due to a cut or bend of the fiber), the circuit opens, giving an alarm (D).
Alarm will be signalled on the display and with a red led.

The alarm relay receives 10A at 240VAC. In case of no power, the contact opens and the alarm goes off.

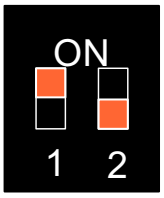
4) Select sensitivity

LiteSUN Plus has 4 levels of sensitivity which can be selected according to the type of installation by means of manual sensitivity selectors (F).

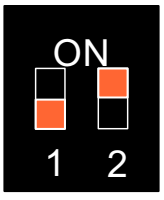
High sensitivity



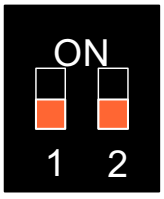
Middle-high sensitivity



Middle-low sensitivity



Low sensitivity



Perimeter protection: select "high sensitivity", both selectors up.

Protection of solar panels: select "low sensitivity", both selectors down.

The levels middle-high and middle-low can be selected to decrease sensitivity, e.g. in case of alarms due to weather conditions, or to increase the level of protection in case of protection of solar panels.

After selecting sensitivity, reset the device pressing the reset button (G).