User manual
LightingSensor

movie-intercom®

LightingFX Tools
for professional filmmakers

www.movie-inter.com

edition 2011-0916V1.7e

This user manual is valid for the LightingSensor from version V2.5-2011
(the version number can be found on the back side of the unit)

The newest version of this user manual is available under
http://www.movie-inter.com/en/support/downloads/index.html

This user manual is also available in german language
http://www.movie-inter.com/de/support/downloads/index.html

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symbols in this handbook

Safe time and read this manual!
Create much more effeciently and faster lighting effects with the LightingSensor.


CAUTION! please read this!

basic knowledge


application example

Please read the safety regulations first!

included in delivery

- LightingSensor
- user manual

Serial number

Each LightingSensor of movie-intercom has a serial number.
The version number can be found on the back side of the unit.

1. Safety first please read me first

Please read this user manual **before** the first operation !

The LightingSensor ...

...is a precise optical measurement unit and sholud be handled with care.

...controls an optional available LFXHub®.

...may contain a 9 volts battery. Please consider to remove the battery from the unit if it is stored for any longer period.
If used with an LFXHub a battery is not required.

Leaking acid from the battery may destroy the LightingSensor!

...must not be operated in extremely warm and wet environments!

...will be operated with low voltage, is short circuit proof and does not need any fuse.

...must be safely mounted with a 3/8" pin. Be sure the unit may not fall down by the influence of vibrations or movements of the place where the unit is attchached to.

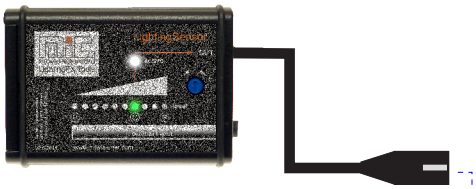
Especiallly protect the optical bearing tube against dirt and water otherwise this may result in malfunction of the LightingSensor.

Prior testing or shooting please inform all present persons there will be a lighting effect. If applicable people with deseases like epelipsys should leave the area where the lighting effect is visible.
Please make sure prior testing an shooting all present people are informed about an upcoming lighting effect.

2. Quick start

1.

connect the LightingSensor to LFXHub



LFXSensor activates
LFXHub with function:
dimmer
»change function

LFXHub

to socket "analog IN"

extendable with a maximum of two universal cables

to socket "DMX IN/OUT"

optional lamp connection

DMX-TX module

DMX-line

DMX dimmer

CH1

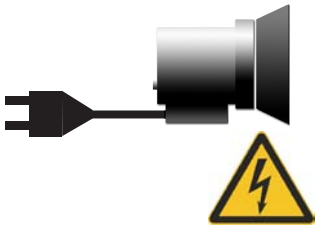
CH2

CH3

Hint
Hook up your lamps alternatively at the optional available DMX-TX module.

2.

connect
lamp
+
turn it on!



For tungsten lighting ONLY!

3.

find ideal position of the sensor:

The contrast of the background brightness behind the practical should be as high as possible opposite the ambient brightness of the environment.

The invisible detection beam of the LightingSensor must not be interrupted by an action of the actress or actor.
Usually the beam points from a lower to an upper direction.

Turn on the practical. At the beginning turn the blue sensor´s knob "level" to the most minimum value (turn anti-clockwise).

OK

Adjust the sensor to the lighting source using the bargraph display. Use eventually "level" to adapt it to the brightness intensity of the practical reading the bargraph display. Optimize the sensor position that at least the green LED of the bargraph display is on.

3. Function overview

The focused and invisible beam of the LightingSensor detects the brightness intensity of a lighting source e.g. a ceiling lamp, a car head light or a candle.

The Sensor converts the detected brightness level to an electrical on or off signal and so (de-) activates film lighting connected to an LFXHub.

Because of the optical detection there is no need to modify the wiring of practicals.

Advantage for the talents and lighting technicans

The talent simply uses the original switch e.g. of a practical.
The optical eye of the Lightinsensor reads the lighting source level, converts this signal to an electrical value and sends it through the control cable to the LFXHub.
All lamps connected at the LFXHub will activate the selected effect (mostly the activated effect is simply the "dimmer") with an active signal from the Lightingsensor.
Any lighting effect producible with the LFXHub can be (de-)activated.

Thus the film lighting is automatically synchronized with the lighting source, mostly a practical.
Nobody has to care about the right moment of synchronization of film lighting with the lighting effect of the practical; the talent can keep its concentration on acting.

With the LightingSensor you can...

- ...automatically synchronize a lighting effect of a practical with film lighting. This method means that scenes with alternating lighting situations can be accomplished in a single shot.
- ...automatically turn on or off any lighting effect generated by the LFXHub.

application examples:

- An actor turns on a ceiling lamp using a switch on the wall. The LightingSensor recognizes that the lamp has been switched on and activates the film lighting connected at an LFXHub.
- A romantic candle light dinner situation; the lighting effect of the candle is generated by an LFXHub. The real candle is blown out by the talent. The LightingSensor detects the blown off candle and deactivates the flicker effect of the LFXHub.

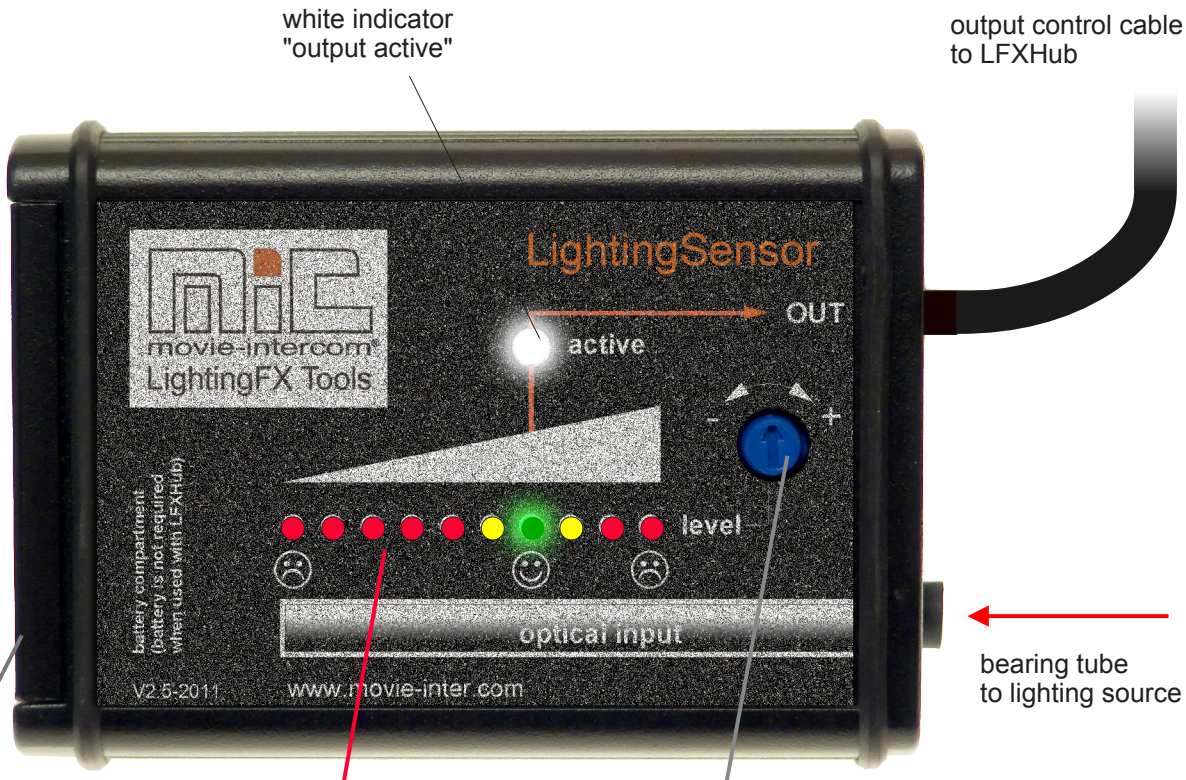
The LightingSensor is powered by the LFXHub via "analog IN", no battery in the Lightingsensor is necessary.

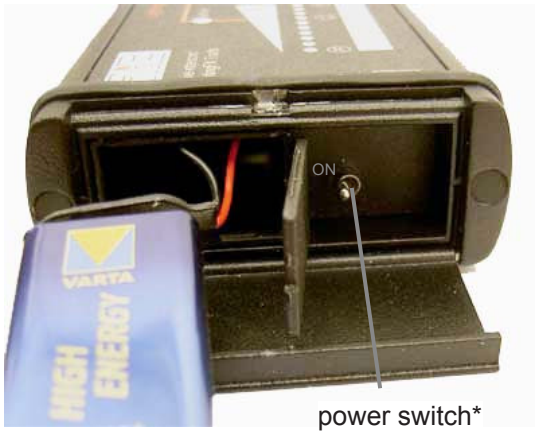
HINT:

Find out the ideal position of the LightingSensor without a connection to an LFXHub.
Insert a 9-Volts block battery into the Sensors´ battery compartment behind the lid.
Then you can walk around with the Sensor and find a good place for fixing.

Please keep in mind to remove the battery of the LightingSensor before storage.
Leakage of the battery can destroy the LightingSensor!

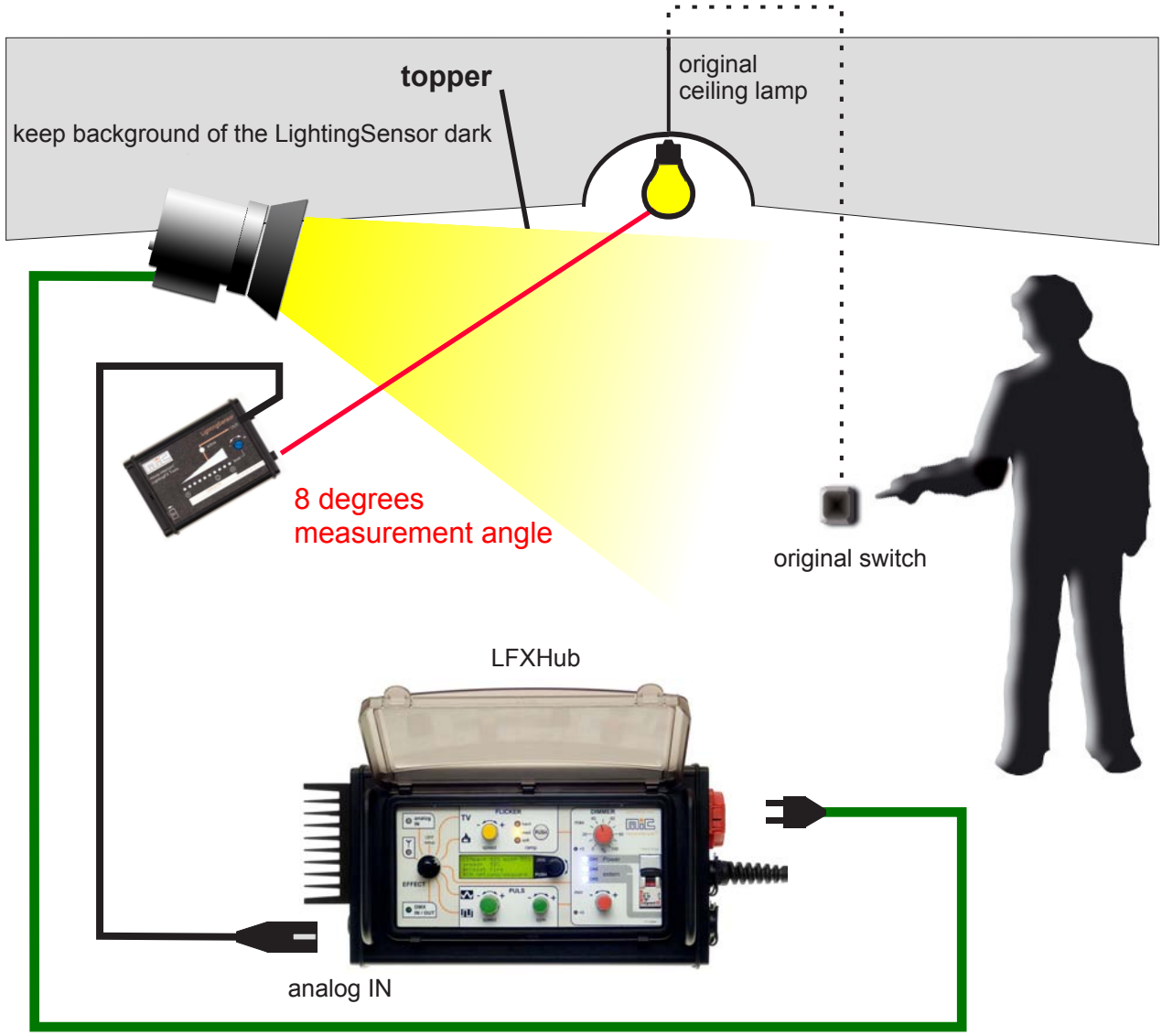
4. Controls & indicators





* a battery is only required when used stand-alone - find out the ideal position on location.
The LightingSensor is powered by an LFXHub when connected at the analog input.

5. Synchronisation set-up



finding the ideal position and adjustment setting of the sensor

1. link the LightingSensor with an LFXHub (via "analog IN"), connect a lamp at the LFXHub
2. turn on the practical or the lighting source
3. turn the blue level control knob to the counter clockwise mechanical stop (minus).
4. align the sensor to the practical using the bargraph display handheld, check if it roughly works. If yes >
5. fix the sensor with a magic arm or a grip head using a 3/8" pin screwed in at the back side of the sensor
6. make a bearing to the lighting source using the bargraph display, move the sensor until the maximum level is shown, fix the sensor
7. when the white LED indicates an active output of the sensor >
   the connected film lighting at the LFXHub will come on (selected effect is "dimmer")
8. if the white LED is not on, slowly increase the gain level turning the blue knob clockwise until the output of the Sensor is active, evtuallly repeat the bearing to the practical.

If there is a TURN ON delay: increase gain level and readjust Sensor to lighting source
If there is a TURN OFF delay: : decrease gain level and readjust Sensor to lighting source

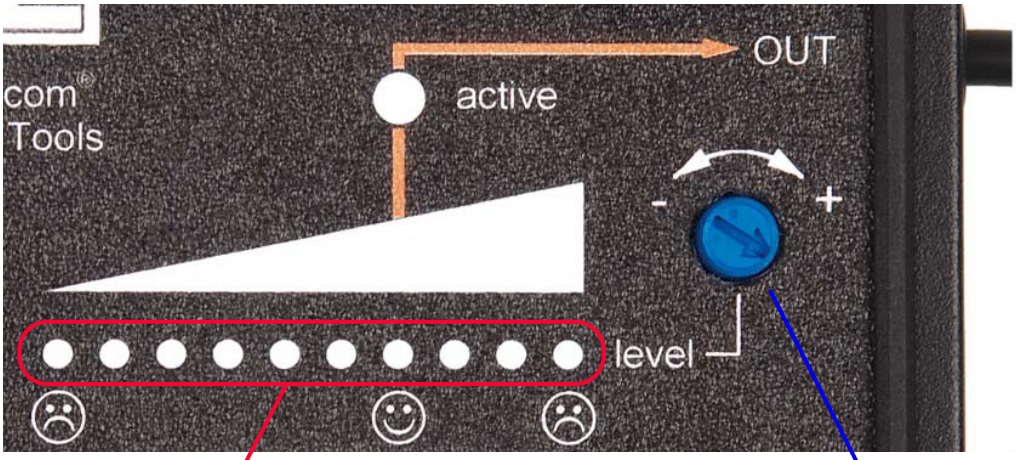
6. Hints & Knowledge

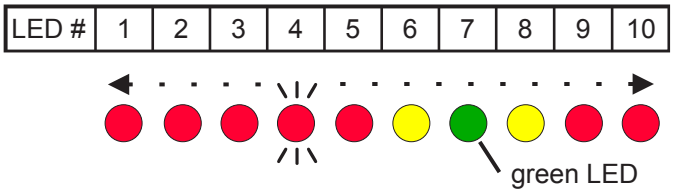
The bargraph display consists of ten dots (LEDs). Depending on the detected brightness intensity the according LED of the bargrapgh display will come on.

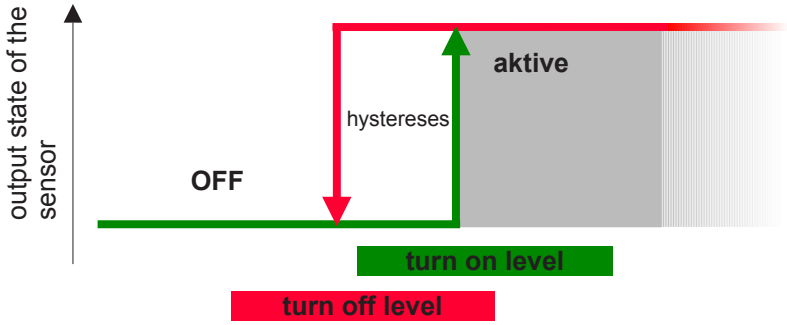
Hints & knowledge

1. The green LED (#7) indicates the **optimal turn on level** of the sensor. Connected film lighting stays on if the brightness level is exceeded indicated by an LED to the right of the "smiling face" symbol.
2. The **turn-off level** is lower than the turn-on level - the hystereses. This function prevents an undesired flicker effect when the detected brightness level alternates around the turn on level. The hysteres prevents undesired flicker effects.
   Please consider the hystereses when setting up the LightingSensor.
3. Movement of the sensor to the lighting source results in movement of a lighting dot of the bargraph display.

   Use this feature to center the invisible detection beam to the lighting source.
4. The **blue level knob** changes the gain. Use it according to the distance and/or intensity of virtually any lighting source.
5. If helpful use the bounced light of a lighting source for the synchronization.
6. If the lighting source is too bright try to turn the sensor out of the center of the maximum brightness source.
7. If there is a turn-off delay decrease the level.
8. If there is a turn-on delay increase the level.







HINT:

Detect the bounced light of a practical when used in tight environment.

7. Mechanical fixing

3/8" thread

For reliable function please attach the LightingSensor to a place without any movement.

Use a 3/8 inch pin to fit the sensor with a grip head or variable friction arm .

Please consider:

Avoid mounting the LightingSensor on a stand. Vibrations caused by the movement of an actress (e.g. steps on the floor) may change the precise bearing of the sensor. This phenomenon might result in a turn- or turn-off delay.

8. Connection to the LFXHub / settings at the LFXHub

For the operation of the LighingSensors with LFXHub plug in the connector of the Sensor to the "analog IN" of the LFXHub.
The settings at the LFXHub are discribed on the next page.

connection of LFX Tools to "analog IN"

extendable with a maximum of two universal cables

socket "analog IN"

or

A lighting effect can additionally be accomplished by one ore more connected DMX dimmer packs (with optional DMX module). The result of the lighting effect is the same as provided at the anlog outputs.

LightingSensor

setting up the LFXHub

- turn "EFFECT" to position "analog IN"
- If there is no LFX tool connected "analog IN", the orange LED is flashing
- Each movie-intercom LFX tool connected at "analog IN" is automatically recognized by the LFXHub. Depending on the connected module suitable functions are initialised in the LFXHub.

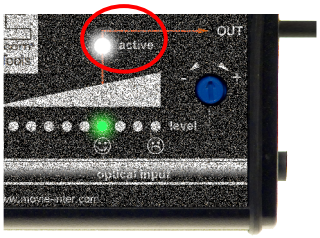
Please connect LFX tool to "analog IN" on your left hand side!

Please plug the LightingSensor´s plug into socket "analog IN" of the LFXHub.

8. Connection to the LFXHub / settings at the LFXHub (contd.)

The LFXHub can (de-)activate any lighting effect producible with the LFXHub.

- With an active control signal of a sensor (the white LED "active" is turned on at the sensor) the LFXHub activates any function selectable within the menu of "Analog IN".
- With an inactive control signal of a sensor (the white LED "active" is off at the sensor) all lamps connected at the LFXHub are switched off.

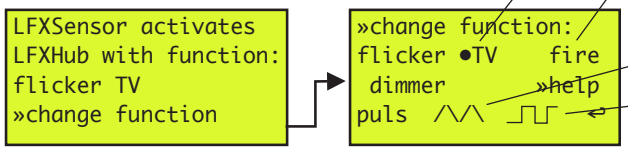


The function "DIMMER" simply turns on/off the internal (and all external) dimmer packs.

For a dimmed switched circuit without turn on/off delay use the internal dimmer of the LFXHub.

The rotary switch "EFFECT" is in position "analog IN".

If a LightingSensor is connected at "analog IN" the menu looks like this:



LFXHub function

Please choose the desired function to activate with an "active" signal of the sensor.

The sensor always activates the recently used settings of the selected LFXHub function. Within a function there is a selected preset. This preset will be used.

Examples in practice

application example 1

An actor turns on a ceiling lamp using the original switch on the wall.
The Lightingsensor recognizes that the lamp has been switched on and activates film lighting connected at the LFXHub.

The LightingSensor acitvates the function "dimmer" of the LFXHub when the actor turns on the lamp.
Connected film lighting can be dimmed with "DIMMER max".

application example 2

An actor blows out a real candle. The Lightingsensor detects the extingished flame and thus deactivates the flicker effect (preset candlegenerated by the LFXHub.

Thats the way it works:

- align the LightingSensor to a real candle and adjust the gain.
- turn "EFFECT" to position "Flicker" > "Fire"
- choose desired candle effect, preset or any other setting
- turn back "EFFECT" to "analog IN"
- choose desired function (in this example here "Flicker" > "Fire" with preset "candle")
- blow off candle > candle flicker effect generated by the LFXHub is synchronized

Alternatively the setting of "speed", "sym", "DIMMER max.", "DIMMER min" and "ramp" can also be changed as long as the sensor sends an active signal.

application example 3

Duplicate an effect of a real stroboscope.

- detect with the lightingsensor a real stroboscope
- choose function "dimmer" at the LFXHub within menu "Analog IN"

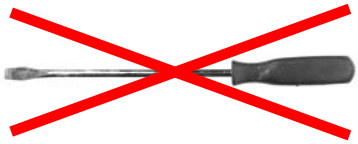
9. Battery

If the LightingSensor is used with a PowerSwitch a 9 volts battery have to be set in the LightingSensor´s battery compartment.

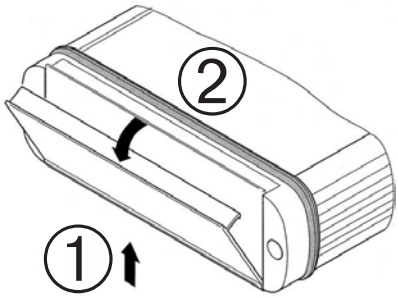
If used with an LFXHub there is no need to use a battery.
The LightingSensor is powered by the LFXHub.

Do not use rechargable batteries, because the nominal voltage is not sufficient.

To change the battery open the lid as shown below.

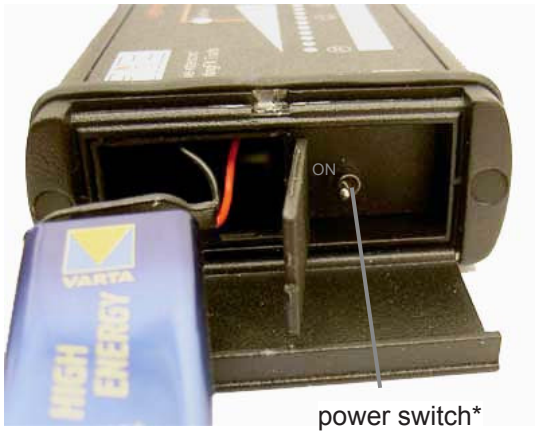


Do NOT USE a screwdriver



How to open the lid without a tool

① push in direction upwards
② then turn lid to open.



power switch*

battery department
for 9V block battery*

* a battery is only required when used stand-alone - find out the ideal position on location.
The LightingSensor is powered by an LFXHub when connected at the analog input.

10. Trouble shooting / maintenance

Possible problems using the LFXHub might be solved here.

Basic conditions for operation

1. The operation voltage of an LFXHub is 220 - 240 VAC /50 Hz (or 115 VAC / 60 Hz for the US version). The LFXHub is powered.
2. connected lamps are operative and switched on

symptom	possible source	solution
a connected lamp does not light	power plug of LFXHub or PowerSwitch is connected to a mains socket without power	use other mains socket
	The switch of the connected lamp is off	turn it on
	the connected lamp is inoperative	swap lamp
	the value of "dimmer max." at the LFXHubis too low	increase value of "dimmer max."
	the rotary switch "EFFECT" at the LFXHub is not on position "analog IN"	turn "EFFECT" to position "analog IN"
connected lamps turn on delayed	bearing on lighting source is incorrect, gain level is too low	repeat bearing on lighting source that green LED at Sensor is on, eventually increase gain level
connected lamps turn off delayed	bearing on lighting source is incorrect, gain level is too high	repeat bearing on lighting source that green LED at Sensor is on, eventually decrease gain level

If you have a problem which can not be solved by this manual, please disconnect the LFXHub from the mains and contact movie-intercom.

cleaning the unit

ONLY clean the unit when disconnected completely from any unit and the battery is removed!

Use a clean slightly wet cloth. After that basic cleaning use a coth dipped in spirit for the housing to clean.

disposal

In order to avoid any possible effects resulting from the disposal of electrical an elecronic equipment containing substances damaging the environment and human health, the European Parliament and Council directives
2002/96/EC on waste electrical and electronic equipment (WEEE) and
2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) have been transferred into national law in all EU member states.
The product you have purchased was developed in line with the current state of the art in an environmentally friendly manner and with the view of recycling.
The product is labelled with the symbol illustrated above. If you wish to dispose this product, this symbol obliges you to do so separately from industrial sorted waste.
Waste equipment should be shipped to movie-intercom. We will dispose the waste for you.
Electrical equipment does not belong in regular waste.

11. Specifications

LightingSensor

general	
operation voltage	10 volts DC*
output signal	5 VDC
operation temperature	0°C ...70°C (32°F ...158°F)
dimensions (l x w x h without cable)	150 x 108 x 42 mm (5.6" x 4.3" x 1.7")
weight	410 g (0.9 lbs)

detection circuit	
max. range	12 m (39´)
measurement angle	8 degrees
level indicator	10-step bargraph display
fixing	3/8" thread
gain range	20 dB
* battery is not required for use with the LFXHub.	

12. Address / Support

If there are any questions concerning the LightingSensor we are looking forward to answer your inquiry!

postal address	movie-intercom Urbanstr. 171B 10961 Berlin Germany	
phone 24h / 7 days	+49 (0)30 22 32 05 75	
fax	+49 (0)30 22 32 05 71	
e-mail	support@movie-inter.com	
web	http://www.movie-inter.com	

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