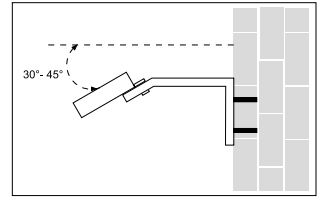
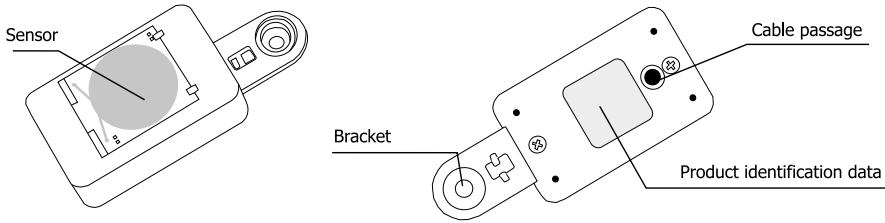




KIT HELYOS RAIN SENSOR

X11
PS12

RAIN SENSOR X11



1. TECHNICAL SPECIFICATIONS (@ 20°C)

- Power supply:	12 Vac/dc, 50/60 Hz	- Dimensions:	93 x 38 x 28 mm
- Contact capacity:	100 mA @ 12 Vac/dc	- Weight:	50 g
- Consumption:	6mA with open contact, 10mA with close contact	- Working temperature:	from -20 to +55 °C
		- IP protection:	IP55

NOTE FOR THE INSTALLATION: we suggest to install this sensor with a slope from 30° to 45°.

2. ELECTRICAL CONNECTIONS

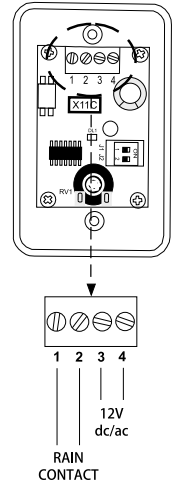
- The module has to be installed from technical qualify staff to respect all the rules and laws in forces on the territory.
- Work with caution on the module, use suitable tools.
- Verify that the line of supply doesn't result from circuit for th lighting.
- The line of supply has to be protected from a suitable magnetothermic or differential device..
- In case of many radio installations in the same system, the distance between them doesn't have to be less than 1,5m.
- It is forbidden and dangerous open or tamper the box.
- Do not modify or replace parts without autorization of the manufacturer.
- Do not install the module near metallic surface.

2.1 Power supply

The module has to be powered by voltage of 12Vac/dc @ 50/60Hz. The power supply has to be apply to terminals 3 and 4.

2.2 Rain contact

If the sensor relives the presence of rain, the contact betwenn terminals 1 and 2 close.



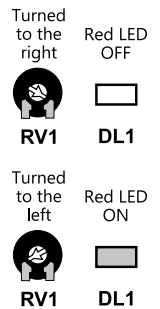
3. RAIN SENSOR LOGIC OF WORKING

If the sensor relieves rain, the rain contact closes (terminals 1 and 2). The contact opens when the plate of the rain sensor is dry enough. It is possible sets up the sensor so that the rain contact stay close at least 2 minutes (see point 3.2). When contact is close the LED is ON. When contact is open the LED is OFF.

3.1 Setting of sensibility

Through the regulator **RV1** it is possible set up the sensibility of the sensor. The factory set up the regulator in central position, this position assures the optimal solution almost in all cases. To change the threshold:

- Be sure that the microswitch **J2** is in **OFF** position.
- Be sure that the plate is dry and the **LED** is switch **OFF** (to switch **OFF** the **LED** revolve the regulator **Rv1** all toward right).
- Rotate the regulator **Rv1** all toward left. The **LED** switch **ON**.
- Rotate slowly the regulator **Rv1** toward right until switch **OFF** the **LED**. This is the highest sensibility reccomend (a more high sensibility could generate false trigger of the rain contact and difficult of release of the rain contact when the rain is over).
- Check the correct working of the system applying with little drops of water on the plate of the sensor. If the sensor is to much sensible, rotate the regulator **Rv1** to the right.



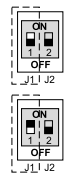
NOTE :

If during the setting the LED remains always ON, remove power supply to X11, rotate Rv1 all toward right, give power supply to X11 and repeat the procedure.

3.2 Rain contact logic of working

The microswitch **J1** allows to select the logic of working of the output contact:

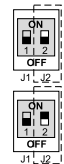
J1 OFF	With rain, the contact is closed for at least 1 second ; the contact is re-opened when the plate becomes dry enough. This is the default setting from the factory.
J1 ON	With rain, the contact is closed for at least 2 minutes ; the contact is re-opened when the plate becomes dry enough.



3.3 Little drops sensibility

Some atmospheric phenomenon (e.g. dew, fog, etc..) tends to deposit some little drops on the plate of the sensor that could be interpret as a presence of rain. Through the microswitch **J2** it is possible choose between two levels of sensibility to the little drops:

J2 OFF	This setting makes the sensor more sensitive to the fine rain, consisting of very small droplets; however, could happen closing of the contact in case of dew, fog, etc. This is the default setting from the factory.
J2 ON	This choice makes the sensor less sensitive to fine rain and small drops that characterize atmospheric phenomena like dew, fog etc.



4. EXPIRED

At the end of the product life cycle, dispose of the device in compliance with local regulations. This product could contain substances that are harmful to human health and the environment: do not dispose of the product in domestic waste.



5. FAQ

? The rain sensor doesn't close the contact in presence of rain.

- Just powered, the sensor briefly switch ON the LED. If it doesn't happen check the presence of power supply in terminals 3 and 4.
- The sensor is too little sensible. Recalibrate the sensor (see point 3.1)

? The contact of the sensor is not stable, that's close and open without apparent reason.

- The sensor is too much sensible. Rotate lightly the regulator Rv1 toward right.
- Bring the microswitch J1 to ON position.

All products and technical specifications given in this document are subject to variation without notice. The manufacturer shall not be liable for damage resulting from improper, incorrect or unreasonable use.

MASTER S.p.A. declares that the device complies with the fundamental requirements and other provisions of Directive 1999/5/EC. The declaration of conformity can be downloaded from the website <http://www.mastermotion.eu/en-US/download> in the Product Conformity section.



WARNING

Dear Customer, thank you for purchasing a product MASTER. Here you will find important information on how to use the product and safety of the installation. Observe the following information and keep them for future reference. IT IS RECOMMENDED TO READ THIS MANUAL FOR PROPER INSTALLATION. The manufacturer can not be considered responsible for any damages resulting from improper use, incorrect or unreasonable.

1. TECHNICAL SPECIFICATIONS (@ 20°C)

- Power supply: 230 Vac, 50/60 Hz
- Current on output: max 25 mA @ 12 Vdc
- Current capacity of the rain contact: 5A @ 230 Vac
- Dimension: 44 x 38 x 25 mm
- Working temperature: -20°C / +55 °C
- IP insulation: IP20

2. WARNINGS ON SAFETY AND INSTALLATION

- Keep these instructions for future maintenance work and disposal of the product.
- All the product installation, connection, programming and maintenance operations must be carried out only by a qualified and skilled technician, who must comply with laws, provisions, local regulations and the instructions given in this manual.
- The wiring must comply with current IEC standards.
- Make the connections with the power switched off.
- Install the product carefully, using suitable tools.
- Check that the power line does not come from electrical circuits intended for lighting.
- A circuit breaker or residual current device must be inserted in the power line. An isolating device with overvoltage category III, namely distance between contacts of at least 3.5 mm, must be inserted in the power line.
- Do not modify or replace parts without the manufacturer's permission. Do not pierce or tamper the box.
- The product is designed to be inserted inside of junction boxes. The module does not provide any protection against water and only essential protection for contact with solids.

2.1 Power supply

The module should be operated at a voltage of 230 Vac and frequency 50/60 Hz. The supply voltage must be applied to terminals 1 and 2.

2.2 Connection of rain sensor mod. X11

The rain sensor X11 is equipped with a terminal block with 4 contacts. The terminals 1 and 2 of the rain sensor must be connected to the terminals 7 and 8 of the module (neutral contact), the terminals 3 and 4 of the rain sensor must be connected to terminals 5 and 6 (supply voltage).

2.3 Rain contact

The Rain contact is available at terminals 3 and 4 (normally open dry contact).

2.4 Operation of the rain contact

When the rain sensor X11 detects the presence of rain, the rain contact across terminals 3 and 4 closes.
When the rain sensor X11 detects the absence of rain, the rain contact across terminals 3 and 4 will open.

3. DISPOSAL

At the end of the product life cycle, dispose of the device in compliance with local regulations. This product could contain substances that are harmful to human health and the environment: do not dispose of the product in domestic waste.

4. ELECTRICAL CONNECTION

