



22 400 501-2



## Digital settable sensor relay

### LRW12D-UC

**Only skilled electricians may install this electrical equipment otherwise there is the risk of fire or electric shock!**

Temperature at mounting location:  
-20°C up to +50°C.  
Storage temperature: -25°C up to +70°C.  
Relative humidity:  
annual average value <75%.

**valid for devices from production week 31/15** (see bottom side of housing)

**Light-twilight rain wind sensor relay,  
4 OptoMOS semiconductor outputs  
50 mA/12..230 V UC. Standby loss 0.05-0.5  
watt only.**

Modular device for DIN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep. Supply voltage 12 to 230 V UC.

The sensor relay LRW12D evaluates the signals from the light sensor LS, the rain sensor RS and the wind sensor WS and sends appropriate control signals to the downstream EGS12Z or EGS12Z2 actuators depending on the setting via the display on the front panel.

The OptoMOS semiconductor outputs switch the voltage applied to the universal voltage input terminal +B1.

A light sensor LS, rain sensor RS and wind sensor WS can be connected to a sensor relay LRW12D. However, only one per sensor. If one or two of the three possible sensors are not connected, **OFF** has to be selected in the function menu for the relevant sensor. However, at a wind sensor WS several LRW12D can be connected for controlling different wind speeds. Then the LRW12D must be connected to the same potential +B1/-A2. When the supply voltage is applied to B1/A2, the LRW12D can be set:

First **segment 1** indicates 'LS' or 'DSR' and **segment 3** may then indicate closed outputs 2, 3, 4 or 5. 'LS' indicates that the LRW12D is

set as light sensor switch (factory setting) and 'DSR' shows that it is set as light-twilight switch.

In both settings, the signals of connected rain and wind sensors may also be evaluated. A light sensor need not be connected.

**Segment 2** indicates alternating events: s = brightness overshoot (sun), m = brightness undershoot (moon). If a release delay runs, the affected output flashes in segment 3. Select the function for which values require changes by pressing the countersunk buttons **MODE** and **SET**: Press **MODE** and select the flashing function by pressing **MODE**. Alternatively browse through the available functions by pressing **SET** and then select the required function by pressing **MODE**.

#### Functions

**LS = light sensor, WS = wind sensor, RS = rain sensor, DSR = light-twilight relay, TST = test and OFF = switch all functions on/off.** When the required function flashes, confirm it by pressing **MODE**. Then the first of the adjustable subfunctions flashes.

#### Subfunctions at LS = light sensor

**ON** or **OFF** indicates whether the light sensor evaluation is switched on or off with the light sensor LS. Press **SET** to switch and **MODE** to confirm. If it's switched on, **LSM** displays the current light sensor measuring value in klux in field 3, if a light sensor LS is connected. No input is possible.

**LSS** indicates the brightness in klux; this setting immediately triggers the sun signal as a 2 second impulse at output 2 in the event of an overshoot. Press **SET** to adjust the value between 3 klux and 60 klux and confirm by pressing **MODE**. Hysteresis then decrements automatically by 2 steps lower.

**LSD** indicates the brightness in klux; this setting triggers the light/twilight signal as a 2-second impulse at output 3 in the event of an undershoot dependent on the following set delay time RV. Press **SET** to adjust the value between 1 klux and 40 klux and confirm by pressing **MODE**.

**RV** indicates the delay time by which the light/twilight signal is tripped delayed. Press **SET** to adjust the value between 0 and 60 minutes and confirm by pressing **MODE**.

#### Subfunctions at WS = wind sensor

**ON** or **OFF** indicates whether the wind sensor evaluation is switched on or off with the

wind sensor. Press **SET** to switch and **MODE** to confirm. If it's switched on, **WSM** displays the current wind sensor measuring value in m/s in field 2, if a wind sensor WS is connected. No input is possible.

**WSS** indicates the settable wind speed from 2 to 20 m/s; if the wind speed exceed this value, the output 5 will close. If the wind speed again drops below the set value, the output is released after the following set delay time RV. If the sun signal is applied at this moment, a 2 second impulse is triggered at output 2.

**RV** indicates the delay time by which the wind signal is terminated delayed. Press **SET** to adjust the value between 0 and 60 minutes and confirm by pressing **MODE**.

#### Subfunctions at RS = rain sensor

**ON** or **OFF** indicates whether the rain sensor evaluation is switched on or off by the rain sensor RS.

Press **SET** to switch over as required and press **MODE** to confirm. When it is switched on, output 4 is closed when it rains. After drying the sensor surface assisted by the heater, output 4 opens on expiry of the following adjustable delay time RV. If the sun signal is applied at this moment, a 2-second impulse is triggered at output 2.

**RV** indicates the delay time by which the opening of output 4 is delayed at the end of rain detection.

Press **SET** to adjust the value between 0 and 60 minutes and confirm by pressing **MODE**.

#### Subfunctions at DSR = light/twilight sensor relay

**DSD** indicates the brightness in klux which closes output 3 immediately in the event of an undershoot.

Press **SET** to adjust the value between 20 lux (0.020 klux) and 800 lux (0.800 klux) and confirm by pressing **MODE**. Hysteresis then increments automatically by 2 steps higher.

**DSS** indicates the brightness in klux which opens output 3 according to the following adjustable delay time RV in the event of an overshoot.

Press **SET** to adjust the value between 160 lux (0.160 klux) and 2000 lux (2.000 klux) and confirm by pressing **MODE**. Hysteresis then decrements automatically 2 steps lower.

**RV** indicates the delay time by which output 3 opens delayed in the event of a brightness

overshoot. Press SET to adjust the value between 0 and 60 minutes and confirm by pressing MODE.

In the **TST** function and after you confirm by pressing MODE, the OptoMOS outputs 2, 3, 4 and 5 can be closed in succession to test using SET.

The output closed in each case is indicated in segment 3.

In the **OFF** function, the LRW12D can be switched on or off. After you confirm the flashing OFF by pressing MODE, OFF is indicated and all functions are switched off. Switch on by pressing MODE and SET and confirm a flashing ON by pressing MODE.

**Lock settings against unintentional readjustment** by briefly pressing MODE and SET simultaneously. When you confirm a flashing display LCK by pressing SET, you lock the keys and this is indicated by an arrow in segment 1 pointing in the direction of the pressed lock symbol.

**Unlock** by pressing MODE and SET simultaneously for 2 seconds. Confirm the flashing display UNL by pressing SET to unlock.

A changed setting only takes effect when the display in segment 1 no longer flashes after you press MODE (if necessary several times). 20 seconds after you last press a key, the display returns to the starting display and an unconfirmed change is lost.

**Changing light compensation:** Constant changes between sun and rain clouds would result in sensitive closing and opening of the shade elements. This is prevented by a changing light compensation function.

**Sensor function and open circuit monitoring:** If the signal from the light sensor or the wind sensor is missing for 24 hours, then an alarm is triggered: The display indicates 'FLS' or 'FWS'. Failure of the wind sensor results in a 2-seconds pulse at output 5 in order to protect any awnings or windows which may be connected here. This pulse is repeated every hour.

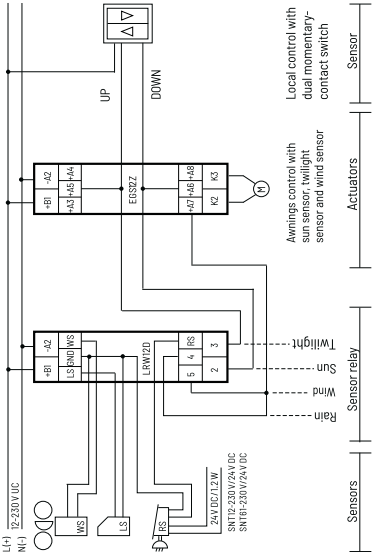
Rain sensor failure or a line break causes output 4 to close. The display indicates 'FRS' 36 hours later.

If several faults occur simultaneously, they are each displayed for one second in succession. When signals are detected again, each alarm stops automatically.

Program flow chart LRW12D-UC:



Typical connection



Technical data

Supply voltage UC	12..230 V
OptoMOS	50 mA/12..230 V UC
Max./min. temperature at mounting location	+50°C/-20°C
Standby loss (active power) at 12/24/230 V	0,05/0,1/0,5 W



The strain relief clamps of the terminals must be closed, that means the screws must be tightened for testing the function of the device. The terminals are open ex works.

Manuals and documents in further languages:



<https://eltako.com/redirect/LRW12D-UC>



**Must be kept for later use!**  
We recommend the housing for operating instructions GBA14.

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