

High efficient Irrigation-System with a very simple handling

With this unit you can reduce your water demand up to 50% and you have a lot of additional features

Quick Start

- ✓ Connect all the cable according to the Terminal-List or Diagram
- ✓ Select your desired Program (see next list) with the Program-Switch in the middle of the Unit

Program-Switch

- 0 = all is off, Alarm is Reset
- 1 = Pulsed or Trickle-Irrigation
- 2 = Continuous Irrigation
- 3 = Pump Manual Mode
- 4 = Pump Manual on for a Programmed Time
- 5 = Test Irrigate
- 6 =
- 7 = Set Irrigation-Time
- 8 = Set Irrigation-Cycle
- 9 = Set Irrigation-Time-Base (min/sec)
- 10 =Set Time for Pulses Trickle-Irrigation
- 11 =Set Automatic "No Water Detection" off

Program 1: Pulsed or Trickle-Irrigation

In this mode the Pump is switched on in Pulses. This reduces the water demand. If you have the Irrigation-Sensor connected, the Irrigation is suppressed if there is no demand. The irrigation will always take place at night, in order not to waste too much water by evaporation

Program 2: Continuous Irrigation

Like Program one but in this Mode the Pump runs continuously the complete irrigation-Cycle. It depends on the cultures which program is better

Program 3: Pump Manual Mode

The Pump is running as long as Program 3 is activated

Program 4: Pump Manual on for a programmed Time

In this position you can select a Irrigation-time. After this time The Pump stops. Set the Program-Switch to Position 4, press the Push-Button until the Light is fast flashing. Then select the Irrigation-Time with the Program-Switch: 1 = 10 minutes, 2 = 20 minutes etc. After this time the Pump is switched off and there is a Alarm. Reset this function with the Push-Button or with the Program-Switch at Position "0". The fast flashing stops.

Program 5: Pump Manual on for the calculated Time

With this function you can Start the Irrigation at any Time with the Time calculated by the Humidity. Select Program "5", press the Push Button for to Start this function. It stops automatically or if the Program-Selector is at Position "0"

Setting of Parameters:

If you need others than the Preset Values you can modify most of them

Program 7 Set: Set Irrigation-Time

Turn the Program-Switch to Position "7"

Press the Push-Button for more than three seconds. Now the LED is fast flashing

Set the Time by the Program-Switch Position 0-11 corresponds to 0-255 Minutes or 0-255 Seconds if Irrigation-Time is set to Seconds (See Programming of Irrigation-Time-Base)

Press the Push-Button for more than three seconds. Now the LED stops fast flashing

Program 8 Set: Set Irrigation-Cycle

Turn the Program-Switch to Position "8"

Press the Push-Button for more than three seconds. Now the LED is fast flashing

Set the Irrigation-Cycle with the Program-Switch. 2 means every second day for example.

Press the Push-Button for more than three seconds. Now the LED stops fast flashing

Program 9 Set: Set Irrigation-Time-Base (min/sec):

Turn the Program-Switch to Position "9"

Press the Push-Button for more than three seconds. Now the LED is fast flashing

Set the Set Irrigation-Time-Base (min/sec) with the Program-Switch. Zero corresponds to Minutes, One corresponds to Seconds,

Press the Push-Button for more than three seconds. Now the LED stops fast flashing

Program 10 Set: Time for Pulses Trickle-Irrigation:

Turn the Program-Switch to Position "10"

Press the Push-Button for more than three seconds. Now the LED is fast flashing

Set the Time for Pulses Trickle-Irrigation with the Program-Switch. Two means 10 seconds on / 50 seconds off for example. Three means 15 seconds on / 45 seconds off for example. All refers to 60 seconds Time-grid

Press the Push-Button for more than three seconds. Now the LED stops fast flashing

Program 11 Set: Automatic "No Water Detection" on/off:

If the Automatic no Water Detection is not necessary, you can switch it off in the following way

Turn the Program-Switch to Position "11"

Press the Push-Button for more than three seconds. Now the LED is fast flashing

Program-Switch Position "0" is off, Position "1" is on

Press the Push-Button for more than three seconds. Now the LED stops fast flashing

Reload the Standard Values (Reset of all values to Pre-Set-Values)

If you press the Push-Button during Switch-on of the Device all Preset-Values will be loaded

Alarms:

The Alarm-Horn can be Reset by setting the Program-Switch to Position "0" or by Pressing the Push-Button

Feature-List

- ✓ Using a light sensitive Sensor Irrigation starts automatic at night before dawn, the best time for Irrigation. This works also if there are frequent Power-failures.
- ✓ You can select a Continuous Irrigation or a Pulsed irrigation. The Pulsed irrigation reduces the water demand and works on the effect of trickle irrigation without the high costs for such a System
- ✓ Automatic detection of no Water Flow and Alarm
- ✓ You can connect any Humidity-Sensor. But you can use a very simple Self-Made Humidity-Sensor as well or you can get one together with the Device. The Sensor is based on Conductivity-Measuring with Temperature-Compensation
- ✓ Anti-Corrosion Protection for the Humidity-Sensor
- ✓ Automatic Set-Point detection for the Irrigation-Time based on the Minimal and Maximal-Values.
- ✓ Manually Adjustment of the maximal Irrigation-Time from seconds to hours. All essential Parameters can be adjusted manually and very easy. Just press a Push-Button and program the desired Value.
- ✓ Cycle suppress of Irrigation in order to get better quality of the roots.
- ✓ System works also if all Sensors are broken. Irrigation will be started all 24 hours in this case
- ✓ Additionally Level-Sensors can be used in order to Protect the Pump from running dry
- ✓ Manual Mode for Irrigation: Switch Pump on for a Preset Time

- ✓ Manually Readjustment of the Irrigation-Cycle for example every second day etc
- ✓ You can connect 12V, 24V DC or 220V AC Pumps or Valves with max. 2200 Watt/10 Ampere.
- ✓ Very easy to handle. Just connect the Pump and Humidity-Sensor and it works. No more adjustments are necessary.
- ✓ The System can be extended by a Solar-Charger. So you can run and control your Solar-Water Pump with this Device. And you can optionally recharge AA or AAA-Batteries for small appliances.
- ✓ Serial Interface for to Scan and Log Measurement-Values and evaluate on them on the PC
- ✓ It's a Open-Source-Project! You can even make your own Modifications in the Software and download it.
- ✓ Very good price / performance-ratio

How does it work?

- ❖ The day-time is detected automatic by a light-Sensitive Sensor. The Time for irrigation is set to 4 o'clock at night, a good time for this
- ❖ There is a flexible Setpoint for the irrigation-time, calculated by the degree of Humidity in the ground.
- ❖ The actual value Humidity is only relevant short before irrigation, that means always at night
- ❖ Being very sensitive for Temperature, the Actual Value Humidity is Temperature-Compensated