



MarsEVOL



HARVESTATION

▶ Smart Lighting Management System for Greenhouse

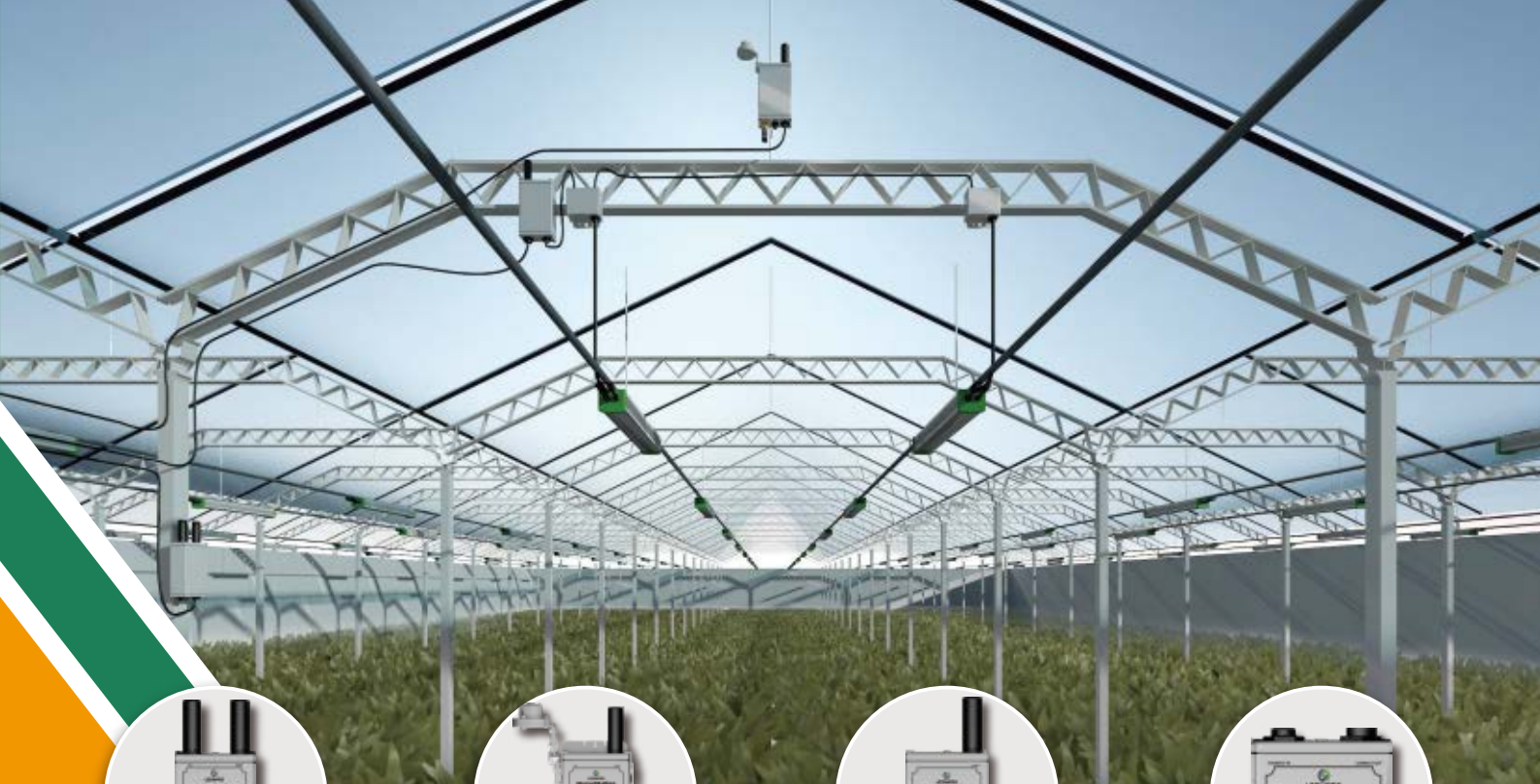
Product Features:

- Detect sunlight Par value, and record sunlight DLI data statistically.
- According to the set DLI requirements, the artificial light illumination is automatically adjusted according to the change of sunlight.
- Full cycle settings cover the whole growth cycle, including multiple photoperiods and operation days
- One set system can wirelessly control up to 40 lighting zones.
- One lighting zone can control up to 300 fixtures.
- The industrial-grade encrypted Zigbee wireless communication protocol is adopted in the system, and the recorded data can be stored in the cloud, which is safe and reliable.
- All controllers of the system can reach IP66 protection level, easy to clean.



CB CE RoHS

— MarsEVOL LIGHTING



Host Controller

Host controller is the core control unit of the system. It will collect the data sent from the PAR and Temp/Humi detector at all times, then control the dimming and archive the data statistics according to the requirements set by the program. Host controller can connect to the Internet through a network cable or WIFI signal, and save the lighting strategy and statistical data configured by user to the cloud.

PAR Detector

The PAR Temp/Humi detector is the data collection unit of the system. It collects sunlight PAR data all the time to form DLI statistics. It also collects temperature and humidity data near the detector. Users can view historical data statistics through the software. It can display the statistics of the current day, the current month and the current year.

Dimming Controller

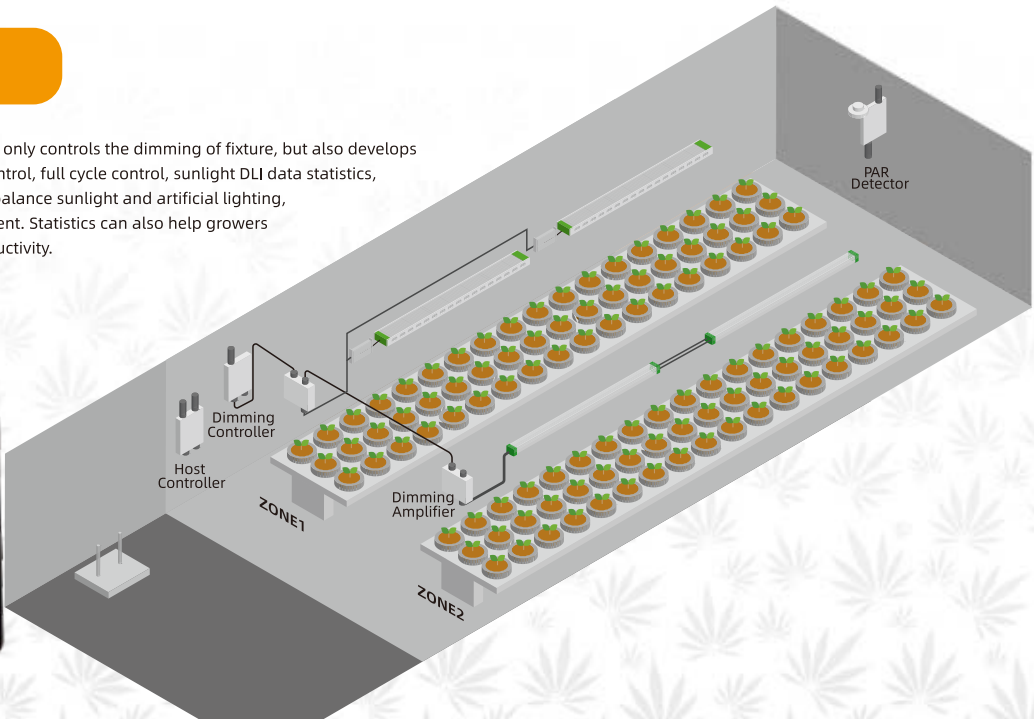
Dimming controller is the executive dimming unit of the system. It can output 0-10V dimming signal to control the light output of the fixture which are connected to it. Dimming controller is controlled by the host controller, which communicates wirelessly with the host controller through Zigbee.

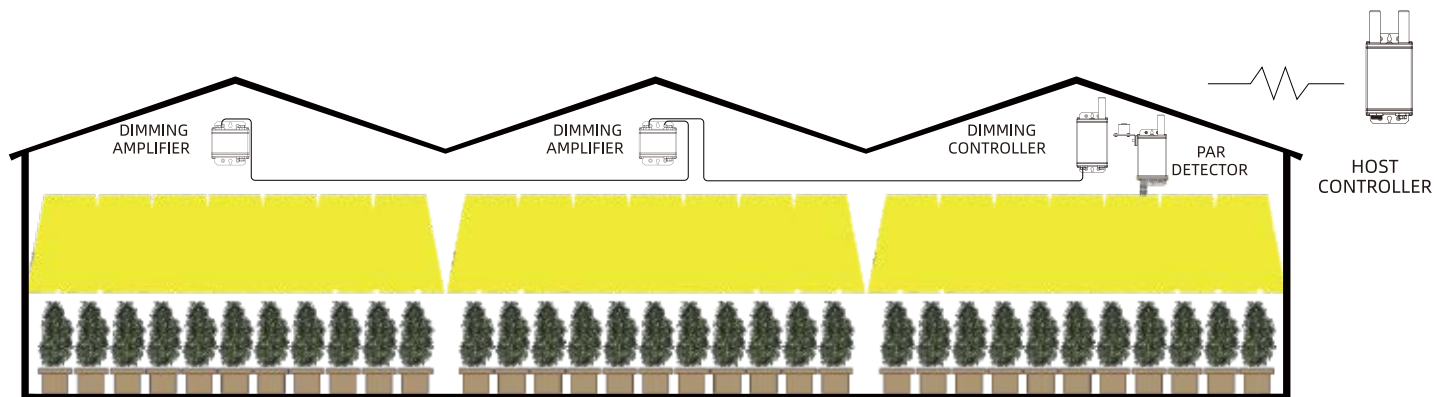
Dimming Amplifier

Dimming amplifier is the dimming expansion unit of the system. One end is connected to the dimming controller, the other end is connected to the next dimming amplifier, and the output end is connected to the fixtures. The dimming amplifier can still output 0-10V dimming signal to control the fixtures.

HARVESTATION

HarveStation is a smart lighting management system. It not only controls the dimming of fixture, but also develops detailed lighting strategies. It supports lighting partition control, full cycle control, sunlight DLI data statistics, temperature and humidity data statistics. It can effectively balance sunlight and artificial lighting, and save lighting energy consumption to the maximum extent. Statistics can also help growers better improve their lighting strategies and gain more productivity.





The sunlight in the greenhouse will cause a certain amount of light loss after penetrating the top glass and truss. It is recommended to install the PAR Temp/Humi detector inside the greenhouse. Below the glass, above the sunshade. It can be located slightly higher than the truss. After the PAR Temp/Humi detector works normally, it will collect the sunlight data after penetrating the glass and form a statistical record for the grower to query. When in DLI control mode, the host controller can control light dimming based on the changes in sunlight collected by the PAR Temp/Humi detector.

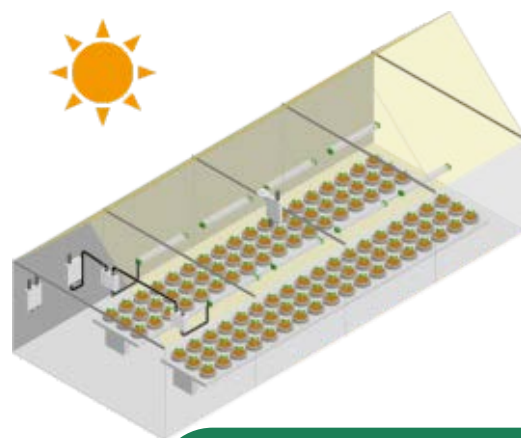
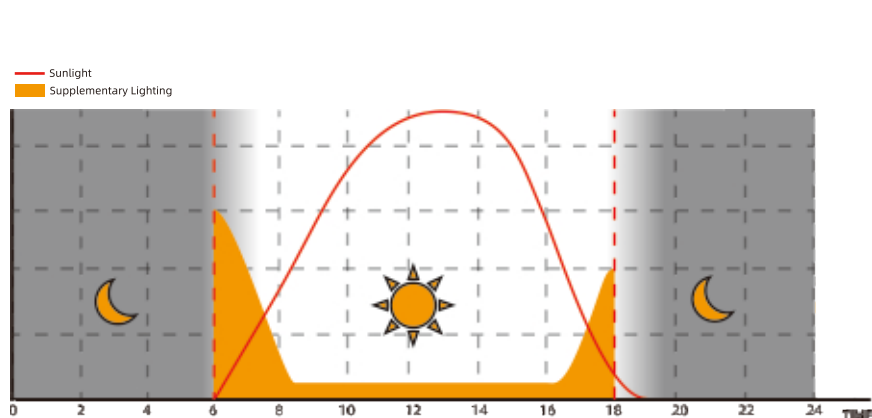


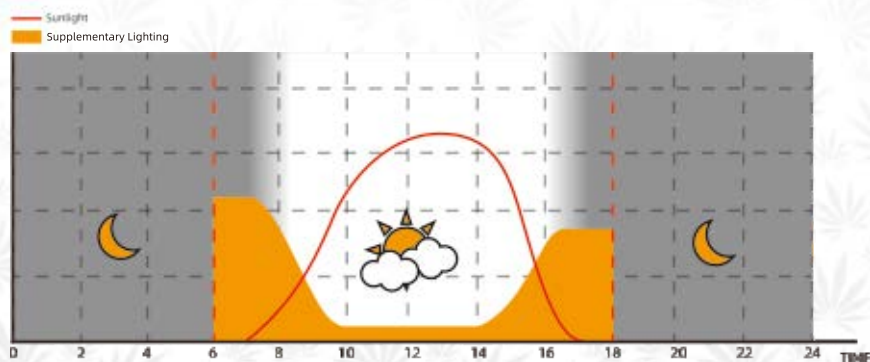
Diagram 1

In DLI control mode, user can control the lights working time. During the photoperiod set by the user, the fixture will provide supplemental lighting when the sunlight is weak, and the fixture will turn off when the sunlight increases. The system will comprehensively calculate the DLI data provided by sunlight and artificial light, and dynamically change the brightness of the light.

Diagram 2



In DLI control mode, when the system detects that the sunlight data is too low, it will judge that it is currently cloudy, and the lights will be turned on to provide supplemental lighting.





Host Controller

SPECIFICATIONS

| | |
|---------------------|------------|
| Voltage | 100-277VAC |
| Amperage | 0.05A |
| Operating Frequency | 50-60Hz |
| Input Power | 2W |
| IP Level | IP66 |
| Network Interface | RJ45 |
| Wifi Band | 2.4Ghz |
| Zigbee Band | 2.4Ghz |
| System Capacity | 50 Slaves |

SPECIFICATIONS

| | |
|---------------------|--|
| Voltage | 100-277VAC |
| Amperage | 0.03A |
| Operating Frequency | 50-60Hz |
| Input Power | 1W |
| IP Level | IP66 |
| Dimming | 0-10V |
| Zigbee Band | 2.4Ghz |
| System Capacity | 30pcs fixtures or 10pcs dimming amplifiers |

Dimming Controller



SPECIFICATIONS

| | |
|---------------------|------------------------------|
| Voltage | 100-277VAC |
| Amperage | 0.02A |
| Operating Frequency | 50-60Hz |
| Input Power | 0.5W |
| IP Level | IP66 |
| Humidity Range | 0-100% |
| Temperature Range | -30°C ~ 100°C |
| PAR Range | 0-4000µmol/m ² /s |



PAR Detector

SPECIFICATIONS

| | |
|----------|-------|
| Voltage | 12Vdc |
| Amperage | 0.03A |
| IP Level | IP66 |
| Dimming | 0-10V |

Dimming Amplifier





MarsEVOL

ABOUT US>>

MarsEVOL was established in 2006, 17 years of professional optoelectronic design and manufacturing experience;

With the concept of "LED-Innovation-Profession", which is one of the earliest LED lighting design manufacturers. The current product line covers Industrial and Commercial lighting, Aquarium lighting, Horticulture lighting, poultry lighting, and various professional control systems, such as Wifi, Bluetooth mesh, Zigbee.

Now MarsEVOL's solution was applied in numerous projects all over the world at all scales.



Deep Cultivation And Scientific Research

Professional R&D team, including a structural team, an electronic team, an optical team, an engineering process team, a software team, and a testing team.



Advanced Production Equipment

Full set of optical and electrical laboratories, as well as advanced factory equipments.



Strong Enterprise Strength

The earliest VDE certification was obtained in 2007. Up to now, the certifications have VDE, UL, ETL, ENEC, TUV, CE, FCC., EMC,LVD, RoHS, KC, SAA, CB and so on.



Strict Quality Control

ISO9001 quality control system, with IQC, IPQC, OQC teams and processes.



Numerous Patents

Hundreds of patents (Continue to be updated)

ABOUT OUR SMART CONTROL SYSTEM

1-HarveStation is combined by the PAD, Host controller, Par detector, Dimming Controller and Dimming Amplifier. It supports DLI automatic management, controls the dimming of fixture and develops detailed lighting strategies.

It supports lighting partition control, full cycle control, sunlight DLI data statistics, temperature and humidity data statistics. It can effectively balance sunlight and artificial lighting and save lighting energy consumption to the maximum extent.

Statistics can help growers better improve their lighting strategies and gain more productivity.



2-Compact Dimming Controller, two channels can be set, each channel can connect up to 25 lamps;

This compact dimming controller equipment includes a 100~240Vac power adapter, a dimming signal cable + pigtail dimming power cable (total length 2.5 meters/ 8.2 feet);

