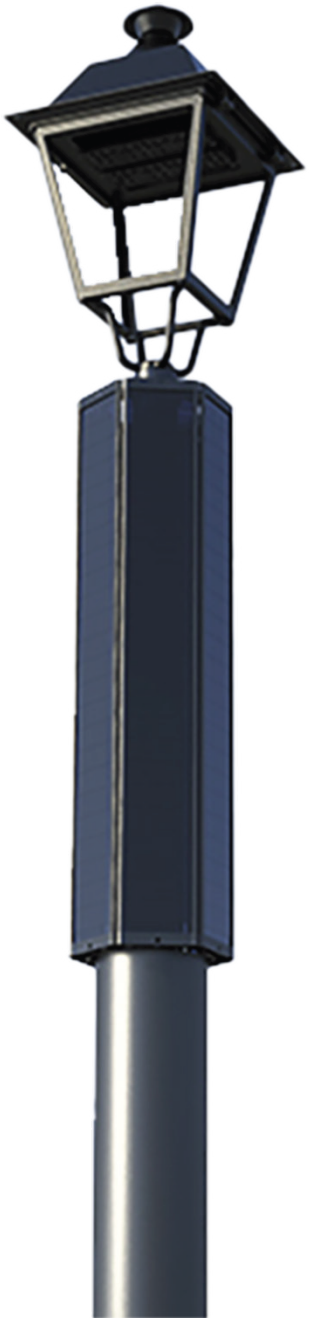
ARES LED Solar Garden Light

The Ares Solar Garden light is an eco-friendly and efficient lighting solution. It harnesses solar energy during the day through high-efficiency solar panels and automatically illuminates at night, providing soft lighting. Easy installation and no wiring required, it features intelligent sensing for energy-saving and easy maintenance.



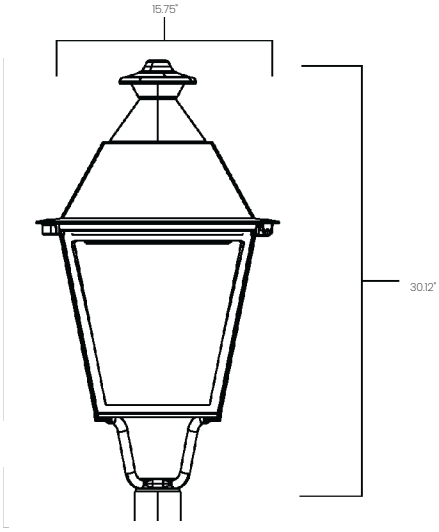
- **NO ELECTRIC BILLS**
- **EASY INSTALLATION**
- **RELIABLE LIGHTING ANYTIME**
- **LOW MAINTENANCE**
- **VERSATILE APPLICATIONS**
- **SUSTAINABLE**

All technical specifications and datas are subject to modification at any time and without notice.
Contact us for the most up-to-date information or visit www.360solarlighting.com
710 Armstrong Dr, Buffalo Grove, IL 60089 / Phone: (224) 567-8312 / Email: sales@360solarlighting.com

ARES LED Solar Garden Light

LED Light

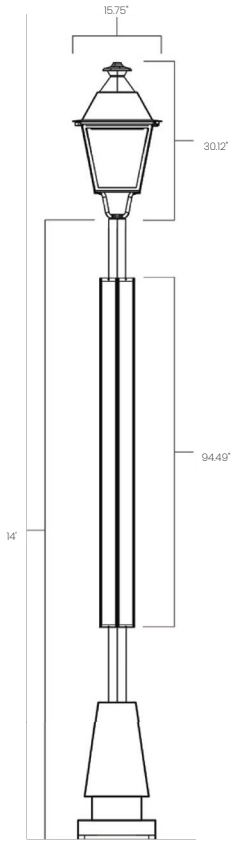
OPTICAL	
Lumen	180-200LM/W
CCT	2700K-6500K
CRI	>70Ra
ELECTRICAL	
Ingress Protection	IP66 Weatherproof
Lifespan	≥100,000 hrs
Operating Temp.	-40°F ~ 122°F
Operating Humidity	10~90%RH
Fixture Material	Glass Cover/PC(Lens)/Aluminum (Body)



Battery Options

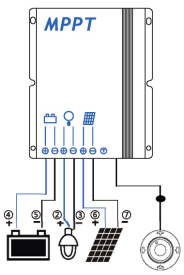
Solar: 100% Solar power supply, 100% Self Efficient
Hybrid: Primarily Solar, grid backup
Grid: Direct grid connection

(Battery & MPPT placement varies based on needs, see below)
Battery & MPPT inside pole / Battery & MPPT in ground
Cylindrical Battery & MPPT (pole exterior) / Battery & MPPT in fixture
Direct grid connection



Controller

Integral SRNE Gen 4 SR-DM Series (DM160-R/W) MPPT solar charge controller, automatic dimming profiles, motion sensor support, deep-discharge and over-charge protection. (Detailed controller spec sheet available upon request.)



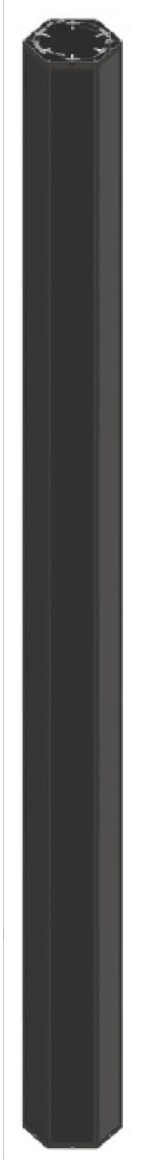
Specifications subject to site conditions and engineering requirements.

710 Armstrong Dr, Buffalo Grove, IL 60089 / Phone: (224) 567-8312 / Email: sales@360solarlighting.com

360 Solar Lighting™ a DUVON Company

Ares Solar Module - Specification (Standards)

Parameters	
Model Number	DV-PV300-18
PV Type	300WP/18V
Power/Pmax(Wp)	300Wp
Open Circuit Voltage/Voc/V	42
Short Circuit Current/Isc/A	11.8
Max. Power Voltage/Vmpp/V	27
Max. Power Current/Impp/A	11.4
Cell Type (Mono/Thin Film)	HPBC Mono
Cell Effeciency (%)	>26%
Dimensions (L*OD)/inch	Φ10.08" x 94.49"
PV Panel Weight	55.12lbs
Installation Pole Diameter Range	Φ2.36" ~ Φ6.61"
PV Panel Module Sides	6
Max. Parallel Connection Qty.	5
Working Environment	-40°F ~ 185°F
Junction Box IP Class	IP66
Wind Load	57m/s
Salt Spray Test	1,000 hrs
System Voltage	1,000V DC (IEC)/1500V DC(UL)
Tolerance	-3/+3%
Materials	
Solar Cell	Mono Cell
Glass	3.2 Cloth Super White Tempered Glass
EVA	High Light Transmittance, Anti-Oxidation, Anti-Corrosion, UV Resistance
TPE (Black)	High Temperature, Fatigue, Creep, and Impact Resistance
Temperature	
Nominal Battery Operating Temp. (NOCT)	113±35.6°F
Peak Power Temp.	-0.26%/°F
Open Circuit Voltage Temp. Coefficient	-0.19%/°F
Short Circuit Current Temp Coefficient	0.025%/°F



Specifications subject to site conditions and engineering requirements.

Ares Battery - Specification (Standards)

Model Number	DV-LB-1152Wh
Application	Battery
Battery Type	Lithium Iron Phosphate LiFePO4
Housing Material	Aluminum Alloy
Cycle Life - DOD	DOD @ 80% --- 3,000 Cycles DOD @ 60% --- 5,000 Cycles
Operating Temp.	-4°F - 140°F
Efficiency	>90%
Max. Capacity	45AH/25.6V (1152Wh)
Max. DOD Setting	75% (Stops discharging at 25%)
Nominal Capacity	45 Ah
Min. Capacity	42 Ah
Nominal Voltage	25.6V
Shipment Voltage	26.4V
Battery Internal Impedance	<94m Ω
Standard Charging Current	20A
Max. Charging Current	40A
Standard Charge	CC - CV
Over Current Protection	20A
Continues Discharging Current	40A
Weight	22lbs
Dimensions	6.14*4.56*13.83in
Cycle Life	Residual Capacity > 80%
IP & IK Grade	IP67 IK10
Storage Temp.	-4°F - 158°F
Warranty	3,000 Cycles (Around 8 years material warranty on the batteries. Warranty shall include substantial deteriorations such as leaking, buckling, corrosion, habitability to be charged or withhold a charge)
Standards	IEC 60050-482, IEC 60086-1, IEC/EN 60896

Specifications subject to site conditions and engineering requirements.

Controller

DM160 Main Features

The system utilizes MovingTrack MPPT maximum power tracking technology, providing higher tracking efficiency and faster response speed. Supports both lead-acid and lithium batteries, with operating parameters easily adjustable via remote control. Incorporating UltraGreen power control technology, it offers extremely low power consumption and minimal sleep current. For lead-acid batteries, it features multi-stage constant voltage charging with temperature compensation to ensure optimal performance.

The device also includes a 10-period programmable load power/time control function and battery charge and discharge protection against high and low temperatures, with adjustable operating temperature settings.

Additionally, it offers a variety of intelligent power modes that automatically adjust load power according to battery level. A high-precision digital step-up constant current control algorithm ensures both high efficiency and accurate current regulation. Through infrared wireless communication, users can set and read parameters, monitor system status, and perform other adjustments. The system includes multiple protection mechanisms, such as battery and PV reverse polarity protection, LED short-circuit and open-circuit protection, and limited power safeguards. It is also extensible to IoT remote communication monitoring, enabling smart connectivity and data management. Built with a full aluminum housing and rated IP67 waterproof, the device is designed to perform reliably in a wide range of harsh environmental conditions.

Controller

Product Selection

MODELS	DESCRIPTION
DM-R/W	MPPT Solar Charge Controller (R: infrared remote control; W: wireless remote control)
DM-NB	With IoT Remote Control (Built-in NB-Iot module)
DM-GP	With IoT Remote Control (Built-in GPRS module)
DM-C	With IoT Remote Control (RS485 interface, external communication module required)
DM-CT	With IoT Remote Control (TTL interface, external communication module required)

Indicator & Remote Control Status

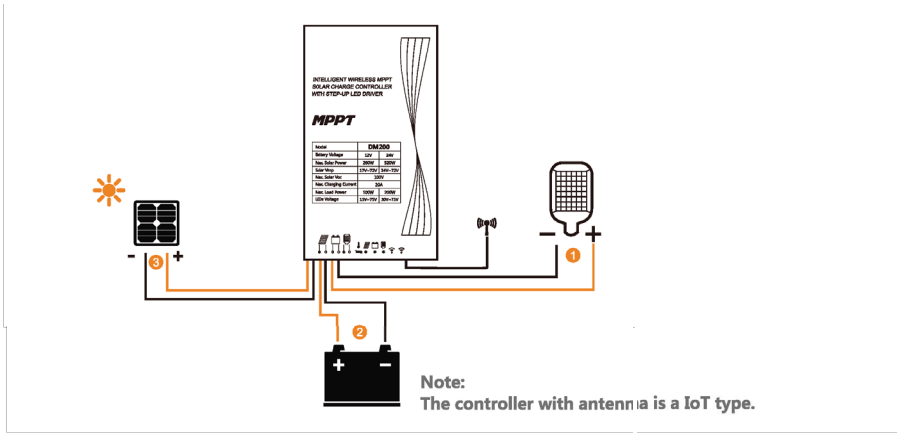
INDICATOR	STATUS	DESCRIPTION	DESCRIPTION
PV Indicator	Steady On	Solar panel voltage is higher than light control	Idle
	Off	Solar panel voltage is lower than light control	Idle
	Double Flash	Fully Charged	Fully Charged
	Slow Flash	In Charging	In Charging
	Quick Flash	BMS protection or BAT overvoltage or PV overvoltage or over temp. (ambient temp.) or power/current limited charging	E-BMS Battery overvoltage PV panel overvoltage Over temp. Overcurrent
BAT Indicator	Steady On	Battery works properly	Idle
	Off	BMS protection or lithium battery protection	
	Quick Flash	Battery over-discharge	Over-discharge
LOAD Indicator	Steady On	Load is turned on	Discharging
	Off	Load is turned off	Idle
	Slow Flash	Load is open circuited	Open circuited
	Quick Flash	Load is short circuited	Short circuited

Controller

Electrical Wiring Diagram

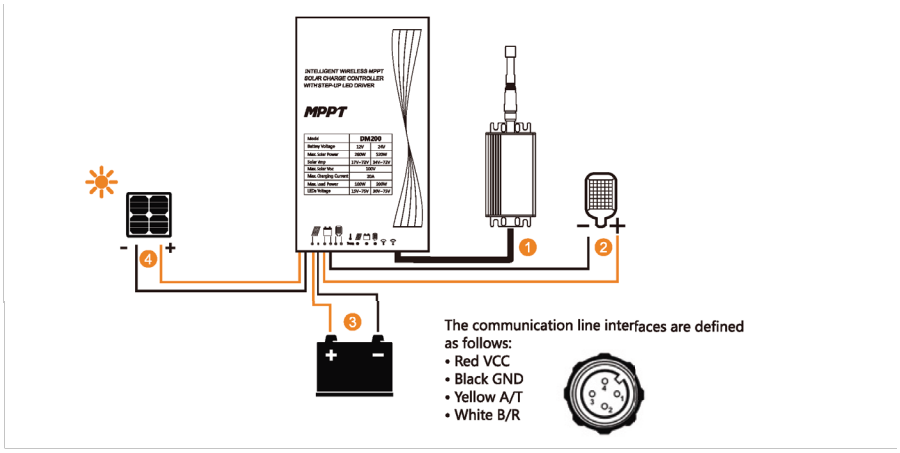
A. Wiring diagram of the controller with built-in IoT module.

Wiring sequence: Firstly connect the load, then the battery and finally the solar panel



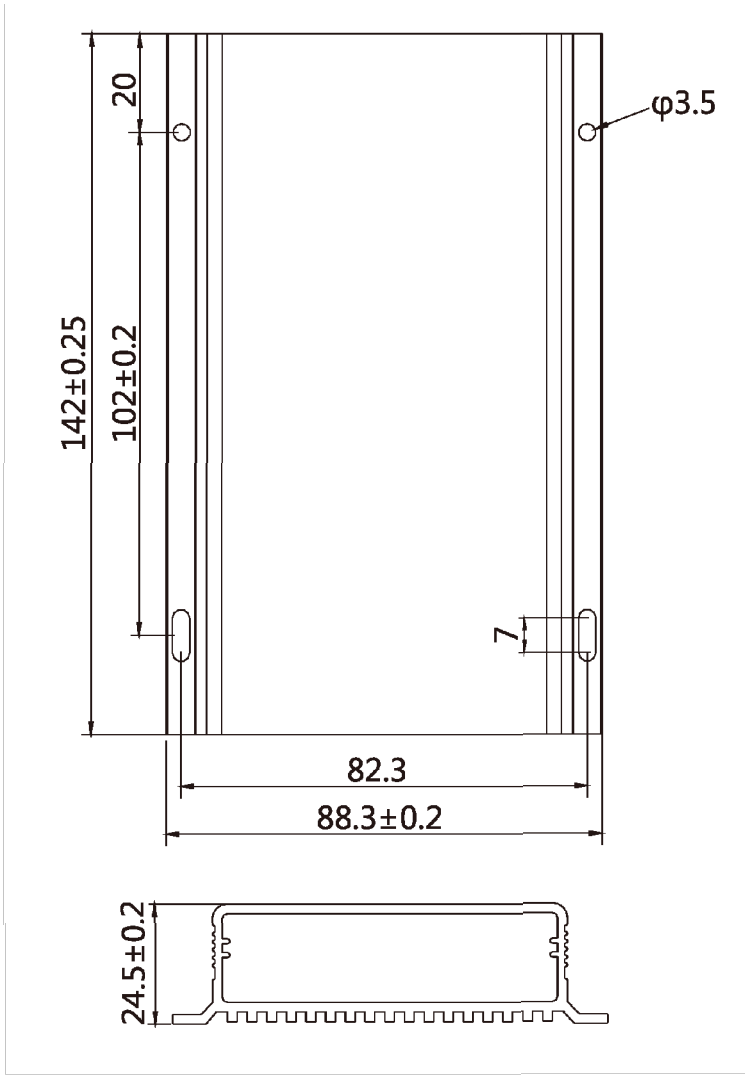
B. Wiring diagram of the controller with external IoT module.

Wiring sequence; Firstly connect the external IoT module, then the load, then the battery and finally the solar panel.



Controller

Install Method



Dimensions

Overall Dimensions: 142*88.3*24.5mm
Mounting Dimensions: 102*82.3mm
Mounting Hole Diameter: p3.5mm

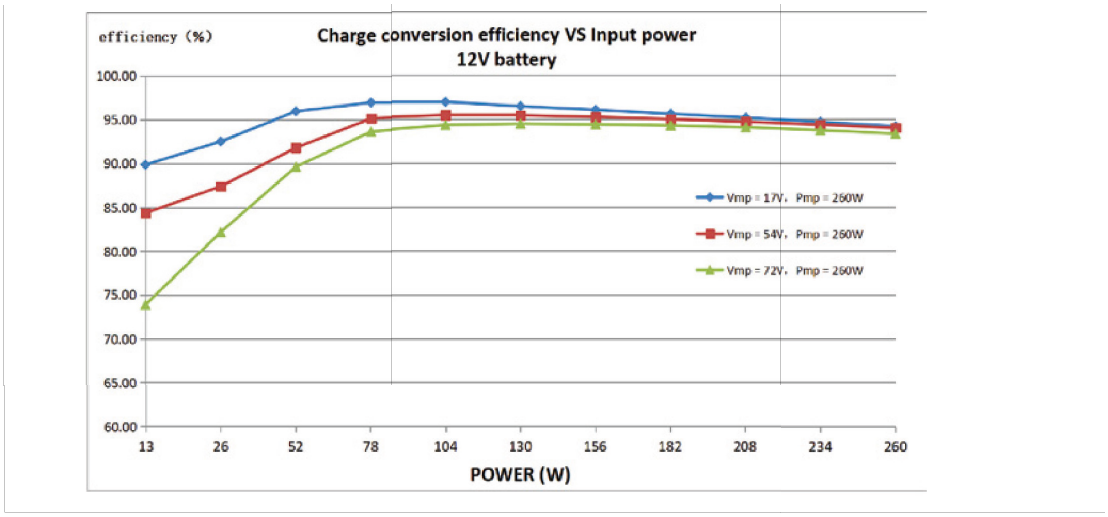
Controller

ITEM	VALUES	ADJUSTABLE	DEFAULT
Model	DM160		
Controller Type	-R: Inrared RC; -W: 2.5G Wireless RC; -C: 485 Communication Interface		
System Votage	12V/24V		Lead-acid
Static Power Consumption	-R: 6mA/12V; 4mA/24V -W: 18mA/12V; 13mA/24V		
Sleep Power Consumption	≤1mA		
Load Current	50 ~ 5600mA	✓	330mA
Load Voltage	15V ~ 60V		
Max. Load Power	80W/12V; 160/24V		
Load Conversion	85%-96% (Typical Efficiency 95%)		
Load Current Accuracy	≤3%±30mA		
Intelligent Power	High, Moderate, Low, Auto, USE, No	✓	Medium
Load Working Period	9-Period + Pre-Dawn Lighting		
Period Adjustment Range	1min/10min		
Power Adjustment Range	1%/10%		
Max. Solar Input Power	200W/12V; 400W/24V		
Max. Charge Current	15A		
Max. Solar Input Voltage	≤60V		
MPPT Tracking Efficiency	>99%		
Charging Conversion eff.	85%-98% (Typically 97%)		
Over Voltage	PB-16.0V; LI-Overcharge Voltage +2V; x 2, 24V System		16.0V
Limited Charge Voltage	PB-15.5V; LI-Overcharge Voltage +1V; x 2, 24V System		15.5V
Equalizing Charge Voltage	PB-14.6V; LI-None; x2, 24V System		14.6V
Equalizing Charge Interval	PB: 30 Days; LI: No;		30D
Boost Charge Voltage (lead-acid) Charge Voltage (lithium)	8.5V ~ 17.0V; x2, 24V System	✓	14.4V
Floating Charge Voltage (lead-acid) Charge Return Voltage (lithium)	8.5V ~ 17.0V; x2, 24V System	✓	13.8V
Over Discharge Voltage	8.5V ~ 17.0V; x2, 24V System	✓	11.0V
Over Discharge Return Voltage	8.5V ~ 17.0V; x2, 24V System	✓	12.5V
Temp. Compensation Coefficient	PB: -3.0mV/°C 2V; Lithium Battery: No Compensation		
Light Control Voltage	3V ~ 11V; x2, 24V System	✓	5V
Light Control Delay	0S ~ 60/2min ~ 60min	✓	10S
High Temp. Charge	-39.2°F ~ 194°F	✓	149°F
Low Temp. Charge	-31°F ~ 32°F	✓	-31°F
Working Temp.	-31°F ~ 149°F		
IP Rating	IP67		
Protections	Battery reverse polarity protection, solar panel reverse polarity protection, solar panel over-voltage protection, lithium battery overcharge and over-discharge protection, lithium battery BMS detection protection, over temperature protection, load open circuit and short circuit protection		
Weight	1.12lbs		
Controller Dimensions (mm)	142*88.2*24.5		
Controllller Mounting Dimensions (mm)	102*82.3		
Mounting Hole Diameter (mm)	Φ3.5		

Controller

Typical Curve

Change Conversion Efficiency VS Input Power - 12V Battery



Change Conversion Efficiency VS Input Power - 24V Battery