



DC VARIABLE FREQUENCY DRIVERS



POWER YOUR PUMPS WITH THE SUN
Efficient. Reliable. Smart.



Revolutionize Your Water Systems with Solar Technology

At HELIOS, we believe that clean, reliable water access shouldn't rely on costly fuel or unstable grids. Our solar pump drivers are built with advanced technology, making them the perfect solution for today's agricultural and rural water demands.

HELIOS empowers you to pump water directly from the sun — efficiently, independently, and sustainably.

💡 No electricity? No fuel? No worries.

HELIOS drivers work purely on solar input if needed, eliminating the need for generators or utility connections. You get consistent water flow, minimal operating costs, and long-term reliability in even the most demanding environments.

🌱 Boost productivity. Cut energy costs. Reduce emissions.

Switching to solar water pumping means more than just savings — it means energy independence and greater control over your water supply.

🔧 From small-scale drip irrigation to large-scale borehole pumping, HELIOS adapts to your needs with a wide power range, easy installation, and robust performance.

WHY SOLAR ? WHY HELIOS?

KEY FEATURES

🔋 100% Solar-Powered Operation

Operate entirely off-grid with solar input – reduce costs and fuel dependency.

⚙️ Smart MPPT Controller

Advanced Maximum Power Point Tracking (MPPT) extracts peak efficiency from your solar array.

⚡ Soft Start Function which prevents water hammer effect and extends system lifecycle.

💧 Compatible with Most Pumps

Works with AC induction and permanent magnet synchronous motors (PMSM), single- or three-phase.

⚡ Flexible Power Range

Available in sizes from 0.75kW to 75kW – suitable for small farms to industrial systems.

🛡️ Full System Protection

Built-in safety against overload, overheating, dry running, over/under voltage protection.

☁️ Hybrid Power Option

Supports optional AC power backup for night or cloudy-day operation.

📱 Optional Remote Monitoring

Add Wi-Fi, GPRS, or RS485 modules for remote performance tracking and diagnostics.

Aspire

PRODUCT
DATASHEET

- Built-in MPPT solar charger
- Supports single phase or three-phase asynchronous motor depending on models
- Supports single phase AC input when PV energy is not sufficient (only for Aspire 2.2KW LS model)
- Built-in full protection and self-diagnosis
- Soft start function prevents water hammer effect and extends system lifecycle
- Comprehensive LEDs and display screen for real-time system status
- Remote monitoring through RS-485
- Optional remote panel available

Aspire Water Pump Solar Inverter Selection Guide

MODEL	Aspire 2.2KW LS		Aspire 2.2KW	Aspire 7.5KW	Aspire 11KW	Aspire 15KW
RATED OUTPUT POWER	2200 W(3HP) (supports 0.75~3HP)		2200 W(3HP) (supports 0.75~3HP)	7500 W(10HP) (supports 3~10HP)	11000 W(15HP) (supports 10~15HP)	15000 W(20HP)
PV INPUT (DC)						
Nominal DC Voltage / Maximum DC Voltage	320 VDC / 450 VDC		540 VDC / 800 VDC			800 VDC
Start-up Voltage	120 VDC		250 VDC			
MPPT Voltage Range	120 VDC ~ 420 VDC		250 VDC ~ 780VDC			500 VDC ~ 600VDC
Number of MPP Track	1					
AC INPUT						
Input Voltage	220/230/240 VAC (-15% ~ +10%)		N/A			
Input Frequency	47 Hz ~ 63 Hz					
OUTPUT						
Nominal Voltage	220/230/240 VAC	3 x 220/230/240 VAC	3 x 380/400/415/440 VAC			
Efficiency	> 97%		> 97%			
Nominal Output Current	14 A	10 A	5.0 A	15 A	22 A	29 A
Motor Type	Single-phase (default)	Three-phase	Three-phase asynchronous motor			
Frequency Precision	±0.2%					
PROTECTION						
Full Protection	Phase lost, dry pumping, motor locked, weak sunlight, over-voltage, under-voltage, over-current, surge, over-temperature and short circuit protection					



Solar Pool Pump Systems

Solar-powered pump drivers from HELIOS are a smart and sustainable choice for both residential and commercial pool systems. They help reduce operational costs while ensuring reliable, around-the-clock circulation.

- Efficient Water Circulation & Filtration
- Maintain clean and safe water in swimming pools by circulating and filtering with solar energy — no dependence on grid electricity.
- Cost Savings for Hotels & Resorts
- Ideal for hospitality venues with high energy demands, solar pumping cuts monthly bills and supports green certifications (eco-labels, LEED, etc.).
- Off-Grid Vacation Homes
- Perfect for remote or rural holiday properties where grid access is limited. Keep your pool system running autonomously with zero fuel or noise.
- Integration with Solar Heating Systems
- Combine HELIOS pump drivers with solar thermal panels for fully solar-powered pools, enhancing energy efficiency and lowering emissions.
- Quiet, Clean Operation
- Unlike fuel-powered systems, HELIOS offers silent and emission-free operation — ideal for wellness spas, residential neighborhoods, and eco-lodges.

POSSIBLE APPLICATIONS

Water Extraction – Ground & Surface Sources

HELIOS solar pump drivers are ideal for drawing water from natural sources for irrigation, drinking water, or general use — without the need for fuel or infrastructure.

- Well & Borehole Pumping
- Extract water from deep wells or boreholes using DC-powered or hybrid solar systems, suited for agricultural or domestic applications.
- Surface Water Transfer
- Move water from lakes, rivers, canals, or reservoirs efficiently using solar-powered surface pumps — perfect for farms, rural water supply, or temporary irrigation setups.
- Support for Rural Communities & Agriculture
- Deliver reliable, clean water to remote areas for livestock, crop irrigation, or daily human consumption, even in off-grid environments.
- Disaster Relief & Emergency Use
- Deployable in disaster-stricken or war-affected areas where fuel and electricity are unavailable. Solar water extraction supports rapid humanitarian response.
- Eco-Friendly Pumping Alternative
- Replace noisy, high-emission diesel pumps with clean and sustainable solar-driven systems, especially in protected environments or conservation zones.