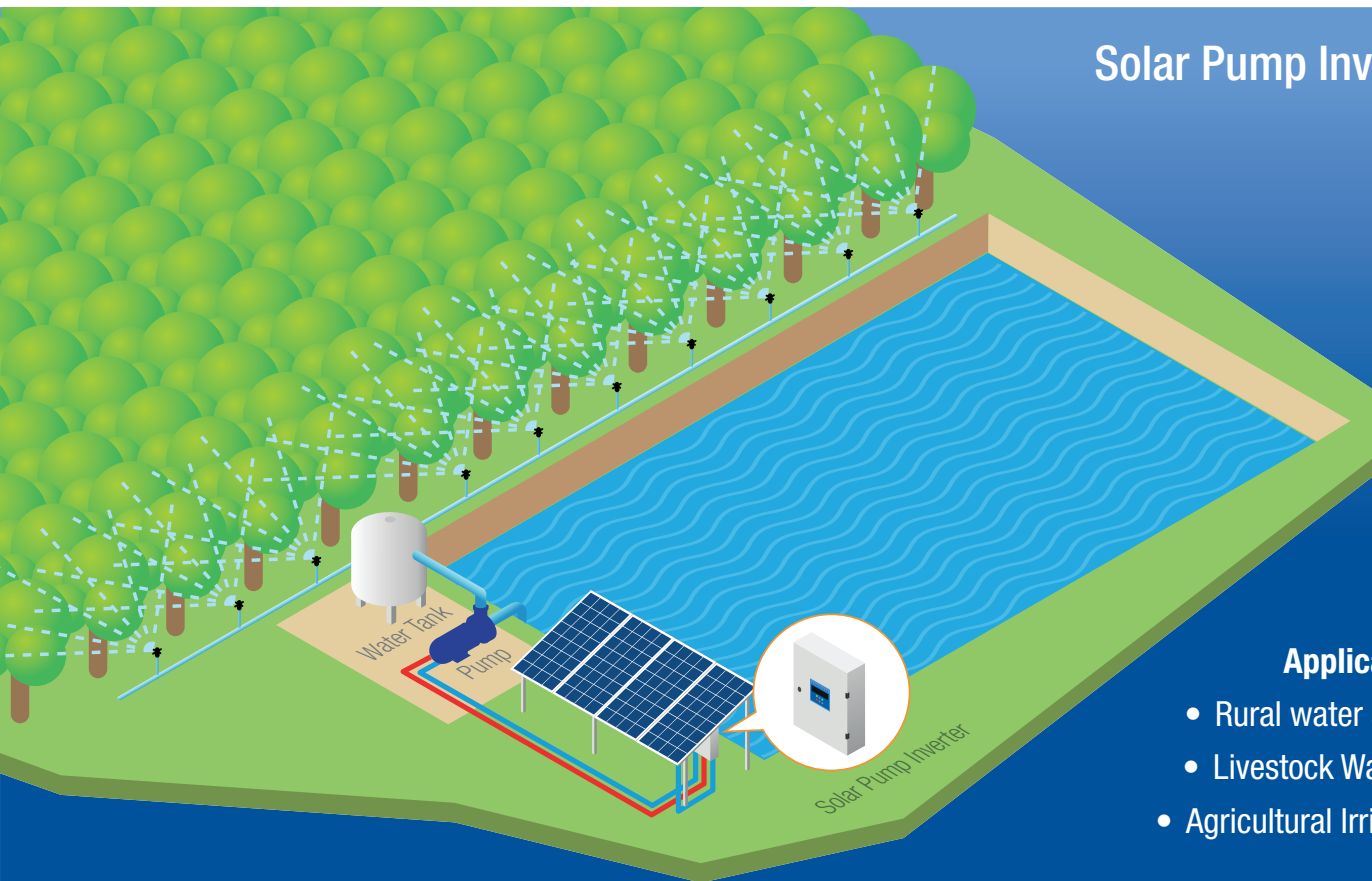


Solar Pump Inverter



Applications

- Rural water supply
- Livestock Watering
- Agricultural Irrigation

Flexibility

- Suitable for variable pump type such as aquarium pump, submersible pump, centrifugal pump or axial flow pump
- Wide PV input voltage range for accepting multi PV strings configuration and different type of PV module (depending on motor pump rating)
- Use both utility power and PV power for running pump continuously (for SPN-HY)
- Automatic switch to utility power when PV power is not sufficient to operate pump (for SPN-AC)
- Adjustable voltage and frequency

Reliability

- Integrated with PWM and MPPT control
- Pump dry running protection

Smart

- Automatic PV input voltage detection
- Low starting current and high starting torque
- Easy installation and pump connection

Cost effectiveness

- No engine, not consume fuel
- No battery needed

Application

- Automatic start-stop timer (for SPN-HY)
- Compatible with float switch (for SPN and SPN-AC), float switch and flow switch (for SPN-HY)
- Suitable for livestock watering and agricultural irrigation



APOLLO SPN series
APOLLO SPN-AC series
APOLLO SPN-HY series

	Input			Water Sensor		AC Output			
	 PV	 AC	 PV+AC	Float Switch	Flow Switch	1 Phase			3 Phase Pump
						1 Phase AC motor	PSC motor pump ¹	Submersible pump without Controller ¹	
SPN	●	○	○	● NO/NC	○	●	● Remove Run Capacitor	●	●
SPN-AC	●	●	○	● NO	○	●	● Remove Run Capacitor	● Remove Run Capacitor	○
SPN-HY	●	●	●	● NO/NC	● NO/NC	●	●	○	●
SPN-HY-2P	●	●	●	● NO/NC	● NO/NC	○	● Remove Run Capacitor	●	○

Note: 1. When using with the 1-phase PSC pump (removed run capacitor) and 1-phase submersible without controller,
 - The default motor type setting of solar pump inverter is 2Ph.
 - For using with APOLLO SPN-AC inverter, it need to connect the removing capacitor from pump to the CAP RUN terminal of inverter
 2. The 1-phase Franklin submersible pump cannot use with the APOLLO SPN-AC inverter.

Variable & Flexible: • Suitable for variable pump type such as aquarium pump, submersible pump, centrifugal pump or axial flow pump.



Aquarium Pump



Submersible Pump



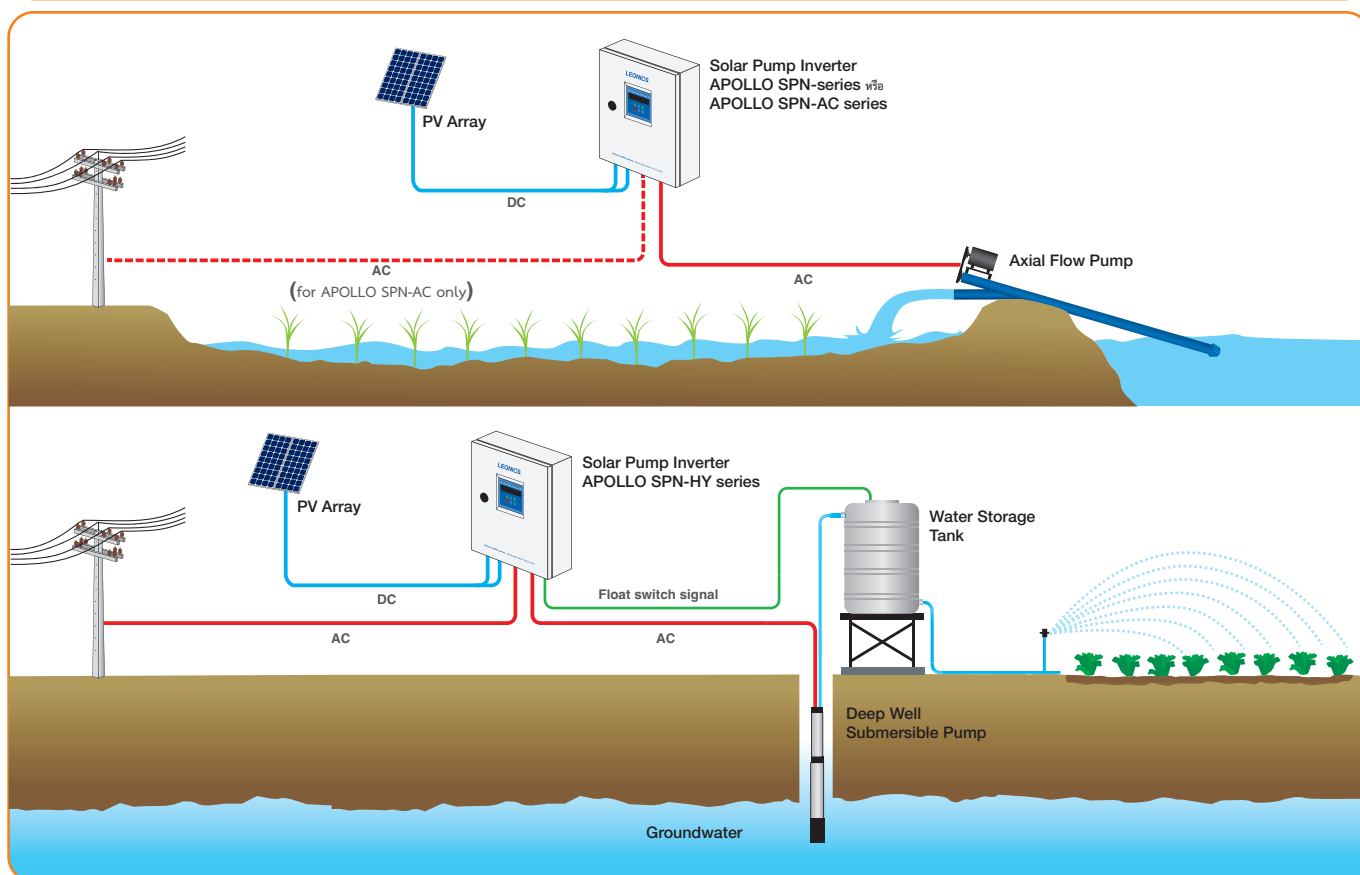
Axial Flow Pump



Deep well Submersible Pump



Centrifugal Pump



APOLLO SPN-series		SPN-21610	SPN-21615	SPN-21620	SPN-21630
PV INPUT	Maximum PV input power	1 kWp	1.5 kWp	2 kWp	3 kWp
	MPPT voltage range (V _{mp})	100 - 420 Vdc	100 - 420 Vdc	100 - 420 Vdc	210 - 420 Vdc
	Maximum open circuit voltage (V _{oc})	440 Vdc			
	Maximum PV input current	4 A	6 A	8 A	12 A
	Starting voltage	> 100 Vdc			
AC OUTPUT	Voltage range	100 - 220 Vac			
	Frequency	5 - 65 Hz			
	Power	1 HP	1.5 HP	2 HP	3 HP
	1-phase motor	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	-
	1-phase PSC motor (removed run capacitor*)	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	-
	1-phase submersible pump w/o controller	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	-
	3-phase pump (220Vac, 50/60Hz)	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	0.5 - 3 HP
EFFICIENCY	Inverter peak efficiency	97%			
PROTECTION		Under voltage shutdown, Over voltage shutdown, Over current, Pump dry running			
INDICATOR	LED	Run, Stop, Auto, In, Out, Float Switch, Program, Error			
	7-Segment LED display	PV voltage, DC bus voltage, Motor current, Motor frequency, Temperature, Time, Error, Setting			
COOLING SYSTEM		Natural convection			
ENVIRONMENT	Submersible pump installation depth	< 50 m (cable length 60 m)			
	Temperature	5 - 40°C			
	Relative humidity	0 - 95 % (Non-condensing)			
DESIGN STANDARD	Enclosure type	IP54			
DIMENSION	W x H x D (mm)	280 x 350 x 150 mm			
WEIGHT	Approximate in kg.	9.2 kg			
APOLLO SPN-AC series		SPN-21610AC	SPN-21615AC	SPN-21620AC	
PV INPUT	Maximum PV input power	1 kWp	1.5 kWp	2 kWp	
	MPPT voltage range (V _{mp})	100 - 420 Vdc	100 - 420 Vdc	100 - 420 Vdc	
	Maximum open circuit voltage (V _{oc})	440 Vdc			
	Maximum PV input current	4 A	6 A	8 A	
	Starting voltage	> 135Vdc start by PV, < 60 Vdc start by AC			
AC INPUT	Voltage and Frequency	220 Vac, 50 / 60 Hz			
AC OUTPUT	Voltage range	100 - 220 Vac			
	Frequency	5 - 65 Hz			
	Power	1 HP	1.5 HP	2 HP	
	1-phase motor	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	
	1-phase PSC motor (removed run capacitor*)	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	
	1-phase submersible pump w/o controller	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	
EFFICIENCY	Inverter peak efficiency	97%			
PROTECTION		Under voltage shutdown, Over voltage shutdown, Over current, Pump dry running			
INDICATOR	LED	Run, Stop, Auto, In, Out, Float Switch, Program, Error			
	7-Segment LED display	PV voltage, DC bus voltage, Motor current, Motor frequency, Temperature, Time, Error, Setting			
COOLING SYSTEM		Natural convection			
ENVIRONMENT	Submersible pump installation depth	< 50 m (cable length 60 m)			
	Temperature	5 - 40°C			
	Relative humidity	0 - 95 % (Non-condensing)			
DESIGN STANDARD	Enclosure type	IP54			
DIMENSION	W x H x D (mm)	280 x 350 x 150 mm			
WEIGHT	Approximate in kg.	9.2 kg			

*Free Service! for removing capacitor run from 1-phase PSC water pump by our service personnel, call phone 0-2746-9500 or watch the vdo clip "How to remove capacitor run" from our youtube channel (Scan QR code on the right).

Optional: 1) Inverter mounting brackets (SPN-PVS1020) for mounting on PV structure (PVS1020).

3) AC cables kit (SPN-VCT32510)

2) PV cables kit (SPN-MC4M601, SPN-MC4F605 and SPN-MC4K605).

Continuous product development is our commitment. In that manner, the above specifications may be changed without prior notice.



APOLLO SPN-HY series		SPN-21610HY	SPN-21615HY	SPN-21620HY	SPN-21630HY
PV INPUT	Maximum PV input power	1.2 kWp	1.8 kWp	2.4 kWp	3.6 kWp
	MPPT voltage range (V _{mp})	100 - 420 Vdc			
	Maximum open circuit voltage (V _{oc})	440 Vdc			
	(for high performance of PV electricity generation, it need to install PV panels which have the value of Voc nearest 440 Vdc)				
	Maximum PV input current	4 A	6 A	8 A	12 A
AC INPUT	Voltage and Frequency	220 Vac, 50 / 60 Hz			
	Voltage range	200 - 260 Vac			
	Maximum AC current	5 A	7.5 A	10 A	15 A
	Power factor	> 0.99 at maximum power			
	Cable size at maximum length 200 m**	6 mm ²	6 mm ²	10 mm ²	16 mm ²
AC OUTPUT	Voltage	100 - 220 Vac			
	Frequency	30 - 50 Hz			
	Power	1 HP	1.5 HP	2 HP	3 HP
	1-phase motor	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	-
	1-phase PSC motor pump	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	-
	3-phase pump (220Vac, 50/60Hz)	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	0.5 - 3 HP
	Cable size at length 60 m	1.5 mm ²	2.5 mm ²	2.5 mm ²	4.0 mm ²
EFFICIENCY	Inverter peak efficiency	97%			
PROTECTION	Under voltage shutdown, Over voltage shutdown, Over current, Pump dry running				
INDICATOR	LED	Run, Stop, Auto, In, Out, Float Switch, Program, Error			
	7-Segment LED display	PV voltage, DC bus voltage, Motor current, Motor frequency, Temperature, Time, Error, Setting			
COOLING SYSTEM	Natural convection				
ENVIRONMENT	Submersible pump installation depth	< 50 m (cable length 60 m)			
	Temperature	5 - 40°C			
	Relative humidity	0 - 95 % (Non-condensing)			
DESIGN STANDARD	Enclosure type	IP54			
DIMENSION	W x H x D (mm)	28 x 29 x 15 cm			28 x 41 x 11.5 cm
WEIGHT	Approximate in kg.	8.95 kg			17.5 kg

APOLLO SPN-HY-2P series		SPN-21610HY-2P	SPN-21615HY-2P	SPN-21620HY-2P	SPN-21630HY-2P
AC OUTPUT	1-phase submersible pump w/o controller (220 Vac, 50 / 60 Hz)***	0.5 - 1 HP	0.5 - 1.5 HP	0.5 - 2 HP	0.5 - 3 HP

** We recommend using of three cores cable type for AC input.

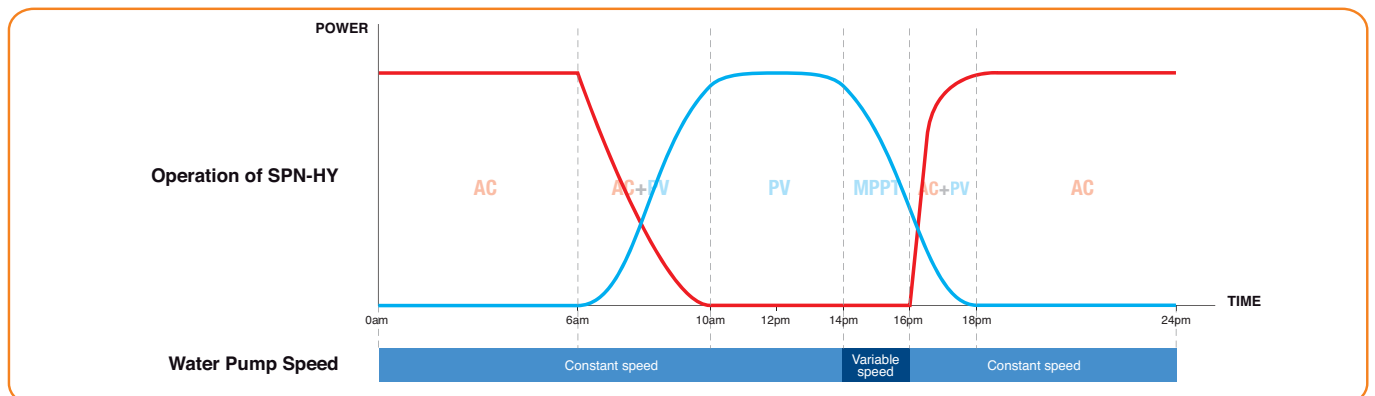
*** The 1-phase without controller submersible pump will use the SPN as its controller, the product model name is **SPN-216xxHY-2P**.

Optional: 1) Inverter mounting brackets (SPN-PVS1020) for mounting on PV structure (PVS1020).

3) AC cables kit (SPN-VCT32510)

2) PV cables kit (SPN-MC4M601, SPN-MC4F605 and SPN-MC4K605)

Continuous product development is our commitment. In that manner, the above specifications may be changed without prior notice.



Authorized Distributor

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