CV30-PV

Variable frequency drives for solar water pumping systems from 0.4 kW to 75 Kw

CV30-PV: Variable frequency drives for solar water pumping systems

The **CV30-PV** drive allows water to be pumped using the radiation captured by solar panels as an energy source. The solar light energy obtained is transformed into direct current which powers the drive, and this in turn powers a submersible pump using alternating current, thus enabling water from the ground to be extracted. The extracted water can be stored in a tank or raft of storage for subsequent use, or it can be used for direct irrigation, depending on the needs of the farm.

This system is highly useful in locations that need a reliable, cost-effective water supply with a long service life and low maintenance costs. It is also environmentally friendly as it does not cause pollution or noise.

Applications:

The main application of the **CV30-PV** drive is agricultural irrigation, either by accumulating water in a tank for subsequent use or by direct irrigation from a well.

Other applications include domestic consumption in isolated areas, livestock water supply, fish farming, municipal and forestry irrigation, and desert control.

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Performances

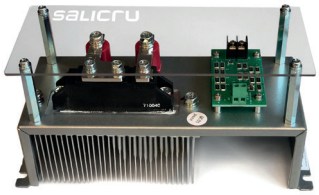
· Integrated advanced MPPT algorithm: Maximum power point tracking of solar panels with double PID control and 99% efficiency.
· Automatic start and stop depending on the solar radiation.
· Easy configuration: It is only necessary to set a few parameters.
· Optimum functioning at all times, adapting to environmental conditions.
· Multiple protections: Particularly notable are its overvoltage protection and warning against reverse polarity in the photovoltaic input, and automatic overtemperature derating.
· Detection of dry well and full tank.
· Considerable reduction in the number of solar panels required thanks to the optional booster module (up to 2.2 kW).
· Possibility of isolated and switched power supply (mains or diesel generator) through the installation of an optional module.

Booster module

The BOOST MOD-320-PV module enables the number of solar panels required to power the system to be greatly reduced, resulting in considerable financial savings and simplified installation. It also allows automatic switching to the mains or a power generator. It can be used in drive models of up to 2.2 kW.

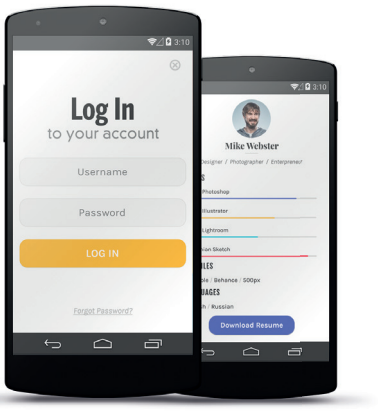
Automatic switching module

ATS MOD-...-4PV modules enable an automatic switching installation to be carried out. When the energy available in the solar panels is insufficient to power the drive, the system switches to the mains or generator, and switches back when the energy is sufficient.



GPRS module and smartphone app

These enable parameter setting and remote monitoring of the devices, and facilitate system maintenance.



Technical support and service

· Pre- and after-sales service.
· Telephone technical support.

Salicru warranty

· Online registration at www.salicru.com.
· 2-year warranty.
· Replacement of equipment up to 30 kW.

Range

MODEL	CODE	POWER (kW)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	SOLAR PANEL CONFIGURATION (MODULES PER STRING * NUMBER OF STRINGS)			
						Power: 270 ± 5Wp Voc: 38.5 V		Power: 320 ± 5Wp Voc: 45.8 V	
						Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER
CV30-008-S2 PV	6B1DA000001	0.75	4.2	123 × 80 × 160	1.3	11*1	5*1	9*1	4*1
CV30-015-S2 PV	6B1DA000003	1.5	7.5	140 × 80 × 185	1.6	11*1	8*1	9*1	7*1
CV30-022-S2 PV	6B1DA000002	2.2	10	140 × 80 × 185	1.6	11*1	N/D	9*1	N/D

DC power supply voltage: 200 ÷ 400 V / Mains supply voltage: Single-phase 230 V

MODEL	CODE	POWER (kW)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)	SOLAR PANEL CONFIGURATION (MODULES PER STRING * NUMBER OF STRINGS)			
						Power: 270 ± 5Wp Voc: 38.5 V		Power: 320 ± 5Wp Voc: 45.8 V	
						Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER
CV30-008-4 PV	6B1DC000011	0.75	2.5	140 × 80 × 185	1.4	18*1	5*1	15*1	4*1
CV30-015-4 PV	6B1DC000010	1.5	4.2	140 × 80 × 185	1.4	18*1	8*1	15*1	7*1
CV30-022-4 PV	6B1DC000001	2.2	5.5	140 × 80 × 185	1.4	18*1	12*1	15*1	10*1
CV30-040-4F PV	6B1DC000002	4	9.5	167 × 146 × 256	3.9	19*1	N/D	16*1	N/D
CV30-055-4F PV	6B1DC000003	5.5	14	167 × 146 × 256	3.9	18*2	N/D	15*2	N/D
CV30-075-4F PV	6B1DC000004	7.5	18.5	196 × 170 × 320	6.5	18*2	N/D	15*2	N/D
CV30-150-4F PV	6B1DC000005	15	32	196 × 170 × 320	6.5	18*4	N/D	15*4	N/D
CV30-220-4F PV	6B1DC000006	22	45	184 × 200 × 340	11	18*6	N/D	15*6	N/D
CV30-370-4F PV	6B1DC000007	37	75	202 × 250 × 400	17	18*9	N/D	15*9	N/D
CV30-550-4F PV	6B1DC000008	55	115	238 × 282 × 560	27	18*13	N/D	15*13	N/D
CV30-750-4F PV	6B1DC000009	75	150	238 × 282 × 560	27	18*18	N/D	15*18	N/D

DC power supply voltage: 300 ÷ 750 V / Mains supply voltage: Three-phase 400 V
N/A: Not available

Dimensions

CV30-015/022-S2 PV
CV30-008÷022-4 PV

CV30-220-4F PV

CV30-550/750-4F PV

Technical specifications

MODEL		S2 models	4 / 4F models
PHOTOVOLTAIC INPUT	Recommended DC input	200 ÷ 400 V	300 ÷ 750 V
	Recommended MPPT voltage	330 V	550 V
	Maximum DC voltage	440 V	800 V
	Starting voltage	200 V (80 V with booster)	300 V (80 V with booster)
	Minimum DC voltage	150 V (70 V with booster)	250 V (70 V with booster)
MAINS INPUT	Voltage	Single-phase 220 V (-15%) ÷ 240 V (+10%)	Three-phase 380 V (-15%) ÷ 440 V (+10%)
	Frequency	50/60 Hz Permitted range: 47 ÷ 63 Hz	
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of the input voltage.	
	Admissible overloads	150% for 1 min; 180% for 10 s; 200% for 1s	
	Maximum distance	<50 m without filter / between 50 and 100 m install chockes / >100 m sine-wave filter.	
INPUT SIGNALS	Digital	5 programmable inputs, PNP or NPN logic. Selectable polarity, on/off delay times.	
	Analogue	Drives ≤ 2.2 kW: Not available / Drives ≥ 4 kW: 2 inputs, AI2: 0 ÷ 10V / 0 ÷ 20 mA and AI3: -10 ÷ 10 V	
OUTPUT SIGNALS	Relay	Drives ≤ 2.2 kW: 1 multifunction NO/NC switching output / Drives ≥ 4 kW: 2 multifunction NO/NC switching outputs Maximum 3 A / 250 Vac, 1 A / 30 Vdc	
	Analogue	Drives ≤ 2.2 kW: Not available / Drives ≥ 4 kW: 2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA	
	Digital	Drives ≤ 2.2 kW: Not available / Drives ≥ 4 kW: 1 multifunction open collector output (50 mA / 30V)	
	Communication port	Drives ≤ 2.2 kW: 1 RS-485 Modbus RTU port + 1 RS-422 port / Drives ≥ 4 kW: 1 RS-485 Modbus RTU port	
SPECIFIC PROTECTIONS	Faults	Overvoltage, undervoltage, overcurrent, reverse polarity connection, communication failure with the booster module, broken hydraulic sensor.	
	Alarms	Weak light, underload, full tank.	
FILTERING	EMC filter	Drives ≤ 2.2 kW: Category C3 with easy connection as option / Drives ≥ 4 kW: Category C3 integrated	
GENERAL	Ambient temperature	- 10 ~ 50°C (1% derating per degree exceeding 40°C).	
	Degree of protection	IP20	
STANDARDS	Electromagnetic compatibility (EMC)	EN 61800-3 C3	
	Operation	EN 61800-5-1:2007	
	Quality and environmental management	ISO 9001 and ISO 14001	