CONTROLVIT

Variable frequency drives from 0.2 kW to 500 kW

salicru

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Energy efficient

In the face of growing demand for energy in industrial facilities and processes, SALICRU's **CONTROLVIT** range is an effective solution to enhancing energy efficiency, producing significant financial savings and improving the environment.

A significant proportion of the energy generated in the world is consumed by millions of electric motors that are mainly installed in industry, but are increasingly present in the tertiary sector.

Variable frequency drives are used to adapt the speed of motors to meet the changing needs of the application. In ventilation and water pumping systems, it is possible to achieve reductions in consumption of between 20% and 70% compared to traditional regulation systems.

Also noteworthy is the indirect improvement in productivity achieved as a result of less mechanical wear to the system and better operation and monitoring.

It is increasingly becoming necessary for the speed of motors in industrial facilities and processes to be regulated in order for them to adapt to changing load needs and for their energy consumption to be reduced. The variable frequency drives in SALICRU's **CONTROLVIT** range enable simple and efficient control of any application driven by asynchronous motors from 0.2 kW to 500 kW.

With an optimised and elegant design, they stand out for their versatility and reliability, and are manufactured with the most common features as standard, greatly reducing the need to add optional extras.

The range covers most applications in three series:

CV10: Single-phase input drives up to 2.2 kW. The most competitive solution for a variety of simple applications. They stand out for their removable console with built-in potentiometer, not usual in their segment.

CV30: Single-phase and three-phase input drives up to 7.5 kW for the vast majority of applications. These feature advanced vector and torque control, compact dimensions and simple PLC function, which, in many cases, removes the need to install external control elements.

CV50: Three-phase input drives up to 500 kW for the vast majority of applications. As well as the features of the previous models, these include advanced functions for the control of water pumps. They also have dual selection (constant torque / variable torque).

CV30-PV: Single and three-phase VFD from 0,4 kW up to 75 kW for water pumping solutions, using the photovoltaic energy as power source, both for direct irrigation and water storage, depending on the needs of the crop.

ACV30-PV: Integral solution for solar water pumping capable to power pumps up to 5,5 kW. Besides the **CV30-PV** VFD, the cabinet cap hold a wide range of optional solutions used to adapt the drive to the facility requirements, optimizing their performance (booster, protections, switching devices, ...).

Features

THERMAL OPTIMIZATION

Independent ventilation funnel, isolated from electronics.

Thermal disipation optimization through CAE simulation.

Easy fan disassembly.

CONTROL PANEL

Removable control box and connecting port for remote operation.

Easy settings transfer between units with the paramter copying console.

Intuitive parametrization.

ADAPTABLE ASSEMBLY

Diverse assembly options (wall mounting, perimetral flange, separated control panel, ...).

Side-toside assembly for space reduction (CV30).

Small dimensions.

DIN rail clipping system.

EASY INSTALLATION

Several Input/Output connections.

Strong TBC, easy to connect.

Digital signal controlling.

Easy connection of optional equipment.

Ease of use

Easy to select

The drives in the **CONTROLVIT** range are manufactured with the most common features as standard, reducing the need to add additional hardware and simplifying device selection.

Easy to install

The drives can be installed in different ways (depending on model) as wall, flange, DIN rail and floor mounting, greatly reducing the need for optional parts.

All drives have either a removable keypad or a front port for connecting an additional keypad. As an option, a kit is available consisting of an installation frame for the cabinet door and an extension cable. This is an Ethernet cable with RJ45 terminals, one of the easiest cables to find on the market..

Easy monitoring

VITdrive Software enables the drives to be connected to a PC, configures and monitored to facilitate commissioning and maintenance.

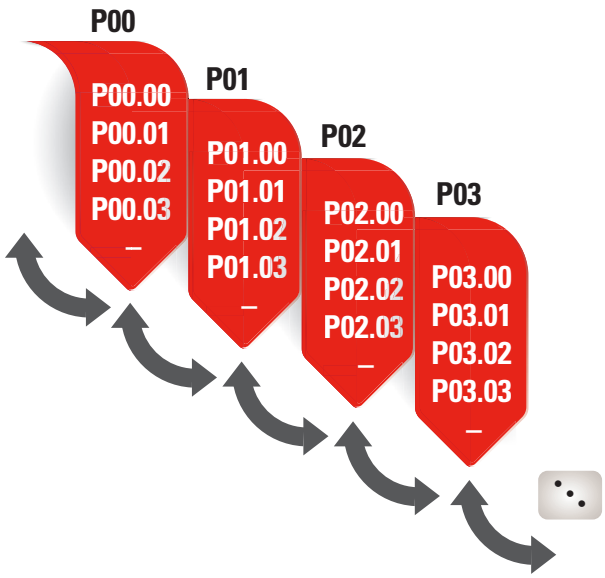
- *Import and export of drive parameter setting files.*
- *Display and modification of parameters.*
- *Quick comparison between programmed and default parameters.*
- *Oscilloscope with up to 10 channels, with data storage, export, ...*
- *Multiple monitoring: one PC can monitor different drives at once.*

Easy to configure

Configuration is quick and easy because the device keypad is highly intuitive and the parameter structure follows a natural order by separating the related parameters into groups (inputs, outputs, communications, etc.

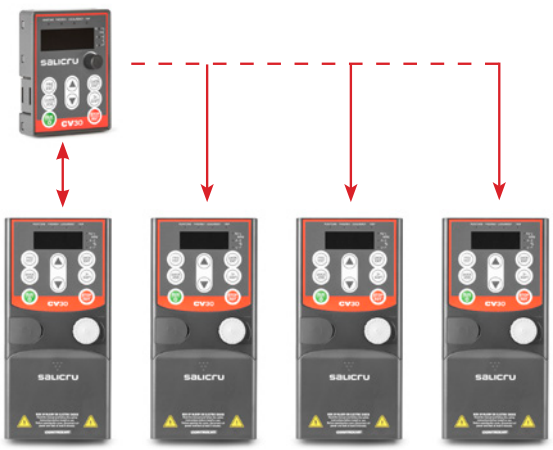
)All drives in the **CONTROLVIT** range have the same parameter structure, so, if you know one, you know them all.

It is not necessary to use any specific programming language, just select the different options that appear in the manual that accompanies the device.



Parameter copying

Parameters can be copied from one drive to another using a removable keypad, which enables connection and disconnection even when the drive is in operation (**CV30** and **CV50**).



Compact

The compact size of the **CONTROLVIT** range enables space to be saved in electrical cabinets, reducing associated costs and improving the cost-efficiency ratio of the system.

The **CV30** series up to 2.2 kW stands out for its extremely compact dimensions and side-by-side installation possibilities.

High performance

Dynamic and static motor auto-tuning

The **CV30** and **CV50** series have a precise dynamic and static motor auto-tuning function, the latter of which is suitable for cases in which it is not possible to remove the load from the motor.

Three control modes available

The **CONTROLVIT** range features three control methods to ensure constant and stable behaviour in any type of application:

- The sensorless vector control provides precise speed control, as well as a high and powerful torque.
- The torque control enables the delivery of a constant torque regardless of speed.
- The V/f control is designed for loads that do not require high control precision, such as pumps and fans.

Energy efficiency and saving

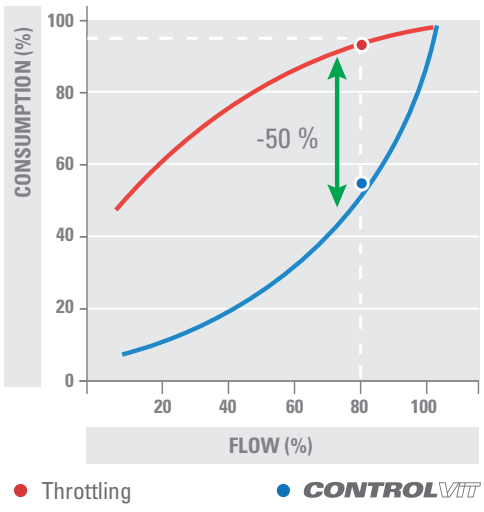
Automatic energy saving function

The **CONTROLVIT** range features an automatic energy saving function which provides the maximum torque for each ampere consumed.

The most significant savings are achieved in variable torque loads (pumps and fans).

Built-in energy meter

The **CV30** and **CV50** series are equipped with a meter to measure the kWh consumed by the drive. This metering can be stopped in the event of testing, setting an initial value, resetting and accessing it via Modbus communication.



Multiple braking modes

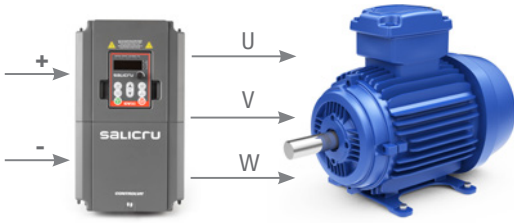
Dynamic braking	DC braking
Minimal time and great braking torque.	Braking prior to start-up and in the final stage of stopping.
Needs a dynamic braking unit and resistor.	Not valid for high inertia loads or high speed braking.

Magnetic flux braking	Short-circuit braking
Applicable to high inertia loads with sporadic braking.	Braking on quick starts and stops or restarts.
No need for a dynamic braking unit and resistor.	Not valid for high inertia loads or frequent braking.

DC power supply

The **CV30** and **CV50** series can be DC powered and connect directly to the bus.

This possibility further extends the versatility of the **CONTROLVIT** range.



All inclusive

Wide power and multi-application range

The drives in the **CONTROLVIT** range can work with asynchronous motors from 0.2 kW to 500 kW, and, due to their features and diversity of functions, are valid for the vast majority of applications, both in facilities and industrial processes.

Application to water pumps

The whole range features sleep/wake mode for pump control, but the functions of the **CV50** series are the most advanced, as it includes two sleep or wake parameter setting modes through sensor pressure % or frequency and it enables the creation of a multi-pump system with up to 3 pumps.

Keypad and potentiometer always included

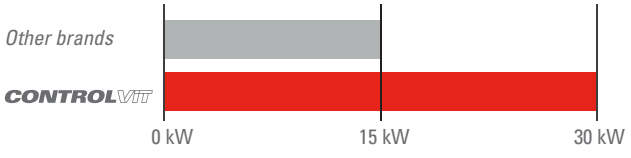
Regardless of the model, all drives in the range feature a keypad as standard (removable or film type, depending on the model) and analogue or digital potentiometer. **CV30-PV** comes with a disable potentiometer to avoid accidental variations of the setting.

Built-in EMC filter

All drives in the **CV50** series and those in the **CV30** series with three-phase power supply of 230 V ≥ 1.5 kW and 400 V ≥ 4 kW have a category C3 built-in EMC filter as per standard EN 61800-3, which can be easily disconnected via a jumper if necessary.

Built-in dynamic braking unit

Those up to 30 kW included feature a built-in dynamic braking unit, being only necessary to add an external braking resistor if this type of braking is required (high inertia loads or high braking frequency).



PID Control

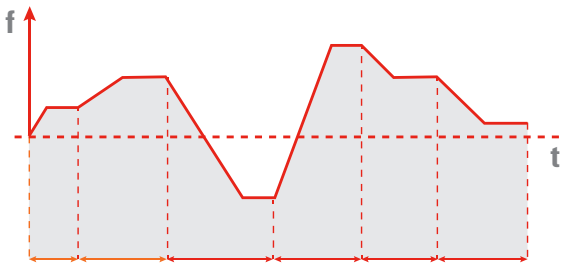
All drives in the range (except for **CV30-PV**) feature built-in PID control, which enables control of process variables such as pressure, flow, temperature, carbon monoxide level, etc., without the need for an additional external controller.

Multi-step speed control and simple PLC

They feature multi-step speed control, which enables the frequency setpoint to be selected by combining four multifunction inputs, obtaining up to 16 possible speeds.

In addition, using the simple PLC function, the **CV30** and **CV50** series enable the same 16 steps and their duration to be set, but without the need to use combinations of inputs. It is also possible to choose between performing the cycle repeatedly or carrying it out once.

This function, in many cases, removes the need to install an external control element.



Modbus RS-485 communication port

All drives include a Modbus RS-485 communication port, which allows communication with other devices such as PCs, PLCs, HMI, SCADA systems, etc.

The Modbus system is the most widespread in the industry, and has the greatest availability for the connection of industrial electronic devices.

Numerous inputs/outputs

They have a large number of inputs/outputs compared to other drives on the market. For example, the **CV50** series has 8 digital inputs, 1 pulse input, 2 analogue inputs and 2 outputs, 2 relay outputs, 1 open collector output and 1 pulse output.

The inputs can also be configured as NPN or PNP. except for **CV10**.

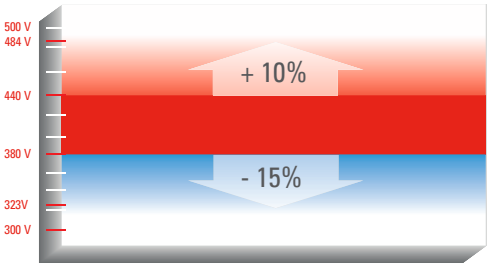
Reliability and durability

Mean time between failure

The drives in the **CONTROLVIT** range have an MTBF of 11.8 years. This represents the predicted elapsed time between two random failures. The method for calculating MTBF is complex and also takes into account the electronic components that make up the drive.

Wide range of voltages

A wide range of supply voltage is available, enabling the device to work correctly in networks where the voltage is not stable.

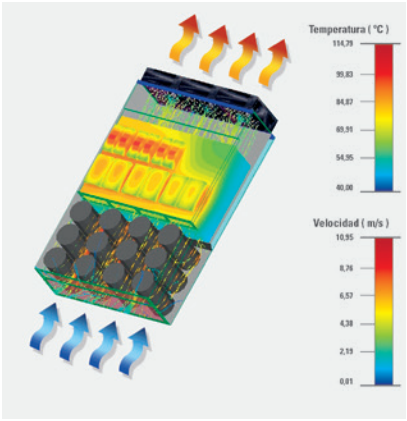


Advanced thermal technology

he thermal design of the drive is extremely important for its reliability and durability.

During the design, the most modern simulation techniques are used to optimise the layout of the components and reduce the size of the device to the maximum.

The drives have a ventilation duct separate from the electronics, which facilitates the extraction of heat, and reduces possible problems in the electronic circuits.



Installation in severe conditions

Their varnished electronic boards and optimised thermal design allow them to work in conditions of high temperature and humidity.

In addition, by using the optional side covers or doing the flange mounting, it is possible to work in dusty environments without affecting reliability and durability.

Advanced protections

They feature advanced electro-thermal protections for the motor and against input and output phase failure. For example, the **CV50** series has 34 different protections.

Terminals

The power and control terminals are robust, clear and easy to connect, minimising the possibility of a bad connection.

Easy maintenance

Monitoring and fault information

The drives in the **CONTROLVIT** range feature status LEDs and allow the monitoring of a large number of parameters, both directly through the keypad of the device and through communications.

They can also save the last five faults and the main information about the conditions in which they occurred. This makes it easy to analyse the faults and act accordingly to prevent them from occurring again.

Fan replacement

If necessary, the fans can be changed easily and intuitively.

The **CV10** drives up to 0.75 kW are radiator cooled, and therefore require no fan.

Optionals parts

Advanced LCD keypad

The **CV50** features an optional advanced LCD keypad that can replace the device's standard LED keypad.

It has 10 lines of information, and contains a brief explanation of each of the drives' parameters and different options.

Its language can be set to English or Spanish and its parameters can be copied from one drive to another.

It can also be connected and disconnected without the need to turn off the drive.

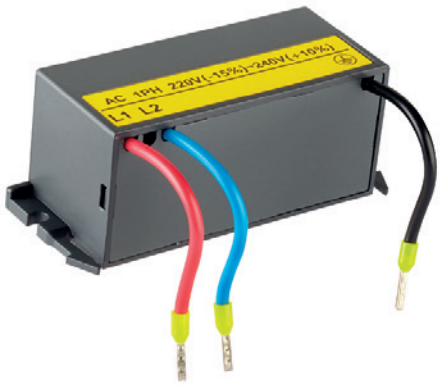
Additional Control consoles

Allow to expand the fixed control console by connecting them to the port, providing a remote control device. There's also a model able to copy the VFD's parameters to other units.

EMC filters

All drives in the CV50 series and those in the CV30 series with three-phase power supply of 230 V ≥ 1.5 kW and 400 V ≥ 4 kW have a category C3 built-in EMC filter as per standard EN 61800-3.

For the other drives, an optional category C3 EMC filter is available to connect in parallel to the input of the drive and located underneath, occupying a very small space.



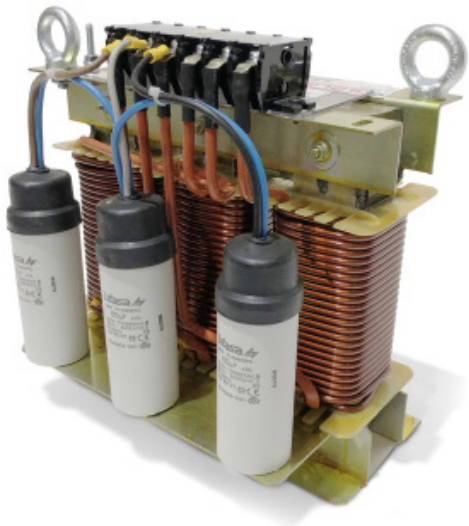
Sine-wave filters

These convert the output waveform of the drive into a pure sinusoid, eliminating any problems resulting from the drive's IGBT switching.

This switching, together with the cable capacity, generates significant voltage peaks that can affect the insulation of the motor and lead to premature failure if this type of filter is not installed.

Highly recommended for facilities in which the cable length between the drive and the motor is greater than 100 metres.

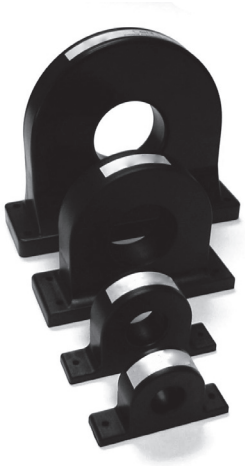
It also enables motors in parallel to be connected to the same drive and emulate electrical mains (single-phase to three-phase switching, frequency changes, etc.).



Output chokes

These decrease peaks of voltage generated by the drive's IGBT switching and the capacitive effect of the cable, short-circuiting high frequencies in common mode. They also prevent the premature ageing of the motor's windings and bearings.

Recommended for facilities in which the cable length between the drive and the motor is between 50 and 100 metres approximately.



Braking resistors

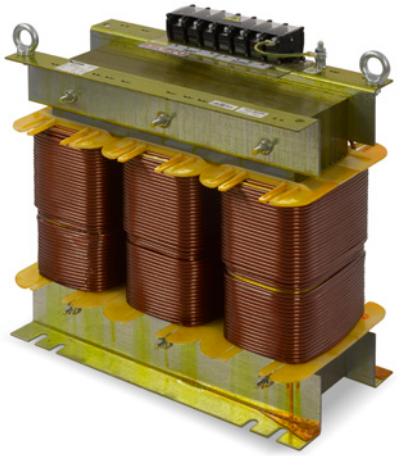
Braking resistors of ohmico and power ranges, adapted to every VFD. They are available encapsulated in an aluminum housing or mounted inside a metal box.

Side covers

Suitable for harsh environments, help to increase the VFD's protection. Using these covers implies a power downgrading of 10%..

Input reactors

These reduce the harmonics generated by the drive, protect it from overvoltages and micro-cuts, and limit line current.



Frame and extension cable

This kit, consisting of a plastic frame and a cable allows bringing the VFD's control console to a cabinet's door, separated from the VFD itself.

CV10

Variable frequency drives from 0.2 kW to 2.2 kW

CV10: Compact, flexible and easy-to-use single-phase input drives

Salicru's **Controlvit CV10** variable frequency drive series offers the most competitive solution for a wide range of applications. With a single-phase input voltage, it is designed to operate with low-power motors and has very complete hardware that features, among other things, a removable keypad with built-in potentiometer, dynamic braking unit, RS-485 Modbus communication and natural cooling in equipment of up to 0.75 kW.

Boasting an optimised and elegant design, it has advanced functions that are not typical in its segment, such as automatic energy- saving, PID control, shutdown by operating time, 16-speed multi-step control and basic sleep/wake mode.

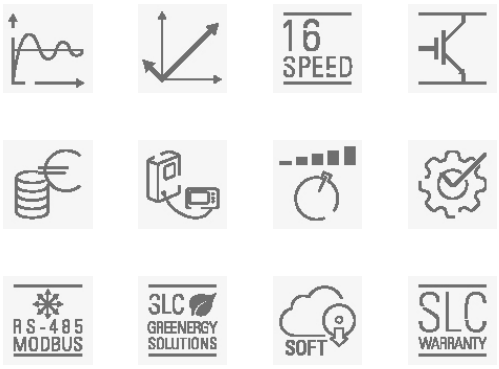
In addition to all of this, also notable is Salicru's service, particularly its technical support during commissioning, and its two-year warranty, which includes immediate replacement in the event of fault.

Applications:

The **CV10** is suitable for use with low-power motors of up to 2.2 kW which can be supplied with 230 Vac three-phase voltage. Its most common applications are: fans, extraction hoods, belt conveyors, pumps, agitators, mixers, saws, vibrators, dispensers, separators, blowers, industrial dryers, mobile advertising, high-speed doors, barriers, mobile trolleys and machinery in general.

Performances

· V/f control.
· Built-in potentiometer.
· Remote control with removable keypad.
· Optional EMC filter with easy connection.
· Advanced PID process control.
· Automatic energy saving.
· Built-in dynamic braking unit.
· DC braking.
· Simple sleep/wake function for control of one pump.
· 16-speed multi-step control.
· RS485 Modbus RTU communication.
· Natural cooling (without fan) for power ratings 0.2 ÷ 0.75 kW. Fans with on/off control and easy replacement for 1.5 and 2.2 kW.
· Automatic torque boost.
· Possibility of increasing/decreasing operation speed with external push buttons. (Up down operation).
· Shutdown by operating time.
· Dynamic current limitation.
· Optimised size.
· Intuitive parameter setting by keypad and using VITdrive software.
· SLC Greenergy solution.



Display

1. Indication of inverter status.
2. Indication of magnitude that appears on the display.
3. 5-digit LED display.
4. Potentiometer: enables setpoint to be changed.
5. Enter function codes / Confirm.
6. Enables movement between menus or digits.
7. Stops operation / Reset in the event of fault.
8. Increase/decrease data or raise/lower a function code.
9. Enables programming mode entry and exit.
10. Selectable function: JOG speed, spin reversal, change of operation method.
11. Enables start-up command to be given.

Software

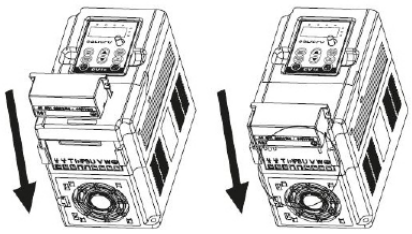
· Allows parameter setting of the equipment and facilitates commissioning and maintenance.
· Local and remote monitoring.

Technical support and service

· Pre- and after-sales service.
· Telephone technical support.
· Training courses.
· Online registration at www.salicru.com.

EMC Filters

Easy installation of category C3 EMC filter



Keypad and potentiometer always included

Regardless of the model, all drives in the range feature a keypad as standard (removable or film type, depending on the model) and analogue or digital potentiometer.

Range

MODEL	CODE	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
CV10-002-S2	6B1AA000001	0.2	4.9	1.6	134 × 85 × 145	1.4
CV10-004-S2	6B1AA000002	0.4	6.5	2.5	134 × 85 × 145	1.4
CV10-008-S2	6B1AA000003	0.75	9.3	4.2	153 × 85 × 145	1.7
CV10-015-S2	6B1AA000004	1.5	15.7	7.5	153 × 100 × 170	1.7
CV10-022-S2	6B1AA000005	2.2	24	10	153 × 100 × 170	1.7

Power supply voltage: Single-phase 230 V

EMC Filters - Category C3

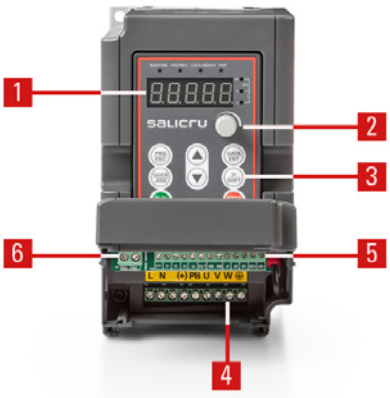
MODEL	VOLTAGE (V)	INVERTER	DIMENSIONS (F x AN x AL mm.)
IPF-EMC-CV10-008-S2	Single-phase 230 V	CV10…-S2 (0.2 ÷ 0.75 kW)	32 x 70 x 29
IPF-EMC-CV10-022-S2		CV10…-S2 (1.5 ÷ 2.2 kW)	32 x 81 x 32

Dimensions

CV10-002÷008-S2

CV10-015/022-S2

Connections



CV10-002÷022-S2

1. LED display.
2. Built-in potentiometer.
3. Operation keys.
4. Power terminal.
5. control terminal.
6. Output relay.

Technical specifications

MODEL		CV10
INPUT	Rated voltage	Single-phase 220 V (-15%) ÷ 240 V (+10%)
	Rated frequency	50/60 Hz / Allowed range: 47 ÷ 63 Hz
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Admissible overloads	150% for 1 min; 180% for 10 s; 200% for 1 s
	Maximum distance	<50 m without filter / between 50 and 100 m install chokes / >100 m sine wave filter
CONTROL SPECIFICATIONS	Type of motor	Asynchronous
	Method of control	V/f
	V/f characteristics	Linear and user defined
	Degree of control	1% of maximum output frequency
	Speed fluctuation	±5%
	Braking unit	Built-in
INPUT SIGNALS	Digital	4/5 programmable inputs, NPN logic, selectable polarity, virtual activation by communication, on/off delay times
	Analogue	1 input, 0 ÷ 10 V / 0 ÷ 20 mA. Built-in potentiometer
OUTPUT SIGNALS	Relay	1 multifunction output. Selectable standby mode (NO or NC) Maximum 3 A / 250 VAC, 1 A / 30 VDC. On/off delay
	Power Supply	24 V (±10%) 100 mA
	Analogue	1 selectable output 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc.
	Digital	1 multifunction open collector output (50 mA / 30 V) Selectable polarity and on/off delay
	Communication port	RS-485 Modbus-RTU
OPERATION	Method	Keypad (removable up to 5 m), control terminal and communication
	Frequency setting	Digital, analogue, multi-step, PID, Modbus communication
	Protection	Overcurrent, overvoltage, low voltage, inverter overheating, phase loss, overload, underload, etc.
FILTERING	EMC filter	Category C3 with easy connection as option
GENERAL	Ambient temperature	-10 ÷ 50°C (1% derating per degree exceeding 40°C)
	Degree of protection	IP20
	Cooling	0.2 ÷ 0.75 kW: Natural by radiator / 1.5 and 2.2 kW: Forced by fan
	Installation	Wall mounting
STANDARDS	Safety	EN 61800-5-1
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

CV30

Variable frequency drives from 0.4 kW to 7.5 kW

CV30: General-purpose vector variable frequency drives

Salicru's **Controlvit CV30** variable frequency drive series stands out for its design, reliability, compact size and ease of use. The high quality of its components, advanced features and versatility make it the ideal variable frequency drive for the actuation of low-power motors (0.4 kW to 7.5 kW) in the vast majority of applications, being available for both single-phase (230 VAC) and three-phase (400 VAC and 230 VAC) supply voltages.

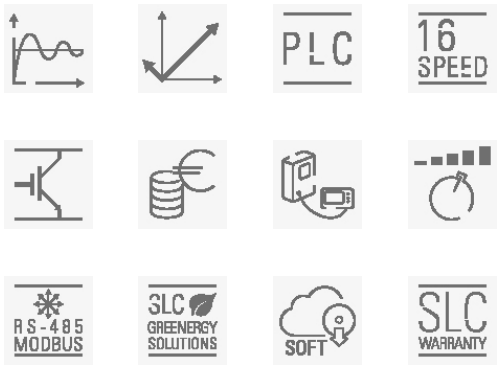
Its advanced sensorless vector control, which has two different algorithms depending on the required performance, ensures high torque even when working at very low speeds. In addition to all of this, it features an automatic energy-saving function which achieves significant consumption reductions, mainly in ventilation, water treatment and irrigation applications.

Applications:

The **CV30** can be incorporated into the vast majority of machinery, and can control pumps and fans. Some of its common applications are: belt conveyors, agitators, compressors, hoists, saws, vibrators, presses, polishers, barriers and high-speed doors, centrifugal and submersible pumps, blowers, separators, industrial washing machines, mobile trolleys, positioners, ornamental fountains, dispensers, air extraction equipment, fans, advertising and mobile stages, meat, textile and packaging machinery, etc.

Performances

- Selectable control: V/f, sensorless vector or torque control.
- EMC filter, built-in or optional for easy connection (depending on model).
- Automatic motor tuning (static and dynamic).
- 150% torque at 0.5 Hz.
- Advanced PID process control.
- Simple sleep/wake function for control of one pump.
- Simple PLC (automatic cycle) and 16-speed multi-step control.
- RS485 Modbus RTU communication.
- Built-in potentiometer.
- Remote control with removable or optional keypad (depending on model).
- Intuitive parameter setting.
- Compact size and side-by-side installation (depending on model).
- DIN rail mounting (depending on model).
- Built-in dynamic braking unit.
- DC braking.
- Automatic energy saving and kWh meter.
- Pulse train input (max. 50 kHz).
- Fly-start function.
- Numerous inputs/outputs (4/5 digital inputs, 1 pulse input, 2 analogue inputs and 2 analogue outputs, 2 relay outputs, 1 transistor output).
- Cooling fans with On/Off control and easy replacement.
- Monitoring and parameter setting using VITdrive software.
- SLC Greenergy solution.



Keypad and potentiometer always included

Regardless of the model, all drives in the range feature a keypad as standard (removable or film type, depending on the model) and analogue or digital potentiometer.

Built-in energy meter

The **CV30** and **CV50** series are equipped with a meter to measure the kWh consumed by the drive. This metering can be stopped in the event of testing, setting an initial value, resetting and accessing it via Modbus communication.

Technical support and service

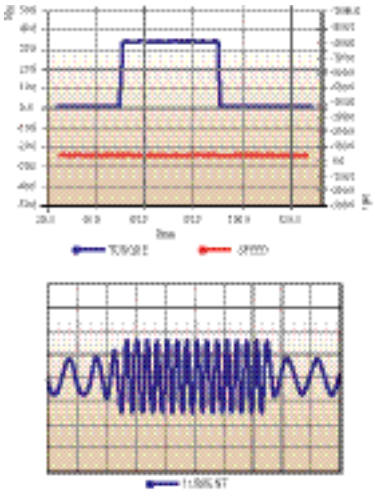
- Pre- and after-sales service.
- Commissioning.
- Telephone technical support.
- Training courses.
- Online registration at www.salicru.com.

Software

- Allows parameter setting of the equipment and facilitates commissioning and maintenance.
- Local and remote monitoring.

Advanced vector control

In the event of a sudden change in load with the motor running at 0.5 Hz, the speed remains constant and the assembly is capable of providing the torque demanded at full load.



Range

MODEL	CODE	POWER SUPPLY VOLTAGE	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
CV30-004-S2	6B1BA000001	Single phase 230 V	0.4	6.5	2.5	123 × 80 × 160	1.3
CV30-008-S2	6B1BA000002	Single phase 230 V	0.75	9.3	4.2	123 × 80 × 160	1.3
CV30-015-S2	6B1BA000003	Single phase 230 V	1.5	15.7	7.5	140 × 80 × 185	1.6
CV30-022-S2	6B1BA000004	Single phase 230 V	2.2	24	10	140 × 80 × 185	1.6
CV30-008-4	6B1BC000001	Three-phase 400 V	0.75	3.4	2.5	140 × 80 × 185	1.4
CV30-015-4	6B1BC000002	Three-phase 400 V	1.5	5	4.2	140 × 80 × 185	1.4
CV30-022-4	6B1BC000003	Three-phase 400 V	2.2	5.8	5.5	140 × 80 × 185	1.4
CV30-040-4F	6B1BC000004	Three-phase 400 V	4	13.5	9.5	167 × 146 × 256	3.9
CV30-055-4F	6B1BC000005	Three-phase 400 V	5.5	19.5	14	167 × 146 × 256	3.9
CV30-075-4F	6B1BC000006	Three-phase 400 V	7.5	25	18.5	196 × 170 × 320	6.5
CV30-004-2	6B1BB000001	Three-phase 230 V	0.4	3.7	2.5	140 × 180 × 185	1.4
CV30-008-2	6B1BB000002	Three-phase 230 V	0.75	5	4.2	140 × 180 × 185	1.4
CV30-015-2F	6B1BB000003	Three-phase 230 V	1.5	7.7	7.5	167 × 146 × 256	3.9
CV30-022-2F	6B1BB000004	Three-phase 230 V	2.2	11	10	167 × 146 × 256	3.9
CV30-040-2F	6B1BB000005	Three-phase 230 V	4	17	16	167 × 146 × 256	3.9
CV30-055-2F	6B1BB000006	Three-phase 230 V	5.5	21	20	196 × 170 × 320	6.5
CV30-075-2F	6B1BB000007	Three-phase 230 V	7.5	31	30	196 × 170 × 320	6.5

EMC Filters - Category C3

MODEL	VOLTAGE (V)	INVERTER	DIMENSIONS (F x AN x AL mm.)
IPF-EMC-CV30-022-S2	Single phase 230 V	CV30…-S2 (0.4 ÷ 2.2 kW)	38 x 69 x 31
IPF-EMC-CV30-022-2/4	Three-phase 400 V Three-phase 230 V	CV30…-4 (0.75 ÷ 2.2 kW) CV30…-2 (0.4 ÷ 0.75 kW)	

Dimensions

CV30-004/008-S2

CV30-015/022-S2
CV30-008÷022-4
CV30-004/008-2

CV30-040/055-4F
CV30-015÷040-2F

CV30-075-4F
CV30-055/075-2F

Technical specifications

MODEL		CV30
INPUT	Rated voltage	Single phase 220 V (-15%) ÷ 240 V (+10%) / Three-phase 380 V (-15%) ÷ 440 V (+10%) / Three-phase 220 V (-15%) ÷ 240 V (+10%)
	Rated frequency	50/60 Hz / Allowed range: 47 ÷ 63 Hz
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Admissible overloads	150% for 1 min; 180% for 10 s; 200% for 1 s
	Maximum distance	<50 m without filter / between 50 and 100 m install chokes / >100 m sine wave filter
CONTROL SPECIFICATIONS	Type of motor	Asynchronous
	Method of control	V/f, sensorless vector control, torque control
	V/f characteristics	Linear, quadratic (3 types), user defined
	Degree of control	1% of maximum output frequency
	Speed fluctuation	±0.3% (in vector control mode)
	Braking unit	Built-in
INPUT SIGNALS	Digital	4/5 programmable inputs, PNP or NPN logic , pulse input, maximum frequency 50 kHz, selectable polarity, virtual activation, on/off delay times
	Analogue	2 inputs, AI2: 0 ÷ 10 V / 0 ÷ 20 mA and AI3: -10 ÷ 10 V Built-in potentiometer
OUTPUT SIGNALS	Relay	2 multifunction NO/NC switching outputs Maximum 3 A / 250 VAC, 1 A / 30 VDC. Selectable polarity and on/off delay
	Power Supply	24 V (±10%) 200 mA
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc.
	Digital	1 multifunction open collector output (50 mA / 30 V) Selectable polarity and on/off delay
	Communication port	RS-485 Modbus-RTU
OPERATION	Method	Keypad, control terminal and communication. Removable keypad up to 30 m for models 3ø 380 ≥ 4 kW and 3ø 230 ≥ 1.5 kW. For other models, remote keypad (up to 30 m) as optional extra.
	Frequency setting	Digital, analogue, pulse train, multi-step, simple PLC, PID, Modbus communication
	Protection	Overcurrent, overvoltage, low voltage, inverter overheating, phase loss, overload, underload, etc.
FILTERING	EMC filter	Category C3 built-in for 3ø 380 V ≥ 4 kW and 3ø 230 V≥ 1.5 kW inverters. Category C3 with easy connection for others as option
GENERAL	Ambient temperature	-10 ÷ 50°C (1% derating per degree exceeding 40°C)
	Degree of protection	IP20
	Cooling	By easy-to-maintain fans
	Installation	Side-by-side type on DIN rail or wall mounting for 1ø 230 V / 3ø 380 V ≤2.2 kW and 3ø 230 V ≤0.75 kW inverters. Wall of cabinet or flange mounting for other inverters.
STANDARDS	Safety	EN 61800-5-1
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

CV50

Variable frequency drives from 0.75 kW to 500 kW

CV50: High-performance multifunction vector frequency drives

Salicru's **Controlvit CV50** variable frequency drive series covers power ratings that range from 0.75 kW to 500 kW. They are suitable for both constant and variable torque applications (power duality), and therefore allow the costs of the system to be optimised by adapting to the type of load to be regulated.

They stand out for their design, reliability, ease of use and versatility, being suitable both for low-power applications, where it is necessary to have good control precision, and high-power applications, where it is important to maintain the appropriate torque and ensure continuity of operation.

Thanks to their automatic energy-saving function, they achieve significant consumption reductions, mainly in ventilation, water treatment and irrigation applications.

Applications:

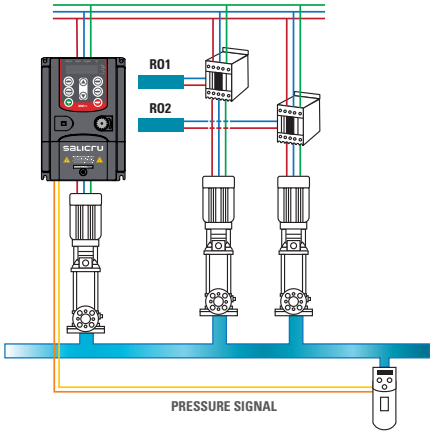
The **CV50** is a dual inverter, meaning that it can work in constant and variable torque applications. For this reason, they are suitable for use in the following applications: pumps, fans, HVAC applications, compressors, extruders, mills, presses, mining industry and machinery in general.

Performances

- Selectable control: V/f, sensorless vector or torque control.
- Built-in EMC filter.
- Power duality: constant torque / variable torque.
- Advanced sleep/wake function for control of up to 3 pumps.
- Motor auto-tuning motor tuning (static and dynamic).
- 150% torque at 0.5 Hz.
- Advanced PID process control.
- Simple PLC (automatic cycle) and 16-speed multi-step control.
- RS485 Modbus RTU communication.
- Built-in potentiometer.
- Remote control with removable or optional keypad.
- Intuitive parameter setting.
- Compact size.
- Built-in dynamic braking unit (≤30 kW).
- DC braking.
- Automatic energy saving and kWh meter.
- Pulse train input (max. 50 kHz).
- Fly start function.
- Numerous inputs/outputs (8 digital inputs, 1 pulse input, 2 analogue inputs and 2 analogue outputs, 2 relay outputs, 1 transistor output, 1 pulse output).
- Cooling fans with On/Off control and easy replacement.
- Monitoring and parameter setting using VITdrive software.
- SLC Greenergy solution.

Pumping systems

- The CV50 inverter enables the creation of a pressure unit with up to three pumps (main pump + two fixed auxiliary pumps).
- By means of a signal provided by the transducer, automatic PID pressure control is performed.
- The setpoint can be set via keypad, an analogue signal or RS485 Modbus communication.
- Features two level parameter setting modes for sleep or wake: % of sensor pressure or by frequency.



Advanced vector control

In the event of a sudden change in load with the motor running at 0.5 Hz, the speed remains constant and the assembly is capable of providing the torque demanded at full load.

Technical support and service

- Pre- and after-sales service.
- Telephone technical support.
- Maintenance contracts.
- Training courses.
- Online registration at www.salicru.com.

Range

MODEL	CODE	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
		POWER (kW)	CURRENT INPUT (A)	CURRENT OUTPUT (A)	POWER (kW)	CURRENT INPUT (A)	CURRENT OUTPUT (A)		
CV50-008-4F	6B1CA000001	0.75	3.4	2.5	-	-	-	175 × 126 × 186	2.5
CV50-015-4F	6B1CA000002	1.5	5	3.7	-	-	-	175 × 126 × 186	2.5
CV50-022-4F	6B1CA000003	2.2	5.8	5	-	-	-	175 × 126 × 186	2.5
CV50-040-4F	6B1CA000004	4	13	9	5.5	19.5	14	181 × 146 × 256	4.1
CV50-055-4F	6B1CA000005	5.5	19.5	14	7.5	25	18.5	181 × 146 × 256	4.1
CV50-075-4F	6B1CA000006	7.5	25	18.5	11	32	25	216 × 170 × 320	7.4
CV50-110-4F	6B1CA000007	11	32	25	15	40	32	216 × 170 × 320	7.4
CV50-150-4F	6B1CA000008	15	40	32	18.5	47	38	216 × 170 × 320	7.4
CV50-185-4F	6B1CA000009	18.5	47	38	22	56	45	216 × 230 × 342	9
CV50-220-4F	6B1CA000010	22	56	45	30	70	60	245 × 255 × 407	11
CV50-300-4F	6B1CA000011	30	70	60	37	80	75	245 × 255 × 407	11
CV50-370-4F	6B1CA000012	37	80	75	45	94	92	325 × 270 × 555	32
CV50-450-4F	6B1CA000013	45	94	92	58	128	115	325 × 270 × 555	32
CV50-550-4F	6B1CA000014	55	128	115	75	160	150	325 × 270 × 555	32
CV50-750-4F	6B1CA000015	75	160	150	90	190	180	365 × 325 × 680	67
CV50-900-4F	6B1CA000016	90	190	180	110	225	215	365 × 325 × 680	67
CV50-1100-4F	6B1CA000017	110	225	215	132	265	260	365 × 325 × 680	67
CV50-1320-4F	6B1CA000018	132	265	260	160	310	305	360 × 500 × 870	110
CV50-1600-4F	6B1CA000019	160	310	305	185	345	340	360 × 500 × 870	110
CV50-1850-4F	6B1CA000020	185	345	340	200	385	380	360 × 500 × 870	110
CV50-2000-4F	6B1CA000021	200	385	380	220	430	425	360 × 500 × 870	110
CV50-2200-4F	6B1CA000022	220	430	425	250	485	480	380 × 750 × 1410	165
CV50-2500-4F	6B1CA000023	250	485	480	280	545	530	380 × 750 × 1410	165
CV50-2800-4F	6B1CA000024	280	545	530	315	610	600	380 × 750 × 1410	165
CV50-3150-4F	6B1CA000025	315	610	600	350	625	650	380 × 750 × 1410	165
CV50-3500-4F	6B1CA000026	350	625	650	400	715	720	560 × 620 × 1700	450
CV50-4000-4F	6B1CA000027	400	715	720	-	-	-	560 × 620 × 1700	450
CV50-5000-4F	6B1CA000028	500	890	860	-	-	-	560 × 620 × 1700	450

Power supply voltage: Three-phase 400 V

Dimensions

CV50-040/055-4F

CV50-075÷150-4F

CV50-220/300-4F

Technical specifications

MODEL		CV50
INPUT	Rated voltage	Three-phase 380 V (-15%) ÷ 440 V (+10%)
	Rated frequency	50/60 Hz / Allowed range: 47 ÷ 63 Hz
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Admissible overloads	Constant torque: 150% for 1 min; 180% for 10 s; 200% for 1 s Variable torque: 120% for 1 min
	Maximum distance	<50 m without filter / between 50 and 100 m install chokes / >100 m LC filter
CONTROL SPECIFICATIONS	Type of motor	Asynchronous
	Method of control	V/f, sensorless vector control, torque control
	V/f characteristics	Linear, quadratic (3 types), user defined
	Degree of control	1% of maximum output frequency
	Speed fluctuation	±0.3% (in vector control mode)
	Braking unit	Built-in for ≤30 kW, external (optional) for ≥37 kW
INPUT SIGNALS	Digital	8 programmable inputs, PNP or NPN logic, pulse input, maximum frequency 50 kHz, selectable polarity, virtual activation, On/Off delay times
	Analogue	2 inputs, AI2: 0 ÷ 10 V / 0 ÷ 20 mA and AI3: -10 ÷ 10V Built-in potentiometer
OUTPUT SIGNALS	Relay	2 multifunction NO/NC switching outputs Maximum 3 A / 250 VAC, 1 A / 30 VDC Selectable polarity and on/off delay
	Power Supply	24 V (±10%) 200 mA
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc
	Digital	1 multifunction open collector output (200 mA / 30 V) 1 selectable output between pulses (max. 50 kHz) and open collector Selectable polarity and on/off delay
	Communication port	RS-485 Modbus-RTU
OPERATION	Method	Keypad, control terminal and communication Removable keypad up to 200 m for models ≥ 18.5 kW For other models, remote keypad (up to 200 m) as optional extra
	Frequency setting	Digital, analogue, pulse train, multi-step, simple PLC, PID, Modbus communication
	Protection	Overcurrent, overvoltage, low voltage, inverter overheating, phase loss, overload, underload, etc
FILTERING	EMC filter	Built-in. Category C3
	DC reactor	Installable in inverters ≥37 kW
GENERAL	Ambient temperature	-10° ÷ 50°C (3% derating per degree exceeding 40°C)
	Degree of protection	IP20
	Cooling	By easy-to-maintain fans
	Installation	Wall, flange and floor mounting for ≥ 220 kW
STANDARDS	Safety	EN 61800-5-1
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

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.

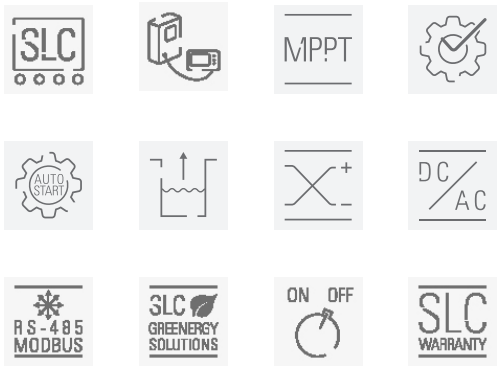
Applications:

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.

Performances

· Integrated advanced MPPT algorithm: Maximum power point tracking of solar panels 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.

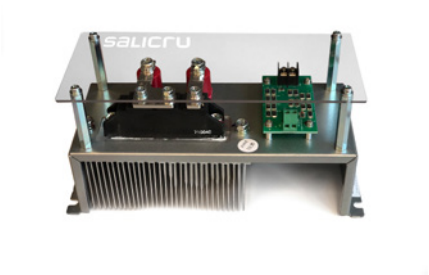


Booster module

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.



Advanced vector control

In the event of a sudden change in load with the motor running at 0.5 Hz, the speed remains constant and the assembly is capable of providing the torque demanded at full load.

Technical support and service

· Pre- and after-sales service.
· Telephone technical support.
· Online registration at www.salicru.com.

Range

MODEL	CODE	POWER (kW)	DIMENSIONS (D × W × H mm)	SOLAR PANEL CONFIGURATION (MODULES PER STRING * NUMBER OF STRINGS)					
				Power: 425-450 Wp 144 Cells		Power: 480-505 Wp 150 Cells		Power: 510-550 Wp 110 Cells	
				Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER
CV30-008-S2 PV	6B1DA000001	0,75	123 × 80 × 160	8*1	3*1	8*1	3*1	8*1	3*1
CV30-015-S2 PV	6B1DA000003	1,5	140 × 80 × 185	8*1	6*1	8*1	5*1	8*1	3*1

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

MODEL	CODE	POWER (kW)	DIMENSIONS (D × W × H mm)	SOLAR PANEL CONFIGURATION (MODULES PER STRING * NUMBER OF STRINGS)					
				Power: 425-450 Wp 144 Cells		Power: 480-505 Wp 150 Cells		Power: 510-550 Wp 110 Cells	
				Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER	Without BOOSTER	With BOOSTER
CV30-008-4 PV	6B1DC000011	0,75	140 × 80 × 185	14*1	3*1	14*1	3*1	14*1	3*1
CV30-015-4 PV	6B1DC000010	1,5	140 × 80 × 185	14*1	6*1	14*1	5*1	14*1	5*1
CV30-022-4 PV	6B1DC000001	2,2	140 × 80 × 185	14*1	8*1	14*1	7*1	14*1	7*1
CV30-040-4F PV	6B1DC000002	4	167 × 146 × 256	14*1	N/A	14*1	N/A	14*1	N/A
CV30-055-4F PV	6B1DC000003	5,5	167 × 146 × 256	14*2	N/A	14*2	N/A	14*1	N/A
CV30-075-4F PV	6B1DC000004	7,5	196 × 170 × 320	14*2	N/A	14*2	N/A	14*2	N/A
CV30-110-4F PV	6B1DC000012	11	196 × 170 × 320	18*3	N/A	15*3	N/A	14*2	N/A
CV30-150-4F PV	6B1DC000005	15	196 × 170 × 320	14*4	N/A	14*3	N/A	14*3	N/A
CV30-220-4F PV	6B1DC000006	22	184 × 200 × 340	14*6	N/A	14*4	N/A	14*4	N/A
CV30-300-4F PV	6B1DC000014	30	202 × 250 × 400	18*8	N/A	15*8	N/A	14*5	N/A
CV30-370-4F PV	6B1DC000007	37	202 × 250 × 400	14*9	N/A	14*8	N/A	14*6	N/A
CV30-550-4F PV	6B1DC000008	55	238 × 282 × 560	14*12	N/A	14*11	N/A	14*8	N/A
CV30-750-4F PV	6B1DC000009	75	238 × 282 × 560	14*16	N/A	14*15	N/A	14*11	N/A

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%)(1)
	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 1 s	
	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.	
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	Safety	EN 61800-5-1	
	Electromagnetic compatibility (EMC)	EN 61800-3 C3	
	Quality and environmental management	ISO 9001 & ISO 14001	

(1): Can be used at 3 x 220~240 Vac through configuration, with derating of the nominal power

ACV30-PV

Solar-powered pumping cabinets

ACV30-PV: Complete solution for solar-powered pumping facilities

The **ACV30-PV** cabinets offer a fully finished solution for solar-powered pumping facilities that use pumps of up to 5.5 kW. Depending on the model, they can be mounted indoors or outdoors, and offer the option of isolated systems (powered solely by solar panels), systems with automatic switchover to the power generator or mains, and systems with manual switchover.

They incorporate the **CV30-PV** drive, which is specifically designed for solar-powered pumping, and depending on the model they also include the **BOOST MOD-320-PV** booster module, which significantly reduces the number of panels required. They are equipped with the necessary protection at the solar panel input (DC circuit breaker and over-voltage protector) and, where applicable, the AC input (circuit breaker and contactor). As the distance between the drive and the pump can be considerable, all models are fitted with an output ferrite in order to prevent potential pump breakdowns; moreover, for particularly long distances (usually over 100 metres), the option of cabinet-mounted sine-wave filters is available.

To ensure full control of the system, the cabinets also include a water level sensor and digital clock/timer. This can be used to protect the pump against dry operation, and to set the system's operating times. Without a doubt, it is a solution that offers installers tremendous convenience and reliability, owing to the fact that potential issues with mounting and configuration are reduced to a minimum.

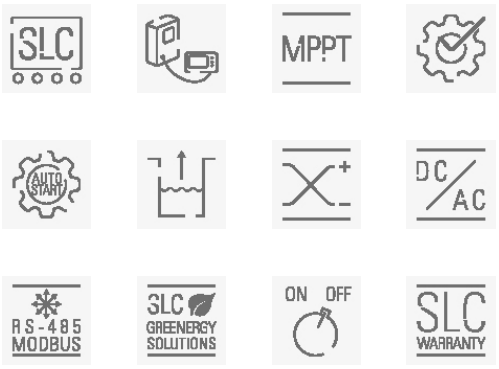
Applications:

The main application of the **ACV30-PV** solar-powered pumping cabinets is agricultural irrigation, either via the accumulation of water in a tank or feeder pool for subsequent use or via 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.

Performances

- Simple to install and configure.
- Indoors or outdoors mounting.
- Isolated power supply or with automatic/manual switchover.
- Optional booster module.
- DC circuit breaker.
- AC circuit breaker for models with switchover to the generator or mains.
- DC over-voltage protector (Type II, 1,000 VDC).
- 24 VDC water level sensor + weights.
- Clock/timer for ON/OFF control.
- Control console and ON/OFF switch on the cabinet door (indoor mounting).
- Status indicator lights and ON/OFF switch on the cabinet door (outdoor mounting).
- Output ferrite.
- ATS automatic switchover module (>2.2 kW models with switchover).
- Optional cabinet-mounted sine wave filter, recommended for systems where the distance between the drive and the pump is over 100 metres.



Indoor mounting model

For added convenience, these models incorporate a control console mounted on the door of the cabinet. Thanks to this design feature, users do not need to open the cabinet in order to change the parameters or check the status of the system. Moreover, ample space has been set aside to incorporate additional control elements, in accordance with the needs of each facility.

Outdoor mounting model

For these models, the ON/OFF control and system status indicators are accessed via buttons on the door of the cabinet, thereby maintaining a high level of protection. The cabinet also includes a rain canopy to provide even more protection against inclement weather.

Dimensions

ACV30-PV Indoor mounting

ACV30-PV Outdoor mounting

Range

MODEL	CODE	MOUNTING	TYPE OF SYSTEM	BOOSTER	PUMP VOLTAGE (V)	MAXIMUM PUMP POWER (kW)
ACV30-015-S2 PV IAB	6B1BS000001	Indoor	Isolated	Yes	3 × 230	1.5
ACV30-022-4 PV IAB	6B1BS000002	Indoor	Isolated	Yes	3 × 400	2.2
ACV30-015-S2 PV IAD	6B1BS000003	Indoor	Isolated	No	3 × 230	1.5
ACV30-022-S2 PV IAD	6B1BS000004	Indoor	Isolated	No	3 × 230	2.2
ACV30-022-4 PV IAD	6B1BS000005	Indoor	Isolated	No	3 × 400	2.2
ACV30-055-4F PV IAD	6B1BS000006	Indoor	Isolated	No	3 × 400	5.5
ACV30-015-S2 PV IGB	6B1BS000007	Indoor	Automatic switchover to the generator	Yes	3 × 230	1.5
ACV30-022-S2 PV IGB	6B1BS000008	Indoor	Automatic switchover to the generator	Yes	3 × 230	2.2
ACV30-022-4 PV IGB	6B1BS000009	Indoor	Automatic switchover to the generator	Yes	3 × 400	2.2
ACV30-055-4F PV IGD	6B1BS000010	Indoor	Automatic switchover to the generator	No	3 × 400	5.5
ACV30-015-S2 PV IRB	6B1BS000011	Indoor	Automatic switchover to mains power	Yes	3 × 230	1.5
ACV30-022-S2 PV IRB	6B1BS000012	Indoor	Automatic switchover to mains power	Yes	3 × 230	2.2
ACV30-022-4 PV IRB	6B1BS000013	Indoor	Automatic switchover to mains power	Yes	3 × 400	2.2
ACV30-055-4F PV IRD	6B1BS000014	Indoor	Automatic switchover to mains power	No	3 × 400	5.5
ACV30-015-S2 PV IMB	6B1BS000015	Indoor	Manual switchover	Yes	3 × 230	1.5
ACV30-022-S2 PV IMB	6B1BS000016	Indoor	Manual switchover	Yes	3 × 230	2.2
ACV30-022-4 PV IMB	6B1BS000017	Indoor	Manual switchover	Yes	3 × 400	2.2
ACV30-055-4F PV IMD	6B1BS000018	Indoor	Manual switchover	No	3 × 400	5.5
ACV30-015-S2 PV EAB	6B1BS000019	Outdoor	Isolated	Yes	3 × 230	1.5
ACV30-022-4 PV EAB	6B1BS000020	Outdoor	Isolated	Yes	3 × 400	2.2
ACV30-015-S2 PV EAD	6B1BS000021	Outdoor	Isolated	No	3 × 230	1.5
ACV30-022-S2 PV EAD	6B1BS000022	Outdoor	Isolated	No	3 × 230	2.2
ACV30-022-4 PV EAD	6B1BS000023	Outdoor	Isolated	No	3 × 400	2.2
ACV30-055-4F PV EAD	6B1BS000024	Outdoor	Isolated	No	3 × 400	5.5
ACV30-015-S2 PV EGB	6B1BS000025	Outdoor	Automatic switchover to the generator	Yes	3 × 230	1.5
ACV30-022-S2 PV EGB	6B1BS000026	Outdoor	Automatic switchover to the generator	Yes	3 × 230	2.2
ACV30-022-4 PV EGB	6B1BS000027	Outdoor	Automatic switchover to the generator	Yes	3 × 400	2.2
ACV30-055-4F PV EGD	6B1BS000028	Outdoor	Automatic switchover to the generator	No	3 × 400	5.5
ACV30-015-S2 PV ERB	6B1BS000029	Outdoor	Automatic switchover to mains power	Yes	3 × 230	1.5
ACV30-022-S2 PV ERB	6B1BS000030	Outdoor	Automatic switchover to mains power	Yes	3 × 230	2.2
ACV30-022-4 PV ERB	6B1BS000031	Outdoor	Automatic switchover to mains power	Yes	3 × 400	2.2
ACV30-055-4F PV ERD	6B1BS000032	Outdoor	Automatic switchover to mains power	No	3 × 400	5.5
ACV30-015-S2 PV EMB	6B1BS000033	Outdoor	Manual switchover	Yes	3 × 230	1.5
ACV30-022-S2 PV EMB	6B1BS000034	Outdoor	Manual switchover	Yes	3 × 230	2.2
ACV30-022-4 PV EMB	6B1BS000035	Outdoor	Manual switchover	Yes	3 × 400	2.2
ACV30-055-4F PV EMD	6B1BS000036	Outdoor	Manual switchover	No	3 × 400	5.5

Technical specifications

MODEL		3x230 pumps	3x400 pumps
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)
	DC protection	DC circuit breaker and overvoltage protector (Type II, 1,000 VDC)	
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	
	AC protection	AC circuit breaker and contactor (for models with automatic switchover to the mains)	
OUTPUT	Rated voltage	Three-phase, 0 ÷ 100% of the input voltage.	
	Admissible overloads	150% for 1 min; 180% for 10 s; 200% for 1 s	
	Maximum distance	Install a sine wave filter if the distance between the drive and pump is > 100 m	
INPUT SIGNALS	Digital	5 programmable inputs, PNP or NPN logic. Selectable polarity, on/off delay times.	
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	
OPERATION	Method	Indoor mounting: control console on the door of the cabinet and ON/OFF control via switch or clock/timer. Outdoor mounting: buttons on the door of the cabinet and clock/timer.	
	Pump protection	24 VDC water level sensor	25 VDC water level sensor
	Types of system	Isolated (powered solely by solar panels Automatic switchover to the generator Automatic switchover to the mains Manual switchover (to the power generator or mains)	
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	Indoor and outdoor versions	
STANDARDS	Safety	EN 61800-5-1	
	Electromagnetic compatibility (EMC)	EN 61800-3 C3	
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001	

TECHNICAL SERVICE & SUPPORT

Services area

Comprehensive service available to customers

The applications wehre VFD are commonly used are of a critycal nature and directly related to productivity. Consequently, it's necessary be supported by a stron technical support team. To this end Salicru puts at customer's disposal the **Technical Service & Support (TSS)** department, with its extensive network of qualified technicians who can provide assistance in the event of any eventuality or incident with your device, regardless of location, day or day time.

Our goal is your peace of mind and satisfaction, providing you with the reassurance that Salicru will resolve any issues that may arise. A business's productivity and management must never be affected by a failure.

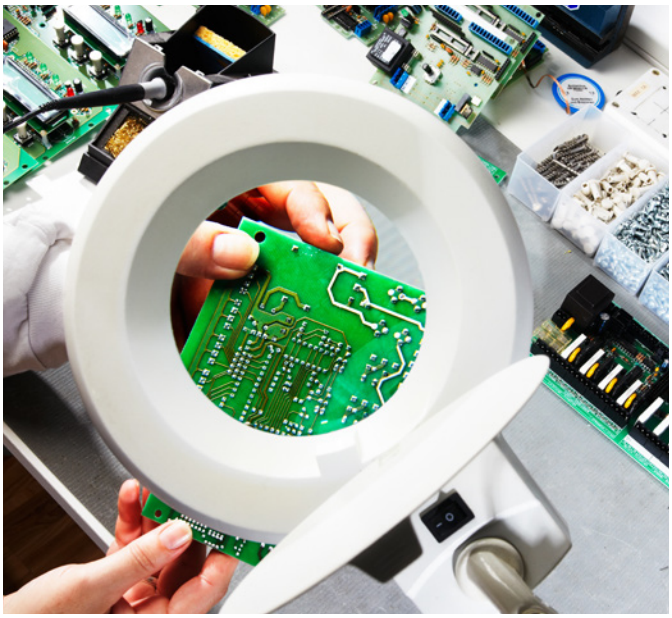
To meet such requirements, Salicru offers you a full range of solutions aimed at minimising the inherent risks of any electronic system affecting all critical stages: study of the most appropriate solution, preparation prior to electrical installation and dimensioning of devices, startup and on-site technical training for maintenance personnel, maintenance and remote maintenance contracts and technical training courses.

3 good reasons to sign up to the service

- More than 50 years of experience as a prestigious manufacturer, offering the highest quality of service.

- First-class, fast and efficient technical support capable of carrying out any technical intervention on your device, wherever you are.

- Ongoing training that will help you to optimise the operation of your systems, recognise situations of potential risk and overcome any setbacks that may arise.



Services

CONSULTING AND ADVISORY SERVICES	
Pre-sales support	Our technical staff will inform and advise customers on the most suitable devices and options for their applications, needs and budget. They can also carry out product demonstrations and seminars to present new devices.
Telephone technical support	By default, and without the need to contract any service, our TSS department is at your disposal. All you need to do is call our telephone hotline and a technician will advise you on the possible cause of the failure and, if necessary, book a date and time for an intervention. (93 848 24 00 / +34 681 286 941).

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DELEGATIONS AND TECHNICAL SUPPORT AND SERVICE (TSS)

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Photovoltaic Inverters
Variable Frequency Drives
DC Systems
Transformers and Autotransformers
Voltage Stabilisers
Electric Active Protectors
Batteries

SLC GREENERGY SOLUTIONS