

CONTROLVIT

Variable frequency drives from 0.2 kW to 500 kW



SALICRU



CONTROLVIT

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).

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.



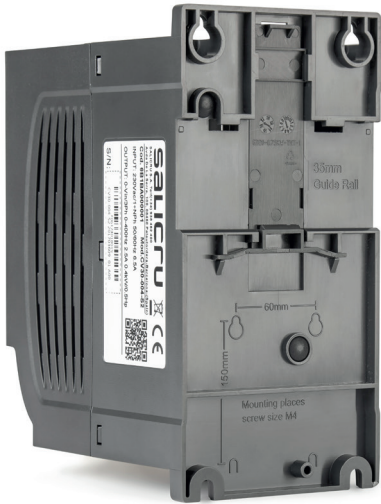
Ease of use

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.

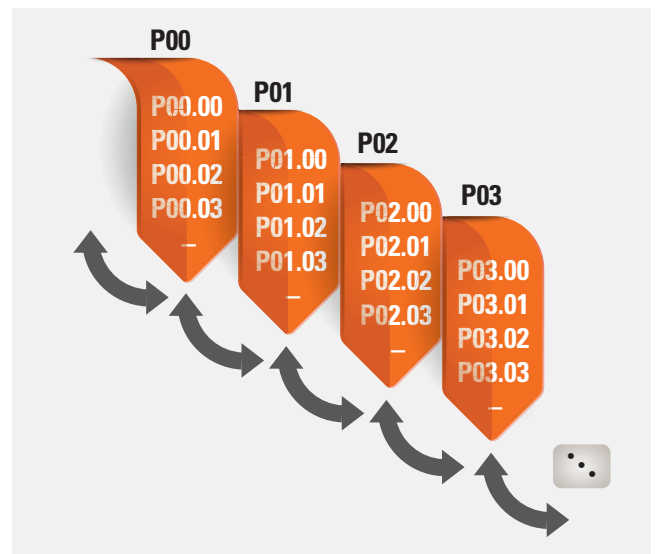


Easy to configure

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.)

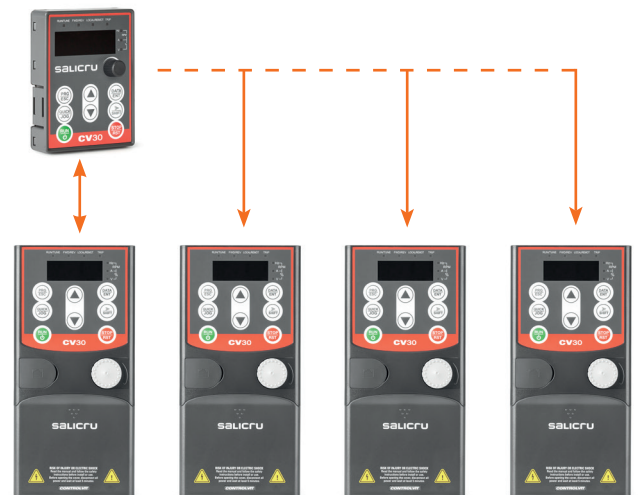
All drives in the **CONTROLVIT** range have the same parameter structure, so, if you know one, you know them all.

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**).

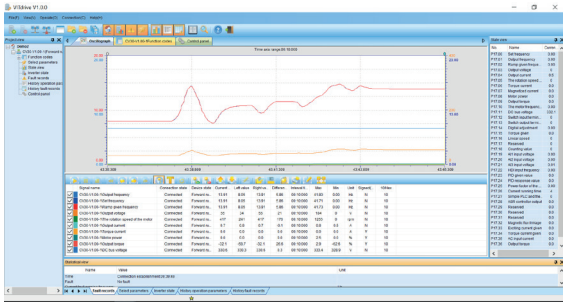


VITdrive software

This enables the drives to be connected to a PC, configured and monitored to facilitate commissioning and maintenance.

Features:

- 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, etc.
- Multiple monitoring: one PC can monitor different drives at the same time.



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.



Energy efficiency and saving

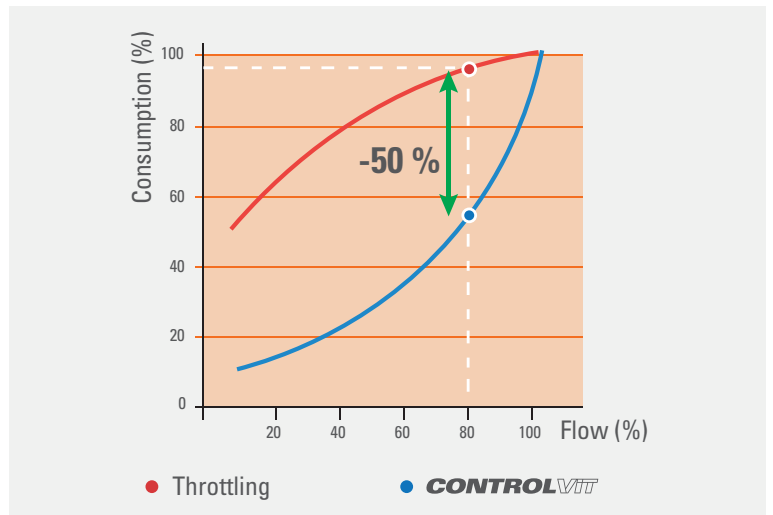
Automatic energy saving function

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.



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.



Built-in EMC filter

All drives in the **CV50 series** and those in the **CV30** series with three-phase power supply of 230 V \geq 1.5 kW and 400 V \geq 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.

PID control

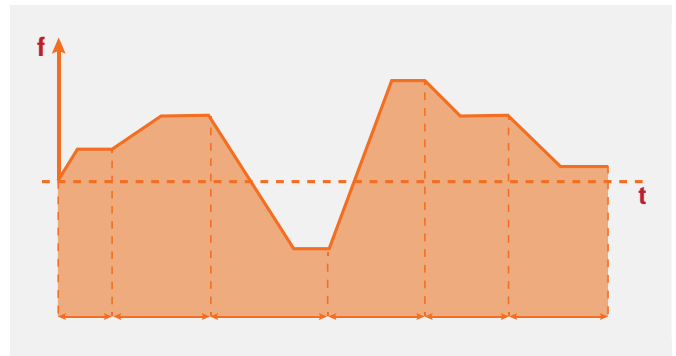
All drives in the range feature built-in PID control, which enables control of process variables such as pressure, flow, temperature, carbon monoxide level, etc., without the need for an additional external controller.

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.

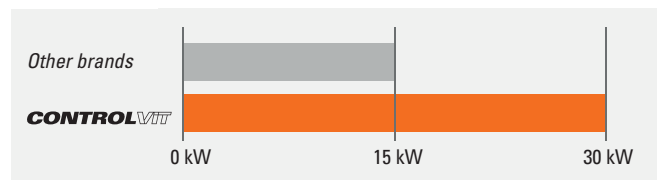
In addition, using the simple PLC function, the **CV30** and **CV50** series enable the same 16 steps and their duration to be set, but without the need to use combinations of inputs. It is also possible to choose between performing the cycle repeatedly or carrying it out once.

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



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).



Modbus RS-485 communication port

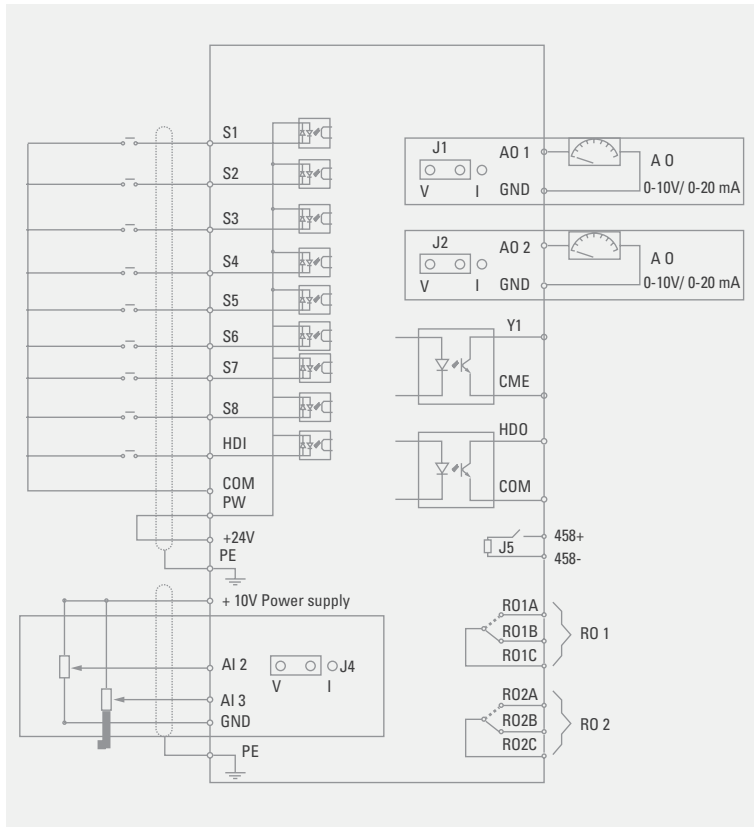
All drives include a Modbus RS-485 communication port, which allows communication with other devices such as PCs, PLCs, HMI, SCADA systems, etc.

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.



High performance

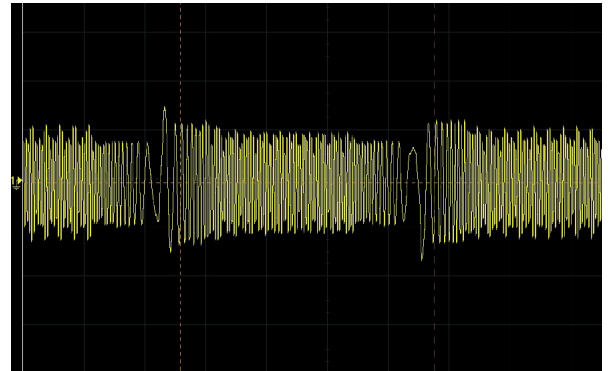
Dynamic and static motor auto-tuning

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.



Multiple braking modes

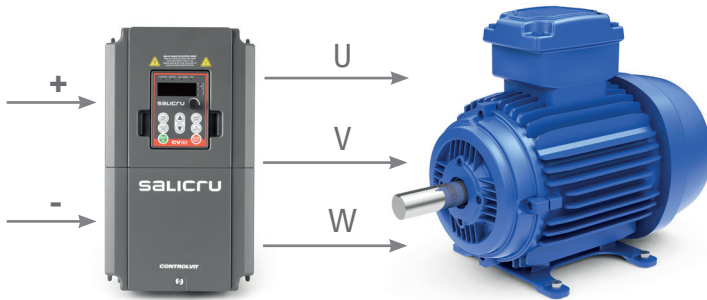
Dynamic braking	DC braking
Minimal time and great braking torque.	Braking prior to start-up and in the final stage of stopping.
Needs a dynamic braking unit and resistor.	Not valid for high inertia loads or high speed braking.
Magnetic flux braking	Short-circuit braking
Applicable to high inertia loads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



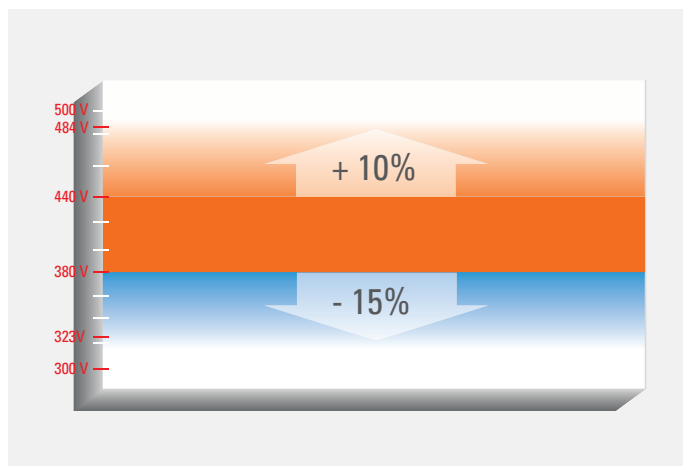
Reliability and durability

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.

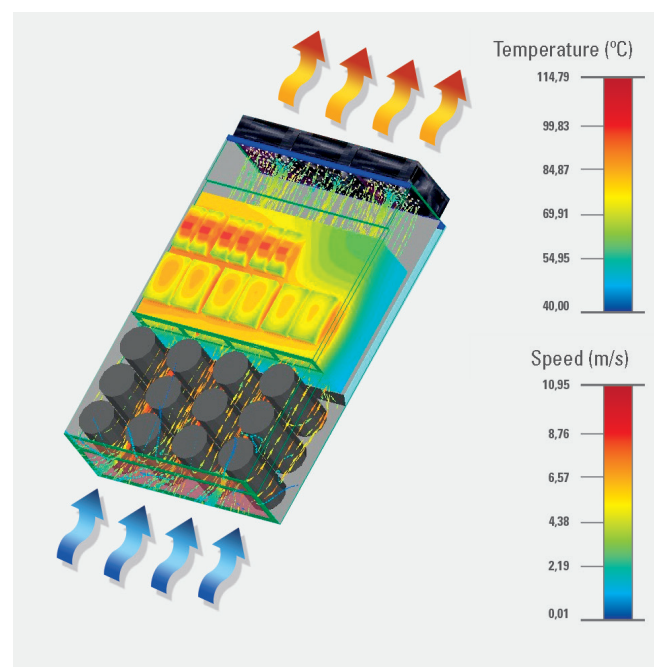


Advanced thermal technology

The 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.



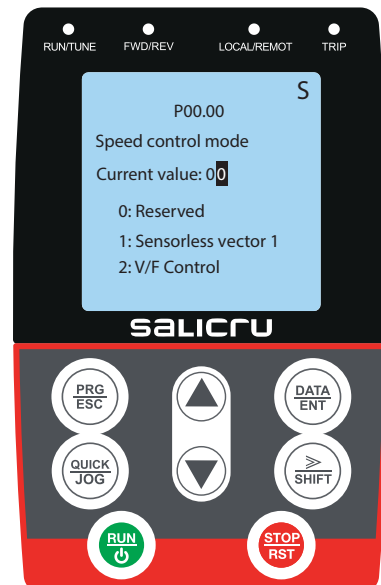
Advanced LCD keypad

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 drive's 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.



Filtering solutions

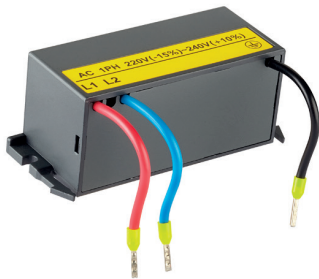
The **CONTROLVIT** range includes the necessary filtering solutions for the application to operate properly.

A complete range of filters is available to reduce interference, protect the drives against overvoltages and micro-cuts, and improve the efficiency of the facility.

EMC filters

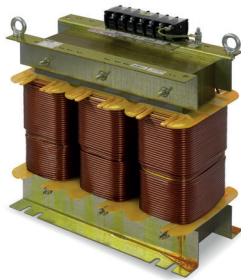
All drives in the **CV50 series** and those in the **CV30** series with three-phase power supply of 230 V \geq 1.5 kW and 400 V \geq 4 kW have a category C3 built-in EMC filter as per standard EN 61800-3.

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.



Input reactors

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



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.



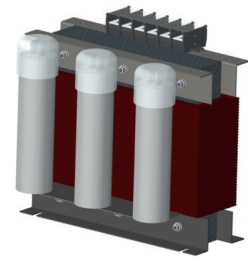
Sine-wave filters

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.).



TSS - Technical Service and Support

SALICRU puts at your disposal its Technical Service & Support (TSS) department with its extensive network of qualified technicians who can provide support in the event of any eventuality or incident involving your device.

Pre-sales support

Advice on choice of model and most suitable options for your application and requirements.

Free phone technical support

Call our hotline number and talk to a technician for any help you need with starting, configuring or resolving faults or issues with your device.

Commissioning

Service technicians authorised by SALICRU can visit your facility to configure your drive, start it up and provide you with a training course.

This service is not included in the price of the drive and is subject to the acceptance of a quoted fee.

Training courses

The training courses provided by SALICRU will help you to better understand the devices included in the **CONTROLVIT** range, enable you to exploit all of their possibilities and assist you in applying the correct filtering solutions for each case.



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 power supply, it is designed to operate with low-power motors and has very complete hardware that features, among other things, a removable console 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.

Features

- V/f control.
- Built-in potentiometer.
- Remote control with removable console.
- Optional EMC filter with easy connection.
- Advanced PID process control.
- Automatic energy saving.
- Built-in dynamic braking module.
- DC injection 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 buttons.
- Shutdown by operating time.
- Dynamic current limitation.
- Optimised size.
- Intuitive parameter setting by console and using VITdrive software, which also enables monitoring of main magnitudes.
- SLC Greenergy solution.

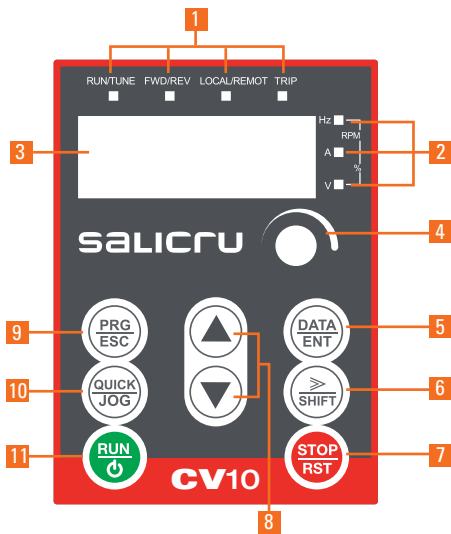


CV10

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.

Display



1. Indication of drive 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. Increases/decreases data or raises/lowers 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.

VITdrive software

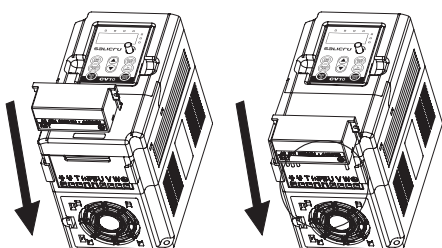
- Enables parameter setting of the equipment and facilitates commissioning and maintenance.
- Local and remote monitoring.

Services

- Pre- and after-sales service.
- Telephone technical support.
- Training courses.

Salicru warranty

- Online registration at www.salicru.com.
- 2-year warranty.
- Replacement.



Easy installation of category C3 EMC filter

TECHNICAL SPECIFICATIONS

MODEL		CV10
INPUT	Voltage	Single-phase 220 V (-15%) ÷ 240 V (+10%)
	Frequency	50/60 Hz / Permitted range: 47 ÷ 63 Hz
OUTPUT	Voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Maximum overload	150% for 1 min; 180% for 10 s; 200% for 1s
	Maximum distance	<50 m without filter / between 50 and 100 m install ferrites / >100 m LC 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
	Digital	1 multifunction open collector output (50 mA / 30 V) Selectable polarity and on/off delay
	Analogue	1 selectable output 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc.
	Communication port	RS485 Modbus RTU
OPERATION	Power supply	24 V (±10%) 100 mA
	Method	Console (removable up to 5 m), control and communication terminal
OPERATION	Frequency setting	Digital, analogue, multi-step, PID, Modbus communication
	Protection	Overcurrent, overvoltage, low voltage, drive overheating, phase loss, overload, underload, etc.
	Filtering	EMC filter
GENERAL	Degree of protection	Category C3 with easy connection as option
	Cooling	IP20
	Ambient temperature	0.2 ÷ 0.75 kW: Natural by radiator 1.5 and 2.2 kW: Forced by fan
	Installation	-10 ÷ 50°C (1% derating per degree exceeding 40°C) Bottom of cabinet mounting
STANDARDS	Operation and safety	EN 61800-5-1
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Quality and Environmental Management	ISO 9001 and ISO 14001

Information subject to change without notice.

RANGE

MODEL	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
CV10-002-S2	0.2	4.9	1.6	134 x 85 x 145	1.4
CV10-004-S2	0.4	6.5	2.5		
CV10-008-S2	0.75	9.3	4.2	153 x 85 x 145	1.7
CV10-015-S2	1.5	15.7	7.5		
CV10-022-S2	2.2	24	10		

Power supply voltage: Single-phase 230 V

EMC FILTERS - Category C3

MODEL	VOLTAGE (V)	DRIVE	DIMENSIONS (D x W x H 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



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.

Features

- 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 console (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 module.
- DC injection 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.

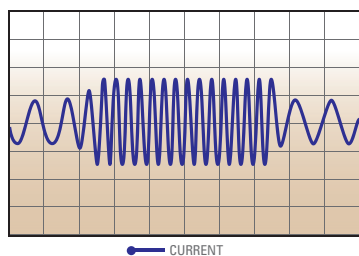
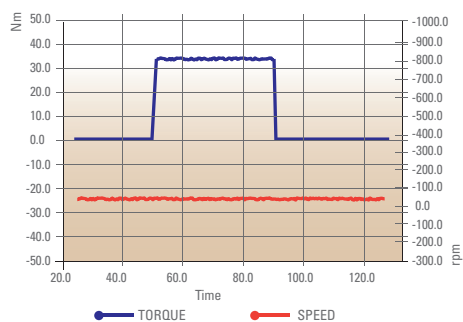


CV30

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.

Advanced vector control



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

VITdrive software

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

Services

- Pre- and after-sales service.
- Commissioning.
- Telephone technical support.
- Training courses.

Salicru warranty

- Online registration at www.salicru.com.
- 2-year warranty.
- Replacement.

TECHNICAL SPECIFICATIONS

MODEL		CV30
INPUT	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%)
	Frequency	50/60 Hz / Permitted range: 47 ÷ 63 Hz
OUTPUT	Voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Maximum overload	150% for 1 min; 180% for 10 s; 200% for 1 s
	Maximum distance	<50 m without filter / between 50 and 100 m install ferrites / >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
INPUT SIGNALS	Digital	4/5 programmable inputs, PNP or NPN logic 1 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
	Digital	1 multifunction open collector output (50 mA / 30 V) Selectable polarity and on/off delay
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc.
	Communication port	RS485 Modbus RTU
	Power supply	24 V (±10%) 200 mA
OPERATION	Method	Console, control and communication terminal. Removable console up to 30 m for models 3ø 380 V ≥ 4 kW and 3ø 230 V ≥ 1.5 kW. For other models, remote console (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, drive 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 drives. Category C3 with easy connection for others as option
GENERAL	Degree of protection	IP20
	Cooling	By easy-to-maintain fans
	Ambient temperature	-10 ÷ 50°C (1% derating per degree exceeding 40°C)
	Installation	Side-by-side type on DIN rail or bottom of cabinet for 1ø 230 V / 3ø 380 V ≤ 2.2 kW and 3ø 230 V ≤ 0.75 kW drives. Back of cabinet or flange mounting for other drives.
STANDARDS	Operation and safety	EN 61800-5-1:2007
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Quality and Environmental Management	ISO 9001 and ISO 14001

Information subject to change without notice.

RANGE

Power supply voltage: Single-phase 230 V

MODEL	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
CV30-004-S2	0.4	6.5	2.5	123 x 80 x 160	1.3
CV30-008-S2	0.75	9.3	4.2		
CV30-015-S2	1.5	15.7	7.5	140 x 80 x 185	1.6
CV30-022-S2	2.2	24	10		

Power supply voltage: Three-phase 230 V

MODEL	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
CV30-004-2	0.4	3.7	2.5	140 x 80 x 185	1.4
CV30-008-2	0.75	5	4.2		
CV30-015-2F	1.5	7.7	7.5	167 x 146 x 256	3.9
CV30-022-2F	2.2	11	10		
CV30-040-2F	4	17	16		
CV30-055-2F	5.5	21	20	196 x 170 x 320	6.5
CV30-075-2F	7.5	31	30		

Power supply voltage: Three-phase 400 V

MODEL	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D x W x H mm)	WEIGHT (kg)
CV30-008-4	0.75	3.4	2.5	140 x 80 x 185	1.4
CV30-015-4	1.5	5	4.2		
CV30-022-4	2.2	5.8	5.5	167 x 146 x 256	3.9
CV30-040-4F	4	13.5	9.5		
CV30-055-4F	5.5	19.5	14		
CV30-075-4F	7.5	25	18.5	196 x 170 x 320	6.5

EMC input filters with easy connection - Category C3

MODEL	VOLTAGE (V)	DRIVE	DIMENSIONS (D x W x H 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	CV30...-4 (0.75 ÷ 2.2 kW)	
	Three-phase 230 V	CV30...-2 (0.4 ÷ 0.75 kW)	



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 enable 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.

Features

- 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.
- Automatic 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 console.
- Intuitive parameter setting.
- Compact size.
- Built-in dynamic braking module (≤ 30 kW).
- DC injection 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.

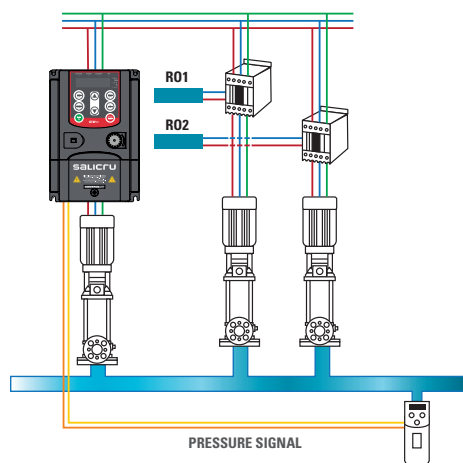


CV50

Applications:

The **CV50** is a dual drive, 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.

Pumping systems



- The **CV50** drive 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 the console, an analogue signal or RS485 Modbus communication.
- Features two level parameter setting modes for sleep or wake: % of sensor pressure or by frequency.

Services

- Pre- and after-sales service.
- Telephone technical support.
- Maintenance contracts.
- Training courses.

Salicru warranty

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

RANGE

MODEL	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D x W x H mm)	WEIGHT (kg)
	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)		
CV50-008-4F	0.75	3.4	2.5	-	-	-	175 x 126 x 186	2.5
CV50-015-4F	1.5	5	3.7	-	-	-		
CV50-022-4F	2.2	5.8	5	-	-	-		
CV50-040-4F	4	13.5	9.5	5.5	19.5	14	181 x 146 x 256	4.1
CV50-055-4F	5.5	19.5	14	7.5	25	18.5		
CV50-075-4F	7.5	25	18.5	11	32	25	216 x 170 x 320	7.4
CV50-110-4F	11	32	25	15	40	32		
CV50-150-4F	15	40	32	18.5	47	38		
CV50-185-4F	18.5	47	38	22	56	45	216 x 230 x 342	9
CV50-220-4F	22	56	45	30	70	60	245 x 255 x 407	11
CV50-300-4F	30	70	60	37	80	75		
CV50-370-4F	37	80	75	45	94	92	325 x 270 x 555	32
CV50-450-4F	45	94	92	55	128	115		
CV50-550-4F	55	128	115	75	160	150		

Power supply voltage: Three-phase 400 V

TECHNICAL SPECIFICATIONS

MODEL		CV50
INPUT	Voltage	Three-phase 380 V (-15%) ÷ 440 V (+10%)
	Frequency	50/60 Hz Permitted range: 47 ÷ 63 Hz
OUTPUT	Voltage	Three-phase, 0 ÷ 100% of input voltage
	Frequency	0 ÷ 400 Hz
	Maximum overload	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 ferrites / >100 m LC filter
	Control specifications	Asynchronous
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 ≤37 kW, external (optional) for ≥37 kW
INPUT SIGNALS	Digital	8 programmable inputs, PNP or NPN logic 1 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
	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
	Analogue	2 selectable outputs 0 ÷ 10 V / 0 ÷ 20 mA, proportional to frequency, current, speed, voltage, torque, etc.
	Communication port	RS485 Modbus RTU
	Power supply	24 V (±10%) 200 mA
	OPERATION	Method
Frequency setting	Digital, analogue, pulse train, multi-step, simple PLC, PID, Modbus communication	
Protection	Overcurrent, overvoltage, low voltage, drive overheating, phase loss, overload, underload, etc.	
FILTERING	EMC filter	Built-in. Category C3
	DC reactance	Installable in drives ≥37 kW
GENERAL	Degree of protection	IP20
	Cooling	By easy-to-maintain fans
	Ambient temperature	-10° ÷ 50°C (3% derating per degree exceeding 40°C)
	Installation	Bottom of cabinet, flange and floor mounting for ≥ 220 kW
STANDARDS	Operation and safety	EN 61800-5-1:2007
	Electromagnetic compatibility (EMC)	EN 61800-3 C3
	Quality and Environmental Management	ISO 9001 and ISO 14001

Information subject to change without notice.

MODEL	CONSTANT TORQUE			VARIABLE TORQUE			DIMENSIONS (D x W x H mm)	WEIGHT (kg)
	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)		
CV50-750-4F	75	160	150	90	190	180	365 x 325 x 680	67
CV50-900-4F	90	190	180	110	225	215		
CV50-1100-4F	110	225	215	132	265	260		
CV50-1320-4F	132	265	260	160	310	305	360 x 500 x 870	110
CV50-1600-4F	160	310	305	185	345	340		
CV50-1850-4F	185	345	340	200	385	380		
CV50-2000-4F	200	385	380	220	430	425		
CV50-2200-4F	220	430	425	250	485	480		
CV50-2500-4F	250	485	480	280	545	530	Bottom of cabinet: 379 x 680 x 960 Floor: 380 x 750 x 1410 (includes installation base)	165
CV50-2800-4F	280	545	530	315	610	600		
CV50-3150-4F	315	610	600	350	625	650		
CV50-3500-4F	350	625	650	400	715	720	Floor: 560 x 620 x 1700 (includes installa- tion base)	450
CV50-4000-4F	400	715	720	-	-	-		
CV50-5000-4F	500	890	860	-	-	-		

Power supply voltage: Three-phase 400 V

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