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.

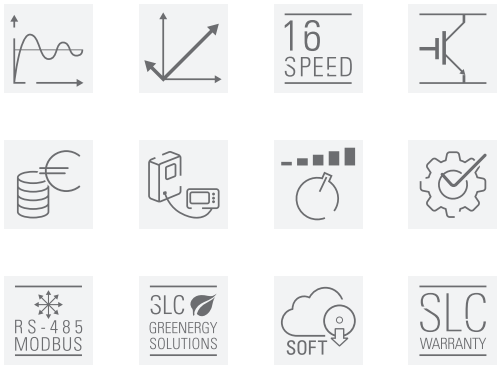
In addition to all of this, also notable is Salicru's service, particularly its technical support during commissioning, and its two-year warranty, which includes immediate replacement in the event of fault.

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

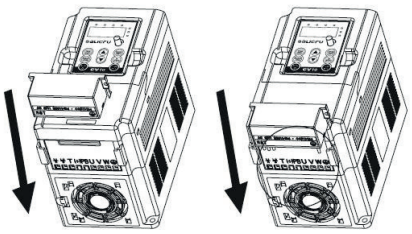
· Allows parameter setting of the equipment and facilitates commissioning and maintenance.
· Local and remote monitoring.

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

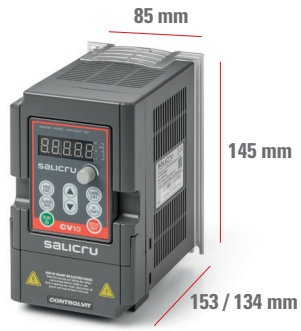
MODEL	CODE	POWER (kW)	INPUT CURRENT (A)	OUTPUT CURRENT (A)	DIMENSIONS (D × W × H mm)	WEIGHT (Kg)
CV10-002-S2	6B1AA000001	0.2	4.9	1.6	134 × 85 × 145	1.4
CV10-004-S2	6B1AA000002	0.4	6.5	2.5	134 × 85 × 145	1.4
CV10-008-S2	6B1AA000003	0.75	9.3	4.2	153 × 85 × 145	1.7
CV10-015-S2	6B1AA000004	1.5	15.7	7.5	153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

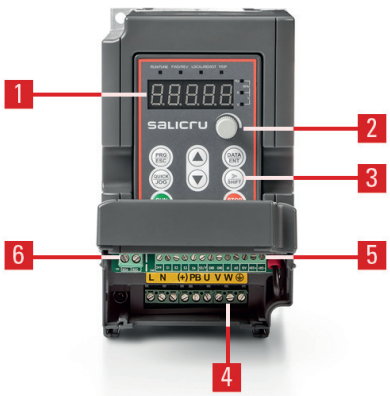
Dimensions



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