

C Series

Micro 1Ø Input Sensorless Vector Inverter

TITAN

*Constant Torque
Sensorless/Space Vector Control
0.5 to 3HP, 200-230VAC
1Ø input, 3Ø output*

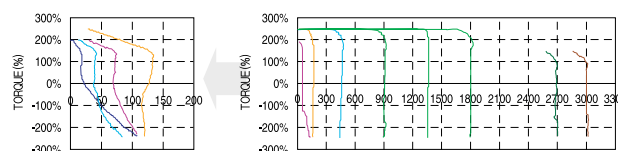


Standard Features

- Sensorless & space vector control (PWM by IGBT)
- Motor parameter auto-tuning for easy set-up
- 150% torque at 0.5Hz.
- 1~400Hz output frequency
- Heavy duty: rated at 100% load at 15kHz carrier frequency
- PID control for built-in process applications
- Built-in potentiometer
- Programmable I/O
- PNP/NPN selectable signal input
- 0~10VDC analog output
- Optional ModBus communications
- Ground fault protection
- Built-in RFI filter (class A)

Sensorless vector control

The C Series adopts sensorless vector control algorithm, and it improves not only the torque control characteristics, but the speed controllability in an uncertain condition caused by the load variation as well.



Auto Tuning

- Easy user setup
- Improved torque at low speed
- Optimized motor control

The auto tuning algorithm in the C Series sets the motor and simplifies commissioning particularly at low speeds with variable loads.

ORDERING INFORMATION

Application Motor		200V
HP	kW	1 phase
0.5	0.4	CI-000-C21P
1	0.75	CI-001-C21P
2	1.5	CI-002-C21P
3	2.2	CI-003-C21P



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PNP and NPN Switchable Dual Signals

The C Series provides PNP and NPN signals for outside controllers for use with all PLCs using 24VDC control signals.

Communication Interface, and ModBus-RTU

The C Series optionally provides the most popular communication interface, Modbus-RTU for remote control by PLC or other devices.

Programmable PID Process Control

PID process control is used in the C Series to make speed corrections quickly with a minimal amount of overshoot and oscillation for the control of flow, temperature, pressure, and etc.

SPECIFICATIONS

Model		CI-000-C2-1P	CI-001-C2-1P	CI-002-C2-1P	CI-003-C2-1P
Motor rating	(HP)	0.5	1	2	3
	(kW)	0.4	0.75	1.5	2.2
Output ratings	Capacity (kVA)	0.95	1.9	3	4.5
	FLA (A)	2.5	5	8	12
	Voltage (V)	Three phase, 200-230V			
	Frequency (Hz)	0~400Hz			
Input Ratings	Voltage (V)	Three phase, 200-230V (±10%)			
	Frequency (Hz)	50-60Hz (±5%)			

Control method	• V/F • Sensorless Vector
Frequency setting resolution	• Digital reference: 0.01Hz • Analog reference: 0.06Hz at 60Hz
Frequency setting accuracy	• Digital: 0.01% of maximum output frequency • Analog: 0.1% of maximum output frequency
V/F ratio	• Linear • Square • User V/F
Overload capacity	• 1 minute at 150% • 30 seconds at 200% (with inverse characteristic proportional to time)
Torque boost	• Auto • Manual
RFI filter	None
Multi-function input terminals	Total 5 inputs (programmable)
Analog output	0-10V linear

Input signal	Operator Control	• 3 digits LED keypad • Terminals • ModBus communication
	Frequency setting	• Analog: 0-10V, 4-20mA • Digital: Keypad • Communication: ModBus • Potentiometer
	Start signal	• Forward • Reverse
	Multi-step operation	• Setting up to 8 speeds (using multi-function terminal)
	Multi-step Accel./Decel. time	0.1-6000 seconds. Maximum 8 pre-defined steps using multi-function terminals
	Operational functions	• PID control • Up-down operation • 3-wire operation • Frequency limit • Frequency jump • Second motor function • Slip compensation
		• Auto restart
		• Reverse rotation prevention
	Emergency stop	Interrupting output from inverter
	Jog	Jog operation
Output Signal	Fault reset	Reset fault signal when protective function is active
	Operational status	• Frequency detection • Overload alarm • Stall • Overvoltage • Undervoltage • Inverter overheat • Run • Stop
		• Constant speed • Speed search • Fault output (Relay and Open collector output)
	Indicator	• Output frequency • Output current • Output voltage • DC bus voltage

Protective Functions		• Overvoltage • Undervoltage • Overcurrent • Inverter overheat • Motor overheat • I/O phase loss • I/O miss wiring
	Alarm	• Overload • Speed command loss • Hardware fault • Communication error • CPU error