

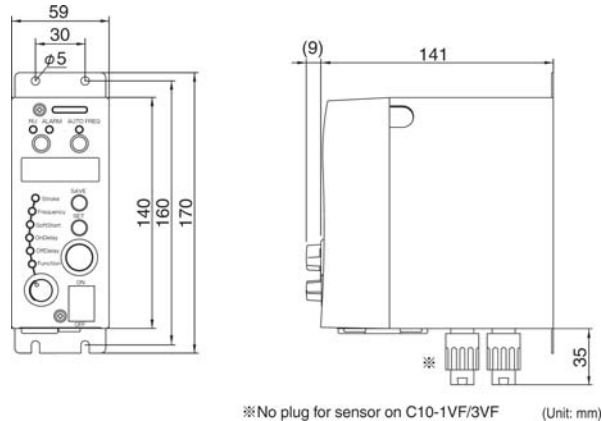
C10 series—Variable Frequency Digital Controllers

Digital control operated in “Analog” way

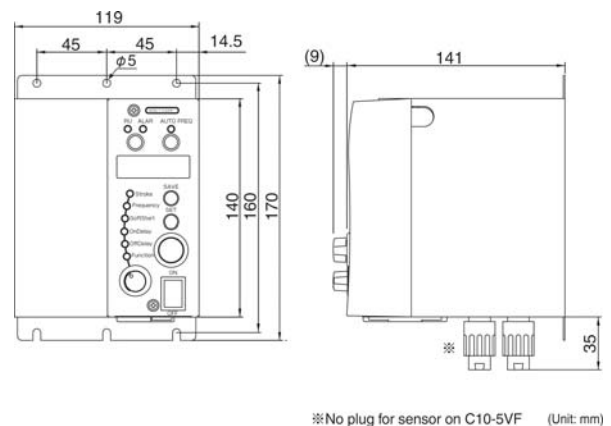
A completely new type of digital controller that can be used with the full line-up of feeders from high frequency mini parts feeders to small electromagnetic feeders and large size models. With “analog-style” operation it can be adjusted very swiftly. With an auto-tuning function that eliminates the need for frequency adjustment, and convenient digital settings and display, drive units can be operated to their full potential.



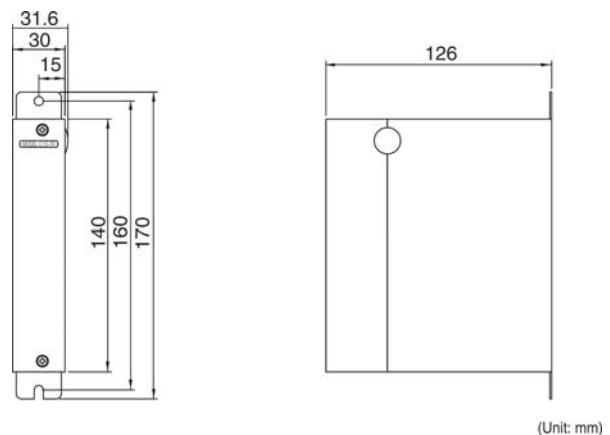
C10-1VF/ 1VFEF/ 3VF/3VFEF Dimensions



C10-5VF/ 5VFEF Dimensions



C10-5VF/ 5VFEF Dimensions



Features

- Auto-tuning function eliminates leaf-spring adjustment (C10-1VFEF, 3VFEF, 5VFEF)**
 This digital equipment has a special advanced vibration frequency auto-tuning function. It automatically tracks resonance point changes not only from changes to input volume of workpieces, but also from mechanical changes over time, to deliver optimal vibration at all times. No leaf-spring adjustment or even frequency adjustment is necessary, thereby boosting operation efficiency and saving energy.
- Digital setting and display makes setting easy to manage**
 Amplitude, drive frequency, output voltage notches are all set and displayed digitally, for easy management.
- Constant amplitude control matched to workpieces or materials (C10-1VFEF, 3VFEF, 5VFEF)**
 Amplitude can be set digitally, and an amplitude sensor allows drive at constant amplitude suited to the workpieces under conveyance.
- Easy-to-use panel design**
 The frequency, voltage, soft start, on delay and off delay settings needed for parts feeder adjustment are located on a control panel. A rotary encoder allows “analog-style” setting input to be changed to digital values.
- Many external control functions**
 Choice of four speeds can be made by external signal. Two- step control through external regulating resistance. External volume adjustment via a DC4-20mA signal is also possible.

C10 Series Parts & Functions

ALARM light

Lights when
-In constant amplitude or auto-tuning mode, output voltage reaches saturation and cannot track set amplitude, or
-Error occurs

RUN light

Lights while operating

RUN/STOP button

Operation can be stopped or started manually

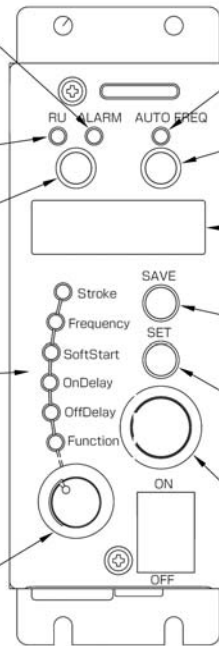
Data display lights

Identify what is showing on data display screen. LED light indicates display mode; flashing light indicates data modification mode

Stroke: voltage (amplitude) percentage displayed
Frequency: frequency displayed
Soft start: Soft start time displayed
On delay: On delay time displayed*
Off delay: Off delay time displayed*

Data display dial

Switches data shown on data display screen



AUTO FREQ light*

Lights during auto-tuning mode
Flashes during initial auto-adjusting

AUTO FREQ button*

Activates/de-activates auto-tuning

Data display screen

Displays voltage/amplitude (%), frequency, settings, and error codes

SAVE button

In settings mode, records data modifications

SET button

Switches between display mode and data modification mode
In data modification mode for stroke and frequency, press again to switch the position of a figure

Settings encoder

Modifies settings in data display screen

* These functions are not available on C10-1VF, 3VF, 5VF models (exclusive to VFEF models)

Specifications

Model	C10-5VF	C10-3VF	C10-1VF	C10-5VFEF	C10-3VFEF	C10-1VFEF
Input Power source	AC100/110±10%, 50/60Hz			AC200/220±10%, 50/60Hz		
Output	Control system PWM system					
	Voltage 0 ~ 190V (for AC200V input) 0 ~ 95V (for AC100V input) Optional unit C10-TR allows output voltage in 0 ~ 190V range					
	Half wave: 45 ~ 90Hz Full wave: 90 ~ 180Hz Intermediate wave: 65 ~ 120Hz High frequency: 180 ~ 360Hz					
	5A	3A	1A	5A	3A	1A
Operating Modes	Constant voltage mode Frequency, output voltage set manually					
	Constant amplitude mode -			Constant amplitude control at set frequency		
	Auto-tuning mode			With frequency auto-tuning, constant amplitude control requires no amplitude setting		
Additional Features	Speed-selector Selection of up to 4 amplitude settings by means of external signal					
	Start/stop control Start/Stop control by external signal					
	Output signal Output signal synchronized to parts feeder operation					
	Soft start Start-up time 0.2 ~ 4.0 secs					
	On/Off delay -			Delay 0.2 ~ 4.0 secs		
Sensor power source For DC12V, max. 80A 3P power plug						
Synchronized power output	Function -					
	Control system -			Power output synchronized to parts feeder operation(RUN)		
	Output voltage -			ON/OFF control		
	Max. current -			As power source input to controller 2A		
Others	Noise tolerant voltage Above 1000V					
	Ambient temperature 0 ~ 40°C					
	Ambient humidity 10 ~ 90% (no condensation)					
	1,5kg	0,9kg	0,8kg	1,6kg	1,0kg	0,9kg
	Weight					
Case color U75-70D (Japan Paint Industry Association)						
Compatible SHINKO equipment	ER-55B,65B,75B	ER-30B,38B,45B	ER-25B EA-12,20 LFB-300,400,550 LFG-400,550,700	ER-55B,65B,75B	ER-30B,38B,45B EA-25.30,38,45	ER-25B EA-15,20 LFB-300,400,550 LFG-400,550,700 (H)ME-08,14 (H)LFB-02,04