

12C Series POWERSTAT® Variable Transformers



Infinitely Variable Voltage Control for 240 VAC in Ratings to 0.9 A

POWERSTAT® Variable Transformers of the 12C Series are continuously adjustable autotransformers having a movable brush tap riding on a commutator. Rotation of the knob delivers any output voltage in the range of zero to or above line voltage. Negligible waveform distortion makes them ideally suited for a wide range of OEM and testing applications. All are of open construction designed for back of panel mounting.

Units in the 12C Series are offered in 240 VAC single and three phase manually operated models rated 0.7 A for constant current loads and 0.9 A for constant impedance loads when line voltage connected and mounted on a metal panel. For overvoltage connection, the output rating for constant current loads is 0.5 A in the output range above line voltage and 0.7 A in the range from zero to line voltage. A constant current load is the output current that can be carried regardless of output voltage setting. Constant impedance loads apply only to units having maximum output voltage limited to line voltage. They are loads such as incandescent lamps or resistance heaters where the current drawn is approximately proportional to the applied voltage and increasing to maximum current at line voltage.

The tapping arrangement permits an output voltage of zero to line voltage or 10% above line voltage to allow compensation for a drop in line voltage or to provide a wider working range. Units of the 12C Series can be connected to deliver an increasing output voltage of zero to line voltage with either clockwise or counterclockwise knob rotation.

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Features:

- ◆ Output Ratings for Both Constant Current and Constant Impedance Loads
- ◆ Open Construction Design for Back of Panel Mounting
- ◆ Improved Thermal Contact with Mounting Base for Cooler Operation
- ◆ High Efficiency
- ◆ Negligible Waveform Distortion
- ◆ Negligible Maintenance
- ◆ Low Operating Torque
- ◆ Linear Output Voltage
- ◆ Smooth Control
- ◆ Rugged Mechanical Construction
- ◆ Long Life
- ◆ UL Recognized for USA and Canada



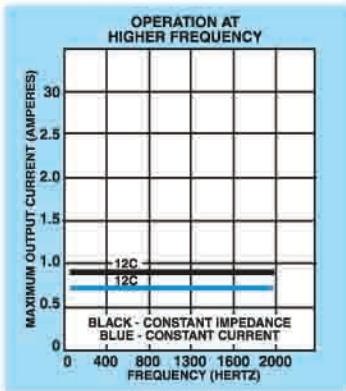


FIGURE A

TYPE	Approximate Driving Torque		No-Load Loss at 60 Hz (Watts)	DC Resistance Per Coil* (Ohms)
	(Oz.-In)	(KpCm)		
12C	5	0.4	2.0	162
12C-2	15 to 20	1.1 to 1.4	4.0	162
12C-3	20 to 30	1.4 to 2.2	6.0	162

* Measured from start to end of winding.

FIGURE B

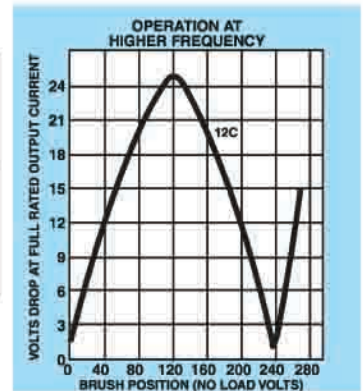


FIGURE C

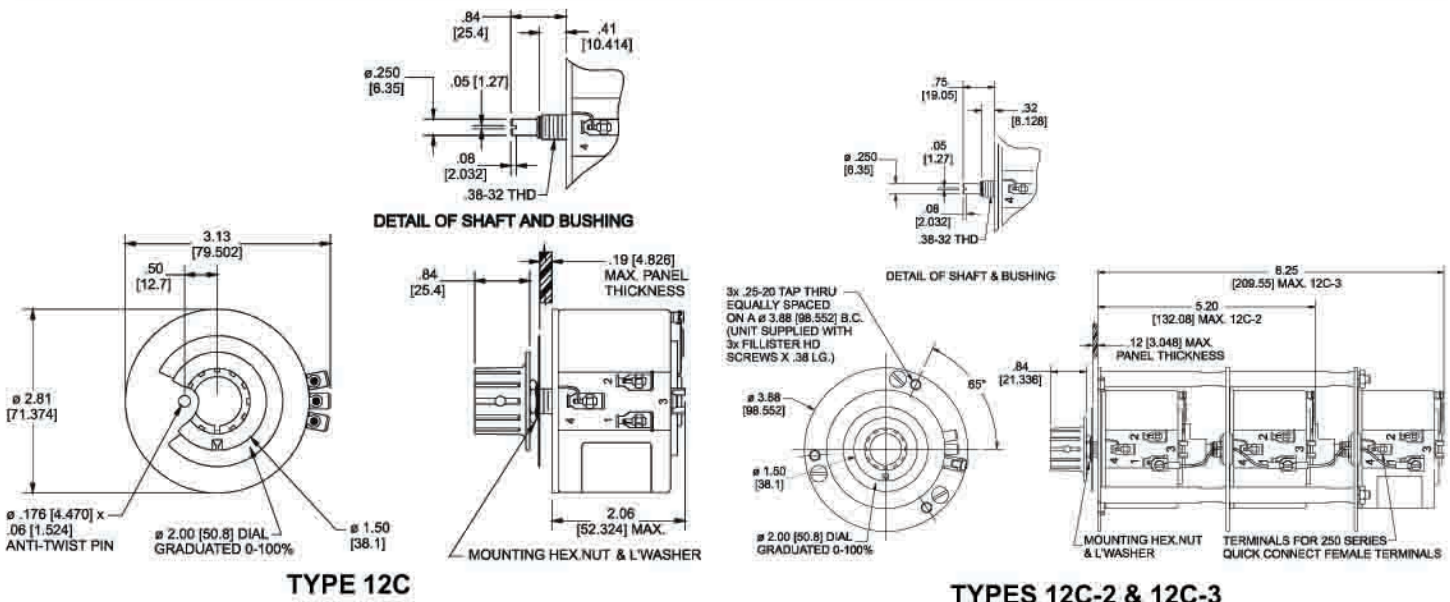
As shown in Figure A, all 12C Series models can be operated at any frequency between 50 and 2000 Hz without reduction in allowable output current. Figure B shows driving torque, DC resistance per coil and maximum core and brush loss when operating under no load. Figure C shows the regulation curve for 12C Series units operating at full rated

load. The curve shows the voltage drop at any brush setting when full load is applied. For less than full load, voltage drop is proportional to the load. Type 12C has a 1/16 inch (1.6mm) high nonturn device for keying to the panel. All units have a 2-inch (50.8mm) dial graduated 0-100 and an angle of knob rotation of 322°.

TYPE	INPUT		OUTPUT				
	Volts	Hz	Volts	Constant Current Load		Constant Impedance Load	
				Max. Amp.	Max. kVA	Max. Amp.	Max. kVA
12C	240	50/60	0-240	0.7*	0.17	0.9**	0.22
			0-264	0.5	0.13		
12C-2	480	50/60	0-480	0.7*	0.34	0.9**	0.43
			0-528	0.5	0.26		
	240	50/60	0-240	0.7*	0.29	0.9**	0.37
			0-264	0.5	0.23		
12C-3	480	50/60 60	0-480	0.7*	0.58	0.9**	0.75
			0-528	0.5	0.46		

* Rating when mounted on a metal panel. Derate to 0.5 A when mounted on bracket or nonmetallic panel.

** Rating when mounted on a metal panel. Derate to 0.75 A when mounted on bracket or non-metallic panel. Maximum current when mounted on a metal panel is 0.7 A in output voltage range from zero to line voltage.



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