

GENERAL

Calibration of the VFC - *** series is performed by applying a known input signal and adjusting the internal voltage-to-frequency-converter to the specified level.

Before starting, refer to the following Table 1 to determine the required calibration equipment and read the "VFC Frequency" section to determine the calibration level.

VFC FREQUENCY

Table 2 provides the VFC Frequency for standard output closure rates. Refer to the identification label on the can to determine the closure rate and look up the corresponding value in Table 2 (if closure rate is over 12,000 CTS/HR consult factory for special instructions).

For closure rates not listed in Table 2:

1. Remove the retaining screws that run through the sides of the can into the lid. Lift the lid out of the can (PCB is attached to lid). Refer to the Figure 1 and locate S1. Determine the "Division Factor" as shown below:

S1 SETTINGS	DIVISION FACTOR
POS 1 = ON	262,144
POS 2 = ON	131,072
POS 3 = ON	65,536
POS 5 = ON	4,096
POS 6 = ON	8,192
POS 7 = ON	16,384
POS 8 = ON	2,048

2.
$$\text{VFC Frequency} = \frac{(\text{Closure Rate}) \cdot (\text{Division Factor})}{3600}$$

Frequency is in Hertz rounded to nearest whole number.

CALIBRATION

1. Remove the retaining screws that run through the sides of the can into the lid. Lift the lid out of the can (PCB is attached to lid).
2. Connect the Adjustable Power Supply to terminals 5 and 6 (+): connect the Frequency Counter to terminal 5 and TP1 (+) (Refer to Fig 1): connect 115V AC to terminals 3 and 4.
3. Set the adjustable Power Supply to provide a full scale input signal (Refer to label on can for full scale input).
4. The Frequency Counter should now indicate the "VFC Frequency" value ± 2 Hz. If adjustment is required, remove the snap button in the lid next to the CAL designation for access to the adjustment potentiometer. Two potentiometers are located behind this access hole, the potentiometer closer to the centerline of the circuit board is a coarse adjustment and the outside potentiometer is a fine adjustment.
5. Set the Adjustable Power Supply to provide a 10% of full-scale input signal.
6. The Frequency Counter should now indicate a value equal to 10% of the "VFC Frequency" ± 2 Hz. If adjustment is required, remove the snap button in the lid next to the ZERO designation for access to the adjustment potentiometer.
7. Repeat steps 3 thru 6 several times or until no further adjustments are required.
8. This completes the calibration procedure. The correct output closure rate may be verified by connecting an appropriate counter across output terminals 1 and 2 (refer to label on can for closure rate).

Insert unit back into the can and replace the retaining screws and snap buttons.

CALIBRATION EQUIPMENT

1. Adjustable Power Supply – with range equal to a 0-FS input signal as specified in the identification label on the unit.
2. Frequency Counter – Range = 0-10KHz

Note: Equipment accuracy must be $\pm 0.05\%$

TABLE 1

CALIBRATION FREQUENCY	
Closure Rate	VFC Frequency
12,000 cph	6827 Hz
10,000 cph	5689 Hz
9,000 cph	5120 Hz
8,000 cph	4551 Hz
7,000 cph	3982 Hz
6,000 cph	6827 Hz
5,000 cph	5689 Hz
4,000 cph	4551 Hz
2,000 cph	6827 Hz
3,000 cph	4551 Hz
1,000 cph	4551 Hz
500 cph	2276 Hz
250 cph	4551 Hz
200 cph	3641 Hz
150 cph	5461 Hz
100 cph	3641 Hz
50 cph	3641 Hz

TABLE 2

