

# FREQUENCY CALIBRATOR WITH TOTALIZER

CL535



- ✓ Read and Source Frequency Signals
- ✓ Full 5-Digit Display
- ✓ Source Sine and Square Waves
- ✓ Calibrate Totalizers

The Omega CL535 is an excellent tool for calibration, test, and diagnostics of instruments that use frequency signals. Instruments include tachometers, frequency counters, integrators, and any other frequency devices in the shop, plant and/or field. The CL535 brings all the features you would expect from a frequency calibrator and timesaving new ones with the easy dial knob and easy check switch, saving hours of troubleshooting time. The CL535 comes with an LED indicator showing gate time for easy trigger level adjustment. When calibrating a totalizer, the CL535 eliminates the need of a stop watch. The calibrator will automatically stop when the selected number of pulses has been sent to the totalizer.

## Features

### Frequency Read and Source Functions:

- ✓ Accuracy  $\pm 0.005\%$  of range
- ✓ Source and read
- ✓ Six ranges 1 count per hour to 20.000Khz
- ✓ Calibrate totalizer input and outputs from 1 to 99999
- ✓ Count pulses 1 to 99999
- ✓ LED indicator for gate time



CL535, shown actual size.

### Read Function

- ✓ Read a wide range of frequencies and waveforms
- ✓ Read 50 mV to 120 V peak
- ✓ Read signals from flowmeter pickups, velocity and motion detectors
- ✓ Totalizers

### Source Function

- ✓ Sine and square waves, zero based and zero crossing
- ✓ Frequency from 1 CPH to 20 KHz
- ✓ Adjustable amplitude from 100 mV to 12 volts peak-to-peak
- ✓ Simulates vibration pickups, variable speed drives and more

### Calibrate Totalizers

- ✓ Output a number of pulses from 1 to 100 minutes

### Gate Trigger Indicator

- ✓ The LED flashes in synch with the output frequency. This allows easy adjustment of the attenuation for proper gate triggering

### Full 5-Digit Display

- ✓ True  $\pm 0.005\%$  of range accuracy
- ✓ Bar graph for quick reference of trigger level and output levels, 5% of frequency range
- ✓ High contrast graphic display viewable in all lighting conditions and angles

# FREQUENCY CALIBRATOR WITH TOTALIZER

## Easy Dial Knob

- ✓ Change the speed of dialing your test point by just pushing down on the knob

## Easy Check Switch

- ✓ Stop watch style push button for accurate totalizer measurements and for high and low readings

## Uses a Standard

### 9V Alkaline Battery

- ✓ Superior battery life of 24 hours under typical continuous usage
- ✓ Easy access to battery compartment

## 240 Vac Tolerant

- ✓ Fuse-less protection from accidental misuse

## Lightweight and Rugged with a Solid Feel

- ✓ Convenient Velcro® hand strap allows for a firm confident grip or attachment to pipes and ladders

## General Specifications

(Unless otherwise indicated all specifications are rated from a nominal 23°C, 70% RH for 1 year from calibration)

### Common Specifications for all

#### Frequency Modes:

##### Frequency Ranges:

1 CPH to 20.000 kHz

##### Accuracy: ± 0.005% of range

##### Temperature Effect:

= 10 ppm/°C of range

#### Frequency Ranges Specifications:

1: 1 CPH < CPH range < 20000 CPH

2: 0.1 CPM (0.0167Hz) < CPM range < 2000.0 CPM (33.33 Hz)

3: 0.01 Hz < Hz < 200.00 Hz

4: 0.1 Hz < Hz range < 2000.0 Hz

5: 0.001 kHz < kHz range < 20.000 kHz

6: Totalize inputs/outputs from 1 to 99999 counts in 0.1 minutes to 100.0 minutes

#### Read Inputs Specifications:

##### Read x1 Attenuation Range:

0.1 V pk to 12 V pk

##### x10 Attenuation Range:

1 V pk to 120 V peak - limit of attenuation is 120 V pk

##### Input Impedance:

> 1 Meg + 100 pF

**Adjustable Signal:** Attenuation adjustable trigger level with X1 and x10 attenuation ranges

##### Miscellaneous Battery Life:

24-hour typical

##### Fuse- Less Protection:

240 Vrms

## Waveforms Source Specifications:

**Output Current:** > 6 mA pp

at 12 V pp output, 20 kHz

**Output Impedance:** < 25

**Square Wave:** Zero Crossing, zero based selectable

**Rise/Fall Time:** < 0.0001% of output Vpk per second

**Frequency Jitter:** < 0.5LSB of frequency range

**Duty Cycle:** 50% ± 2%

## Sine Wave:

### Offset and Zero Crossing

**Symmetry:** <± 10% of V pk output amplitude setting

### Amplitude Adjustment:

100 mV < nominal output < 12 V pp ± 10% of setting

## Operating Temperature Range:

-20 to 60°C (-5 to 140°F)

## Storage Temperature Range:

-30 to 60°C (-22 to 140°F)

## Relative Humidity Range:

10% < RH < 90% (0 to 35°C), non-condensing 10% < RH < 70% (35 to 60°C), non-condensing

**Display:** High contrast graphic liquid crystal display with 11.4 mm (0.45") high digits

**Battery:** 9V alkaline, low battery indication with nominal 1-hour of operation left (included)

## Over-Voltage Protection:

To 120 Vrms (rated for 30 seconds) or 240 Vrms (rated for 15 seconds)

**Connection:** Test leads attached, with alligator clips

## Dimensions:

177.8 H x 83.8 W x 56.1 mm D (7.00 x 3.30 x 2.21")

**Weight:** 340 g (12.0 oz)



CL535, shown smaller than actual size.



OMEGACARE<sup>SM</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>SM</sup> covers parts, labor and equivalent loaners.

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

MODEL NO.	DESCRIPTION
CL535	Frequency calibrator with totalizer
SC-530	Rugged carrying case

Comes complete with NIST-traceable certificate, 9V battery and operator's manual.

**Ordering Example:** CL535, frequency calibrator with totalizer,

OCW-2, OMEGACARE<sup>SM</sup> extends standard 3-year warranty to a total of 5 years

Recommended Reference Book: Marks' Standard Handbook for Mechanical Engineers, ME-0301  
See Section Y for Additional Books





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