



**CMCP630VPT**  
**Vibration and Temperature Pen**  
**User's Guide**

**Rev. 1**

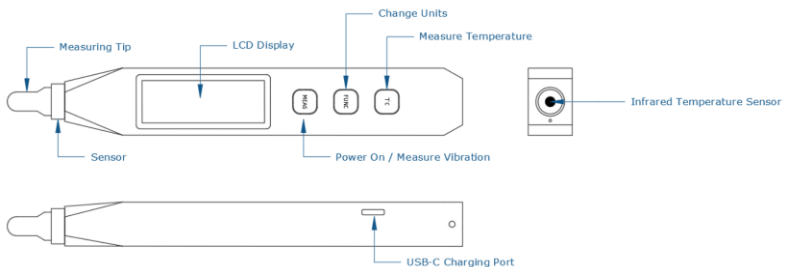
## Introduction

The CMCP630VPT is a portable, handheld vibration and temperature meter designed for operators, maintenance personnel and inspectors that complies with 20816 Mechanical Vibration Standard, Measurement and evaluation of machine vibration. It includes Industrial machines with nominal power above 15 kW and nominal speeds between 120 r/min and 30,000 r/min with the Sensor located directly on and in contact with the measurement point. The CMCP630VPT features a shockproof high strength aluminum case, backlit LCD display for low light and direct sunlight conditions and a simple three button operation. The Vibration Pen is capable of measuring Acceleration, Velocity, Displacement and Temperature in both English and Metric units. Further, it can display the highest measurement using the Peak Hold function. The rechargeable lithium-ion battery allows for up to 30 hours of continuous measurements and recharges using a standard 5VDC USB-C charger which is provided with the kit. An ISO 20816-3 Vibration Severity Chart is included with the kit for easily referencing the measurement with industry standards.

## Features

- Quick and Easy to Setup and Use
- Backlit LCD Display for Low Light Conditions
- Lightweight, Compact and Ergonomically Designed Case
- Velocity, Acceleration, Displacement and Temperature Measurements
- English and Metric Units
- Peak Hold Function
- 30 Hour Battery Life (Continuous Use)
- Rechargeable Battery
- Conforms to ISO20816
- Lanyard, Travel Case, Charger, Storage Bag and ISO 20816 Severity Chart Included

## Layout



### Taking a Vibration Measurement

Power Vibration Pen On by pressing the MEAS button.  
 Change Units Between English and Metric by Long Pressing the FUNC button.  
 Short Press the FUNC button to select measurement units;

- Acceleration Peak Lo: 10 Hz to 1,000 Hz
- Acceleration Peak Hi: 10 Hz to 15,000 Hz
- Velocity RMS: 10 Hz to 1,000 Hz
- Displacement Peak to Peak: 10 Hz to 500 Hz

Place measuring tip on object being measured.  
 Depress MEAS while taking measurement  
 Release MEAS button to hold value  
 The Vibration Pen will power off after 30 seconds.

### Taking a Temperature Measurement

Power Vibration Pen On by pressing the MEAS button.  
 Press the FUNC button to change between Celsius and Fahrenheit.  
 Point the infrared temperature sensor at the object being measured.  
 To hold the measurement, press the TC button.  
 To continue taking measurements, press the TC button again.

### Maintenance

The product is a precision instrument, care should be taken to avoid damage.  
 Do not open the instrument or attempt to repair, doing so voids the warranty.  
 Remove lanyard before use to avoid injury to self.  
 Wipe unit clean after use.  
 Calibration should be checked after 1 year.

### Vibration Severity Chart

The CMCP630VPT is provided with a Vibration Severity Chart Per ISO 20816  
 The ISO chart can be used to compare operating amplitude to the industry standards for machinery.

ISO 20816-3		Group 1		Group 2	
		Large machines power > 300 kW		Medium machines 15 kW > power ≤ 300 kW	
in/sec peak	mm/s rms	Motor height > 315 mm		Motor 160 > height ≤ 315 mm	
		0.61	11.0	Yellow	Red
0.39	7.1	Green	Yellow	Yellow	Red
0.25	4.5	Green	Green	Green	Yellow
0.19	3.5	Blue	Green	Green	Green
0.16	2.8	Blue	Blue	Blue	Green
0.13	2.3	Blue	Blue	Blue	Blue
0.08	1.4	Blue	Blue	Blue	Blue
0.04	0.7	Blue	Blue	Blue	Blue
0.00	0.0	Blue	Blue	Blue	Blue
Foundation		Flexible	Rigid	Flexible	Rigid

## General Specifications

Model Number:	CMCP630VPT
Case Material:	5052 Aluminum – Anodized
Tip Material:	316 Stainless Steel
Battery Life:	30 Hours on Full Charge
Charger:	5VDC USB-C Wall Charger
Dimensions:	6.25"0.9"x0.65"(158x22x16 mm)
Weight:	0.16 Lbs (75g)
Warranty:	3 Years

## Measurement Specifications

### Velocity

Measurement Range:	0 to 8.000 in/s (0 to 203.0 mm/s) RMS
Frequency Range:	10Hz to 1,000Hz (ISO Standard)

### Acceleration

Measurement Range:	0 to 20.00 g's (0 to 196.0 m/s <sup>2</sup> ) Peak
Lo Frequency Range:	10Hz to 1,000Hz
Hi Frequency Range:	10Hz to 15,000Hz

### Displacement

Measurement Range:	0 to 80.00 mils (0 to 2.000 mm)
Frequency Range:	10 to 500Hz

### Temperature

Sensor Type:	Infrared
Measurement Range:	-20.0 to +260.0°C (-4.0 to 500.0°F)
Optimal Sensing Range:	4.0" (10 cm)
DS Ratio:	2:1
Emissivity:	0.95

## STI Vibration Monitoring Inc

1010 East Main Street  
League City, Texas 77573  
USA  
Tel.: 888.777.7213  
Direct: 281.334.0766  
[www.stiweb.com](http://www.stiweb.com)