

Congratulations on your purchase of the Connective Peripherals DS60M10 Multi-Function Instrument. This guide contains the specifications and installation procedure for the DS60M10 drivers and application software.

The DS60M10 is a multi-function instrument, combining the functions of Oscilloscope, Data Logger, Spectrum Analyser, Volt Meter and Frequency Meter in a single instrument.

DS60M10 EasyScope III (oscilloscope and data logging) software for Windows can be downloaded royalty-free from the Connective Peripherals website http://www.connectiveperipherals.com.

## Features

#### **Hardware Features**

- Combined Oscilloscope, Data Logger, Spectrum Analyzer, Voltage and Frequency Meter functions
- 8-Bit data streaming simultaneously on both channels
- Sampling Rate:
  - Oscilloscope 60MHz
  - DataLogger up to 1k S/s
- Maximum input voltage ± 50V DC (35V RMS AC)
- AC / DC Coupling
- Edge, min/max, pulse width and delayed trigger modes
- Analog Bandwidth 1MHz
- Support for X1 and x10 probes
- Self-Powered USB Interface (500mA) no external power supply required
- Instrument carrying bag included
- Attractive enclosure with rubberized mouldings
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• Dimensions W: 116mm x H: 30mm x D: 100mm

#### EasyScopeIII Software Features (Scope)

- 2 Oscilloscope channels
- Timebase 100ns/div to 200ms/div
- Y-Scale 25mV/div to 5V/div
- On Screen X and Y measurement cursors
- FFT Spectrum Analyser display on both channels
- Meter displays Min, Max, Mean, True RMS Voltage and Frequency
- Auto-set function
- Save captured data as CSV or BMP files
- Third channel selectable to trigger input or compensation output (outputs 2.5V square wave at 1KHz)

### EasyScopeIII Software Features (DataLogger)

- 2 data logging channels
- Sampling Rate up to 1ms (1000 samples / sec)
- Input saturation ranges from 0.1 V to 20 V
- Save captured data as CSV or BMP files
- Import from previously saved CSV files
- Screen printout feature
- Up to 3 on-screen cursors to track data
- Up to 4 pop-up or e-mail alerts

## What's In the Box?

Please check that the box contains the following items:

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- 1 x DS60M10 Oscilloscope
- 1 x DS60M10 Instrument pouch
- 1 x USB cable
- This Quick Start Guide

# **Getting Started**

The DS60M10 requires device drivers to be installed on your PC to enable communication with the instrument. Install the device drivers prior to installing the application below.

The DS60M10 requires up to 500mA and should not be connected through a bus-powered hub. It is best to connect it directly to a USB port on the PC. If a hub is necessary, a hub with its own power supply should be used.

#### **Driver Installation**

Driver installation can be completed in one of two ways:

- 1. The latest DS60M10 device drivers are available through the Microsoft Windows Update service. Simply plug in the DS60M10. When the Found New Hardware Wizard appears, allow it to find the drivers from the Windows Update service. Windows 7 defaults to automatically download the device drivers without prompts.
- Download the latest device drivers available (at the time of writing the latest version was 2.08.28): <u>https://www.connectiveperipherals.com/uploader/EasyS</u> <u>YNC CDM20828 Windows Certified%20%283%29.zip</u>

Extract the files to a convenient location on your local drive.

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Connect the supplied USB cable to the DS60M10 and the other end of the cable to a spare USB port on the PC.

The Windows "Found New Hardware Wizard" will appear. Select the choice to install the drivers from a specific location and then browse to the folder created in the previous step where you unzipped the files.

The DS60M10 utilizes a 2-channel FTDI chip, so the wizard will re-appear a second time to install the drivers for both device channels. On completion of installation the device is ready for use.

#### **Application Installation**

The DS60M10 uses the EasyScope III application, which includes both Scope and Data logger functions.

- The application can be downloaded from: <u>https://www.connectiveperipherals.com/products/usb-instruments/usb-oscilloscope/ds60m10.html</u>
- Extract the files to a convenient location on your local drive.
- Start the installation by double clicking on the EasyScopeIIISetup.exe file and follow the on screen prompts to install the application.

The EasyScopeIII application can then be accessed from the START>All Programs list of applications. A shortcut to the application is also created on the desktop.

We anticipate you will receive many years of satisfactory service out of your purchase, however, should you

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experience any problems we will do our best to rectify them. Should you experience problems please check our website for known issues and software updates. Should this fail, you can e-mail our support department using the contact details below.

## Measuring High Voltages

The DS60M10 is rated at  $\pm$  50V DC maximum input (35V RMS AC) even with an x10 oscilloscope lead attached. Measuring higher voltages than this directly may damage the instrument and invalidate the warranty. The instrument is not galvanically isolated. The ground of the internal circuitry connects directly to the ground of the host PC via the USB connection. To measure high voltages such as mains supplies, use a high voltage differential probe such as the Connective Peripherals SI-9001 for your personal safety and to prevent damage to the instrument.

# Troubleshooting

If a static / ESD discharge occurs on the earth lead of the oscilloscope, the unit may lock up and require the host PC to be re-started to resume operation. In practice, this is an unusual condition and should not affect normal operation.

# **Contact Details**

Website: <u>https://www.connectiveperipherals.com</u>

E-Mail (Support): <a href="mailto:support@connectiveperipherals.com">support@connectiveperipherals.com</a>

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