PicoLog® CM3

current data logger

User's Guide

Contents

1 Welcome

Thank you for buying a PicoLog CM3 current data logger from Pico Technology!

The PicoLog CM3 is a three-channel, high-resolution current data logger for monitoring current on up to three channels. With high accuracy and low noise it is ideal for recording data from three-phase supplies. The USB and Ethernet interfaces allow the logger to be used as a USB-only device, as a USB-powered device with Ethernet interface, or as a Power-over-Ethernet (PoE) device. Using the Ethernet interface, the PicoLog CM3 can be located anywhere on a LAN or on the internet.
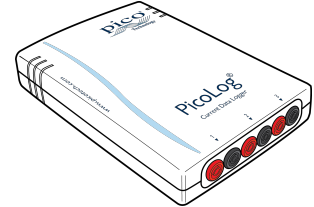
This guide describes the physical properties of the logger.

⚠ CAUTION
For safety information, please read the Quick Start Guide supplied with the data logger. For the most recent version of the Quick Start Guide, please download it from our website here.

2   General information

2.1   Conformance

The PicoLog CM3 data logger complies with CE marking regulations and FCC Part 15 Subpart B.

For more information, please refer to your product's EU Declaration of Conformity, available for download from Picolog CM3 manuals.

2.2   Software license conditions

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2.4   Warranty

Pico Technology **warrants** upon delivery, and for a period of 5 years unless otherwise stated from the date of delivery, that the Goods will be free from defects in material and workmanship.

Pico Technology shall not be liable for a breach of the warranty if the defect has been caused by fair wear and tear, willful damage, negligence, abnormal working conditions or failure to follow Pico Technology's spoken or written advice on the storage, installation, commissioning, use or maintenance of the Goods or (if no advice has been given) good trade practice; or if the Customer alters or repairs such Goods without the written consent of Pico Technology.

2.5 Minimum system requirements

To ensure that your PicoLog CM3 operates correctly, you must have a computer with at least the minimum system requirements to run one of the supported operating systems, as shown in the following table. The performance of the data logger will be better with a more powerful PC.

| Item	Specification
Operating system	Windows 7, Windows 8, Windows 10 32-bit and 64-bit versions. Software is also available for Linux and macOS 64-bit operating systems.
Processor	
Memory	As required by the operating system
Free disk space	
Ports	USB 2.0 full speed (USB 1.1 and 3.1 compatible) and Ethernet 10Base-T

2.6 Long term support

Software upgrades and beta versions are available to download from our www.picotech.com. You can also call or email our technical specialists for support, or visit our www.picotech.com/support. All of these services are available free of charge for the lifetime of the product.

3   Getting started

3.1   Connecting the data logger

Before you connect your logger, you must install the PicoLog data logging software from
www.picotech.com/downloads.

Diagrams
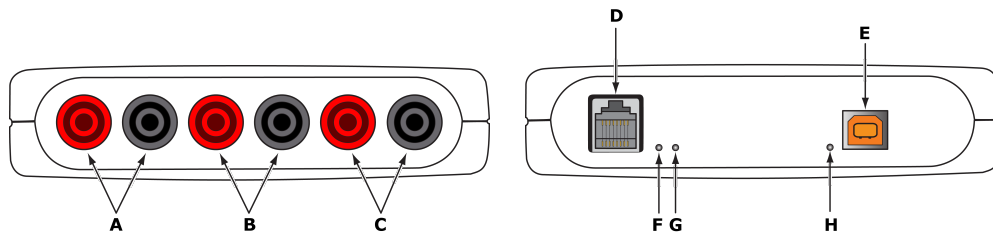
A: Signal and ground* connection sockets for current clamp 1

B: Signal and ground* connection sockets for current clamp 2

C: Signal and ground* connection sockets for current clamp 3

D: Ethernet port

E: USB port

F: Ethernet Data indicator - Flashes to indicate Ethernet data transfer.

G: Ethernet Link indicator - On when Ethernet port connected to an active device.

H: Power/Status indicator - On when power is applied. Flashes to indicate conversion in progress.

⚠️   *Ground is provided via electrical connection to the USB ground

USB connection

To use the PicoLog CM3 with its USB connection, connect the USB port on the rear of the device to a USB port on your computer using the cable provided.

Ethernet port connection

Before connecting to the PicoLog CM3's Ethernet port, you must first configure the Ethernet settings as explained under "[Checking the installation and Ethernet setup](#)" below:

LAN connection
To use the PicoLog CM3 on a local-area network (LAN), connect it to your network switch or network router using the Ethernet cable provided.

Direct connection
You can also connect the PicoLog CM3 directly to the network port on your computer. For this connection, you will need to use an Ethernet crossover cable (not supplied).

Power over Ethernet (PoE)
The PicoLog CM3 can obtain its power from the Ethernet port as a Powered Device (PD) according to the PoE standard (802.3af). To use this feature, you must connect the unit to Power Sourcing Equipment (PSE) such as a network switch, router or power injector that also supports the PoE standard. Any standard Ethernet cable up to 100 m (about 328 ft) in length can be used.

Note: Ethernet is only available with the Windows operating system.

Current clamp connection

The PicoLog CM3 is compatible with Pico Technology TA138 current clamps.

Each current clamp has both a red and a black 4 mm connector, which plug directly into the red and black connections on the front panel of the PicoLog CM3.

Once the current clamp(s) are connected, they are easily fitted around a supply cable by use of the lever on the edge of the clamp to open the jaws. The jaws should close around the cable completely to ensure that a current measuring circuit is made.
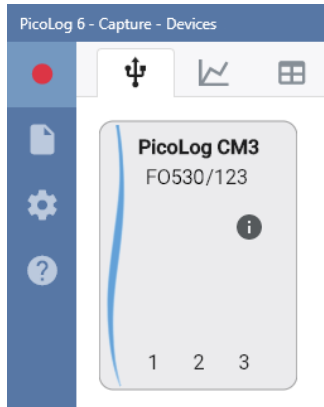
3.2   Checking the installation and Ethernet setup

1. Connect the unit to your computer using the USB port.
2. Run the PicoLog software by selecting the PicoLog icon on your desktop:

PicoLog icon

3. The PicoLog CM3 will appear in the **Devices** menu:

4. To configure a data logging channel, select a channel (**1**, **2** or **3**) on the PicoLog image and complete the channel set up dialog box (in this case, channel **1**). Setup options include a **Label** name, **Color**, **Sample interval**, **Input type** and, under **Advanced options, Custom scaling**:
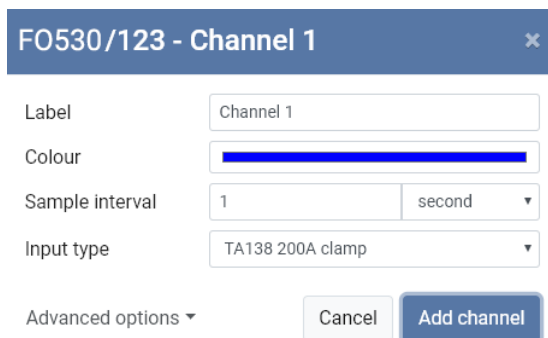
To make the configuration of multiple channels easier, hold Ctrl (Windows and Linux) or cmd (macOS) and click on the channels to be configured. Then release Ctrl (or cmd) and click one of the channels or press Enter to display the channel setup dialog box.

5. Click **Add channel**
6. When the channel is added, the **Devices** menu will show channel 1 (blue) configured on the PicoLog CM3 and listed in the **Channels and Axes** list:

plcm3.en r3
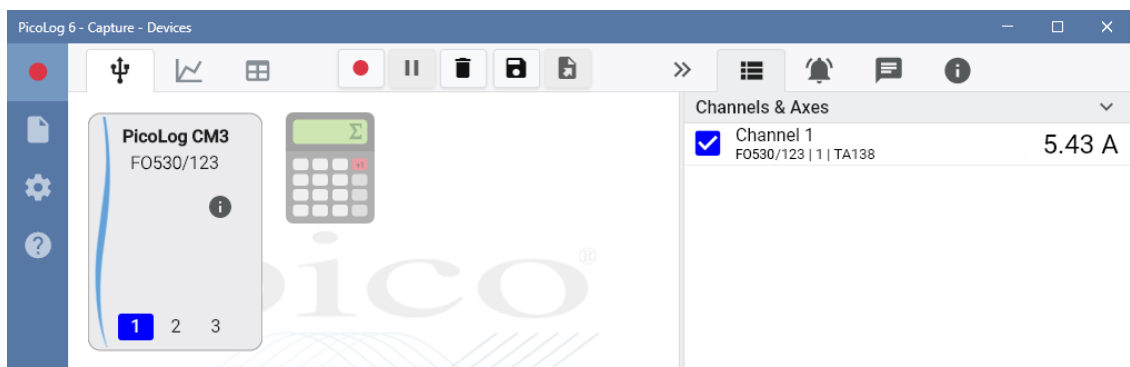
7. To set up Ethernet, click on the "i" icon on the PicoLog CM3 to display the Ethernet settings dialog. The data logger must be connected to USB in order to change the Ethernet configuration. Ethernet is only available with Windows operating system:

8. Click **Save changes**
9. Click the red **Start recording** button and choose a **Capture** setting of either **Unlimited** or **Fixed length**. Don't forget to ensure there is sufficient PC storage capacity. Then click **Start capture**:

Power-saving tip

If you wish to stop using the PicoLog CM3 in Ethernet mode, uncheck **Enable Ethernet on this device** to disable its Ethernet port. This reduces the power consumption of the device when used in USB mode.

Ethernet and USB

Do not use the PicoLog CM3 in USB mode when it is being powered by Power-over-Ethernet (PoE). This could cause the unit to radiate electromagnetic energy outside the limits permitted by FCC and EU regulations, and could also cause it to produce spurious measurements. It will not, however, cause permanent damage to the unit.

4   Product information

4.1   Pack contents

Please check that your PicoLog CM3 pack contains the following items:

PP803 - CM3 with 3 x 200 A AC current clamps		
Quantity	**Reorder code**	**Description**
1	–	PicoLog CM3 current data logger
3	TA138	AC current clamp
1	MI106	USB lead
1	TA076	Ethernet patch cable
1	DO112	USB installation guide

PP815 - Three-channel current data logger		
Quantity	**Reorder code**	**Description**
1	–	PicoLog CM3 current data logger
1	MI106	USB lead
1	TA076	Ethernet patch cable
1	DO112	USB installation guide