

User guide

From Wikipedia, the free encyclopedia

A user guide or user's guide, also commonly known as a manual, is a technical communication document intended to give assistance to people using a particular system. It is usually written by a technical writer, although user guides are written by programmers, product or project managers, or other technical staff, particularly in smaller companies.

User guides are most commonly associated with electronic goods, computer hardware and software.

Most user guides contain both a written guide and the associated images. In the case of computer applications, it is usual to include screenshots of the human-machine interface(s), and hardware manuals often include clear, simplified diagrams. The language used is matched to the intended audience, with jargon kept to a minimum or explained thoroughly.

Contents

1. Contents of a user manual
2. Computer software manuals and guides
3. References

Contents of a user manual

The sections of a user manual often include:

- A cover page
- A title page and copyright page
- A preface, containing details of related documents and information on how to navigate the user guide
- A contents page
- A guide on how to use at least the main functions of the system
- A troubleshooting section detailing possible errors or problems that may occur, along with how to fix them

- A FAQ (Frequently Asked Questions)
- Where to find further help, and contact details
- A glossary and, for larger documents, an index

Computer software manuals and guides

User manuals and user guides for most non-trivial software applications are book-like documents with contents similar to the above list. The "PhotoMeister User's Manual"[3] is a good example of this type of document. Some documents have a more fluid structure with many internal links. The Google Earth User Guide is an example of this format. The term guide is often applied to a document that addresses a specific aspect of a software product. Some usages are Installation Guide, Getting Started Guide, and various How to guides. An example is the Picasa Getting Started Guide.

In some business software applications, where groups of users have access to only a sub-set of the application's full functionality, a user guide may be prepared for each group. An example of this approach is the Autodesk Topobase 2010 Help document, which contains separate Administrator Guides, User Guides, and a Developer's Guide. These guides are a valuable tool for On-the-job training.

Article from Wikipedia

www.evaeducation.weebly.com

Distance Sensor

DT020-1



The Distance sensor can be connected to the Nova5000, MultiLogPRO or TriLink data loggers.

The Distance sensor measures the distance between the sensor and an object in the range of 0.2 to 10 m. The sensor can sample data at up to 50 times per second, making it excellent for motion and movement experiments.

It is supplied with a mounting rod and can be used for a variety of experiments in Physics.

Typical Experiments

- Investigating dynamic cart motions on a track
- Studying motion graph matching
- Investigating simple harmonic motion, such as a mass hanging on a spring
- Measuring the free fall acceleration

How it Works

The Distance sensor works on the same principle as a sonar system. An ultrasonic loudspeaker and microphone are located inside the sensor's case. A capacitor is connected to the loudspeaker and constantly charges and discharges according to the rate preset by the user. When the capacitor is discharged, the loudspeaker emits an ultrasonic pulse. This pulse travels through the air, hits the closest item (within range) to the sensor, and returns as an echo. When the ultrasonic microphone receives the echo, the processor inside the sensor calculates the distance according to the time difference between the two events and the speed of sound.



Sensor Specification

Range:	0.2 m – 10 m
Accuracy:	2% over entire range
Resolution (12-bit):	2.44 mm
Sampling Rate:	Up to 50 samples per second
Receiver Viewing Angle:	$\pm 15^\circ$ to $\pm 20^\circ$
Features:	Reports position, velocity and acceleration
Data Logger Input Type:	Digital
Recommended Sensor Usage:	Operate while the AC/DC adapter powers the data logger

Technical Notes

- As this sensor is current consuming, it is highly recommended to operate it while the AC/DC adapter powers the data logger.
- The Distance sensor has to be connected only to the data logger's digital inputs which are the first or the second inputs on the MultiLogPRO or TriLink and all the inputs on the Nova5000.
- Ensure that target object is no closer than 20 cm the sensor.
- Improve the target by adding a large and flat surface to reflect ultrasound. If the reflecting surface is an irregular reflecting surface, sometimes the waves are reflected back and sometimes not.
- Remove interfering objects near the target object or sensor. Note that the Distance sensor will report the distance to the closest object such as chairs and tables in the cone-shape area about 20° off the axis of centerline of the beam.

Calibration

The Distance sensor is shipped fully calibrated.



Using the Distance Sensor with the Nova5000 and MultiLab Software

1. Launch the MultiLab CE software.
2. Connect the Distance sensor to the Nova5000's digital sensor input (starting from I/O-1). The sensor is automatically recognized by the MultiLab software.
3. Click **Setup** on the main toolbar and program the data logger's sample rate and number of samples. Click **Run** on the main toolbar to start the measurement.

Selecting positive direction

By default in MultiLab CE, the displayed position measurement and the positive direction is outgoing (from the sensor). To reverse the positive direction (incoming to the sensor - positive), use the Sensor Preference dialog:



1. Click **Logger** on the main toolbar.
2. Click **Preferences** and open the dialog box near **Distance positive direction**.
3. Select the desired option.
4. Click **OK**.

Using the Distance Sensor with the MultiLogPRO or TriLink and MultiLab Software

1. Launch the MultiLab software.
2. Connect the Distance sensor to the data logger's sensor input (starting from I/O-1). The sensor is automatically recognized by the MultiLab software.
3. Click **Setup** on the main toolbar and program the data logger's sample rate and number of samples. Click **Run** on the main toolbar to start the measurement.

Selecting positive direction, position, velocity, acceleration

By default in MultiLab PC, the displayed position measurement and the positive direction is outgoing (from the sensor). To reverse the positive direction (incoming to the sensor - positive) or to measure velocity or acceleration, use the Sensor Properties dialog:

1. Click **Setup Wizard**  on the main toolbar.
2. Click **Properties**  next to the Distance sensor input.
3. Check the checkboxes next to the desired option to select it.
4. Click **OK**.