



DATA LOGGERS.

by


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Data Loggers

- A **data logger** is an electronic device that records data over time or in relation to location either with a built in *instrument* or *sensor* or via external instruments and sensors.



- **Data Logger Cube**
Storing technical & sensor data.

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- They are generally
 - small,
 - battery powered,
 - portable,
 - and equipped with a microprocessor,
 - internal memory for data storage,
 - and sensors.

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- *Data loggers have slower sample rates*
 - *Data loggers are implicitly stand-alone devices.*
 - *data loggers are extremely reliable.*

CLASSIFICATION OF DATA LOGGERS.

- ▶ *These are classified into 2 types based on their working:*

- ▶ *1. It allows data to be stored in given memory.*

- ▶ *2. The other type automatically records the data on paper, for immediate viewing and analysis.*

- ▶ *while Many data loggers combine these two functions*

Types of data loggers:

- **Miniature Single Input Data Loggers**

Miniature single input data loggers are generally low cost loggers dedicated to a specific input type.

These types of data loggers are often used in the:-

-> transportation industry.

-> shipment of food products.

Types of data loggers:

- ▶ **Fixed Mount Multi-Channel Data Loggers**

- ▶ *Fixed input loggers have a fixed number of input channels which are generally dedicated for a specific type of input. OMEGA offers fixed input data loggers ranging from one to 8 channels.*



- ▶ *MODULAR DATA LOGGER:-*



A modular data logger is configurable and expandable through the use of plug-in modules. The modules are normally field configurable and the user has the option of adding as many channels to satisfy the application requirement.



Choosing a Data Logger:

When choosing a data logger the following parameters should be considered

- AC Voltage/Current
- Shock/Acceleration
- Bridge/Strain/Load/Pressure
- Motor On/Off
- Sound
- Dew point
- PH Pressure
- Temperature

Applications

-> *Temperature.*

▶ -> *Humidity*

▶ *and Power use for Heating*

▶ *and Air conditioning efficiency.*

Applications.

-> Unattended weather station recording .


-> Measure temperatures (humidity, etc) of perishables during shipments.

APPLICATIONS.

- ▶ *Environmental monitoring*
- ▶ *Road traffic counting.*
- ▶ *Unattended soil moisture level recording.*
- ▶ *Motor Racing*
- ▶ *Tank level monitoring.*

ADVANTAGES:

- *Data logging devices can be sent to places that humans can not easily get to.*
- *e.g. to the planet Mars.*

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- In to the bottom of a volcano
 - And on to a roof of a tall building to get to a weather station.

 - Graphs and tables of results can be produced automatically by using data loggers.

DISADVANTAGES:

- ▶ *The main **disadvantage** of using a data logging system is the initial cost of purchasing the equipment. While a thermometer can be purchased for less than one pound, the price of the components of a data logging system to record the temperature will be considerable.*

THANK YOU