Aesthetic and innovative, MicroLite is a small data logger for monitoring and recording temperature. MicroLite is the ultimate plug and record data logger. Despite the compact design, MicroLite data is clearly displayed on the logger's numeric screen. In addition, the MicroLite stored data can be downloaded automatically to the MicroLab Lite software. The MicroLite has been dustproof and waterproof tested to meet highest market standards (IP 68). To further ensure easy global usage, the battery is easily replaceable since it is a standard model used worldwide.

MicroLite works with MicroLab Lite software, which can be downloaded for free directly from the Fourier Systems Ltd. website: www.fouriersystems.com.

The product is designed for ultimate application accessibility, whether mobile or static. Typical applications for this product include transportation as well as warehousing of food, drugs and hi-tech equipment.

- High functionality yet low cost enabling use as one-trip logger data logger
- High resolution 16-bit (0.1°C) data logger
- Range -40°C to 80°C
- High accuracy 0.3°C
- 16,000 sample memory
- High sampling rate of 1 per second
- Long life battery using NanoWatt technology
- USB 2.0 interface enabling fast track communication
- LCD display with decimal point reading
- Magnet key to activate logging
- Min/Max and alarm level readings
- Built-in real-time clock and calendar
- Complimentary MicroLab Lite analysis software
Specifications

<table>
<thead>
<tr>
<th>Internal Sensor</th>
<th>MicroLite works with MicroLab Lite software whose features have been designed specifically in response to requests from the field enabling a broader and more complex range of application environments. Features include analysis functionality such as Statistics – maximum, minimum and average, enabling a quick glance summary of the environment and historical analysis. This is typically useful for applications requiring a constant bird’s eye picture of the conditions their materials are kept in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>45.5 gr</td>
</tr>
<tr>
<td>Display</td>
<td>&gt; LCD with decimal point &gt; Visual Alert - Alarm icon when crossing predefined thresholds &gt; Low battery indication</td>
</tr>
<tr>
<td>Operation</td>
<td>&gt; Data scroll on the LCD &gt; Reed switch to start measuring</td>
</tr>
<tr>
<td>Software</td>
<td>&gt; MicroLab Lite for Windows 98/2000/ME/XP/NT 4.0 or higher &gt; Also available – DatPass 21 CFR Part 11 Standards Compliance Software</td>
</tr>
<tr>
<td>Standards Compliance</td>
<td>CE, FCC compliance</td>
</tr>
</tbody>
</table>

MicroLite Software

MicroLite features

- Complete data analysis
- Downloads from MicroLite
- Graph and table displays
- Alarm levels per MicroLite displays
- Ability to set-up MicroLite
- Comments for each data logger
- Daily status reports in various formats

Advanced data analysis features

- Mean kinetic temperature, an expression of cumulative thermal stress in different temperatures during storage, transportation and distribution.
- Pasteurization provides analysis for the most common methods of pasteurization in Industry: High Temperature Short Time (HTST); Ultra Pasteurization (UP) and Ultra High Temperature (UHT) pasteurization.
- Histogram provides a graphical view of historical results presented according to defined parameters of periods of time and percentage levels. This provides a level of analysis which can be tailored to specific environment needs for an immediate picture.
- Annotation enables text to be placed on the graph at relevant points where certain information needs to be highlighted.
- Data records can be exported to your preferred spreadsheet application.
- GMT Recording - Set data recording to meet with GMT Greenwich Mean Time, for use in international environments, particularly export and import.
The world's handiest temperature and humidity data loggers guarantee perishable and hazardous goods arrive at their destination in perfect condition. A stand-alone compact device for managing all your data logging in the most efficient and convenient manner, MicroLog's user-friendly display and two-key functionality are hard to beat.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large digital display for convenient viewing</td>
<td>Infrared communication to a PC or portable printer</td>
</tr>
<tr>
<td>External sensors enable additional data collection</td>
<td>Recording sample rate selected by user</td>
</tr>
<tr>
<td>View up to 30 days min/max history on small keypad</td>
<td>Records months of data – up to 16,000 samples</td>
</tr>
<tr>
<td>Water and dust proof (IP65)</td>
<td>Rugged exterior can handle any conditions</td>
</tr>
<tr>
<td>Built in quality sensors for temperature and humidity</td>
<td></td>
</tr>
</tbody>
</table>
## MicroLog & MicroLog Plus Specifications

### Models
- **MicroLog**:
  - EC600 temperature and external sensor data logger
  - EC650 temperature, relative humidity and external sensor data logger

### Inputs
**Two built-in sensors**
- **Temperature**: -30ºC - 50ºC (resolution 0.5ºC, accuracy ±1ºC)
- **Relative Humidity**: 0% - 90% (resolution 0.5%, accuracy ±3%)

### External Sensors
- **Temperature Sensor**
  - **Range**: -50ºC to 100ºC
  - **Resolution**: Better than 1ºC
  - **Accuracy**: ±2% of reading
  - **Probe Length**: 150 mm
  - **Max. Temperature**: 150ºC

- **pH Sensor**
  - **Range**: 0-14pH
  - **Resolution**: 0.116pH
  - **Accuracy**: ±2% of reading
  - **Calibration**: Single point, done with a small trimmer on the sensor.

- **0-10 Voltage Sensor**
  - **Range**: 0-10V
  - **Resolution**: ±3% before calibration
  - **Input Impedance**: 3 M
  - **Calibration**: Two point calibration
  - **OV protection**: +30V
  - **Resolution**: 0.05V

- **0-20 mA Current Sensor**
  - **Range**: 0-20 mA
  - **Resolution**: ±0.1 mA
  - **Accuracy**: ±3% before calibration
  - **OC protection**: 55 mA

### MicroLog Cradle
- **Audible Alarm**
- **Serial Communication**
  - **Channels**: RS232 at 19.2 Kbps
  - **USB at 1.5 Mbps**
- **Connectors**
  - 4-pin flat connection to the MicroLog
  - 4-pin flat connection to any MicroLog external sensor
  - Screw terminal for External DC supply

### Power Supply
- **Internal**: Lithium battery, 3.6V
- **External**: 6-30V, minimum 300mA

### RF Transmission
- **EMC conformant to EN 301 489-3**
- **Type approved to ETS 300-220**
- **Usable range**: 300m (75m indoors)
- **1mW on 418 MHz, 10mW on 433.92MHz**
- **2nd harmonic**: < -60dBc
- **16cm length antenna**

### MicroLog Plus Receiver
- **RF Receiver**
  - **Red LED indicating RF signal**
  - **Green LED indicating valid data being received**
  - **Type approved to ETS 300-220**

### MicroLog Plus Software
- **Data Displaying** (from up to 200 MicroLogs)
- **Real-time temperature and humidity readings**
- **Visual alarm** when the logger crosses an upper or lower alarm threshold for temperature or humidity
- **Battery level**
- **An Excel file containing all of the measured data received from the device**

### Contact Adapter
- **Screw Terminal**
- **Cable Length**: 2.5 m
- **OC protection**: 55 mA

### To order MicroLog & MicroLog Plus products and accessories:
The handiest and most convenient quality keeper

Built to automate and simplify daily data logging tasks, MicroLog™ is a powerful temperature and humidity data logger that delivers an exceptionally ease of use approach along with numerous useful features.

**MicroLog Software**

- **Friendly Software**
  - Once a transport reaches its destination, simply download the collected data to the program for further viewing and analysis or export to Excel®. Save the data and keep it for future reference.

- **Alarm Levels**
  - Users define alarm levels for the specific shipment and the display starts flashing when thresholds are crossed.

**MicroLog Applications**

- **Transportation**
  - Take MicroLog on the road to ensure goods being transported under optimal conditions.

- **Food Storage**
  - Optimize the way food is stored and monitored in supermarkets and restaurants.

- **Museums**
  - Protect valuable art by ensuring appropriate temperature, humidity and light conditions at all times.

- **HVAC**
  - MicroLog simplifies monitoring large commercial heating and air conditioning systems.

- **Controlled Areas**
  - Maintain specific humidity and temperature levels in clean rooms and special storage areas.

**MicroLog Features**

- **View Current Readings**
  - MicroLog continuously displays the current level of temperature and relative humidity very clearly on its large digital display while logging the data in its internal memory.

- **Wireless Cradle**
  - The MicroLog cradle is an optional accessory. It includes a small transmitter that relays measurements for up to 300 meters. In applications involving large warehouses and supermarkets, tens of MicroLog devices wirelessly transmit data to a single computer.

- **Add External Sensors**
  - Additional data collection can be conducted by adding external temperature, pH, voltage, current or contact sensors.

- **View Min/Max History**
  - Using the two big buttons on the front, users can view the minimum and maximum levels of temperature and relative humidity for selected time intervals. MicroLog continuously stores the measurements it takes for up to 2 years, and enables the swift retrieval of specific minimum and maximum data at any time.

- **Infrared Communication**
  - MicroLog users can instantly print a hard copy of the data by pointing the infrared beam at a small printer. Stored measurements can be uploaded to a PC with an IRDA port in the same manner.

**MicroLog Applications**

- **Transportation**
  - Take MicroLog on the road to ensure goods being transported under optimal conditions.

- **Food Storage**
  - Optimize the way food is stored and monitored in supermarkets and restaurants.

- **Museums**
  - Protect valuable art by ensuring appropriate temperature, humidity and light conditions at all times.

- **HVAC**
  - MicroLog simplifies monitoring large commercial heating and air conditioning systems.

- **Controlled Areas**
  - Maintain specific humidity and temperature levels in clean rooms and special storage areas.
The Quality Keeper

About Fourier Systems

Fourier Systems Ltd. is a worldwide leader of compact portable data logging devices and accessories for the industrial market. Fourier’s robust line of advanced products is designed to automate and simplify daily data logging tasks. Beyond delivering quality products, Fourier is dedicated to providing sophisticated solutions that integrate the most advanced technologies. When it comes to professional data logging, leading companies around the world count on Fourier to provide them with the most up to date equipment.

MicroLog

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC600</td>
<td>Temperature and external sensor data logger</td>
</tr>
<tr>
<td>EC650</td>
<td>Temperature, relative humidity and external sensor data logger</td>
</tr>
</tbody>
</table>

Input (Built In Sensors)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>-30°C to 50°C (resolution 0.5°C, accuracy 0.6°C)</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>0-100% (resolution 0.5%, accuracy ± 3%)</td>
</tr>
</tbody>
</table>

Output

- Two digit 7-segment LCD
- IRDA interface to portable HP printer and PC
- RS-232 cable connection to the PC (in additional to IRDA port)
- 16,000 samples
- Internal lithium battery: 3.6V TL5902
- Battery life: approximately two years

Sampling Rate

- User defined: From 1 per 10 seconds to 1/2 hours

Dimensions

- Thickness: 22.9mm
- Round: 72mm diameter
- Weight: 55gr

Standards

- Water and dust proof IP65 standard
- CE and FCC standard compliance

MicroLog Cradles

- Whether it’s the alarm cradle, or wireless cradle with an alarm, Fourier cradles can be used as a mount for any MicroLog device

About Fourier Systems

Fourier Systems Ltd. is a worldwide leader of compact portable data logging devices and accessories for the industrial market. Fourier’s robust line of advanced products is designed to automate and simplify daily data logging tasks. Beyond delivering quality products, Fourier is dedicated to providing sophisticated solutions that integrate the most advanced technologies. When it comes to professional data logging, leading companies around the world count on Fourier to provide them with the most up to date equipment.

Specifications

MicroLog

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC600</td>
<td>Temperature and external sensor data logger</td>
</tr>
<tr>
<td>EC650</td>
<td>Temperature, relative humidity and external sensor data logger</td>
</tr>
</tbody>
</table>

Input (Built In Sensors)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>-30°C to 50°C (resolution 0.5°C, accuracy 0.6°C)</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>0-100% (resolution 0.5%, accuracy ± 3%)</td>
</tr>
</tbody>
</table>

Output

- Two digit 7-segment LCD
- IRDA interface to portable HP printer and PC
- RS-232 cable connection to the PC (in additional to IRDA port)
- 16,000 samples
- Internal lithium battery: 3.6V TL5902
- Battery life: approximately two years

Sampling Rate

- User defined: From 1 per 10 seconds to 1/2 hours

Dimensions

- Thickness: 22.9mm
- Round: 72mm diameter
- Weight: 55gr

Standards

- Water and dust proof IP65 standard
- CE and FCC standard compliance

ph Sensor

- Will help you monitor pH level of liquids.
- Range: 1-14pH
- Resolution: 0.116pH
- Accuracy: ± 2% of reading
- Calibration single point, done with a small trimmer on the sensor.

0-10 Voltage Sensor

- A general sensor that will measure any device or transmitter that produces a linear analog 0-10V output. The voltage can easily be converted to the correct measured units with the help of the MicroLab program.
- Range: 0-10V
- Accuracy: ± 3% before calibration
- Input Impedance: 3 M
- Calibration: Two point calibration
- OV protection: +30V
- Resolution: 0.05V

0-20 mA Current Sensor

- This MicroLog external sensor can sample any device or transmitter, producing a linear current between 0-20 mA. The 0-20 mA can be converted to the correct measured units by using MicroLab’s calibration option.
- Range: 0-20 mA
- Resolution: ±0.1 mA
- Accuracy: ± 3% before calibration
- Calibration: Two point calibration
- OC protection: 55 mA

Contact Adapter

- This MicroLog sensor monitors reed relay contacts and switch status (open/closed), to identify the correlation between phenomena such as temperature change and door status.
- Range: open/close
- Connector: Screw Terminal
- Cable Length: 2.5 m
- Internal Pull-Up Resistor: No need for external power source

Ordering Information

Part Number | Description
--- | ---
MicroLog | Temperature data logger
EC600 | Temperature and relative humidity data logger
EC650 | Temperature and relative humidity data logger

External Sensors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT132</td>
<td>Temperature Sensor</td>
</tr>
<tr>
<td>DT140</td>
<td>0-10 Voltage Sensor</td>
</tr>
<tr>
<td>DT139</td>
<td>0-20 mA Current Sensor</td>
</tr>
<tr>
<td>DT141</td>
<td>Contact Adapter</td>
</tr>
<tr>
<td>DT168</td>
<td>pH Adapter</td>
</tr>
<tr>
<td>DT018</td>
<td>pH Electrode</td>
</tr>
</tbody>
</table>

Cradle

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT174</td>
<td>Alarm Cradle</td>
</tr>
<tr>
<td>DT175</td>
<td>Wireless Cradle with Alarm</td>
</tr>
</tbody>
</table>

Software (Windows® 95/98/2000/ME/XP)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC-KIT</td>
<td>MicroLab® (Graphic data logging interface)</td>
</tr>
<tr>
<td>SFTMCL007</td>
<td>MicroLab® Plus (Central data logging administration)</td>
</tr>
<tr>
<td>SFTMCL009</td>
<td>MicroLog 2 Excel® (Export to standard worksheet programs accessory application)</td>
</tr>
</tbody>
</table>

To order MicroLog products and accessories:

© 2002 Fourier Systems Ltd. All right reserved. Fourier Systems Ltd. logos and all other Fourier product or service names are registered trademarks or trademarks of Fourier Systems. All other registered trademarks or trademarks belong to their respective companies. Doc. BKBMICRO-E, Rev. 10/02
## MicroLog & MicroLog Plus Specifications

### Models
- EC600 temperature and external sensor data logger
- EC650 temperature, relative humidity and external sensor data logger

### Inputs (Two built-in sensors)
- Temperature: -30ºC to 50ºC (resolution 0.5ºC, accuracy ±1ºC)
- Relative Humidity: 0 - 90% (resolution 0.5%, accuracy ±3%)

### External Sensors
- **Temperature Sensor**
  - Range: -50ºC to 100ºC
  - Resolution: Better than 1ºC
  - Accuracy: ±2% of reading
  - Probe Length: 150 mm
- **pH Sensor**
  - Range: 0 to 14pH
  - Resolution: 0.116pH
  - Accuracy: 2% of reading
- **0-10 Voltage Sensor**
  - Range: 0-10V
  - Accuracy: ±3% before calibration
  - Input Impedance: 3 M
- **0-20 mA Current Sensor**
  - Range: 0-20 mA
  - Accuracy: ±0.1 mA
- **Contact Adapter**
  - Range: open/close

### MicroLog Cradle
- Audible Alarm
- **Serial Communication**
  - Channels: RS232 at 19.2 Kbps, USB at 1.5 Mbps
- **Connectors**
  - 4-pin flat connection to the MicroLog
  - Screw terminal for External DC supply
- **Power Supply**
  - Internal: Lithium battery, 3.6V
  - External: 6-30V, minimum 300mA
  - RF Transmission: EMI conformant to EN 301 489-3
  - Usable range to 300m (75m indoors)
  - 418 (UK) & 433.92MHz (Euro) versions
  - 1mW on 418 MHz, 10mW on 433.92MHz
  - 2nd harmonic < -60dBc
  - 16cm length antenna

### MicroLog Plus Receiver
- **Power Supply**
  - Internal: Lithium battery 3.6V, 1.2AH, AA
  - External: AC/DC 6V adapter
- **RF Receiver**
  - Red LED indicating RF signal
  - Green LED indicating valid data being received
  - Type approved to ETS 300-220

### MicroLog Plus Software
- Data Displaying (from up to 200 MicroLogs)
- Real-time temperature and humidity readings
- Visual alarm when the logger crosses an upper or lower alarm threshold for temperature or humidity
- Battery level
- An Excel file containing all of the measured data received from the device
- Setting up the MicroLog
  - The ID of each of the monitors
  - The alarm levels of each monitor
  - Comment
  - The sampling rate from every minute to every hour

### Memory Capacity
- 16,000 recording samples

### Power Supply
- Internal Battery
  - Lithium battery, 3.6V 1.2AH 1/2AA
  - Approximately two years, replaceable (May vary when connecting external sensor)
- External Power Supply
  - AC/DC 6V adapter

### Sampling Rate
- User Defined
  - From every 10 second to every 2 hours

### Dimensions
- Round: 72 mm diameter
- Thickness: 22.9 mm
- Weight: 55 gr

### CE and FCC standard compliance

### To order MicroLog & MicroLog Plus products and accessories:
Keep an eye on the temperature level of your entire stock from a single computer station

**MicroLog™ Plus**

A wireless data logging system for remote monitoring of up to 200 data loggers

The MicroLog™ Plus is a unique system based on the MicroLog – a mini temperature and humidity data logger. The MicroLog Plus allows users to communicate with up to 200 MicroLogs and receive all real-time measurements on one computer. The MicroLog Plus incorporates wireless communication between the loggers and the computer.

**Features**

- Capable of receiving data from loggers located up to 300m away from the computer
- License free wireless communication
- Handles data from up to 200 loggers
- Very easy, color coded, user interface reporting each logger status
- Programmable threshold for each logger that will activate an alarm indication when crossed.
- Cost effective solution for multiple data logging

**Microlog Plus is the ideal solution for multiple data logging applications in:**

- Supermarkets
- Food transportation
- Storage
- Air conditioning and ventilation
- Clean room
- Warehouses
- Art galleries

When pre-defined thresholds are crossed MicroLab sends an email or SMS alarm message automatically with the unit details.
Monitoring environmental conditions in large warehouses, supermarkets and production plants is a must, yet it involves the recording of temperature and humidity in many locations. The MicroLog Plus is the best solution for collecting and handling all this data.

MicroLog Plus integrates:

- **The MicroLog Logger** - containing built-in sensors for temperature and humidity and an analog port compatible with almost any kind of external sensor
- **The MicroLog Cradle** - a mount for the Logger which is also a wireless (RF) transmitter that transmits readings at user-set intervals to a remote PC
- **The MicroLog Receiver** - a small RF receiver that connects to the monitoring station computer

**MicroLog Plus Management Control Software** - lets you control and monitor up to 200 MicroLog Logger devices from a remotely located computer. Each cradle is tagged with an ID number. Cradles transmit data in different time slots according to their ID in order to prevent data collision between two or more cradles. The cradle memory can by automatically, or manually downloaded every day.

The MicroLog Plus receiver picks up all transmissions and transfers them to the MicroLog Plus software. With a very friendly color code interface the software reports the status of up to 200 MicroLogs in one screen. The software also stores the data of each MicroLog, sets the MicroLog alarm level, its sampling interval and all other necessary parameters.

Just think how much time that you are wasting daily having to download each of the data loggers scattered in the warehouse or in the production plant. Using the MicroLog Plus all data will arrive directly to your computer and in real time!
### MicroLog & MicroLog Plus Specifications

#### MicroLog Models
- **EC600**: temperature and external sensor data logger
- **EC650**: temperature, relative humidity and external sensor data logger

#### Inputs
- **Temperature**: -30ºC to 50ºC (resolution 0.5ºC, accuracy ±1ºC)
- **Relative Humidity**: 0 - 90% (resolution 0.5%, accuracy ±3%)

#### External Sensors
- **Voltage**: 0 to 10V
- **Current**: 0 to 20mA
- **Temperature**: -50 to 100ºC
- **pH**: 0 to 14pH
- **Contact**: Open/Closed

#### Outputs
- **Three digit 7 segment LCD**
- **IRDA interface to HP-printer and host computer**
- **RS232 serial communication at 19,200 bps**

#### Memory Capacity
- 16,000 recording samples

#### Power Supply
- **Internal Battery**: Lithium - 3.6V, 1.2Ah, 1/2AA
- **External**: 6-30V, minimum 300mA

#### Sampling Rate
- User Defined: from every 10 second to every 2 hours

#### Dimensions
- **Round**: 72 mm diameter
- **Thickness**: 22.9 mm
- **Weight**: 55 gr

#### MicroLog Plus Software
- Data Displaying (from up to 200 MicroLogs)
- Real-time temperature and humidity readings
- Visual alarm when the logger crosses an upper or lower alarm threshold for temperature or humidity
- Battery level
- An Excel file containing all of the measured data received from the device

- Setting up the MicroLog
- The ID of each of the monitors
- The alarm levels of each monitor
- Comment
- The sampling rate from every minute to every hour

#### To order MicroLog & MicroLog Plus products and accessories:

---

#### MicroLog Cradle
- **Audible Alarm**
- **Serial Communication**
  - Channels: RS232 at 19.2 Kbps
  - USB at 1.5 Mbps
- **Connectors**
  - 4-pin flat connection to the MicroLog
  - 4-pin flat connection to any MicroLog external sensor
  - Screw terminal for External DC supply

#### External Sensors
- **Temperature Sensor**
  - This MicroLog sensor takes external temperature measurements in a wider range than the internal temperature sensor. With a faster response time than the internal sensor, it enables measuring materials that cannot be measured with the internal sensor.
  - **Range**: -32ºC to 50ºC
  - **Resolution**: 0.5ºC
  - **Accuracy**: ±1ºC

- **pH Sensor**
  - Will help you monitor pH level of liquids.
  - **Range**: 1-14pH
  - **Resolution**: ±0.116pH
  - **Accuracy**: 2% of reading

- **0-10 Voltage Sensor**
  - A general sensor that will measure any device or transmitter that produces a linear analog 0-10V output. The voltage can easily be converted to the correct measured units with the help of the MicroLab program.
  - **Range**: 0-10V
  - **Accuracy**: ±3% before calibration
  - **Input Impedance**: 3 MΩ
  - **Calibration**: Two point calibration
  - **Resolution**: 0.05V

- **0-20 mA Current Sensor**
  - This MicroLog external sensor can sample any device or transmitter, producing a linear current between 0-20 mA. The 0-20 mA can be converted to the correct measured units by using MicroLab’s calibration option.
  - **Range**: 0-20 mA
  - **Resolution**: ±0.1 mA
  - **Accuracy**: ±3% before calibration
  - **Calibration**: Two point calibration
  - **OC protection**: 55 mA

#### Contact Adapter
- This MicroLog sensor monitors reed relay contacts and switch status (open/closed), to identify the correlation between phenomena such as temperature change and door status.
  - **Range**: open/close
  - **Connector**: Screw Terminal
  - **Cable Length**: 2.5 m
  - **Internal Pull-Up Resistor**: No need for external power source
## MicroLogPRO

### MicroLog Solution Models:
- **EC650**: Temperature & humidity plu external sensors
- **EC685**: Temperature, relative humidity plus external sensor
- **EC700**: MicroLogPRO for temperature plus external sensors
- **EC750**: MicroLogPRO for temperature & humidity plus external sensors

### Built-In Sensors:
- **EC750**: MicroLogPRO Display 4 digit 7-segment LCD
- **EC700**: MicroLog Display 2 digit 7-segment LCD

### Power supply
- MicroLogPRO 1 sensor: 52000 samples
- MicroLog 16000 samples

### Memory
- MicroLog only
- USB 1.1 (no water & dust proof) for Temp/Hum
- PC with 19200 kbps
- MicroLogPRO RS-232 cable connection to the HP printer
- MicroLog/MicroLogPRO IRDA - interface to portable MicroLogPRO Display

### Output:
- Software calibration is possible
- Accuracy: ± 3%
- Resolution: 0.2
- Range: 0 to 100%

### Software Calibration
- MicroLogPRO
- MicroLog
- EC750
- EC700

### Standards
- Water and dust proof IP65 standard compliance, for EC-600 model
- CE and FCC standard compliance
- FDA Title 21 CFR Part 11 Compliance

### MicroLog Plus Receiver

#### European Version
- Usable range indoors: 300m (75m indoors)
- One RS232 communication port to the PC
- Power Supply: Internal Lithium battery 3.6V, 1.2AH, 1.2AA

#### North American Version
- Usable range indoors: 120m (30m indoors)
- RS232 communication port to the PC
- Power Supply: Internal Lithium battery 3.6V, 1.2AH, 1.2AA

### MicroLab Software
- Running on WINDOWS 98/2000/ME/XP and NT
- Fast data download from the MicroLog
- Graphic visualization of the MicroLog data
- Data displayed in graphs and tables
- Data Export to EXCEL
- Data Map allowing the users to easily see many MicroLog data loggers in one screen
- MicroLog SETUP window, for setting up the MicroLog sample rate, sensors and alarm level
- MicroLog sensor calibration
- Display of MicroLog Battery Level
- Working with the wireless MicroLog cradle and receiver
- Showing daily reports of a fleet of data loggers
- Visual alarm levels on the graph and table

### MicroLog Cradle

#### Cradle Alarms
- Audible Alarm
- Visual Alarm LED

#### Serial Communication Channels
- RS232 at 15Kbps
- USB at 1.5Mbps

#### Cradle Memory
- 2000 samples holding the sensor samples

### Connectors
- 4-pin flat connection to the MicroLog
- 4-pin flat connection to any MicroLog external sensor
- Screw terminal for External DC supply
- Screw Terminal Board connections
- Power supply: DC 6-30 V
- External sensor
- External contact sensor
- High alarm open contact sensor
- Low alarm open relay contact connector 30V/2A
- Battery level

### Power Supply
- Internal Lithium battery: 3.6V
- External: 6 – 30V, minimum 300mA

### European RF Transmission
- EM: conformance to EN 301 489-3
- Then approved to ETS 300-220
- Usable range to 300m (10m indoors)
- 418 MHz, 4-33 GHz
- 1400 on 418 MHz, 3.6mW

### North American RF Transmission
- EM: conformance to EN 301 489-3, FCC PART 15.249
- Usable range to 120m (30m indoors)
- 1W at 914.9MHz
- Harmless trans-radiation emissions
- 30V/2A

### CE and FCC standard compliance

---

**About Fourier Systems**

Fourier Systems Ltd. is an innovative provider of compact portable data logging devices and accessories for advanced data acquisition, communications and analysis. Our products are the ideal cost-effective solution for ongoing data logging needs across the full spectrum of industry, including food transportation, storage, air conditioning and ventilation, clean rooms, warehouses and galleries to name but a few.

The complete solution consists of the MicroLog 8-bit and 10-bit models, the MicroLogPLUS wireless system and two software packages: MicroLab and MicroLabPLUS, enabling powerful monitoring and data analysis capability.
A compact 8-bit data logger capable of recording data for months, even long-term shipping and storage. All data viewing, data export, and printing is done via two function keys:

- Large digital display for easy viewing
- External input enables additional data collection from a variety of external sensors
- View up to 30 days min/max history
- Water and dust proof (IP65/NEMA 4)
- View up to 30 days min/max history
- External input enables additional data collection from a variety
- Large digital display for easy viewing

The new 10-bit MicroLog has all the benefits of the 8-bit MicroLog in addition to the following innovative new features:

- Higher sampling resolution for more accurate readings
- Increased memory - 52000 samples
- Enhanced 4 digit LCD

---

### MicroLog Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>MicroLog 8-bit</th>
<th>MicroLogPRO 10-bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>8-bit</td>
<td>10-bit</td>
</tr>
<tr>
<td>Resolution</td>
<td>256 samples</td>
<td>52000 samples</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-28°C to 85°C</td>
<td>-40°C to 80°C</td>
</tr>
<tr>
<td>Humidity accuracy</td>
<td>±3%</td>
<td>±3%</td>
</tr>
<tr>
<td>Resolution accuracy</td>
<td>±0.6°C</td>
<td>±0.5°C</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>1 sensor - 16000 samples</td>
<td>1 sensor - 52000 samples</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>1 per 10 seconds</td>
<td>1 per 10 seconds</td>
</tr>
<tr>
<td>Management</td>
<td>Two digit, 7-segment LCD</td>
<td>Four digit, 7-segment LCD with decimal point</td>
</tr>
<tr>
<td>USB connection</td>
<td>1.1, 2.0</td>
<td>1.1, 2.0</td>
</tr>
<tr>
<td>Temperature probe</td>
<td>±0.5°C</td>
<td>±0.5°C</td>
</tr>
<tr>
<td>Humidity probe</td>
<td>±5%</td>
<td>±5%</td>
</tr>
<tr>
<td>Internal sensor</td>
<td>±3%</td>
<td>±3%</td>
</tr>
<tr>
<td>External sensor</td>
<td>±3%</td>
<td>±3%</td>
</tr>
<tr>
<td>Power supply</td>
<td>Internal Lithium battery</td>
<td>3.6V, 1/2AA, 1.2AH</td>
</tr>
<tr>
<td>Battery life</td>
<td>Approx 24 months</td>
<td>Approx 24 months</td>
</tr>
<tr>
<td>Dimension</td>
<td>72mm diameter, 22mm thickness</td>
<td>72mm diameter, 22mm thickness</td>
</tr>
</tbody>
</table>

---

### External Sensors

- **Temperature**
  - Range: -50 to 100°C (-50 to 150°C)
  - Resolution: ±1°C (±0.3°C)

- **Humidity**
  - Range: 0% to 100%
  - Resolution: ±3%

- **Contact Adaptor**
  - Range: Open/Close
  - Resolution: 0-20mV

- **Current**
  - Range: 0-20mA
  - Resolution: ±0.1mA

- **pH**
  - Range: 1-14pH
  - Resolution: 0.01pH

- **Light**
  - Range: 0-5000 Lux
  - Resolution: 0.1Lux

For full sensor specifications please visit our Web pages www.fouriersystems.com
Wireless Data Logger

A wireless data logging system for remote monitoring of up to 200 data loggers via the cradle technology and transmitting all real-time measurements to the PC.

- License-free wireless communication
- Handles data from up to 200 MicroLogs at up to a distance of 300m (120m US Version)
- Programmable audio and visual alarms
- Two open connector output for controlling other devices set at low and high alarm levels
- Screw terminal board enabling the user to conveniently power the cradle, connect external sensors and use the open connector output
- USB and Serial communication ports for the PC used for one-time cradle set-up

MicroLogPLUS Integrates

Screw Terminal Board
Allows the user to connect the DC power, external sensors, contact sensors, position sensors, or alarm open/relay collectors directly to the circuit board.

The Receiver
MicroLog PLUS Management Control Software lets you control and monitor up to 200 MicroLog Logger devices from a remotely located computer.

The Repeater
For use when no line of sight exists. Repeater uses built-in internal receiver to collect data and uses internal transmitter to send data on to the PC receiver. Up to 31 repeaters can be used in this system.

Examples of Wireless Data Logging

Agriculture

Food storage

Pharmaceutical

Gallery
MicroLog Family

Software

Data Analysis features for MicroLab and MicroLabPLUS software

In response to specific requests from the field, Fourier provides new software features for both programs that enable a broader and more complex range of application environments. Not only do both versions now support the new MicroLogPRO 10-bit datalogger but provide analysis functionality including statistics - maximum, minimum and average, enabling a quick summary of the environment and historical analysis. This is used by pharmaceutical companies who need a constant bird’s eye picture of the conditions their materials are kept in.

Mean kinetic temperature, an expression of cumulative thermal stress in different temperatures during storage, transportation and distribution.

Pasteurization provides analysis for the most common methods of pasteurization in industry: High Temperature Short Time (HTST); Ultra Pasteurization (UP) and Ultra High Temperature (UHT) pasteurization.

Daily download file management. In addition to the standard general method used in the MicroLab currently, Fourier is now providing a second method. This divides the data into daily 24 hour periods and stores them as separate whole files. Working with this method will complete data in corrupted files and provide full reports to meet external standards.

Text note enables text marks to be placed on the graph at relevant points where certain information needs to be highlighted.

Data records can be exported to your preferred spreadsheet using the included MicroLog 2 Excel software

Daily download file management. In addition to the standard general method used in the MicroLab currently, Fourier is now providing a second method. This divides the data into daily 24 hour periods and stores them as separate whole files. Working with this method will complete data in corrupted files and provide full reports to meet external standards.

GMT Recording
Setting data recording to meet with GMT - Greenwich Mean Time for use in international environments, particularly export and import.

MicroLogPLUS Lost communication alarm
Added alarm features for lost communication, indicates when the signal has been lost, when communication has been regained and when the battery is low.

MicroLabPLUS Lost communication alarm
Selection of historic files according to sampling and average rates. On opening any given file, the software automatically provides the option to select a specific data transmission time period and sampling rate.
TriLink is the latest innovative user friendly offering from Fourier that leverages cutting edge wireless data logging for stand alone or field monitoring. TriLink brings powerful monitoring to the palm of your hand and enables communication with all types of current and future PCs and Pocket PCs.

**TriLink Data Logger**  
**Design into the next generation**

**Application Examples:**

**Laboratory**  
The TriLink has been used for its accurate humidity and temperature monitoring capabilities. Data is collected via Bluetooth technology simply by downloading onto the PocketPC, enabling constant and efficient environment monitoring.

**Heavy Industry Processing**  
High resolution data collection and analysis is key here for environments where wires can't be used due to dynamic machinery activity. Data can be automatically downloaded at a distance or even gathered online. What's more, multiple monitoring of cradles is possible with all the data received online using one central PC.

- Bluetooth wireless communication
- Sampling of up to 4 sensors
- High 12-bit sampling resolution
- Fast sampling rate of up to 20,800 samples per second
- 256K internal sample memory
- Available graphic analysis software for PC and Pocket PC
- Multi-point sampling for larger working environments

www.fouriersystems.com
**TriLink Sensor Versatility**

The **TriLink** has the ability to convert to 4 external sensors 4-20mA, 0-5V and stainless steel temperature sensors. Through the current and voltage sensors users are able to monitor all industrial transmitters. They can also define their sensors and view readings in the sensor parameters units.

**TriLink Specifications**

- **Inputs**: Up to 4 simultaneous analog inputs
  - External sensors: -50 - 150°C temperature; Pulse Counter; Current 4-20mA; Voltage 0-5V or Combined RH and Temperature sensors

- **Outputs**: Bluetooth 1.2 communication wireless communication link
  - USB PC Host Interface at 1.1 Mbps

- **Sampling**
  - Resolution: 12-bit (4096 levels)
  - Capacity: Up to 256,000 memory cells
  - Analog Sampling Rate: 1 sample/hr to 20,800 samples/sec
  - Digital Sampling Rate: >200kHz

- **Features**
  - User interface: Alphanumeric LCD, 2 lines by 16 characters each
  - Stand-alone operation working & sampling without connection to a PC
  - Saving and loading of last setup
  - Triggering
  - Built-in battery charger for charging the 2.4V internal battery
  - Event recording
  - Defined sensors connect to engineering inputs

- **Power Supply**
  - Voltage: Internal rechargeable 2.4V NiMH battery
  - External 6V DC input

- **Software**: DaqLab for Windows 95/98/2000/ME/XP/NT4.0 or higher and Pocket PC

- **Operating Temp. Range**: 0°C - 50°C

- **Dimensions**: 93 x 100 x 27 mm

- **Weight**: 160 gr

- **Standard compliance**: CE, FCC

**Ordering Information**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TriLink basic pack</strong></td>
<td>TRL1</td>
</tr>
<tr>
<td></td>
<td>TriLink data logger, 1 USB communication cable, DaqLab Software for PC and Pocket PC, Carrying case, AC/DC adapter</td>
</tr>
</tbody>
</table>

**Accessories**

| DT231 | Com Cable |
| DT241 | Temperature sensor |
| DT234 | Current sensor |
| DT228 | Voltage sensor |
| DT041 | RH sensor |

**Exclusive Fourier Software for Pocket PC devices**

Via the wireless Bluetooth communication link, the TriLink can communicate with desktop and notebook computers, handhelds and more, and interface with Fourier's new DaqLab Software.
Exclusive Fourier Software for Pocket PC devices

Via the wireless Bluetooth communication link, the TriLink can communicate with desktop and notebook computers, handhelds and more, and interface with Fourier's new DaqLab Software.

**TriLink Sensor Versatility**

The TriLink has the ability to convert to 4 external sensors 4-20mA, 0-5V and stainless steel temperature sensors. Through the current and voltage sensors users are able to monitor all industrial transmitters. They can also define their sensors and view readings in the sensor parameters units.

### TriLink Specifications

**Inputs**
- Up to 4 simultaneous analog inputs
- External sensors: -50 to 150°C temperature; Pulse Counter; Current 4-20mA; Voltage 0-5V or Combined RH and Temperature sensors

**Outputs**
- Bluetooth 1.2 communication wireless communication link
- USB PC Host Interface at 1.1 Mbps

**Sampling**
- Resolution: 12-bit (4096 levels)
- Capacity: Up to 256,000 memory cells
- Analog Sampling Rate: 1 sample/hr to 20,800 samples/sec
- Digital Sampling Rate: >200kHz

**Features**
- User interface: Alpha Numeric LCD, 2 lines by 16 characters each
- Stand-alone operation working & sampling without connection to a PC
- Saving and loading of last setup
- Triggering
- Built-in battery charger for charging the 2.4V internal battery
- Event recording
- Defined sensors connect to engineering inputs

**Power Supply**
- Voltage: Internal rechargeable 2.4V NiMH battery
- External 6V DC input

**Software**
- DaqLab for Windows 95/98/2000/ME/XP/NT4.0 or higher and Pocket PC

**Operating Temp. Range**
- 0°C - 50°C

**Dimensions**
- 93 X 100 X 27 mm

**Weight**
- 160 gr

**Standard compliance**
- CE, FCC

### Ordering information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRL1</td>
<td>TriLink data logger, 1 USB communication cable, DaqLab Software for PC and Pocket PC, Carrying case, AC/DC adapter</td>
</tr>
<tr>
<td>DT231</td>
<td>Com Cable</td>
</tr>
<tr>
<td>DT241</td>
<td>Temperature sensor</td>
</tr>
<tr>
<td>DT234</td>
<td>Current sensor</td>
</tr>
<tr>
<td>DT228</td>
<td>Voltage sensor</td>
</tr>
<tr>
<td>DT041</td>
<td>RH sensor</td>
</tr>
</tbody>
</table>

© 2005 Fourier Systems Ltd. All rights reserved. Fourier Systems Ltd. Logos and all other Fourier product or service names are registered trademarks or trademarks of Fourier Systems. All other registered trademarks or trademarks belong to their respective companies. Doc. BK063, Rev. 1/05
TriLink Specifications

**Inputs**
- Auto ID mode: Up to 4 simultaneous analog inputs; up to 2 simultaneous digital inputs.
- 8 sensors mode: Up to 8 simultaneous analog inputs; up to 2 simultaneous digital inputs.
- External sensors: More than 50 available (for more details see www.fourier-sys.com).

**Outputs**
- Bluetooth 1.2 communication wireless communication link.
- USB PC Host Interface at 1.1Mbps.

**Sampling**
- Resolution: 12 bit (4096 levels).
- Capacity: Up to 256,000 memory cells.
- Analog Sampling Rate: 1 sample/hr to 20,800 samples/sec.
- Digital Sampling Rate: >200kHz.

**Features**
- User interface: Alfa Numeric LCD, 2 lines by 16 characters each.
- Stand-alone operation working & sampling without connection to a PC.
- Automatic or manual sensor identification.
- Saving and loading of last setup.
- Triggering.
- Automatic calibration of offset sensors.
- Built-in battery charger for charging the 2.4V internal battery.
- Event recording.
- User defined sensors.

**Power Supply**
- Voltage: Internal rechargeable 2.4V NiMH battery.
- External 12V DC input.

**Software**
- MultiLab 1.3 for WIN, MAC, PALM and Pocket PC.

Curriculum
TriLink comes with Fourier curriculum packs, catering to middle and senior schools across the Physics, Biology and Chemistry curriculums. Experiment books are bursting with hundreds of complete student activities. Every one includes equipment checklists, setup procedures and step-by-step instructions to ensure successful experimentation. Scientific concepts are clarified via multimedia software data analysis exercises. These entail exercises for video analysis, plus graphs, equations and questions.

Sensors
More than 50 high-performance and accuracy sensors can be used with TriLink. These sensors cover the complete science curriculum throughout students’ academic careers. Recently Fourier has added a whole new range of sensors enabling teachers to broaden the variety of science experiments and student understanding. These include a wireless heart rate sensor, new Soil Moisture, Potassium, Nitrate, Flow rate, Charge, Chloride, Calcium and Amonium electrodes.

TriLink is the new wireless data logger from Fourier. Based on the MultiLogPRO design, TriLink has gone one step further by integrating Bluetooth wireless technology. TriLink is now able to communicate with all types of current and future PALM, PC, Pocket PC and MAC.

- Bluetooth wireless communication.
- Additional USB communication channel.
- Sampling of up to 8 sensors.
- More than 50 available sensors.
- High sampling resolution of 12b.
- Fast sampling rate of up to 20,800 samples per second.
- 256K internal sample memory.
- Built-in keypad and display.
- Available graphical analysis software for PC, MAC, PALM and Pocket PC.
- User-friendly.
- Cost effective.

TriLink data logger has taken MultiLogPRO design into the next generation.

Connecting TriLink to the laptop via USB cable enables students to perform numerous experiments.
TriLink embodies next generation data logging. Wireless experimentation means students are no longer tied to their PC. Now free from the clutter of cables their work and the class computer arrangement can be organized and flexible. No more “wet” bench tops. Now Science Lab computers can be positioned far away from “wet” experiments while still logging the experiment and gaining the full benefit of Fourier software – cable free!

TriLink is the ultimate multi-platform data logger, allowing both field and stand alone operation. TriLink can connect to PC or MAC and run Fourier’s MultiLab analysis software. In addition, Bluetooth wireless communication link enables TriLink to interface with PDA devices, such as PALM and Pocket PCs.

The comprehensive software program accompanying TriLink provides everything needed to collect the data and display it in graphs, meters and tables. Students can then analyze the data with sophisticated analysis tools and even view online or recorded video movies of the actual experiment. Fourier’s complimentary camera lets students film their entire experiment process.

Video Motion Analyzer takes any movie of motion (for example, throwing a ball) and converts it into data. The data can then be analyzed with all of MultiLab’s analysis tools.

MultiLab’s analysis tools.

The best analysis software with unique multimedia tools, including Video Motion Analysis.
The DaqPRO™ is a portable, battery operated data acquisition and logging system offering 16 bits, high-resolution 8 channel data logger. The DaqPRO feature powerful graphical display and analysis functions for measuring voltage, current and temperature. It is designed to provide a professional, compact, stand-alone low cost data logging system for a wide variety of applications.

**Features**

- Stand alone operation - sampling and displaying the measurements without connection to a computer
- Operates on a 7.2V rechargeable battery
- DaqPRO 5300 - 8 input channels measures voltage and current, PT100, thermocouples J, K, T and NTC
- 16 bit sampling resolution
- Rapid sampling - up to 4,000 samples per second
- Large data storage of 512KB RAM
- Large graphical display showing collected data as measured values, graphs or tables
- Setup via the DaqPRO keypad
- Fast USB communication channel
- Multiple logging storing up to 100 sampling sessions
- Ability to scale readings to meaningful engineering units (e.g. bar, ppm)
- Built-in clock and calendar - keeps track of time and date for each data recording
- On screen text editing adding more information to the collected data
- Powerful analysis software for Windows 95/98/2000/ME/XP and NT
- Lowest cost for 8 channel data logger
The DaqPRO with its high resolution and fast Analog to Digital converter (ADC) will meet the data logging requirements in most industrial applications. The ability to show measured values and to analyze them on its graphical display eliminates the need to download collected data to a computer for further analysis. The DaqPRO is the perfect choice for remote logging, and ideal for use as a mobile measuring device for the industrial environment.

Applications
- Quality assurance
- Plant and machine condition monitoring
- Field monitoring stations
- Automotive testing
- HVAC
- Plant trouble-shooting
- Electricity transients fail detection
- Monitoring of environmental conditions
- Food, drugs and electronic equipment storage conditions
- Water quality testing
- Research

And more...

About Fourier Systems
Fourier Systems Ltd. is a worldwide leader of compact portable data logging devices and accessories for the industrial market. Fourier’s robust line of advanced products is designed to automate and simplify daily data logging tasks. Beyond delivering quality products, Fourier is dedicated to providing sophisticated solutions that integrate the most advanced technologies. When it comes to professional data logging, leading companies around the world count on Fourier to provide them with the most up to date equipment.

www.fouriersystems.com

© 2004 Fourier Systems Ltd. All rights reserved. Fourier Systems Ltd. logos and all other Fourier product or service names are registered trademarks or trademarks of Fourier Systems. All other registered trademarks or trademarks belong to their respective companies. Doc. BK038, Rev. 03/04

DaqPRO™

The DaqPRO offers up to 8 PT-100 2 wire channels or 4 PT-100 3 wire Channels.

Specifications

<table>
<thead>
<tr>
<th>Inputs (DaqPRO 5300)</th>
<th>Open collector output (Output 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 8 differential inputs</td>
<td>Maximum current sink: 50mA (fuse protected)</td>
</tr>
<tr>
<td>• Selectable type for each input: 0-24mA, 0-50mV, 0-10V, NTC, PT-100, Thermocouple, Pulse and frequency (Input 1 only)</td>
<td>Input impedance: 50Ω</td>
</tr>
<tr>
<td>0-24mA</td>
<td>Communication</td>
</tr>
<tr>
<td>Range: 0-24mA</td>
<td>USB 1.1 compliant</td>
</tr>
<tr>
<td>Resolution: 0.47µA</td>
<td>Sampling</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>Capacity: 512KB</td>
</tr>
<tr>
<td>Loop impedance: 195Ω</td>
<td>Analog sampling rate: Variable, 1 sample/minute to 4,000 samples/sec, 1 channel</td>
</tr>
<tr>
<td>0-50mV</td>
<td>Analog sampling resolution: 16 bits</td>
</tr>
<tr>
<td>Range: 0-50mV</td>
<td>Man Machine Interface</td>
</tr>
<tr>
<td>Resolution: 3µV</td>
<td>• Full keyboard operation - enables manual programming of the logger</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>• Graphic LCD 6x4128 pixels</td>
</tr>
<tr>
<td>0-10V</td>
<td>Power Supply</td>
</tr>
<tr>
<td>Range: 0-10V</td>
<td>• Internal rechargeable 7.2V NiCd battery</td>
</tr>
<tr>
<td>Resolution: 200µV</td>
<td>• Built in battery charger</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>• External 9V to 12V DC input</td>
</tr>
<tr>
<td>Input impedance: 125KΩ</td>
<td>• Battery life: 40 hours between charges</td>
</tr>
<tr>
<td>NTC</td>
<td>Operating Temperature Range</td>
</tr>
<tr>
<td>Range: -25 - 150°C</td>
<td>0 to 50°C</td>
</tr>
<tr>
<td>Resolution: 0.05°C</td>
<td>Casing</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>Plastic ABS box</td>
</tr>
<tr>
<td>Temperature PT-100</td>
<td>Dimensions: 182x100x28 mm</td>
</tr>
<tr>
<td>Range: -200 - 400°C</td>
<td>Weight: 450gr</td>
</tr>
<tr>
<td>Resolution: 0.1°C (7mΩ)</td>
<td>Standards Compliance</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>CE, FCC</td>
</tr>
<tr>
<td>The DaqPRO offers up to 8 PT-100 2 wire channels or 4 PT-100 3 wire Channels</td>
<td>Analysis Software</td>
</tr>
<tr>
<td>Temperature Thermocouple J</td>
<td>• Running on Windows 95/98/2000/ME/XP and NT</td>
</tr>
<tr>
<td>Range: -200 - 1200°C</td>
<td>• Fast data download from the DaqPRO</td>
</tr>
<tr>
<td>Resolution: 0.1°C (1µV)</td>
<td>• Data displayed in numeric or graphical display forms</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>• Graphical analysis tools such as Zoom and Cursors</td>
</tr>
<tr>
<td>Cold junction compensation error: ±0.5°C</td>
<td>• Storage of selected data on disk files</td>
</tr>
<tr>
<td>Temperature thermocouple K</td>
<td>• Hard copy printing of the collected data</td>
</tr>
<tr>
<td>Range: -250 - 1200°C</td>
<td>• Direct data export to EXCEL</td>
</tr>
<tr>
<td>Resolution: 0.1°C (1µV)</td>
<td>• On-line retrieval and display of data in real-time</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>• Incorporating data processing functions</td>
</tr>
<tr>
<td>Cold junction compensation error: ±0.5°C</td>
<td>• Setting up the DaqPRO</td>
</tr>
<tr>
<td>Temperature thermocouple T</td>
<td>• Calibrating the DaqPRO</td>
</tr>
<tr>
<td>Range: -200 - 400°C</td>
<td>• Defining new sensors</td>
</tr>
<tr>
<td>Resolution: 0.1°C (1µV)</td>
<td>Accessories</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>• Carrying case</td>
</tr>
<tr>
<td>Cold junction compensation error: ±0.5°C</td>
<td>• Solar cell and battery for field data logging</td>
</tr>
<tr>
<td>Internal temperature</td>
<td>• Weather box complies with the IP-67 standard for protecting the DaqPRO while working in field applications.</td>
</tr>
<tr>
<td>Range: -25 - 70°C</td>
<td>Ordering Information</td>
</tr>
<tr>
<td>Resolution: 0.1°C (1µV)</td>
<td>Part number</td>
</tr>
<tr>
<td>Accuracy: ±0.5% FS</td>
<td>DaqPRO-3300</td>
</tr>
<tr>
<td>Pulse counter (Input 1 only)</td>
<td>SFTA0001</td>
</tr>
<tr>
<td>Optocoupler input</td>
<td>DT177</td>
</tr>
<tr>
<td>Range: 0-55,000</td>
<td>AC029</td>
</tr>
<tr>
<td>Input signal: 0-5V</td>
<td>AD12203</td>
</tr>
<tr>
<td>Input impedance: 4700Ω</td>
<td>DT180</td>
</tr>
<tr>
<td>Band width: 4-50kHz</td>
<td>To order DaqPRO products and accessories: <a href="http://www.fouriersystems.com">www.fouriersystems.com</a></td>
</tr>
</tbody>
</table>
DAQPRO Specifications

**Man Machine Interface**
Full keyboard operation - enables manual programming of the Logger
Graphic LCD 64x128 pixels

**Power Supply**
Internal rechargeable 7.2V NiCd battery
Built-in battery charger
External 9V to 12V DC input
Battery life: 50 hours between charges

**Firmware Upgrade**
Very easy replacement of the internal software chip
Future software upgrades available at a very low cost

**Operating Temperature Range**
0 to 50°C

**Casing**
Plastic ABS box
Dimensions: 182x100x28 mm
Weight: 450 gr

**Standards Compliance**
CE, FCC

**Analysis Software**
Running on Windows 95/98/2000/ME/XP and NT
Fast data download from DAQPRO
Data displayed in numeric or graphical display forms
Graphical analysis tools such as Zoom and Markers
Storage of selected data on disk files
Hard copy printing of the collected data
Direct data export to EXCEL
On-line retrieval and display of data in real-time
Incorporating data processing functions
Setting up the DAQPRO
Calibrating the DAQPRO

**Accessories**
Carrying case
Protection rubber boot
Solar cell and battery for field data logging
Weather box complies with the IP-67 standard for protecting the DAQPRO while working in field applications.

---

**DAQPRO 5300 Inputs**

- 8 differential inputs
- Selectable range for each input:
  - 0-20mA, 0-50mV, 0-10V, NTC, PT-100, Thermocouple, Frequency (Input 1 only)

**0-20mA Input**
- Range: 0-20mA
- Resolution: 0.4 μA
- Accuracy: ±5μA
- Loop impedance: 50Ω

**0-50mV Input**
- Range: 0-50mV
- Resolution: 1 μV
- Accuracy: ±0.5% of reading
- Input impedance: 200kΩ

**0-10V Input**
- Range: 0-10V
- Resolution: 160 μV
- Accuracy: ±0.5% of reading
- Input impedance: 200kΩ

**Temperature NTC Input**
- NTC: 10KΩ resistor
- Range: -25 – 110°C
- Resolution: 0.03°C
- Accuracy: ±1% of reading

**Temperature PT-100**
- Range: -200 – 400°C
- Resolution: 0.1°C (7mΩ)
- Accuracy: ±0.5% of reading

The DAQ-PRO offers up to 8 PT-100 2 wire channels or 4 PT-100 3 wire Channels.

**Temperature Thermocouple J**
- Range: -300 – 1500°C
- Resolution: 0.1°C (1μV)
- Accuracy: ±0.5% of reading
- Cold junction compensation error: ±0.3°C

**Temperature Thermocouple K**
- Range: -250 – 1100°C
- Resolution: 0.1°C (1μV)
- Accuracy: ±0.5% of reading
- Cold junction compensation error: ±0.3°C

**General A to D specifications**
- Noise: 30 μV rms
- Internal linearity error: ±0.08% of FSR
- Offset error: 0.1%

**Frequency Input (Input 1 only)**
- Zero crossing detector
- Sensitivity: 20mV
- Range: 0.3 Hz to 20,000 Hz
- Resolution: 50μs

**Communication**
- RS-232 at 19,200 BPS
- USB 1.1 compliant

**Sampling**
- Capacity: 256KB
- Analog sampling rate: Variable, 1 sample/hour to 10000 samples/sec
- Analog sampling resolution: 16 bits

---

To order MicroLog & MicroLog Plus products and accessories:
Nova5000: Next Generation Student Learning Appliance

The Nova5000 is a revolutionary, ultra low Total-Cost-of-Ownership (TCO) student learning appliance filling the gap between laptops and handheld solutions. Nova5000 offers schools a price performing solution for all of their computing needs, in the classroom, in the lab, at home and for outdoor activities by combining powerful computing performance with patent pending data logging functionality. National Science Foundation research demonstrates that probeware functionality can substantially improve student achievement in mathematics and science. The Nova5000 is the perfect device for 1:1 initiatives, science classrooms and general student computing.

- Rugged, electronic learning slate with 7.5” 640x480 color touch screen
- Windows CE.NET 5.0 operating system
- Low power Intel XScale processor for instant on and long battery life
- Large 7.2V battery for full school day operation
- Built in Fourier MultiLogPRO data logger with supporting math and science curriculum tools
- Flexible design with USB, CF and PS/2 ports
- Dimensions: 9.7” x 5” x 1.2”
- Weight: 1.8 lb

AVAILABLE JULY 2005
The principal educational goal in U.S. schools today is improved student achievement. Major implementations of 1:1 initiatives in Georgia, Maine, Texas and Virginia have demonstrated that student performance can be dramatically improved when students have more access to computers. As good as such programs are because of their cost they have been proven difficult to sustain and scale up.

Fourier Systems, Inc. has solved the TCO issue by providing schools a revolutionary ultra-low TCO student learning appliance. For the essential education tasks the Nova5000 gives you the educational performance of a laptop with the TCO of a handheld solution. When performance per dollar is the measure, the Nova5000 is best in class by a wide margin. When choosing a solution based on expectations of academic performance, Nova5000 is the unparalleled leader for 1:1 initiatives, science classrooms and general student computing.

Nova5000 is designed to meet the primary computing needs of students. This includes standard needs such as: Internet access, word processing, spreadsheets, and email. In addition, the Nova5000 offers a complete measuring platform to enhance learning of science and mathematics in the classroom, outdoors and at home. Nova5000 combines the MultiLab multimedia data analysis software that includes graphical manipulations, multiple analysis functions and Lab report direct printing capabilities. By integrating the Fourier data logger into the Nova5000, Fourier offers both an ultra-low TCO computer and a powerful data logger.

Nova5000 provides the highest learning output per computing dollar

Software packages

The Nova5000 comes with a software suite that meets most student computing needs:

- Windows CE 5.0
- Internet Explorer 6.0 for Windows CE.NET 5.0
- Flash 6.0
- WordPad
- Inbox
- Windows Media Player
- ActiveSync
- MultiLab - MultiLogPRO software
- All necessary management software like file manager, control panel, etc
- All necessary drivers for external accessories like USB, CRT, Keyboard, Mouse, Flash disks, etc
- Optional Microsoft Word compatible word processor and Microsoft Excel compatible spreadsheet

Hardware features

The Nova5000’s flexible hardware design includes a wide variety of interfaces for external accessories and provides a platform for future hardware expansion:

- 2 USB master ports supporting a wide range of USB devices
- USB slave port
- PS/2 keyboard port
- Compact Flash slot for memory expansion, WiFi and Bluetooth wireless
- VGA Video out to an external monitor or projection device
- External microphone input
- Headphone or speaker output
- Ethernet port
- IrDA port
- 4 MultiLogPRO sensor sockets supporting a selection of more than 65 sensors
- AC adaptor