



BE2400 Multiplexing Base Unit for BE2100 Sensors



Read up to Four BE2100 Sensors

The BE2400 base unit accommodates up to four BE2100 noninvasive optical biomass sensors (sold separately). Sensor readings can be viewed on the fluorescent display either sequentially (automatically scrolling), or the display can be locked to a specific sensor. New sensors are automatically detected as they are plugged in. Operational parameters for each sensor can be individually adjusted through the keypad interface.

Software Included

The BE2400 also allows you to communicate digitally with up to four BE2100 sensors using a single interface cable (either USB or RS232), enabling straightforward integration into a fermentor or bioreactor control system or connectivity with a computer. The included software program provides intuitive controls and the ability to track growth in real time. Five tab-indexed graphs allow results to be viewed for each individual sensor or all sensors overlaid. The software can also calibrate the sensors to any desired units (OD, g/L, cells/mL, etc.) as well as track important events (e.g. inoculation, nutrient additions).

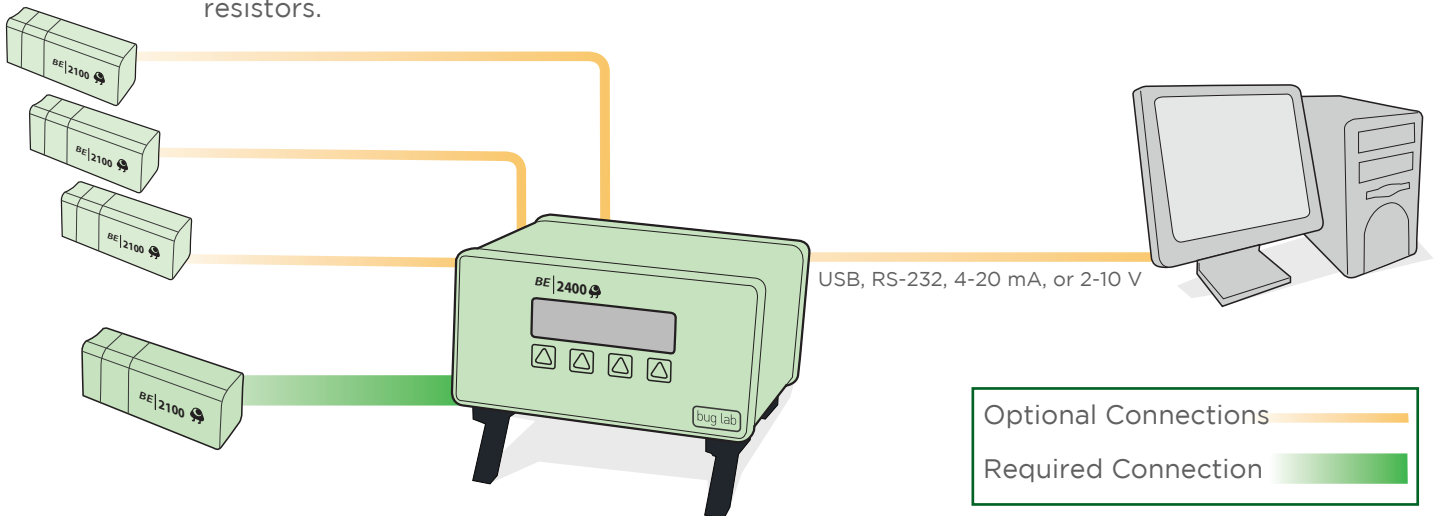
Simple Command Set

As an alternative to running the standard computer program, a well-documented serial command set is provided for communicating with each sensor using simple commands. The commands can be called from within any other computer program or control system that has the ability to send and receive serial commands. This makes it easy to integrate the BE system with other instrumentation. A LabView® instrument driver is also available on request.



Analog Output

Four analog outputs at the rear of the BE2400 base unit provide signal currents (4-20 mA) proportional to the reading of each sensor. The correspondence between the analog output and the sensor measurement is adjustable (using the “range” setting). The six logarithmically-spaced settings span range values from 0.01 to 1000. The analog output can be easily converted from current (4-20 mA) to voltage (2-10 V) using provided resistors.



BE2400 Base Unit Features

Base Unit (Features)

- Access to individual sensor and base unit settings through interactive keypad.
- Password control (optional) of keypad access.
- Lighted display with variable brightness control.
- Digital (USB and RS-232) and four analog (4-20 mA or 2-10 V) outputs.

User Interface Software (Features)

- Real-time graphical and numerical display for each sensor.
- Event marking on graph, both pre-defined and user-defined.
- Baseline setting and subtraction.
- User calibration of sensor output to any reference units.
- Access to all sensor and base unit settings.

User Interface Software (Requirements)

- Windows XP/ Vista / 7 Operating System.
- Available USB or 9-pin RS-232 COM port.
- Minimum 200 MB free hard disk space.
- CD reader (required only at time of software installation).



BE2400 Base Unit Specifications

Base Unit (Electrical)

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|---|--|
| DC Power In (Both US and International plug adapters available) | 9 V, 1 A |
| Certifications | CE marked. Tested for compliance to EMC standards EN55011 and EN61000, and safety standard EN 61010. |
| Sensor Input: | Up to 4 BE2100 sensors |
| Connector | BE2100 sensor, female (4-wire, threaded) |
| Analog Output: | 4-20 mA (500Ω max.) or 2-10 V (using provided 500 Ω resistors) |
| Resolution | 12 bits (0.004 mA or 2 mV) |
| Range Settings | 6 settings, logarithmically spaced: 0.01-1000 |
| Number of Outputs | 8 ('+' and '-' screw terminal positions for each sensor) |
| Digital Output | RS-232/DB9 and USB |
| Communications Cable (optional): | |
| Connectors | DB9 (M/F) or USB (A/B) |
| Length | |
| Standard | 2 m (6') |
| Custom | up to 15 m (50') |

Base Unit (Physical)

| | |
|-------------------------------------|----------------|
| Overall Width | 15.9 cm (6.2") |
| Overall Length (without connectors) | 13.2 cm (5.2") |
| Overall Height (without feet) | 8.2 cm (3.2") |

Base Unit (Environmental)

| | |
|-----------------------|---------------------------|
| Operating Temperature | 0 to 40 °C (30 to 100 °F) |
| Operating Environment | dry location use only |

