DATASHEET

# CurrentX16-160mA

MadgeTech

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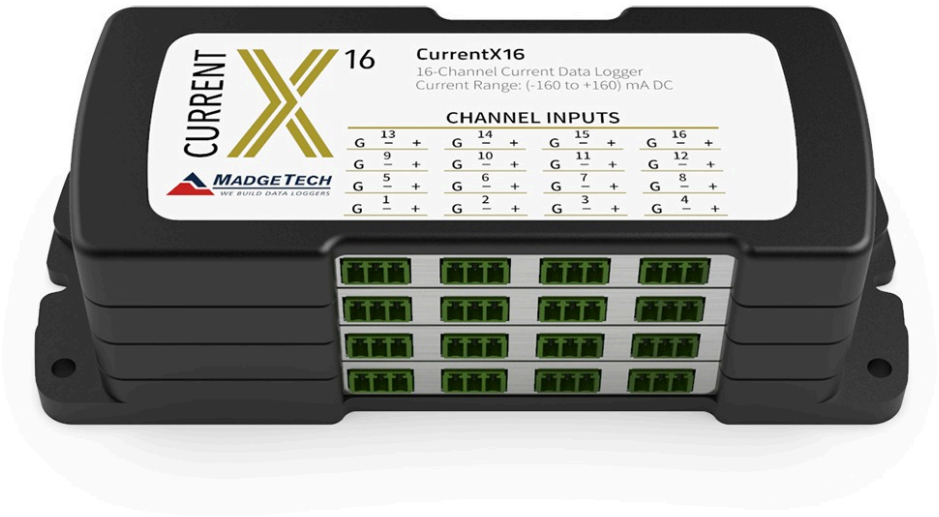
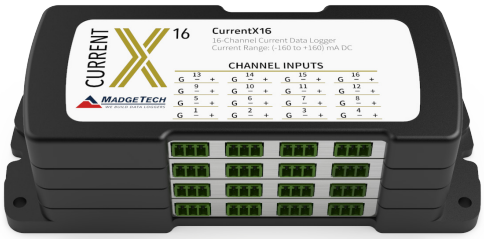


MADGETECH
WE BUILD DATA LOGGERS

X SERIES

# CurrentX Series

## 4, 8, 12 and 16-Channel Current Data Loggers




The new CurrentX Series consists of 4, 8, 12 and 16-channel, battery powered, low level DC current data loggers with a reading rate of up to 4 Hz. Improvements include the elimination of an interface cable (uses standard USB-A to Micro USB), increased memory for more readings and increased download speed.

These easy-to-use devices feature an 18 month typical battery life, user replaceable battery and programmable engineering units. The storage medium is non-volatile solid state memory, providing maximum data security even if the battery becomes discharged. To maximize memory capacity, users can enable or disable channels. For easy identification, each channel can be named with up to a ten digit title.

Using the MadgeTech Software, starting, stopping and downloading from the CurrentX Series data loggers is simple and easy. Graphical, tabular and statistical data is provided for analysis and data can be viewed in multiple units, using the Engineering Units function. The data can also be automatically exported to Excel® for further calculations.

## Features

- 16-bit Readings Provide High Resolution
- User-defined Engineering Units
- Pushbutton or Programmable Start Time
- External Power or User Replaceable Battery
- Real Time Operation
- Up to 4 Hz Reading Rate
- Calibration Certificate included
- Title Channels

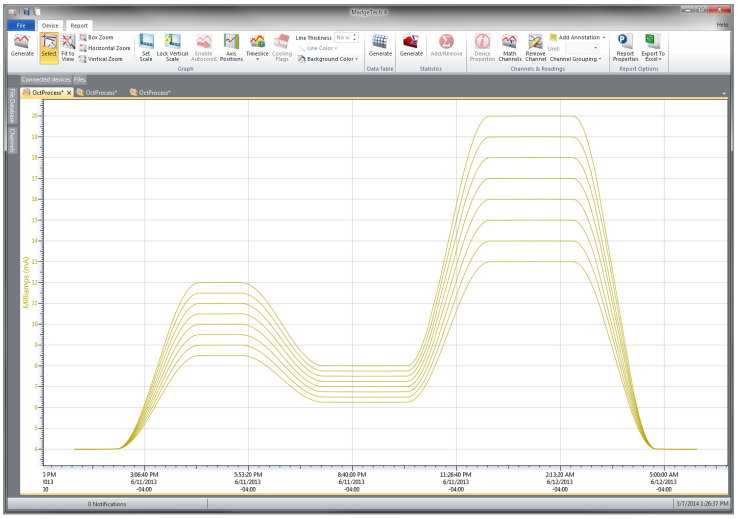
## Benefits

- Simple Setup and Installation
- Minimal Long-Term Maintenance
- Long-Term Field Deployment

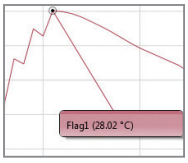
## Applications

- 4 mA to 20 mA Current Loops
- pH Recording
- Low Level Signal Monitoring
- Photovoltaic Studies
- Battery Studies
- Biological Sensor Monitoring
- Factory Process Control
- Research and Development
- Medical and Pharmaceutical
- Environmental Studies

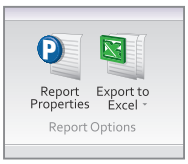
## MadgeTech 4 Software Features



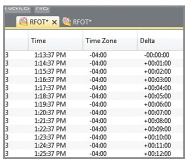
Graph View



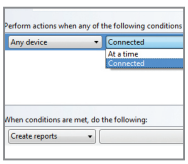

Cooling Flags




Export to Excel



Tabular Data View




Automation

- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations (F0, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Summary view

# SPECIFICATIONS

Specifications are subject to change without notice. Specific warranty remedy limitations apply. Call (603) 456-2011 or go to **madgetech.com** for details.

| MEASUREMENT | | | |
|---|---|---|---|
| **Input Connection** | 3-input removable screw terminals | | |
| **Model** | 30 mA | 160 mA | 3 A |
| **Current Range** | -2 mA to +30 mA | ±160 mA | ±3 A |
| **Current Resolution** | 0.0005 mA | 0.005 mA | 0.001 A |
| **Calibrated Accuracy** | ±0.016 mA | ±0.16 mA | ±0.009 A |
| **Input Impedance** | 10 Ω | 1 Ω | 0.1 Ω |
| **Overload Protection** (-0.3 V to +3.5 V) | ±316 mA | ±1000 mA | ±6 A |
| **Maximum Voltage Between Inputs to Ground** | 3 V (Common mode voltage must be less than 3 volts. All inputs must be within 3 volts of all other inputs.) | | |
| **Analog Conversion Time** | 150 ms | | |
| **Temperature Coefficient** | < 50 ppm / °C typical | | |
| **Engineering Units** | Native Measurement units can be scaled to display measurement units of another type. This is useful when monitoring current outputs from different types of sensors such as temperature, $CO_2$, flow rate and more. | | |

| GENERAL | |
|---|---|
| **Start Modes** | Software programmable immediate start or delay start up to six months in advance, programmable in software |
| **Real Time Recording** | May be used with PC to monitor and record data in real time |
| **Memory** | **4-channel:** 1,048,064 readings<br>**8-channel:** 524,032 readings<br>**12-channel:** 349,354 readings<br>**16-channel:** 262,016 readings |
| **LEDs** | 1 per channel and 2 status LEDs |
| **Reading Rate** | 4 Hz up to 1 reading every 24 hours |
| **Calibration** | Digital calibration through software |
| **Calibration Date** | Automatically recorded within device |
| **Battery Type** | 9 V lithium battery included, **user replaceable** |
| **Battery Life** | 18 months typical |
| **Data Format** | Date and time stamped A, mA, µA, engineering units specified through software |
| **Time Accuracy** | ±1 minute/month |
| **Computer Interface** | USB-A to micro USB cable (included); 460,800 baud |
| **Operating System Compatibility** | Windows XP SP3 or later |
| **Software Compatibility** | Standard Software version 4.2.19.0 or later<br>Secure Software version 4.2.18.0 or later |
| **Operating Environment** | -20 °C to +60 °C (-4 °F to +140 °F),<br>0 %RH to 95 %RH non-condensing |
| **Dimensions** | **4-channel:** 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm)<br>**8-channel:** 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm)<br>**12-channel:** 2.70 in x 7.25 in x 1.68 in (65.6 mm x 184.2 mm x 42.7 mm)<br>**16-channel:** 2.70 in x 7.25 in x 2.14 in (65.6 mm x 184.2 mm x 54.4 mm) |
| **Material** | Black anodized aluminum |
| **Weight** | **4-channel:** 13 oz (368 g)<br>**8-channel:** 13 oz (368 g)<br>**12-channel:** 20 oz (580 g)<br>**16-channel:** 28 oz (800 g) |
| **Approvals** | CE |

BATTERY WARNING: BATTERY MAY LEAK, FLAME OR EXPLODE IF DISASSEMBLED, SHORTED, CHARGED, CONNECTED TOGETHER, MIXED WITH USED OR OTHER BATTERIES, EXPOSED TO FIRE OR HIGH TEMPERATURE. DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN.

## Ordering Information

| | | |
|---|---|---|
| **CurrentX4-30mA** | PN 902191-00 | 4-Channel 30 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX4-160mA** | PN 902195-00 | 4-Channel 160 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX4-3A** | PN 902199-00 | 4-Channel 3 A Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX8-30mA** | PN 902192-00 | 8-Channel 30 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX8-160mA** | PN 902196-00 | 8-Channel 160 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX8-3A** | PN 902200-00 | 8-Channel 3 A Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX12-30mA** | PN 902193-00 | 12-Channel 30 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX12-160mA** | PN 902197-00 | 12-Channel 160 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX12-3A** | PN 902201-00 | 12-Channel 3 A Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX16-30mA** | PN 902194-00 | 16-Channel 30 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX16-160mA** | PN 902198-00 | 16-Channel 160 mA Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **CurrentX16-3A** | PN 902202-00 | 16-Channel 3 A Current Data Logger, USB-A to micro USB cable, universal power adapter |
| **U9VL-J** | PN 901804-00 | Replacement battery for CurrentX Series |

For Quantity Discounts call (603) 456-2011 or email **sales@madgetech.com**

AKIBIS www.akibis.info contact@akibis.info