DATASHEET

# Process101A-20mA

MadgeTech

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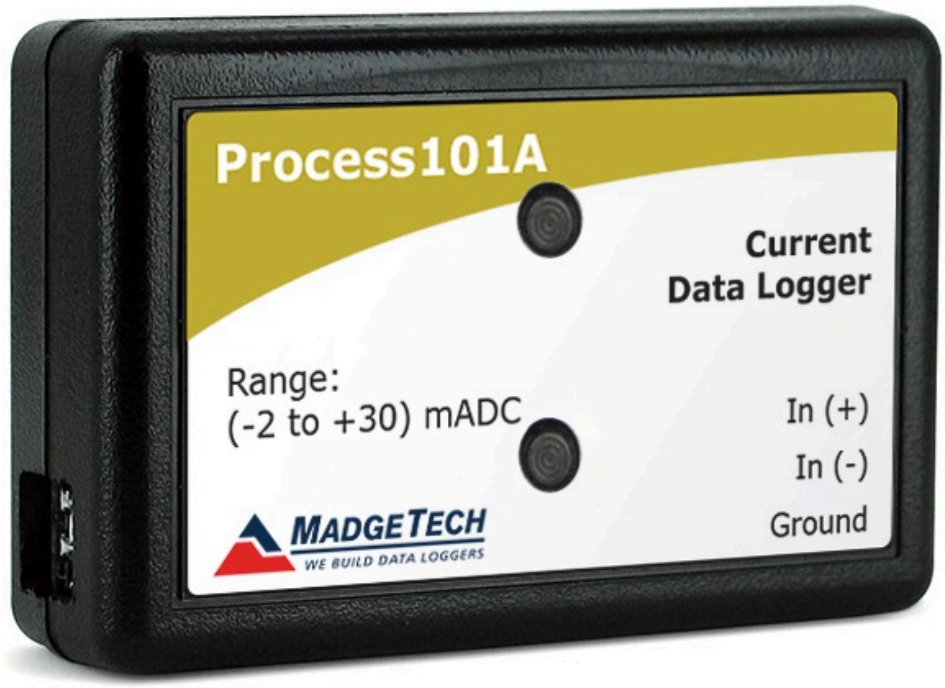
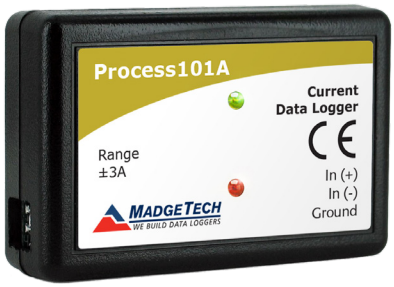


MADGETECH
WE BUILD DATA LOGGERS

# Process101A

## DC Current Data Logger




The Process101A Data Logger measures and records low level DC current and is available in three different measurement ranges, 30 mA, ±160 mA and ±3 A. This device is ideal for many process driven, general purpose current recording applications including battery or photovoltaic studies.

All of the ranges offer a 10 year battery life, 4 Hz reading rate, programmable or pushbutton start/stop and a 2,000,000 reading storage capacity with optional memory wrap. These features allow for long term active logging deployment and low maintenance. As with many of MadgeTech's 101A series of data loggers, the screw terminal block is designed to easily connect and disconnect to the logger body to simplify retrieval of the device for downloading data by keeping the wiring to the terminal block in place.

Other features of the Process101A include a battery life indicator, optional password protection, programmable high-low alarms and more.

Using the MadgeTech Software makes configuring the data logger and downloading data simple and user friendly. Graphical, tabular and summary data format options are provided for analysis and data can be viewed in A, mA or µA. The data can also be exported to Excel® for further customized reporting or calculations.

## FEATURES

- 10 Year Battery Life
- 4 Hz Reading Rate
- Multiple Start/Stop Function
- Ultra High Speed Download
- 2,095,104 Reading Storage Capacity
- Memory Wrap
- Battery Life Indicator
- Optional Password Protection
- Programmable High and Low Alarms
- Field Upgradeable

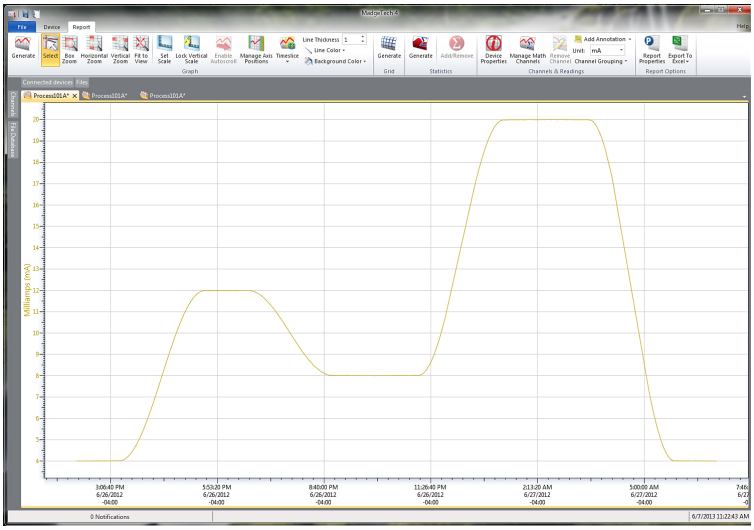
## BENEFITS

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

## APPLICATIONS

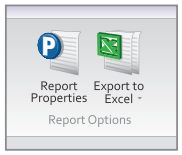
- 4 mA to 20 mA Recording
- pH Recording
- Low Level DC Current Monitoring
- Photovoltaic Studies
- Battery Studies
- General Purpose Current Recording

## MadgeTech 4 Software Features

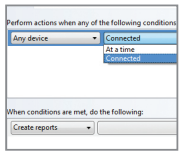


Graph View

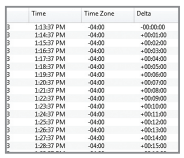
- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations (F0, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Summary view



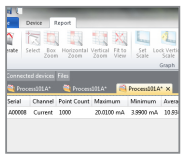

Export to Excel



Automation



Tabular Data View



Statistics

# Specifications

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

## GENERAL

| | |
|---|---|
| **Start Modes** | Immediate start<br>Delay start up to 18 months<br>Multiple pushbutton start/stop |
| **Stop Modes** | Manual through software<br>Timed (specific date and time) |
| **Multiple Start/Stop Mode** | Start and stop the device multiple times without having to download data or communicate with a PC |
| **Real Time Recording** | May be used with PC to monitor and record data in real time |
| **Password Protection** | An optional password may be programmed into the device to restrict access to configuration options. Data may be read without the password. |
| **Memory** | 2,095,104 readings; software configurable memory wrap<br>419,020 readings in multiple start/stop mode |
| **Wrap Around** | Yes |
| **Reading Rate** | 4 Hz to 1 reading every 24 hours |
| **Alarm** | Programmable high and low limits; alarm is activated when current reaches or exceeds set limits |
| **LEDs** | 2 status LEDs |
| **Calibration** | Digital calibration through software |
| **Calibration Date** | Automatically recorded within device |
| **Battery Type** | 3.6 V lithium battery included; user replaceable |
| **Battery Life** | 10 years typical at a 15 minute reading rate |
| **Data Format** | Date and time stamped current, engineering units specified through software |
| **Time Accuracy** | ±1 minute/month at 25 °C (77 °F) – Stand alone data logging |
| **Computer Interface** | USB (interface cable required); 115,200 baud |
| **Operating System Compatibility** | Windows XP SP3 or later |
| **Software Compatibility** | Standard Software version 2.03.06 or later<br>Secure Software version 4.1.3.0 or later |
| **Operating Environment** | -40 °C to +80 °C (-40 °F to +176 °F)<br>0 %RH to 95 %RH non-condensing |
| **Dimensions** | 1.4 in x 2.1 in x 0.6 in (35 mm x 54 mm x 15 mm) |
| **Material** | Polycarbonate |
| **Weight** | 0.8 oz (24 g) |
| **Approvals** | CE |

## MEASUREMENT

| **Model** | **30 mA** | **160 mA** | **3 A** |
|---|---|---|---|
| **Measurement Range** | -2 mA to +30 mA | ±160 mA | ±3 A |
| **Maximum Voltage Between Inputs to Ground** | 0 V to 2.5 V | | |
| **Resolution** | 0.5 µA | 5 µA | 100 µA |
| **Calibrated Accuracy** | ±0.05 %FSR | ±0.05 %FSR | ±0.15 %FSR |
| **Input Impedance** | 10 Ω, ±1% | 1 Ω, ±1% | < 0.05 Ω |
| **Absolute Maximum Current** | 316 mA | 1 A | 6 A |
| **Input Connection** | Removable screw terminal | | |
| **Analog Conversion Time** | 133 ms nominal | | |
| **Frequency Rejection** | 50-60 Hz | | |
| **Temperature Coefficient** | < +/- 50ppm / °C typical | | |
| **Engineering Units** | Native measurement units can be scaled to display measurement units of another type. This is useful when monitoring voltage outputs from different types of sensors such as temperature, CO2, flow rate and more | | |

**BATTERY WARNING:** FIRE, EXPLOSION AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 100 °C (212 °F), INCINERATE, CRUSH, OR EXPOSE CONTENTS TO WATER.

# Ordering Information

| | | |
|---|---|---|
| **Process101A-30mA** | PN 901063-00 | -2 to +30 mA, Low Level Current Data Logger |
| **Process101A-160mA** | PN 901059-00 | ±160 mA, Low Level Current Data Logger |
| **Process101A-3A** | PN 901067-00 | ±3 A, Low Level Current Data Logger |
| **IFC200** | PN 900298-00 | USB interface cable |
| **LTC-7PN** | PN 900352-00 | Replacement battery for the Process101A |

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

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