**MADGETECH**
WE BUILD DATA LOGGERS

## State101A

| Description | State101A |
|---|---|
| Input Range | 0 V to 30 V |
| Input Low | <0.4 V |
| Input High | >2.8 V |
| Internal Weak Pull-Up | <60 µA |
| Minimum Input Active (Low) Time | 10 Microseconds |
| Resolution | 4 Hz (reading rate selectable in software) |
| Channels | 1 |
| Memory | 406,323 readings; software configurable memory wrap |
| Reading Rate | 4Hz to 1 every 24 hours |
| LED Indicator | Red and Green |
| Required Interface Package | IFC200 |
| Baud Rate | 115,200 |
| Battery Life | 10 years typical, dependent upon frequency and duty cycle |
| Operating Environment | –40 °C to +80 °C, 0 %RH to 95 %RH (non–condensing) |
| Material | ABS plastic |
| Dimensions | 1.4 in x 2.2 in x 0.6 in (36 mm x 56 mm x 16 mm) |
| Weight | 0.9 oz (24 g) |
| Approvals | CE |
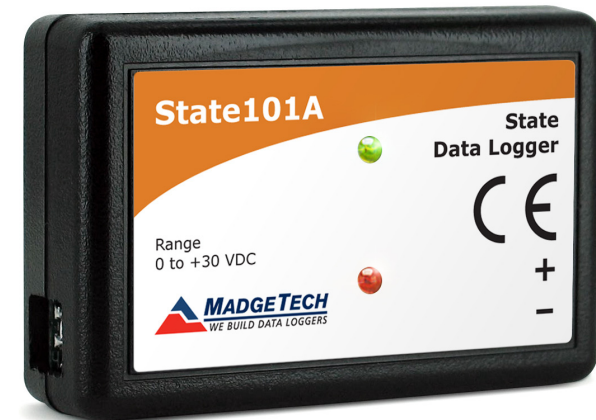


### State101A
State Data Logger with 10 Year Battery Life

### Battery Warning

*WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80 °C (176 °F).*

*Specifications subject to change.*
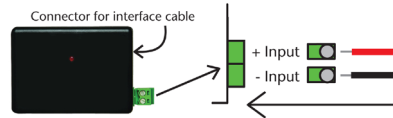*See MadgeTech's terms and conditions at www.madgetech.com*

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To view the full MadgeTech product line, visit our website at www.madgetech.com.

## Wiring the Data Logger

### Wiring Options

The State101A has a two-position removable screw terminal connection. It accepts 2-wire configurations.



Connector for interface cable

\+ Input
\- Input

*Warning: Note the polarity instructions. Do not attach wires to the wrong terminals.*

## Product Notes

The State series data loggers measure a digital signal. It records state changes (i.e. on/off, open/closed) and the duration of time between the changes. If there is a change in voltage above 2.7 V's or below 0.4 V's, the device will register a state change. At the specified reading rate, the device will take a reading and write the state to memory. It is important to choose a reading rate that is faster than the change could occur to ensure that it will be captured by the data logger. Memory is only used if the state has changed. If the state remains the same as the previous reading, it will not record to memory, but will continue to indicate that state. The State series loggers can accept up to 30 VDC continuous.

### LEDs

- Green LED blinks: 10 seconds to indicate logging and 15 seconds to indicate delay start mode.
- Red LED blinks: 10 seconds to indicate low battery and/or memory and 1 second to indicate an alarm condition.

### Engineering Units

Engineering units are used to convert one measurement unit to another. The MadgeTech software allows for software level Engineering Units (conversion applied to data after download). Certain devices have device level Engineering Units, which upon download automatically appear in the chosen unit of measure.

Please refer to the application note "Engineering Units" and Technical Support Videos, found on the MadgeTech website, for information on how to manage Engineering Units. Also view the Engineering Units Video for step-by-step setup instructions.

### Password Protection

An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.

### Multiple Start/Stop Mode Activation

- To start device: Press and hold the pushbutton for 5 seconds, the green LED will flash during this time. The device has started logging.
- To stop device: Press and hold the pushbutton for 5 seconds, the red LED will flash during this time. The device has stopped logging.

## Installation Guide

### Installing the Interface cable

- IFC200: Insert the device into a USB port. The drivers will install automatically.

### Installing the software

Insert the Software USB Stick in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

## Device Operation

### Connecting and Starting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Connect the USB end of the interface cable into an open USB port on the computer.
- The device will appear in the Connected Devices list, highlight the desired data logger.
- For most applications, select "**Custom Start**" from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click "**Start**". (*"Quick Start" applies the most recent custom start options, "Batch Start" is used for managing multiple loggers at once, "Real Time Start" stores the dataset as it records while connected to the logger.*)
- The status of the device will change to "**Running**", "**Waiting to Start**" or "**Waiting to Manual Start**", depending upon your start method.
- Disconnect the data logger from the interface cable and place it in the environment to measure.

*Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.*

### Downloading data from a data logger

- Highlight the data logger in the Connected Devices list. Click "**Stop**" on the menu bar.
- Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
- Downloading will offload and save all the recorded data to the PC.

## Device Maintenance

### Battery Replacement

Materials: Small Phillips Head Screwdriver abd a Replacement Battery (LTC-7PN)

- Puncture the center of the back label with the screw driver and unscrew the enclosure.
- Remove the battery by pulling it perpendicular to the circuit board.
- Insert the new battery into the terminals and verify it is secure.
- Screw the enclosure back together securely.

*Note: Be sure not to over tighten the screws or strip the threads.*

### Recalibration

The State101A has a digital input signal and cannot be calibrated. A certificate of conformance can be provided.

*To send the devices back, visit www.madgetech.com, select* **Services** *then* **RMA Process**.