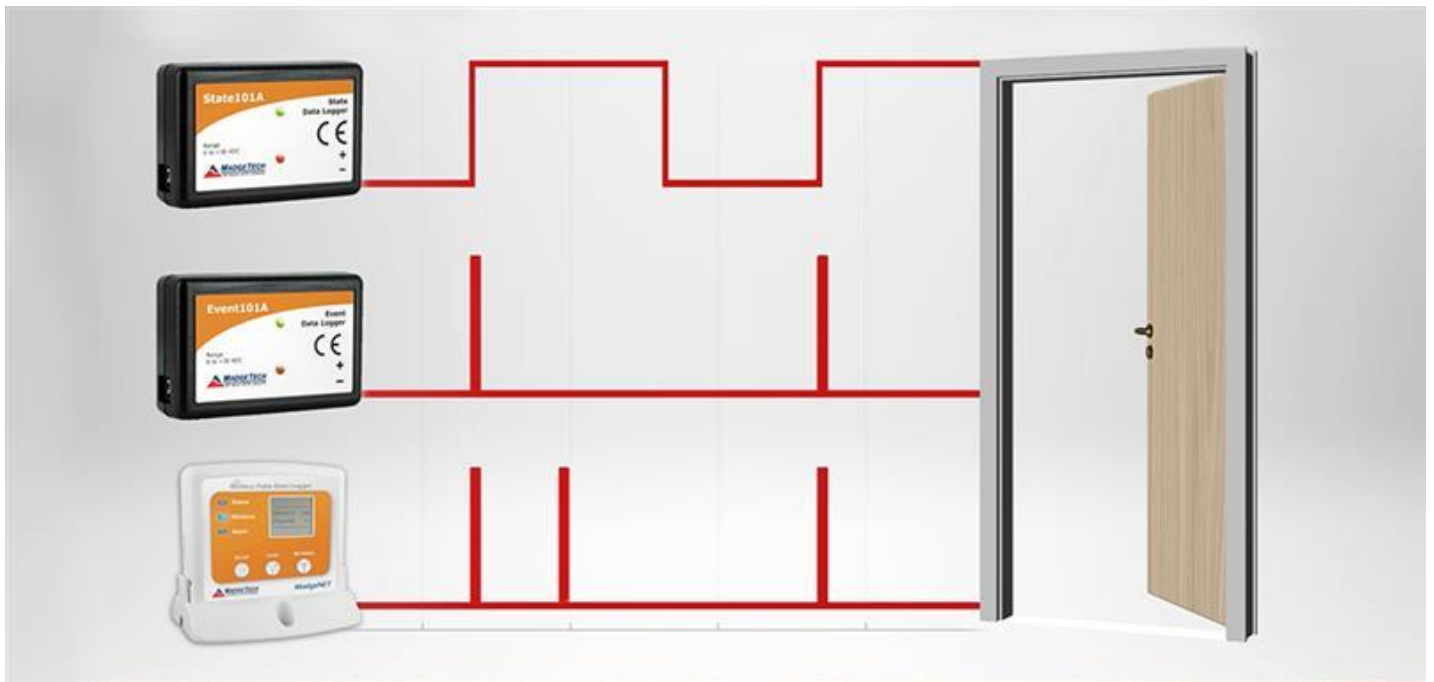# Choosing Between State, Event & Pulse

State, event, and pulse data loggers, although related, each serve very different purposes. Understanding the differences between the trio will help you select the right logger for the application.

State	**Event**	**Pulse**
How long an event lasts	When an event occurs	Number of events in a time interval

State

State data loggers record a time-stamped reading whenever the state of signal changes over a period of time. This data can be used to determine the duration of an event.

Example:

When monitoring door traffic, a state data logger would record the time door opened and the time it closed. From that data, the user can calculate how long the door was open for. However, if an open door were to be caught before it closed, it would not be recorded since it did not trigger at the initial change of state.

Applications:

– HVAC Systems
– Security Systems
– Power Supply (on/off)
– TTL (high/low)
– Contact Closure Status

Event

Event data loggers record the number of events that occur, but not the duration of the events. Keep in mind, this device only records a single direction time-stamped data point when an event takes place.

Example:	**Applications:**
When monitoring door traffic, an event data logger can track the number of times the door was opened, but not how long it was open for. Unlike the state data logger, the event data logger will trigger if an open door were to be caught before it closed.	– Rainfall Monitoring – Contact Closure Status – Time Studies – Traffic Studies

Pulse

Pulse data loggers record the number of pulses that occur over a period of time. This device does not time-stamp each pulse like the state and event data loggers, but rather groups them together according to the time period they occurred in. Pulses must be at least 10 microseconds in duration and at least 100 microseconds apart to be detected.

Example:	**Applications:**
When monitoring door traffic, a pulse data logger will record the number of times the door was opened within a specific time period.	– Wind Speed – Energy Monitoring – Flow Rate Monitoring

MadgeTech offers data logging solutions for state, event and pulse. To help find the best solution for your application, give us a call at 1300 662 720 or email **sales@pacificsensortech.com.au**.