

# A STEP-BY-STEP GUIDE TO SELECTING AND USING A DATA LOGGER FOR VACCINE INVENTORY



ALABAMA

Vaccines for Children  
PROGRAM

Follow CDC recommendations & VFC requirements

<http://www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf>

Use Immunization program resources

Keep staff skills and capabilities in mind

Take immediate action when alarm is triggered.

- If needed, move vaccines to correct temperature
- Call immunization program
- Call vaccine manufacturer

File monthly reports for three years

Follow manufacturer instructions for set up

Detachable buffered probe

Current/valid ISO17025 certificate of calibration testing

Device stores data

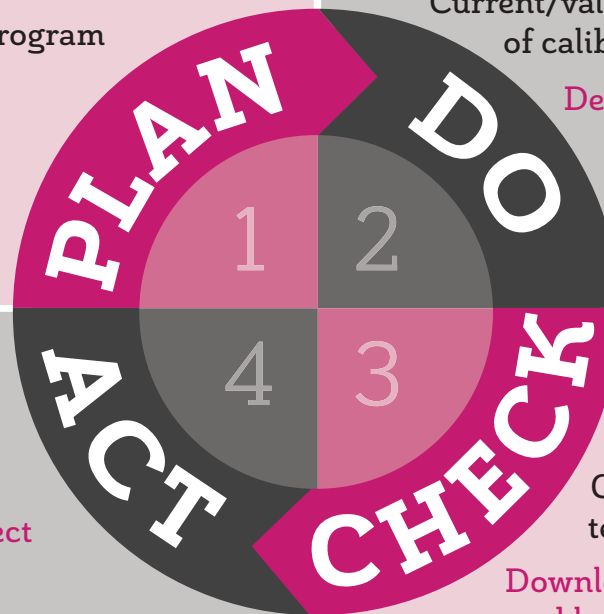
Read Min/Max/Current temperature twice daily

Check for out of range temperature alarms

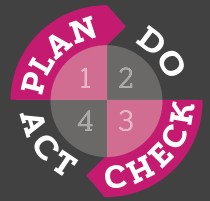
Download and review data weekly

Stop & check when alarm triggered

Assure probe is with vaccine in center of unit



# USING A DATA LOGGER – THE DETAILS



## PLAN 1

- Detachable temperature probe in buffered material (e.g. bio-safe glycol)
- Check for availability of training tools to support providers and staff before purchasing
- ISO 17025 calibration certificate
- Continuous temperature recording: Minimum every 15 minutes
- Memory: Minimum 4,000 readings or 39 days
- Operating range: -25°C to +55°C ( -13°F to +133°F)
- Uncertainty/Accuracy: ± 0.5°C
- Resolution: 0.1°C (or 1 decimal point)
- Battery life: Minimum 6 months
- Track when temperatures are checked: Minimum 2x/day
- LCD display with: current, Min and Max temperatures visible – PLUS alarm status OK or Not OK
- Report: Shows alarms, temperature ranges and duration of excursions
- Assess custom software to avoid installation issues – especially with hospitals and clinics
- Data export capability: Excel, CSV, Txt

## DO 2

- Place probe in the middle of the unit with vaccines.
- Thread probe wire through door hinge and tape in place (inside & outside the unit).
- First week: reveals storage equipment temperature issues right away
- Know where to find the ISO certificate – Check for an expiry date on the data logger
- Both audible and visual alarms are preferred

## CHECK 3

- Read and record temperatures 2x daily noting data/time/temp/initials
  - Note: Initials may be in a separate log book
  - Some data loggers offer this feature
- Download and review reports weekly
  - PDF reports simplify record keeping

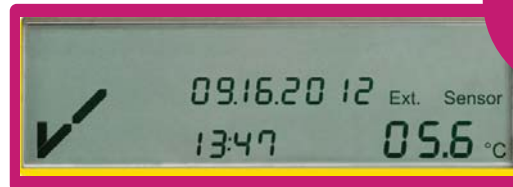
## ACT 4

- Take immediate action: when there is an alarm
  - Move vaccines to a storage unit operating at the correct temperatures
  - Print report and look for clues to the problem
    - E.g. Is the ave. temperature 5.0°C (41°F)?
    - If not it is too cold or too warm in the unit
  - Send alarm information to immunization program and vaccine manufacturer
  - Alarm reports require the duration of the alarm period and the highest or lowest temp. during the alarm
- Store monthly reports per state/VFC requirements



Display screen

Thread flat wire through gasket on hinged side of unit



Stabilize vial with probe on shelf

Duct tape wire to wall



## Data logger manufacturers and distributors:

Accsense [http://www.accsense.com/p\\_p\\_a102.html](http://www.accsense.com/p_p_a102.html)

Berlinger <http://www.berlinger.com/en/temperature-monitoring/productshardware/data-loggers/>

Control Solutions Inc. [www.vfcdataloggers.com](http://www.vfcdataloggers.com)

Dickson <http://www.dicksondata.com/products/find/data-logger>

DeltaTrak <http://www.deltatrak.com/flashkink-vaccine-usb-pdf#specifications>

Lascar Electronics <http://www.lascarelectronics.com/data-logger/>

Onset (Hobo) <http://www.onsetcomp.com/>

SensoScientific <http://www.sensoscientific.com/vaccine-vfc/>

T&D Corporation <http://www.tandd.com/#fragment-1>

Temperature Guard <http://temperatureguard.com/>

Temperature@lert <http://www.temperaturealert.com/Temperature-Alarm.aspx>

Tip Temperature Products [www.tiptemp.com](http://www.tiptemp.com)

In order to be assured your data logger meets all desired specifications, you may want to discuss them with your vendor. Below is a list of questions to ask your vendor to help you understand all the functions of a data logger. You may use the chart on the next page to fill-in information and compare models.

### Questions to ask about desired specifications:

- Does this data logger display the current, minimum, and maximum temperature? Is the display outside of the vaccine storage unit (refrigerator or freezer) where it can be easily accessed?
- Does the unit have an alarm that will alert the user if temperature exceeds the high/low thresholds?
- Does the unit have a reset button that clears the minimum and maximum temperatures since the last clearing?
- Does the unit have a low battery indicator?
- Does the unit have one or more detachable temperature probe(s) in glycol or suitable temperature buffer?
- Does the temperature probe and unit measure accurately, within +/- 0.5°C (+/-1°F and come with a Certificate of Traceability and Calibration?

- Can it record at least a month worth of readings at a 10 minute sample rate?
- Does this unit loop data (record over the oldest data) when memory is full?
- Is the logging interval customizable? At what intervals can this device record?

**Questions to ask about additional features:**

- Can this unit connect more than one probe?
- Can this unit transmit data wirelessly?
- Is a power cord available?
  - o If not, does the battery last at least 1 year?
  - o How long does the battery last?
  - o Is the battery replaceable?
- Is software included or available for separate purchase? (If separate, considering purchasing to access your stored data).
- What are the system requirements for the software?
- Can this unit place phone calls (landline and mobile), send text messages, and/or send e-mail messages to several numbers and addresses if it detects a temperature excursion?
  - o If so, can a user query the monitor for additional readings while traveling to the office? (If it “recovers” as in a power outage, you want to be able to return home).