

LogTag®

TIC20

TEMPERATURE INDICATOR

The **LogTag TIC20** is a disposable electronic temperature indicator for use in monitoring temperature & time statistics in pharmaceutical transport applications of up to 20 days duration.

Current temperature, elapsed time, load status, monitoring status and battery condition can all be seen at a glance at any time during the trip. On arrival at the destination, monitoring can be stopped and the user can then review time and temperature statistics for each day of the trip, up to 20 days maximum.

The LogTag TIC20 is factory pre-configured for one of a range of monitoring profiles. Special profiles are available on request, subject to conditions.

Statistical data can be downloaded from the TIC20 using an interface cradle and freely available LogTag Analyzer operating software if required.

The TIC20 offers an accurate and cost effective solution for monitoring the pharmaceutical cold chain in "last mile" distribution and other applications where full data logging capability is not required.

LogTag® Recorders

www.logtag-recorders.com



Monitoring Display
LOAD OK



Monitoring Display
LOAD REJECT



Features

- Factory pre-configured to monitor a range of standard vaccines
- Standard 60 minute start delay
- Clear indication of temperature history/alarm status at all times
- Up to 20 days temperature records can be viewed on the display
- Push button Start and Stop. Push Review button to display daily statistics in sequence
- Data can be downloaded via an interface cradle and LogTag Analyzer if required
- Robust and Accurate. Data collected is secure and cannot be manipulated
- Fits easily into packages and can be mailed via letter rate

Modes of Operation

Ready Mode

Push any button. "Ready" shows the indicator is ready to be started.

Start Mode

Press and hold the Start button. "Monitoring" will flash. Release Start button when flashing stops. The Indicator is now in the 60 minute start delay.

Monitoring Mode

"Monitoring" appears on the display. The indicator is now taking a temperature reading every 6 minutes. Elapsed time in hours and days appears on the display. If an Alarm occurs, the day segment is illuminated and the OK symbol is replaced by an X.

Review Mode

Press the Review button to view statistics for each day.

Stopped Mode

Press and Hold the Stop button. "Stopped" will flash. Release Stop button when flashing stops. The Indicator is now Stopped.

Factory Configurations

Type 1 Alarm version

DTP, DT, TT, Td, HepB, IPV, liquid Hib, MenAfrivac, HPV and PCV vaccines.

Type 2 Alarm version

OPV, freeze-dried BCG, measles, MR, MMR, lyophilized Hib, yellow fever, meningitis, Rabies and Rotavirus vaccines.

Specifications

See over page for detail specifications.

Hypothetical Example

See over page for screen images and description of a 5 day hypothetical scenario.

TIC20

Product Specifications

This product is designed to meet or better the WHO PQS performance specification E06/TR07.2

Operating Temperature Range

-30°C to +60°C

Storage Temperature Range

-30°C to +65°C

Ambient humidity range during transport and use

0 to 95%RH

Resolution

0.1°C or better in range of -30°C to +60°C

Accuracy

- Better than ±0.5°C for -10°C to +40°C
- Better than ±1.0°C for -30°C to -10°C
- Better than ±1.0°C for +40°C to +60°C

Capacity

- Minimum & Maximum temperature for each of the 20 days
- 1st activation of each Alarm for each day including Trigger time and duration of each excursion

Memory type

Non volatile

Sampling Interval

Factory set to 6 minute interval (i.e 0.1hour)

Logging modes

20 day statistics, temperature/time excursions and Alarm trigger time and duration for each day

Logging Start delay

Factory set to 60 minute interval

Sensor

Precision thermistor

Sensor Reaction time

T90 less than 7 minutes by method detailed in EN12830:1999

Vibration

Withstands vibration specification as detailed in EN12830:1999

Shock

- Withstands shock specification as detailed in EN12830:1999
- Withstands 5 drops from 1m to smooth concrete floor without loss of function or calibration

Environmental

IEC 60529: IP64

Power source

3V Lithium battery – non replaceable

Battery life

- Minimum storage life of 18 Months before 'start'
- Monitoring period: 20 days
- Minimum accessibility (display) period of 6 months after 'stopped'

Size

73mm(H) x 54.5mm(W) x 8.6mm(T) (Volume < 34cm³)

Weight

30g

Case Material

Polycarbonate

Calibration

Covered by Certificate of Traceability. Calibration traceable to an ISO/IEC 17025 accredited testing laboratory, to NIST, or to another internationally recognized standards agency

EMC compliance

- EC EMC directives (EN 61000-6-1:2005 & EN 61000-6-3:2006)
- Includes electrostatic discharge as prescribed in EN 61000-4-2
- Complies with FCC Part 15 Subparts A and B

Alarms function & display

- Alarm functions as prescribed in the WHO PQS performance specification E06/TR07.2
- Alarms are displayed on a custom LCD
- Display activates when any button is pressed
- Display is static allowing photocopying

TIC20

Configured with: Type 1 Alarms

Alarm type	Temperature alarm threshold	Period of exposure
High threshold	≥ 45°C	1 hour of continuous exposure
Medium threshold	≥ 30°C	10 hours of cumulative exposure
Low threshold	≤ -0.5°C	1 hour of continuous exposure

Day 1	Day 2	Day 3 and 4	Day 5
<p>Monitoring:</p> <p>• No alarm excursions</p>	<p>Monitoring:</p> <p>• Temp >30°C • Alarm not triggered</p>	<p>Monitoring:</p> <p>• No alarm excursions</p>	<p>Monitoring:</p> <p>• Temp >30°C for more than 10 hours • Alarm triggered</p>
<p>Reviewing statistics:</p> <p>• No alarm excursions</p>	<p>Reviewing statistics:</p> <p>• Max temp 33°C • Temp >30°C for 12 mins • Alarm not triggered</p>	<p>Reviewing statistics:</p> <p>• No alarm excursions</p>	<p>Reviewing statistics:</p> <p>• Temp >30°C for more than 11 hours • Alarm triggered 18 hours into Day 5 • Max temp for Day 5 is 31.4°C</p>

LogTag[®]

TICT

TEMPERATURE INDICATOR

The **LogTag TICT** is a low cost disposable electronic temperature indicator for use in monitoring temperature & time statistics in transport applications of up to 45 days duration.

The LogTag TICT can monitor and record statistics against four factory pre-set temperature limits for up to 45 days, displaying a tick mark if environmental conditions remain within limits. If temperatures exceed two high temperature alarm limits or go below two low temperature alarm limits, the LCD shows a REJECT alert, indicating the goods require further checking.

The LogTag TICT is factory pre-configured for one of a range of monitoring profiles. Special profiles are available on request, subject to conditions.

Statistical data can be downloaded from the TICT using the LogTag Indicator interface cradle and freely available LogTag Analyzer operating software if required.

The TICT offers an accurate and cost effective solution for monitoring the cold chain in "last mile" distribution and other applications where full data logging capability is not required.

LogTag[®] Recorders

www.logtag-recorders.com



Monitoring Display
LOAD OK



Monitoring Display : LOAD REJECT

Features

- Factory pre-configured to monitor a range of products including standard vaccines.
- Standard 60 minute start delay
- Clear indication of alarm status at all times.
- Monitors for up to 45days
- Push button Start and Stop.
- Data can be downloaded via an interface cradle and LogTag Analyzer if required.
- Robust and Accurate. Data collected is secure and cannot be manipulated.
- Fits easily into packages and can be mailed via letter rate.

Modes of Operation

Ready Mode

Push the START/STOP button. "Ready" shows that the indicator is ready to be started.

Start delay mode

Press and hold the START/STOP button. "RUN" will flash. Release button when flashing stops. The Indicator now begins the preset start delay.

Run Mode

"RUN" appears on the display. The indicator is now taking a temperature reading at the factory stipulated interval (typically every 5 minutes). If an Alarm occurs the ✓ symbol is replaced by an X symbol and the corresponding alarm limit code (HT1, HT2, LT1 or LT2) is also displayed.

Stopped Mode

Press and Hold the START/STOP button. "Stopped" will flash. Release button when flashing stops. The Indicator now no longer takes readings.

Factory Configurations

LogTag TICT can be factory configured to support a large range of different monitoring and alarm configurations (see specifications over page for details).

Example configuration

Sampling interval : 5 minutes
Start Delay: 60 minutes
HT1 alarm: $\geq 10^{\circ}\text{C}$ instant
HT2 alarm: $\geq 8^{\circ}\text{C}$ accumulated for 8 hours
LT1 alarm: $\leq 2^{\circ}\text{C}$ accumulated for 12 hours
LT2 alarm: $\leq 0^{\circ}\text{C}$ instant

TICT

Product Specifications

Operating Temperature Range
-25°C to +60°C

Storage Temperature Range
-25°C to +65°C

Ambient humidity range during transport and use
0 to 95%RH

Resolution
0.1°C or better in range of -25°C to +60°C

Accuracy

- Better than ±0.5°C for -10°C to +25°C
- Better than ±1°C for -25°C to -10°C
- Better than ±1°C for +25°C to +60°C

Capacity

- Minimum & Maximum temperature for each of the 45 days
- 1st activation of each Alarm for each day including Trigger time and duration of each excursion

Memory type
Non volatile

Sampling Interval
Factory set as required. Typically to 5 minute interval.

Logging modes
45 day statistics, temperature/time excursions and Alarm trigger time and duration for each day

Logging Start delay
Factory configuration, typically set to 60 minute interval

Sensor
Precision thermistor

Sensor Reaction time
T90 less than 7 minutes by method detailed in EN12830:1999

Vibration
Withstands vibration specification as detailed in EN12830:1999

Shock

- Withstands shock specification as detailed in EN12830:1999
- Withstand 5 drops 1m to smooth concrete floor without loss of function or calibration

Environmental
IEC 60529: IP64

Power source
3V Lithium battery – non replaceable

Battery life

- Minimum storage life of 18 Months before 'start'
- Monitoring period: 45 days
- Minimum accessibility (display) period of 6 months after 'stopped'

Size
71.5mm(H) x 33.0mm (W) x 8.6mm (T) (Volume < 21cm³)

Weight
19g

Case Material
Polycarbonate

Calibration
Covered by Certificate of Traceability. Calibration traceable to an ISO/IEC 17025 accredited testing laboratory, to NIST, or to another internationally recognized standards agency

EMC compliance

- EC EMC directives (EN 61000-6-1:2005 & EN 61000-6-3:2006)
- Includes electrostatic discharge as prescribed in EN 61000-4-2
- Complies with FCC Part 15 Subparts A and B

Alarms function & display

- Up to four alarm triggers are indicated on the display
- Display activates when button is pressed
- Display is static allowing photocopying

TICT

Function examples

