TC101A
THERMOCOUPLE-BASED TEMPERATURE DATA LOGGER

VALUTEMP PTE LTD
WARMS YOUR HEART

Features
- 10 Year Battery Life
- 1 Second Reading Rate
- Multiple Start/Stop Function
- Ultra High Speed Download
- 1,000,000 Reading Storage Capacity
- Memory Wrap
- Battery Life Indicator
- Optional Password Protection
- Programmable High and Low Alarms
- NIST Traceable
- Field Upgradeable

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

Applications
- Process Validation
- Dry Ice Shipments and Storage
- Oven Profiling
- HVAC
- Implement HACCP Programs
- General Purpose Temperature Recording

The TC101A temperature data logger is a compact versatile device to be used with thermocouple probes for accurate temperature monitoring and profiling. This data logger is an ideal and affordable solution for applications such as HVAC studies, oven profiling, dry-ice shipments, process validation and many general purpose temperature monitoring applications.

Compatible with eight different types of thermocouple probes, the TC101A can measure temperatures as low as -270 °C , and up to as high as 1820 °C (probe dependent), with an environmental operating temperature range of -40 °C to +80 °C for the data logger body.
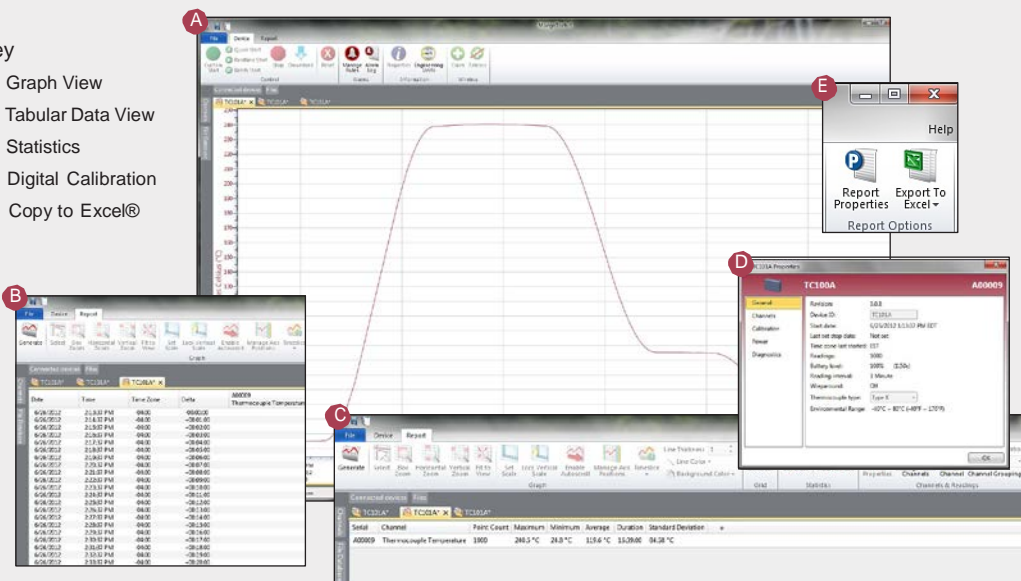
The 10 year battery life and the memory storage capacity of 500,000 readings with optional memory wrap makes the TC101A ideal for extended deployments.

With the user friendly MadgeTech Data Logger Software, the TC101A is easily connected to a PC to download the collected data. The MadgeTech Software is capable of presenting the data in graphic, tabular, and summary formats for reporting. Data can also be exported easily to Excel for further analysis and calculations.

MADGETECH DATA LOGGER SOFTWARE

Key
- **A** Graph View
- **B** Tabular Data View
- **C** Statistics
- **D** Digital Calibration
- **E** Copy to Excel®

Software Features:
- 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
- Data table view
- Automatic report generation
- Summary view
- Multilingual

TC101A SPECIFICATIONS*

Internal Channel

Temperature Range:	-40 °C to +80 °C (-40 °F to +176 °F)
Temperature Resolution:	0.01 °C (0.018 °F)
Calibrated Accuracy:	±0.5 °C (±0.9 °F)

Remote Channel

Thermocouple Connection:	• Female subminiature (SMP) (MP model) • Pluggable screw terminal (TB model) • Fixed screw terminal (ST model)
Cold Junction Compensation:	Automatic based on internal channel
Max. Thermocouple Resistance:	100 Ω

Thermocouple Type:	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1 °C	±0.5 °C
K	-270 to +1370	0.1 °C	±0.5 °C
T	-270 to +400	0.1 °C	±0.5 °C
E	-270 to +980	0.1 °C	±0.5 °C
R	-50 to +1760	0.5 °C	±2.0 °C
S	-50 to +1760	0.5 °C	±2.0 °C
B	+50 to +1820	0.5 °C	±2.0 °C
N	-270 to +1300	0.1 °C	±0.5 °C
* Thermocouple accuracy is specified with a 24 AWG			

Reading Rate:	1 reading every second up to 1 reading every 24 hours
Memory:	• 1,000,000 readings; software configurable memory wrap. • 500,000 readings in multiple start/stop mode or trigger settings mode
Wrap Around:	Yes
Start Modes:	• Immediate start • Delay start up to 18 months • Multiple pushbutton start/stop
Stop Modes:	• Manual through software • 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
Multiple Start/Stop Mode Activation:	To start the device: *Press and hold the pushbutton for 5 seconds, the green LED will flash during this time. The device has started logging.* To stop the device: *Press and hold the pushbutton for 5 seconds, the red LED will flash during this time. The device has stopped logging.*
Real Time Recording:	The device may be used with PC to monitor and record data in real time.

Alarm:	Alarm: Programmable high and low limits; alarm is activated when temperature reaches or exceeds sets limits. Alarm Delay: A cumulative alarm delay may be set in which the device will activate the alarm (via LED) only when the device has recorded a user specified time duration of data.
Trigger Settings:	High and Low limits may be set for the thermocouple channel. Once data meets or exceed sets limits, the device will record to memory. Bi-level start and stop triggers can also be programmed. Users can specify the number of readings to take after the device triggers.
LED Functionality:	Green LED blinks: *10 second rate to indicate logging, 15 second rate to indicate delay start mode* Red LED blinks: *10 second rate to indicate low battery and/or full memory, 1 second rate to indicate an alarm condition*
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.
Battery Type:	3.6V lithium battery included; user replaceable
Battery Life:	10 years typical at a 15 minute reading rate Graph display of the device recording in a 25 °C environment.
Data Format:	Date and time stamped °C, °F, K, °R; µV, mV, V
Time Accuracy:	±1 minute/month (at 20 ºC, stand alone data logging)
Computer Interface:	USB (interface cable required); 115,200 baud
Software:	XP SP3/Vista/Windows 7/Windows 8
Operating Environment:	-40 °C to +80 ºC (-40 °F to +176 °F), 0 %RH to 95 %RH non-condensing
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

BATTERY 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).

ORDERING INFORMATION

MODEL	DESCRIPTION
TC101A-MP	Thermocouple Data Logger, standard mini plugs
TC101A-ST	Thermocouple Data Logger, fixed screw terminals
TC101A-TB	Thermocouple Data Logger, pluggable screw terminals
IFC200	Software, Manual and USB interface cable
*NIST	NIST Calibration Certificate
LTC-7PN	Replacement battery for TC101A

*To order the product with the NIST certificate add -CERT to the end of the part number.

ASK ABOUT OUR OTHER DATA LOGGERS

Temperature
Humidity
Pressure
pH
Level
Shock
LCD Display
Pulse/Event/State
Current
Voltage Wireless
Intrinsically Safe
Spectral Vibration
Motion

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