ETR101A
EXHAUST TEMPERATURE SYSTEM

VALUTEMP PTE LTD
WARMS YOUR HEART

VALUTEMP

Features
- 10 Year Battery Life
- 1 Second Reading Rate
- Multiple Start/Stop Function
- Ultra High Speed Download
- 500,000 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
- Profile exhaust temperature of on-road vehicles and off-road equipment

The ETR101A is an Exhaust Temperature Profiling Kit designed to profile the exhaust temperature of on-road vehicles and off-road equipment, including tractor trailers, buses, trucks over 14,000 lbs., waste water vehicles, and sweepers. The ETR101A comes assembled and includes a data logger, temperature sensor (thermocouple type K), weatherproof enclosure, interface cable, hex screwdriver and software. A ¼" NPT coupler and a compression fitting is required for assembling, but not included.

Setup is fast and easy. The ¼" NPT coupler is attached to the exhaust pipe; the use of a compression fitting allows for the thermocouple to be placed directly in the exhaust stream, providing for highly accurate profiling. The data logger, which is contained within the weatherproof enclosure, is then mounted to the vehicle.
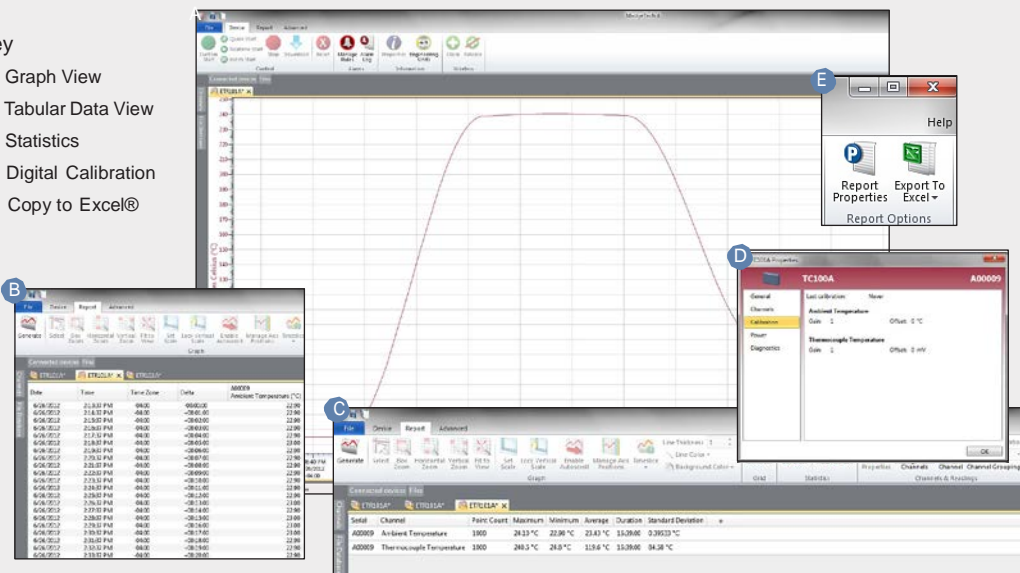
Using the MadgeTech software, the logger is programmed to record for a set period, generally three to five days. Data is stored in the data logger, and is downloadable at any time via a pc or laptop computer. The complete temperature profile is then provided to the diesel particulate filter (DPF) manufacturer, aiding in the selection of the correct DPF for the exhaust system.

Many DPF manufacturers, including Donaldson Corp., recommend the use of temperature profiling equipment, such as the MadgeTech ETR101A, to aid in the selection of the appropriate diesel particulate filter.

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

ETR101A SPECIFICATIONS*

Internal Channel

Temperature Range:	-40°C to +80°C (-40°F to +176°F)
Temperature Resolution:	0.1°C (0.18°F)
Calibrated Accuracy:	±0.25°C (±0.45°F)

Remote Channel

Thermocouple Types:	K**
Thermocouple Connection:	Pluggable screw terminal
Cold Junction Compensation:	Automatic based on internal channel
Max. Thermocouple Resistance:	100Ω

Thermocouple Type:	Range (°C)	Resolution	Accuracy
K	-270 to +899	0.1°C	±2°C

Thermocouple accuracy is specified with a 24 AWG

Reading Rate:	1 reading every second to 1 every 24 hours
Memory:	500,000 readings; software configurable memory wrap 250,000 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.

**Use of stainless steel braided thermocouples with the Waterbox101A may allow water to wick in through the cable and cause damage to the data logger.

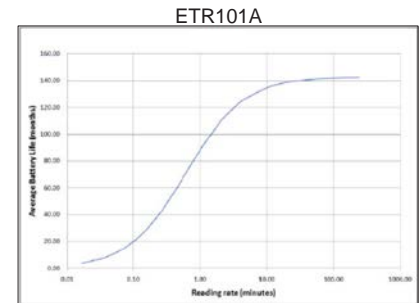|	
Trigger Settings:	High and Low limits may be set for the thermocouple channel. Once data meets or exceed sets limits, the device will record to memory. Bi-level start and stop triggers can also be programmed. Users can specify the number of readings to take after the device triggers.
LED Functionality:	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 20ºC, stand alone data logging)
Computer Interface:	USB (interface cable required); 115,200 baud
Software:	XP SP3/Vista/Windows 7/Windows 8
Operating Environment:	-20°C to +80ºC (-4°F to +176°F), 0 to 100%RH
IP Rating:	IP65
Dimensions:	Data Logger: 1.4"x2.2"x 0.6" (36mm x 56mm x 16mm) Waterbox: 3.5"x2.9"x1.1" (87mm x 73mm x 27mm) Thermocouple Wire: 24 gauge, 30 inches (762mm) Thermocouple Probe: 6"x1/8" dia. (153mm x 3.2mm)
Weight:	Complete Kit: 15oz (425g) Waterbox, data logger & thermocouple: 10oz (283g)
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).

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY.

ORDERING INFORMATION

MODEL	DESCRIPTION
ETR101A	Exhaust Temperature Recording System Type K Thermocouple included. *Other types available upon request. Contact MadgeTech for details.*
*NIST	NIST Calibration Certificate
LTC-7PN	Replacement battery for ETR101A

*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