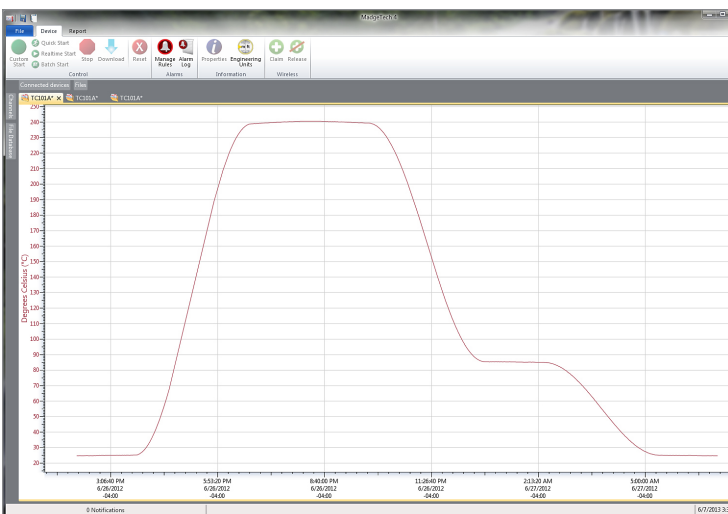# ETR101A
Exhaust Temperature Data Logger

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 inch NPT coupler and a compression fitting is required for assembling, but not included.

Setup is fast and easy. The ¼ inch 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.

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
- 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

MadgeTech 4 Software Features

Graph View

Statistics

Export to Excel

Tabular Data View

Automation

- 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
- Summary view

SPECIFICATIONS

Specifications are subject to change without notice. Specific warranty remedy limitations apply. Call (603) 456-2011 or go to **madgetech.com** for details.

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	100 Ω

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

*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.

**Thermocouple accuracy is specified with a 24 AWG.

GENERAL

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
Real Time Recording	May be used with PC to monitor and record data in real time
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.

Memory	500,000 readings; software configurable memory wrap 250,000 readings in multiple start/stop mode
Wrap Around	Yes
Alarm	User selectable high and low limits; blinking LED for alarm and low battery
LEDs	2 status LEDs
Reading Rate	1 reading every second to 1 every 24 hours
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Battery Type	3.6 V lithium battery included; user replaceable
Battery Life	10 years typical at a 15 minute reading rate
Data Format	Date and time stamped C, °F, K, °R; μV, mV, V
Time Accuracy	±1 minute/month at 25 °C (77 °F) (Stand alone mode)
Computer Interface	USB (interface cable required); 115,200 baud
Operating System Compatibility	Windows XP SP3 or later
Software Compatibility	Standard Software version 2.05.06 or later Secure Software version 4.1.3.0 or later
Operating Environment	-20°C to +80°C (-4°F to +176°F) 0 to 100%RH
Dimensions	Data Logger: 1.4 in x 2.1 in x 0.6 in (35 mm x 54 mm x 15 mm) Waterbox: 3.5 in x 2.9 in x 1.1 in (87 mm x 73 mm x 27 mm) Thermocouple Wire: 24 gauge, 30 in (762 mm) Thermocouple Probe: 6 in x .125 in dia. (153 mm x 3.2 mm)
Material	Data Logger: ABS plastic Enclosure: Aluminum, Polycarbonate, Stainless Steel
Weight	Complete Kit: 9.5oz (269g)
Approvals	CE

BATTERY WARNING: FIRE, EXPLOSION AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 100 °C (212 °F), INCINERATE, CRUSH, OR EXPOSE CONTENTS TO WATER.

Ordering Information

ETR101A	PN 900098-00	Exhaust Temperature Data Logging System with Type K Thermocouple. *Other types available upon request. Contact MadgeTech for details.*
IFC200	PN 900298-00	USB interface cable
LTC-7PN	PN 900352-00	Replacement battery for the ETR101A