

Description	HiTemp140-TSK	HiTemp140-PT-TSK
Temperature Sensor	100 Ω platinum RTD	
Temperature Range	-200 °C to +260 °C (-328 °F to +500 °F)	-200 °C to +350 °C (-328 °F to +662 °F)
Temperature Resolution	0.01 °C	
Temperature Accuracy	±0.1 °C/±0.18 °F (20 °C to +140 °C/68 °F to +284 °F) ±0.3 °C/±0.54 °F (-20 °C to +19.99 °C/-4 °F to +67.98 °F) ±0.4 °C/±0.72 °F (-40 °C to -20.01 °C/-40 °F to -4.02 °F)	
Memory	32,700 readings	
Reading Rate	1 reading every second up to 1 reading every 24 hours	
Required Interface Package	IFC400 or IFC406 USB docking station required; 125,000 baud	
Typical Battery Life	1 year (1 minute reading rate at 25 °C/77 °F)	
Operating Environment	-40 °C to +140 °C (-40 °F to +284 °F), 0 %RH to 100 %RH	
Material	Data Logger: 316 stainless steel, Thermal Shield: PTFE	
Dimensions: Body	2.7 in x 0.97 in dia. (67 mm x 25 mm dia.)	
Dimensions: Shield	Flush Top: 2.75 in x 2.0 in dia. (69.85 mm x 51 mm dia.) Vented Top: 4.3 in x 2.0 in dia. (109.2 mm x 51 mm dia.)	
Dimensions: HiTemp140-5.25-TSK	5.25 in x 0.188 in dia. (134 mm x 4.8 mm dia.)	n/a
Dimensions: HiTemp140-7-TSK	7.0 in x 0.188 in dia. (178 mm x 4.8 mm dia.)	n/a
Dimensions: HiTemp140-PT-1-TSK	n/a	Probe tip: 1.7 in x 0.125 in dia. (42 mm x 3.2 mm dia.) Flexible portion: 22 in x 0.062 in dia. (559 mm x 1.6 mm dia.)
Dimensions: HiTemp140-PT-5-TSK	n/a	Probe tip: 4.8 in x 0.125 in dia. with 1 in x 0.188 in dia. handle (121 mm x 3.2 mm dia. with 25 mm x 4.8 mm dia. handle) Flexible portion: 22 in x 0.062 in dia. (559 mm x 1.6 mm dia.)
Weight	Flush Top: 8.2 oz (232.5 g) (not including data logger) Vented Top: 9.9 oz (280.7 g) (not including data logger)	
Approvals	CE	

Maximum Exposure Time Chart	HiTemp140-TS (Flush)		HiTemp140-TS (Vented)	
	Ambient Temperature	Exposure Time in Air	Exposure Time In Liquid	Exposure Time in Air
-200 °C (-328 °F)	12 minutes	N/A	14 minutes	N/A
-180 °C (-292 °F)	13 minutes	N/A	15 minutes	N/A
-160 °C (-256 °F)	15 minutes	N/A	16 minutes	N/A
-140 °C (-220 °F)	17 minutes	N/A	18 minutes	N/A
-120 °C (-184 °F)	19 minutes	N/A	21 minutes	N/A
-100 °C (-148 °F)	22 minutes	N/A	24 minutes	N/A
-80 °C (-112 °F)	27 minutes	N/A	30 minutes	N/A
-60 °C (-76 °F)	37 minutes	22 minutes	42 minutes	25 minutes
-40 °C to +140 °C (-40 °F to +284 °F)	Indefinitely	Indefinitely	Indefinitely	Indefinitely
150 °C (302 °F)	59 minutes	34 minutes	66 minutes	40 minutes
160 °C (320 °F)	51 minutes	29 minutes	57 minutes	34 minutes
170 °C (338 °F)	43 minutes	25 minutes	48 minutes	29 minutes
180 °C (356 °F)	37 minutes	23 minutes	42 minutes	26 minutes
190 °C (374 °F)	34 minutes	20 minutes	38 minutes	23 minutes
200 °C (392 °F)	31 minutes	18 minutes	34 minutes	21 minutes
210 °C (410 °F)	29 minutes	17 minutes	32 minutes	19 minutes
220 °C (428 °F)	27 minutes	16 minutes	30 minutes	18 minutes
230 °C (446 °F)	25 minutes	15 minutes	27 minutes	17 minutes
240 °C (464 °F)	23 minutes	14 minutes	26 minutes	16 minutes
250 °C (482 °F)	22 minutes	13 minutes	24 minutes	15 minutes

Product User Guide

HiTemp140-PT-TSK and HiTemp140-TSK



HiTemp140-PT-TSK

High Temperature Data Logger with a 24 inch Stainless Steel Flexible Probe and Thermal Shield

HiTemp140-TSK

High Temperature Data Logger with Thermal Shield

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DOC-1238035-00
REV 12 2019.01.25

Product Notes

Getting Started

The HiTemp140-TSK consists of a HiTemp140 data logger in a thermal enclosure and the HiTemp140-PT-TSK consists of a HiTemp140-PT data logger in a thermal enclosure. They can be used in both wet and dry applications up to 140 °C indefinitely. When used with the thermal enclosure the devices can withstand higher temperatures for certain durations of time. The chart located on the back page, outlines the time versus temperature durations.

- To start the logger, unscrew the thermal enclosure and separate the thermal enclosure lid, from the body of the data logger.
- The logger should be removed from the barrier immediately after removal from the heat environment. Be extremely careful, the logger may be very hot.

Submergibility

The HiTemp140 and the HiTemp140-PT are fully submergible and are rated IP68. They can be placed in environments with up to 230 feet (70 m) of water.

Installation Guide

Installing the Interface cable

- IFC400 or IFC406
- Refer to the “Quick Start Guide” included in the package.

Installing the software

Insert the Software USB stick in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Device Operation

Connecting and Starting the data logger

- Once the software is installed and running, plug the interface cable into the docking station.
- Connect the USB end of the interface cable into an open USB port on the computer.
- The device will appear in the Connected Devices list, highlight the desired data logger.
- For most applications, select “**Custom Start**” from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click “**Start**”. (“**Quick Start**” applies the most recent custom start options, “**Batch Start**” is used for managing multiple loggers at once, “**Real Time Start**” stores the dataset as it records while connected to the logger.)
- The status of the device will change to “**Running**”, “**Waiting to Start**” or “**Waiting to Manual Start**”, depending upon your start method.
- Disconnect the data logger from the interface cable and place it in the environment to measure.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Place the logger into the docking station.
- Highlight the data logger in the **Connected Devices** list. Click “**Stop**” on the menu bar.
- Once the data logger is stopped, with the logger highlighted, click “**Download**”. You will be prompted to name your report.
- Downloading will offload and save all the recorded data to the PC.

Device Maintenance

Battery Replacement

Materials:

ER1425S-HT Battery

- Unscrew the bottom of the logger and remove the battery.
- Place the new battery into the logger. Note the polarity of the battery.
- Screw the cover back onto the logger.

Recalibration

The HiTemp140 and HiTemp140-PT standard calibrations are two points at 30 °C and 140 °C.

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To send the devices back, visit www.madgetech.com, select Services then RMA Process.*

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Listed specifications can be used to determine maximum allowable exposure times for the HiTemp140 with Thermal Shield at different temperatures beyond the normal operating range of the logger. Both the data logger and Thermal Shield must be at ambient temperature (approximately 25 °C) before being placed in the extreme temperature environment.

Immediately following exposure to high temperature, the data logger should be removed from the thermal shield (using appropriate precautions, as it could be **VERY** hot) OR the data logger and shield should be placed in a water bath (approximately 25 °C) for at least 15 minutes to allow it to cool. Failing to do this may allow heat trapped in the Thermal Shield to continue to heat the data logger to potentially unsafe levels.

If your application involves a ramp up to a temperature above 140 °C and/or any complex temperature profile that isn’t simply a constant temperature, please contact MadgeTech to determine whether the HiTemp140 with Thermal Shield is suitable.

Please provide MadgeTech with a detailed description of your temperature profile, including temperatures, durations, ramp times, and process media (air, steam, oil, water, etc.)

Battery Warning

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 140 °C (284 °F).

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