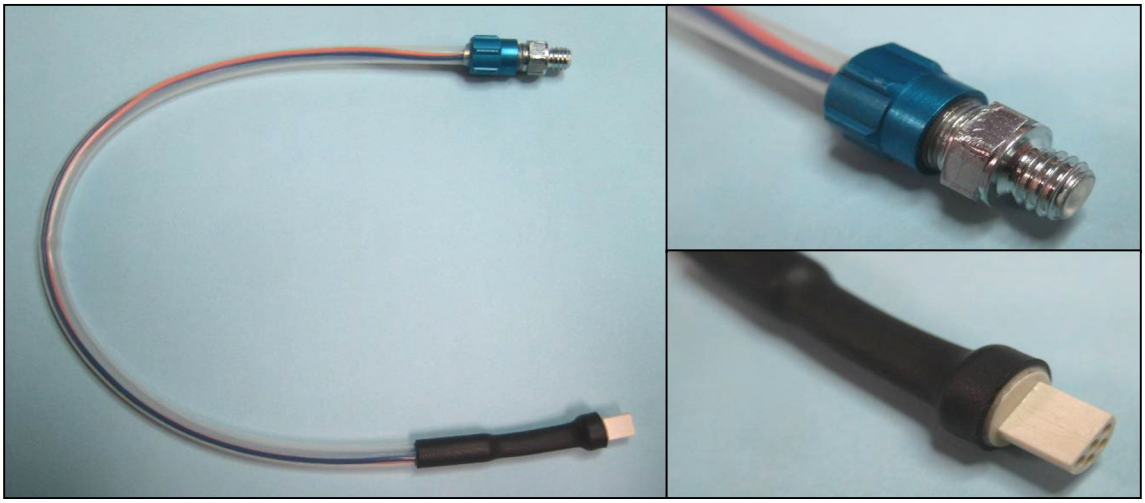
Cylinder Head Temperature Sensor

CE403.d00 Rev1 28Jul2010



POWER4FLIGHT

202 Wasco Loop, Suite 104
Hood River, OR 97031
Office: 541-436-4299
Shop: 541-308-0650

Currawong engineering

Currawong Engineering Pty Ltd
1/84 Browns Road
Kingston 7050
Tasmania AUSTRALIA
Phone: +61 3 6229 1973
ABN 86 387 719 018

Ross Hoag
rosshoag@power4flight.com

Jim Newton
jimnewton@power4flight.com

Mark Johnson
markjohnson@power4flight.com

www.power4flight.com
www.currawongeng.com

Cylinder Head Temperature Sensor

Information Sheet

General:
This lightweight and robust sensor is intended for sensing the temperature of the cylinder head in small engines and is particularly intended for the UAV industry.

The sensor is based on the KTY84 silicon resistive element chip. These sensors have a positive temperature coefficient of resistance with a typical resistance of 580 ohms at 20°C and 2600 ohms at 300°C. (Note : Standard probe is rated to 220°C only, 300°C available on special request).

Mounting:
Mounting of the CHT sensor is via an M5 blind hole tapped into the cylinder head at a convenient place close to the combustion chamber (but not breaking through into the chamber). The hole should have a minimum of 4.5 mm length of full thread.

Circuit:
For correct operation at higher temperatures (>150°C) the sensor must be provided with a bias current. This can be provided via a pull-up resistor. If used with a Currawong ECU the correct bias current will be supplied automatically.
(For details refer to the Currawong document "CHT Installation.doc").

Specifications:

- Temperature range: -40°C to +220°C
- Extended temperature range version (-40°C to +300°C) available on special request.
- Cylinder head fitting: M5 x 0.8 mm thread, 4.5 mm long to the shoulder of the fitting.
- Connector: Omnetics 5 pin , with the sensor connected between pin 1 (earth) and pin 4.
- Sleeving: High temperature translucent teflon sleeve, diameter 3.8mm
- Overall Length: 127mm (5 inches), or a length to customer requirements.
- Weight (with all fittings): 5 grams (0.17 ounces).