

AiM Infotech

Car bike PT100  
M5/M10 threads  
for oil/water measurement  
thermo resistor

Release 1.08

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# 1

## Introduction

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AiM car bike devices can measure and sample water and oil temperature using a sensor (thermo-resistor) placed in the cooling system or in the oil cup.

**Sensor** part numbers are:

- |                         |             |                           |
|-------------------------|-------------|---------------------------|
| • PT100 thermo resistor | M10 thread: | <b>X05TRM10A4512BPRS;</b> |
| • PT100 thermo resistor | M5 thread:  | <b>X05TRM05A4514BPRS.</b> |

To install the thermo resistors optional **inline water/oil fittings** are needed; their part numbers are:

- |  |                  |
|--|------------------|
| • inline water/oil fitting for PT 100 thermo resistor PT100 M10 thread | <b>LAA54120R</b> |
| • inline water/oil fitting for PT 100 thermo resistor PT100 M5 thread  | <b>LAA541100</b> |

**Please note: car bike sensors are not compatible with kart systems so refer to the above indicated part numbers only.**

## 2

# Installation and connection

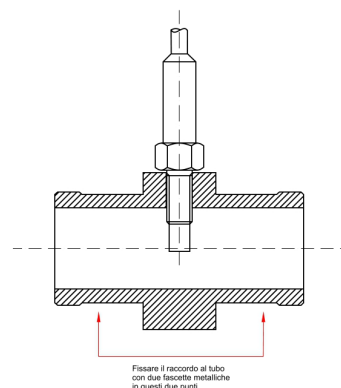
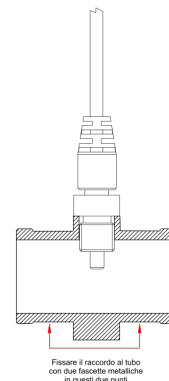
The thermo resistor is to be placed in the coil system/oil cup.

We recommend to install the sensors far from heat sources or electromagnetic interference (like RPM cable or lap receivers).

Images below show the inline water/oil fitting on the left and the sensors installed on the right: M10 thread top and M5 thread bottom.

To install the thermo resistor in the coil system:

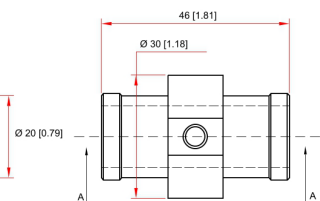
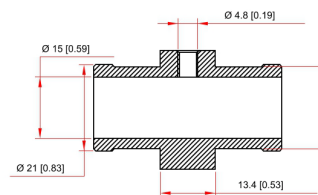
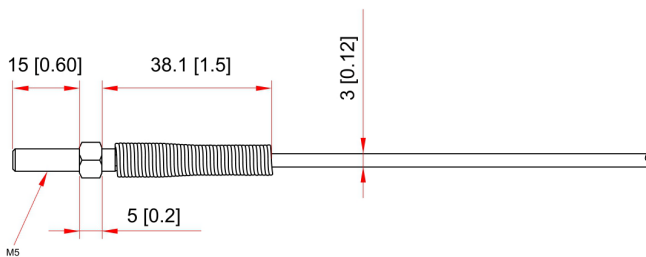
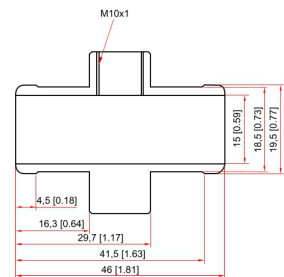
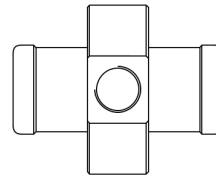
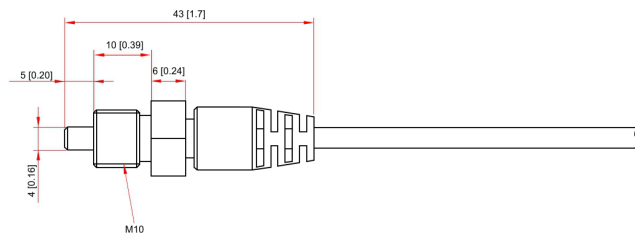
- cut the water pipe
- connect the inline water filling to the pipe fixing two metal wraps in the points highlighted in the drawings below
- screw the thermo resistor in the threaded hole shown on the right.



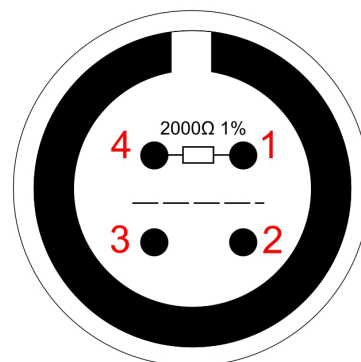
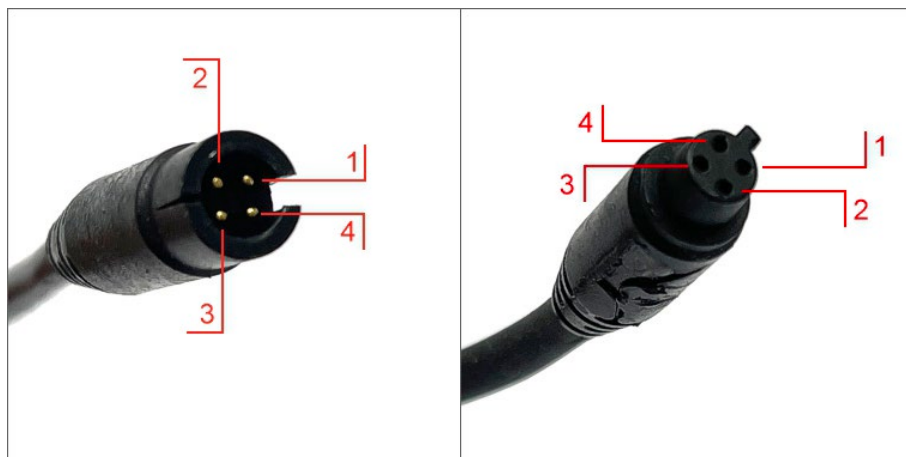
## 3

## Dimensions, pinout and technical characteristics

The images below shows the measures of the sensors on the left and the measures of the oil/water filling on the right in millimetres [inches]: PT100 thermo-resistor M10 thread on top and PT100 thermo resistor M5 thread on bottom.



Both thermo resistors end with a **4 pins Binder 719 male connector that features a 2k $\Omega$  1% resistor between pins 1 and 4**. Here below the connector view – sensor side on the left and device side on the right – are shown; while in the following table is connector pinout.



Pin	Function
1	Analog signal
2	GND
3	Not connected
4	+Vreference

The sensor technical characteristics are:

Electrical Characteristic	Valuee
Temperature working range	0/150°C
Cable length	250 mm

## 4

# Extension cables

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The sensors are sold with a 25 cm cable; standard lengths extension cables are available as optional. Extension cables part numbers change according to their length and to the device the sensor is to be connected to.

**Mandatory** extension cable for connection with:

- EVO4
- EVO4S
- Channel Expansion

**V02PCB05BTXG** – cable length: 500mm

**V02PCB10BTXG** – cable length: 1000mm

**V02PCB15BTXG** – cable length: 1500mm

**V02PCB20BTXG** – cable length: 2000mm

**V02PCB25BTXG** – cable length: 2500mm

**V02PCB30BTXG** – cable length: 3000mm

**V02PCB35BTXG** – cable length: 3500 mm

**V02PCB40BTXG** – cable length: 4000 mm



**Mandatory** extension cable for connection with:

- ACC3 and ACC3 Open
- MXG1.2/MXP/MXS1.2
- MXG/MXL2/MXS
- MXG 1.2 Strada/MXP Strada/MXS 1.2 Strada
- MXm
- MXPS with racing harness
- MXS Strada Light
- MXT, MXT Pista and MXT Strada
- EVO5
- MXL Strada/Pista/Pro05

**V02PCB05B** – cable length: 500mm

**V02PCB10B** – cable length: 1000mm

**V02PCB15B** – cable length: 1500mm

**V02PCB20B** – cable length: 2000mm

**V02PCB25B** – cable length: 2500mm

**V02PCB30B** – cable length: 3000mm

**V02PCB35B** – cable length: 3500 mm

**V02PCB40B** – cable length: 4000 mm

