



AiM Infotech

# Water/oil temperature sensor PT100 M10/M5 thermo resistor

Release 1.05

---





# 1

## Introduction

---

The built AiM devices for car/bike applications can measure and sample water/oil temperature using a sensor (thermo resistor) placed in the cooling system/oil sump.

The sensor part number is:

- PT100 M10: **X05TRM10A4512BPRS;**
- PT100 M5: **X025TRM05A4514BPR.**

**N.B.: the available sensors for karting products are not compatible with car/bike systems. Please, refer exclusively to the products codes mentioned above.**

## 2

# Installation and connection

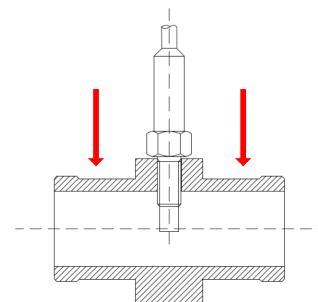
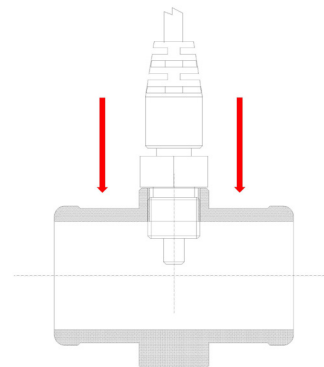
---

The thermo resistor must be placed in the cooling system/oil sump.

It is recommended to install the sensor far from heat and electromagnetic interference sources (like RPM cable or lap receiver cables).

With reference to the images here below (upper image, PT100 M10 fitting; lower image, PT100 M5 fitting), to install the sensor use the optional M10 or M5 thread inline water/oil fitting (part number: PT100 M10 fitting **LAA54120R**; PT100 M5 fitting: **LAA541100**) shown on the left:

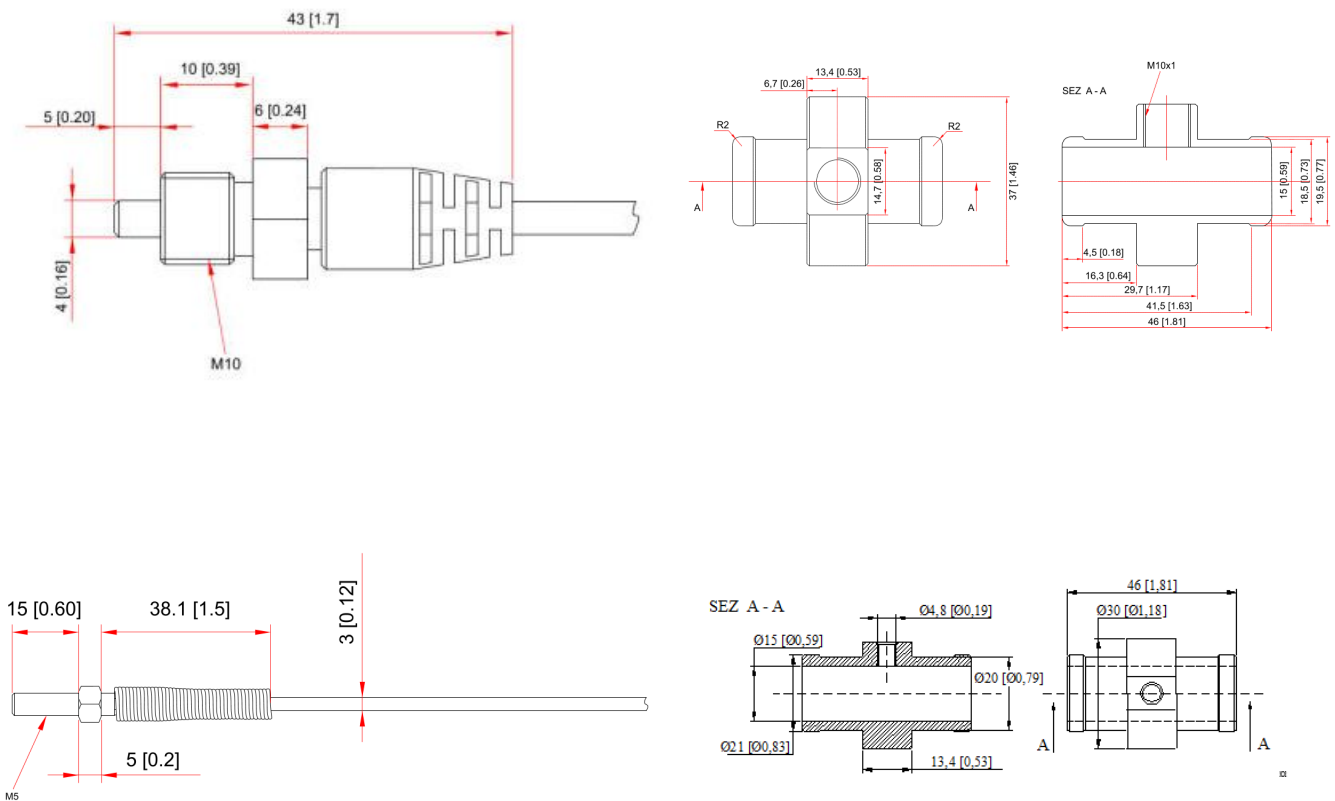
- cut the water pipe
- connect the inline water fitting to the pipe, fixing two metal wraps in the points highlighted in the draw below
- screw the thermo resistor in the threaded hole as shown on the right.



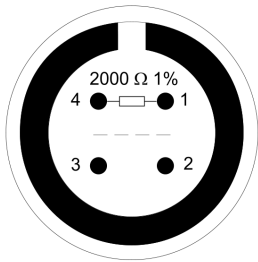
### 3

## Dimensions, pinout and technical characteristics

The draws here below show the sensors dimensions on the left and the inline water/oil fitting dimensions on the right in millimetres [inches] (PT100 M10, upper images; PT100 M5, lower images).



Both sensors end with 4 pins male 719 Binder connector that features a 2k $\Omega$  1% resistor between pins 1 and 4. Here below you see the connector pinout solder termination view as well as the connection table.



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

The sensors technical characteristics are:

- Temperature working range: 0/150°C
- cable sensor length: 250 mm

## 4

# Extension cables

---

These sensors are sold with a 25 cm cable and standard lengths extension cables are available as optional.

Extension cables part numbers, specified below for each one, change according to their length and the device sensor to be connected to.

**Mandatory** extension cable for connection with:

- EVO4
- EVO4S
- Channel Expansion

**V02PCB05BTXG** – cable length: 500 mm

**V02PCB10BTXG** – cable length: 1000 mm

**V02PCB15BTXG** – cable length: 1500 mm

**V02PCB20BTXG** – cable length: 2000 mm

**V02PCB25BTXG** – cable length: 2500 mm

**V02PCB30BTXG** – cable length: 3000 mm

**V02PCB35BTXG** – cable length: 3500 mm

**V02PCB40BTXG** – cable length: 4000 mm



**Mandatory** extension cable for connection with:

- MXG/MXG1.2
- MXS/MXS1.2
- MXL2
- MXS Strada/MXS Strada 1.2
- MXm
- 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

