AiM User manual

Tire temperature sensors kit for kart

Release 1.05
1

Introduction

This user guide explains how to install the Tire temperature sensors kit for kart and view sampled data on the display of MyChron5 (from firmware version 01.22.98).

MyChron5/MyChron5 – 2T can measure the Tire temperature connecting via CAN to the Infrared (IR) temperature controller device properly designed and developed by AiM; it supports up to four temperature sensors directly connected to the measure points.
The part number of the Tire temperature sensors kit for kart installations is: **X08TTK014120**. The kit includes:

- IR (infrared) temperature controller (1)
- 4 Tire temperature sensors (2)
- external power cable (3)
- 2 – 2m extension cables (4)
- 2 – 1m extension cables (5)

Each item can be bought separately as spare part with these part numbers:

- Tire temperature sensor: X05TTS01B0
- IR (infrared) temperature controller: XSMIRTEMP00
- external power cable: V02551200
- 1m extension cable: V02PCB10BTXG
- 2 m extension cable: V02PCB20BTXG
Optional brackets are also available. They are shown here below: rear brackets on the left and front brackets on the right. The part number of the all kit is: **X90KSTTS0**
3
Installation and connection

Install the sensor far from strong heat sources – like the exhaust gas pipe – and from electromagnetic interferences sources as well. The images below show the temperature sensors correctly installed. In the following pages you see mounting schemes of the four brackets and their sensors.

Front right

Front left
Rear left

Rear right
Mounting of brackets for infrared tire temperature sensor - front left tire

- Unhook the steering arm Uniball from the fuse
- Place the front bracket on the fuse so that the holes match
- Remount the Uniball on the fuse so to lock the bracket too
- Drill (5mm diameter) the front bracket according to the fuse geometry and fix it on the same fuse
Mounting of bracket for infrared tire temperature sensor - front right tire

- Unlock the steering arm. Unball from the tube.
- Place the front bracket on the tube so that the holes match.
- Remove the Unball on the tube to lock the bracket too.

Drill (6mm diameter) the front bracket according to the tube geometry and fix it on the same tube.
Mounting of brackets for infrared tire temperature sensor - rear left tire
Mounting of brackets for infrared tire temperature sensor - rear right tire
Here below is a scheme of Tire temperature sensors kit and MyChron5.
Data visualization on MyChron5

Tire temperature sensors kit needs no configuration. Once connected to MyChron5 it is automatically recognized by the system and data sampled will be downloaded with Race Studio 3. To view sampled data on MyChron5 display you need to create a custom page and set the visualization of sampled data on it. Follow this procedure:

- press: "MENÛ" -> "Config Params" -> "Display Setup"
- press "ENTER" until "Custom" page appears
- press "NEXT" and the system sets on "Enabled NO"
- press "CHANGE" and the row switches to "Enabled YES"
- press "CONFIG"
- select the position where to view the data and press "SELECT"
- select the desired sensor from the drop down menu

- repeat the operations to view more than one sensor
- press "EXIT"
5 Dimensions, pinout and technical characteristics

The drawing here below shows in millimetres [inches]:

- IR temperature controller and sensors dimensions
- sensors dimensions
- brackets dimensions
The table below shows IR temperature controller pinout.

<table>
<thead>
<tr>
<th>POWER</th>
<th>FRONT LEFT</th>
<th>FRONT RIGHT</th>
<th>REAR LEFT</th>
<th>REAR RIGHT</th>
<th>EXP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+Vbext</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>2</td>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>3</td>
<td>+Vb</td>
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</tr>
<tr>
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<td>+Vref</td>
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</tr>
</tbody>
</table>

Tire temperature kit technical characteristics are:

- CAN connection with MyChron5 via IR Temperature Controller
- Output signal: 0-5V
- Field of view: 35°
- Working range: -20/120°C
- IR Temperature Controller dimensions: 127.6x32x39 mm
- IR Temperature Controller cable length: 400 mm
- Sensor dimensions: 26.6x17.2 mm
- IP rating: IP65
- Sensor cable length: 250 mm