

## BaseUnit-Analog

In order to use the temperature sensors, they have to be connected to a BaseUnit. The BaseUnit converts the signals of the sensors to a signal which can be used to connect to the data logging system. In addition, the base unit supplies and conditions the power for the sensors. The BaseUnit needs to be connected to the vehicle's +12V power system.



### BaseUnit Specifications:

Dimensions: 53x38x26 mm (2.1x1.5x1 inch)  
Mass: 70g (2.50 oz)  
Power supply: 8..18V  
Supply current: 35mA (with 4 sensors)  
Output voltage range: 0..4.5V  
Operating (ambient) temperature range:  
0..70°C (32..158 °F)  
Degree of protection: IP 67  
Connectors: Binder 712 series  
Mounting: 2 x Tie-rap 'ears'

**BITS BV**

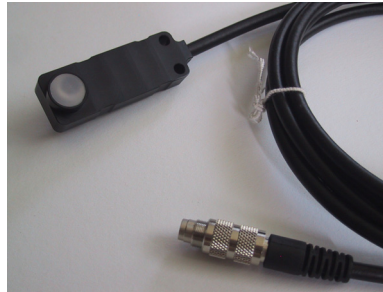
email: [info@bits.nl](mailto:info@bits.nl)

web: <http://www.bits.nl>



## Temperature Sensor

The sensor is based on the principle of infra-red light emission of an object. The lens of the sensor needs to 'see' the object to measure its temperature.

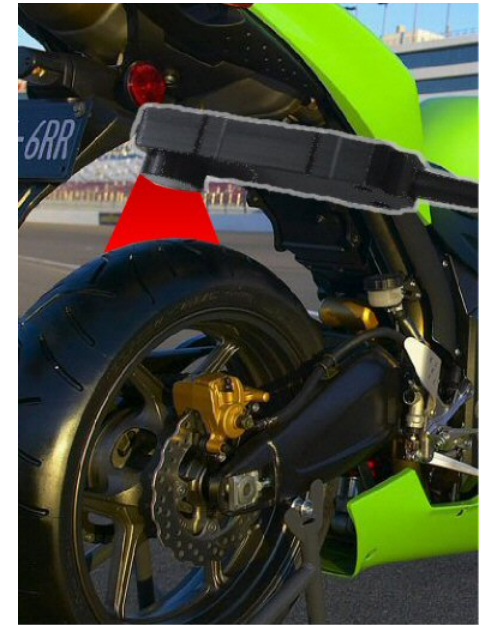


### Temperature Sensor Specifications:

Dimensions: 60x20x14 mm (2.4x0.8x0.6 inch)  
Cable length: 2 meter (78 inch),  $\varnothing$  5.5 mm (0.2 inch)  
Mass (sensor incl.cable and plug): 125 g (0.29 oz)  
Tire Temperature range: 0..120 °C (32..248 °F)  
Operating (ambient) temperature range:  
0..70°C (32..158 °F)  
Infra-red sensitivity range (75%): 7.5..13.5  $\mu$ m  
Field of view: 15 degrees  
Degree of protection: IP 67  
Connector: Binder 712, 8-pin male  
Sensor mounting: 2 x M4 / 2 x Tie-rap spacing

Dealer:

# TireTemp



Reduce Tire Wear

Optimalisation of  
Suspension Setup

Plug & Play and Real Time

Digital and Analog Versions



# TireTemp

A flexible and easy to use

## Tire Temperature Measurement System

Tire temperature is of critical concern in automotive and bike racing:



- ◆ The tire temperature directly affects the grip and wear characteristics;
- ◆ The tire temperature patterns provide valuable information on the set-up and performance of the suspension.

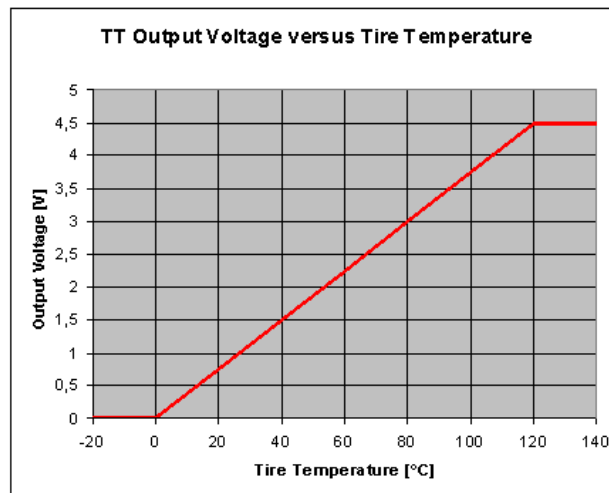
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## Why Measure Tire Temperature?

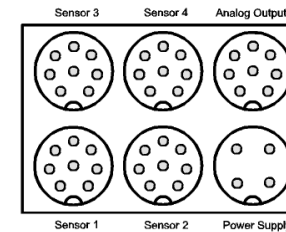
Too low or too high temperatures in a tire will cause excessive wear, which can be traced back to improper suspension setup, a mismatch between compound and track conditions, chassis problems, or a failure of the rider to ride within the performance envelope of the tire. Riding the tire within its specified ideal temperature range is vital to get the optimum performance out of the tire; to do this you need to know the tire temperature at every moment of the training or race.

The BITS TT-sensor is an ideal measuring device for on-board data acquisition, due to its small size, ruggedness, universal connector system and low cost.



## TireTemp-Analog

The TireTemp-Analog Measurement System is designed to cooperate with a data logging system. Up to four Tire Temperature sensors can be connected to one BaseUnit. There are 4 analog outputs (one for each sensor) grouped on the output



connector. These analog signals (voltages from 0 to 4.5V) need to be connected to the data logger.

## TireTemp-Digital

The TireTemp-Digital adds digital signal output to the standard analog output. The sensors are identical for both systems. So with the BaseUnit-Digital the temperature signals are available in digital form. They can be logged into an internal memory and transferred to a Windows equipped PC via an USB connection. The BaseUnit-Digital also has a RS232 connector to connect directly to a data-logging system with RS232 input (for example AIM and Motec data logging systems). This RS232 connection can also be used to connect a small LCD screen to be mounted near your dashboard. With this LCD-Display the Tire Temperatures can be continuously monitored while driving.

