

<b>TECHNICAL DOCUMENTATION</b>	<b>20/02/2009</b>	<b>PRESSURE</b>	<b>Brake pressure sensors 0-2000 PSI</b>
<b>Notes:</b> technical documentation, dimensions and pinout of brake pressure sensors 0-2000 PSI – <b>Release 1.01</b>			



0-2000 PSI

## Introduction

“Brake pressure” kit has been **specifically developed for pipes with 1/8 inch diameter** and includes the following objects:

- 0-2000 PSI brake pressure sensor;
- 1 steel junction
- 2 lock nuts;
- 2 nipples
- 1 “T” brunch pipe female M10x1 thread.

**NOTE:** sensor extension is not included in the kit

**WARNING:** after sensor installation ensure that braking circuit is correctly cleared.  
This tutorial explains installation and configuration procedure of  
0-2000 PSI brake pressure sensor.

**AIM can not be held responsible for wrong mountings made by the user.  
It is suggested to make installation at a specialised garage**

# 1 – Installation

Choose the point of braking plant (shown on the right) where to install the sensor.



Cut the tube using a tube cutter for brake pipes like the one shown on the right. Otherwise it is possible to use a fine toothed hacksaw, wrapping the pipe cutting point with a tape.

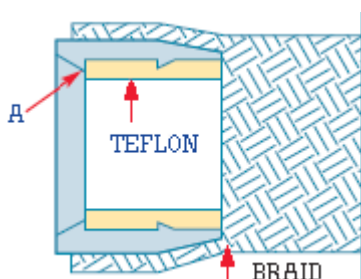


Insert the 2 locking nuts in the cut parts of the pipe as shown on the right.

In case the plastic cover of the metallic braid does not allow the locking nuts to slip, it is suggested to peel the pipe.



Insert the nipple under the metallic braid as shown in the figure on the right, pressing it until the contact with the internal part of the pipe (labelled as "A" in the figure below) is complete and covering it with the metallic braid.



Repeat these operations on both edges of the cut pipe.  
Lubricate the threads.



Establish the exact position of the junction – as it will determine the sensor position - before tightening (making a reference mark).



Tighten to 0,8 Kg (8Nm).



Alternatively tighten the threads a quarter turn at a time until the right position is reached.

**Attention: do not exceed 15 Nm.**



Repeat this operation on both sides of the junction.



Install the sensor on the junction wrapping the thread with Teflon to guarantee its tightness.

On the right a 0-2000 PSI brake pressure sensor correctly installed is shown.



**ATTENTION:** once the installation is over, ensure the braking circuit is cleared and check its tightness.

## 2 – Sensor configuration with MXL ed EVO3 systems

After sensor installation and connection to AIM data logger, making sure that the channel the sensor is connected to has a +Vb output, it is required to configure the logger so to sample correct data. Configuration needs to be done using **Race Studio 2** software, properly designed and developed by AIM, downloadable for free from [www.aim-sportline.com](http://www.aim-sportline.com). Refer to software installation manual for software and AIM USB driver installation.

### 2.1 – Setting the sensor curve.

Run the software and press “AIM System manager”. The system choice panel appears: select the logger the sensor is connected to (MXL or EVO).



## 2.2 – Setting the sensor on the channel

In order to sample the information transmitted by the sensor, the analogue channel to which it has been connected must be set. The image on the right shows an EVO3 Pro channels table.

Once decided the channel to set the sensor on, select it clicking the cell labelled “Sensor type” of the row corresponding to the selected channel.

The sensor will appear in the list with the name previously inserted in sensor name box of “Customize Sensor” window.”

**It is reminded to select a channel that has a +Vb output.**

ID	ABL.	Nome canale	Freq.	Sensore usato	Unità	Inibiscala	Fondoscala
SPD_1	<input checked="" type="checkbox"/>	Speed_1	10Hz	Velocità	km/h	0.0	250.0
SPD_2	<input checked="" type="checkbox"/>	Speed_2	10Hz	Velocità	km/h	0.0	250.0
SPD_3	<input checked="" type="checkbox"/>	Speed_3	10Hz	Velocità	km/h	0.0	250.0
SPD_4	<input checked="" type="checkbox"/>	Speed_4	10Hz	Velocità	km/h	0.0	250.0
CH_1	<input checked="" type="checkbox"/>	Channel_1	10Hz	Potenzimetro distanza	mm	0.0	5.0
CH_2	<input checked="" type="checkbox"/>	Channel_2	10Hz	Generico Ingresso 0-5 V	V	0.0	5.0
CH_3	<input checked="" type="checkbox"/>	Channel_3	10Hz	Accelerazione	m/s²	0.0	5.0
CH_4	<input checked="" type="checkbox"/>	Channel_4	10Hz	Accelerazione	m/s²	0.0	5.0
CH_5	<input checked="" type="checkbox"/>	Channel_5	10Hz	Accelerazione	m/s²	0.0	5.0
CH_6	<input checked="" type="checkbox"/>	Channel_6	10Hz	Accelerazione	m/s²	0.0	5.0
CH_7	<input checked="" type="checkbox"/>	Channel_7	10Hz	Accelerazione	m/s²	0.0	5.0
CH_8	<input checked="" type="checkbox"/>	Channel_8	10Hz	Accelerazione	m/s²	0.0	5.0
CH_9	<input checked="" type="checkbox"/>	Channel_9	10Hz	Accelerazione	m/s²	0.0	5.0
CH_10	<input checked="" type="checkbox"/>	Channel_10	10Hz	Accelerazione	m/s²	0.0	5.0
CH_11	<input checked="" type="checkbox"/>	Channel_11	10Hz	Accelerazione	m/s²	0.0	5.0
CH_12	<input checked="" type="checkbox"/>	Channel_12	10Hz	Accelerazione	m/s²	0.0	5.0
CALC_GEAR	<input checked="" type="checkbox"/>	Calculated Gear	10Hz	Accelerazione	m/s²	0.0	5.0
ACC_1	<input checked="" type="checkbox"/>	Acc_1	10Hz	Accelerazione	m/s²	0.0	5.0
ACC_2	<input checked="" type="checkbox"/>	Acc_2	10Hz	Accelerazione	m/s²	0.0	5.0
LOG_TEMP	<input checked="" type="checkbox"/>	Datalogger_Temp	10Hz	Accelerazione	m/s²	0.0	5.0
BATT	<input checked="" type="checkbox"/>	Battery	1Hz	Accelerazione	m/s²	0.0	5.0

## 2.3 – Transmitting the configuration

Once the sensor has been correctly configured and set on the desired channel, it is necessary to transmit the configuration to the logger: connect the logger to the PC using the USB cable, switch the logger on, wait until the system recognizes the logger and press “Transmit” button in the logger “System Configuration” window.

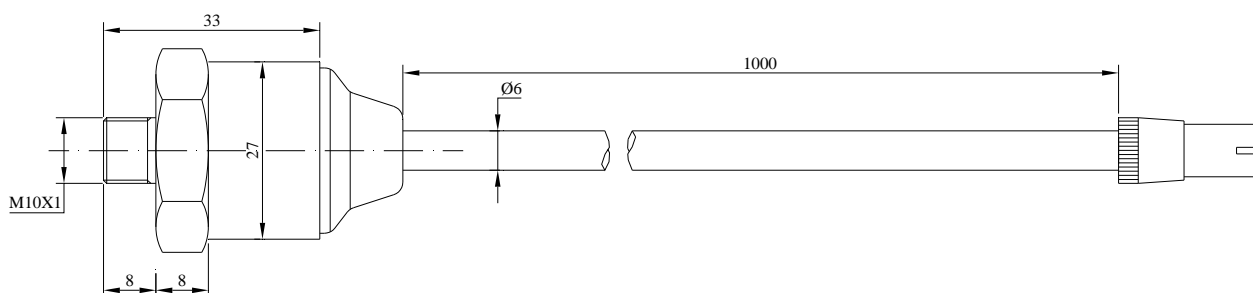
**Warning: refer to Race Studio Configuration user manual for any information concerning “Channels” table (or any button) position as well as for any information concerning any AIM logger configuration not expressly introduced in this tutorial.**

## 3 – Sensor configuration on MyChron4 + eBox Extreme

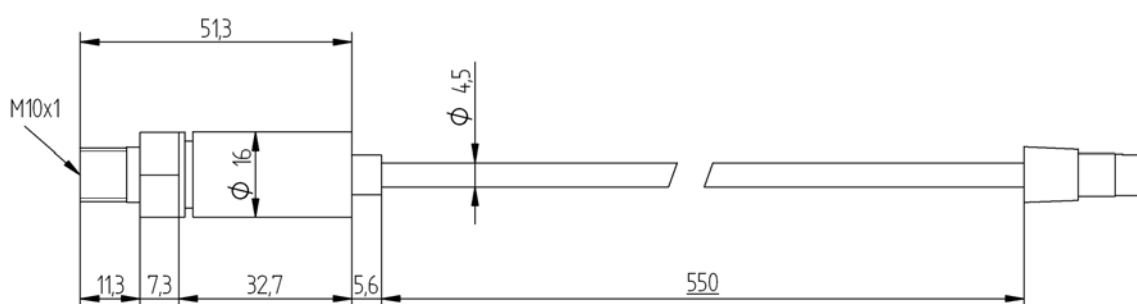
In case the system in use is a MyChron4, these sensors cannot be used unless MyChron4 is connected to an eBox Extreme. Refer to eBox Extreme user manual for any information concerning the sensor configuration.

## 4 – Dimensions, pinout and technical features

### 4.1 – Dimensions



0-100 Bar Sensor – Dimensions in millimetres



0-2000 PSI Sensor – Dimensions in millimetres

### 4.2 – Pinout

0-2000 PSI Sensor		
Pin	Function	Cable colour
1	Pressure signal 1-5V	White
2	GND	Black
3	Power 10-30 V	Red
4	Not connected	

4 pins Binder 719 male connector pinout:  
solder termination view

## 4.3 – Technical Features

### 0-2000 PSI Sensor

General features	Value
Measure range	0-2000 PSI
Output signal	1-5 V
Power	10-30 V
Cable length	60 cm
Extension	<b>Not included</b>
Thread	M10x1

## 5 – Part Numbers

0-2000 PSI sensor kit number is:

0-2000 PSI brake pressure sensor      **X05SNP13520**