

# Electronics assignment



**ASSIGN  
BUSTER**

This block contains the sensor. It receives supply from a battery and delivers an output voltage signal that ranges between 0 and 500 depending on temperature, at ONCE and at increasing linearly in between. It may deliver more than 500 me when the temperature is higher than , but it is useless since the conditioning system has a ceiling temperature of beyond which sticks displaying as if it was . It has arc damper of 1 capacitance and 000 resistor connected from output to ground to improve capacitance tolerance as advised in its dataset. [1] The has a possible deviation of up to 1250 C in our range (0-) as stated in its dataset that cannot be avoided and would affect the accuracy of the whole system. [1] This block only drains 60 from its supply. [1] 3 This block receives the 0- signal directly from the sensor and amplifies 15. 4 times so that its output ranges from 0 to 7. 7 V, being supplied by a battery. Since Gal- 1 \*OUR for a non- amplifier, 14. 4 .

Maximum In the / resistance ratio is achieved using a potentiometer instead so it can be adjusted exactly to the desired output. This signal will be read from with a full scale of and then, decides which output pin activate to supply the voltage divider chain. Since the voltage to be read can be higher than , the measure is taken divided by two taking advantage of the voltage divider of the following differential amplifier (between ND Erg in figure 3, in the differential amplifier block).

It is a non-essential block to comply with the specifications of the product, although it collaborates in improving the resolution of the system. The cost is not very huge since it consists only of a potentiometer and an operational amplifier which will be used afterwards for the differential amplifier. Its current consumption therefore.