RTC clock

The DS1307 RTC device is a real time clock able to count seconds, minutes, hours and date (day, day of the week, month and year). The end of the month date is automatically adjusted for months with fewer than 31 days, including corrections for leap year. The DS1307 has a built-in power sense circuit that detects power failures and automatically switches to the battery supply.

Libraries used to interact with the device are RTClib.h and Wire.h.

In the setup the RTC is initialized and set with compilation datetime

 Wire.begin();                        // initialize the i2c library

 RTC.begin();                         // start the clock

 RTC.adjust(**DateTime**(\_\_DATE\_\_, \_\_TIME\_\_)); //initialize the clock with the compilation date and time

It is possible to retrieve RTC values by the variable DateTime now. In the loop this variable is continuously updated

now = RTC.now(); //record the current time from the clock

in order to store the current datetime. This variable is used in the diaplayTime() and displayDate() methods in order to show the current values of time and date.

Another crucial function to interact with RTC is the method adjustClock()

void adjustClock() {

 //DateTime (uint16\_t year, uint8\_t month, uint8\_t day,uint8\_t hour =0, uint8\_t min =0, uint8\_t sec =0);

 RTC.adjust(**DateTime**(dateArray[0] + 2000, dateArray[1], dateArray[2], timeArray[0], timeArray[1], 1));

}

It is used in the red button handler. After setting the new datetimeand saving it in the time\_array, the RTC clock is uploaded with these values.