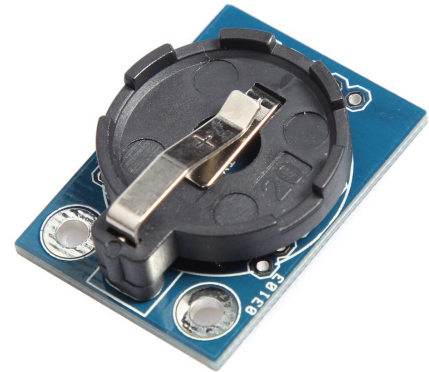Name: **Real Time Clock module with DS1307**

Code: **MR005-001.4**

This product is a carrier board for the Maxim's DS1307 integrated circuit.

The DS1307 serial real-time clock (RTC) is a lowpower, full binary-coded decimal (BCD) clock/calendar plus 56 bytes of battery-backed NV SRAM. Address and data are transferred serially through an I2C, bidirectional bus.

The clock/calendar provides seconds, minutes, hours, day, date, month, and year information. The end of the month date is automatically adjusted for months with fewer than 31 days, including corrections for leap year. The clock operates in either the 24-hour or 12-hour format with AM/PM indicator.

The DS1307 has a built-in power-sense circuit that detects power failures and automatically switches to the backup supply. Timekeeping operation continues while the part operates from the backup supply.

An open drain output signal is provided to carry out a programmable clock at 1Hz, 4.096Khz, 8.192Khz, 32.768Khz; this feature is very usefull to synchronize your application with a "one second" reference or one of its multiples.

This output can also be fixed at high or low logic level via internal register, allowing you to use this signal for debugging or test routines.

Typical applications are:
• personal computers and servers
• office equipments
• robot peripherals
• ambient monitoring equipment.

We have provided three different places where solder the strip connector; you can also choose to solder a straight or a 90°-oriented strip connector: these give you the possibility to find the proper position for the RTC in your specific applications.
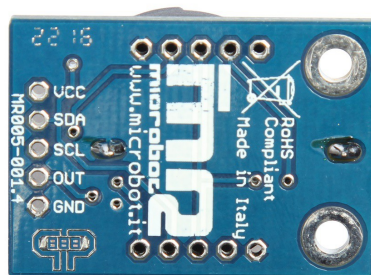
Small physical size, low power consuption and ease usability make this board an ideal choice to implement sophisticated time system management schemes in a variety of applications.

For more details on serial communication and internal registers please refer to Maxim DS1307 datasheet.

SPECIFICATIONS

Supply voltage	4.5 – 5.5V
Supply current	1.5mA typ. (0.5mA in battery backup mode)
Temperature range	+0 / +70°C
Interface	I2C
Dimensions	32 x 23 x 11 mm (strip connector not included)
Weight	5.0 g / 0.18 oz (battery not included)
Battery type	CR2032

Tab.1 - Specifications

CONNECTIONS

VCC	Supply voltage (4.5 – 5.5V)
SDA	Bidirectional serial data
SCL	Serial clock input (generated by the host controller)
OUT	Programmable Output Signal
GND	Ground

Tab.2 – Connections