D.I.Y LED Digital Clock

Installation and operation Guide
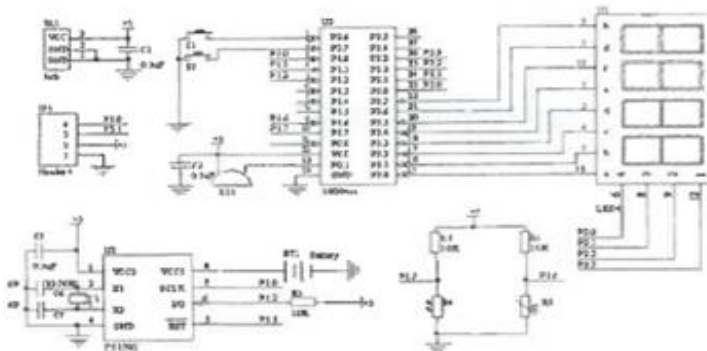
1. Please ensure you have the following materials in your kit.

Component	Quantity	Remarks	Reference PCB
Resistor 10K	3	4-Bands : Brown, black, orange, gold.	R1, R2, R3
Thermistor NTC	**1**	**Looks like diode zener : senses temperature**	**R4**
Photo Resistor	1	Senses day or night light	R5
Push button	**2**	**S2: selection mode - S1: selection hours**	**S1, S2**
Coin cell Holder	1	Do not install unless instructed.	BT1
Capacitor 0.1uF	**1**	**Inscription « 104 » on the component**	**C5**
Capacitor 22pF	2	Inscription « 22 » on the component	C6, C7
Buzzer	**1**	**Do not remove label: noise reduction**	**LS1**
DC Power Socket	1	Input is for 5V only	JK1
USB to DC Cable	**1**	**Input is for 5V only**	**n/a**
STC15F204EA	1	Orient device according to stencil layout	U2
DS1302	**1**	**Real time clock-** Orient according to stencil layout	**U3**
32.768kHZ crystal	1	Radical Crystal	Y1
Quad SSD	**1**	**Display 7-Segments red**	**U1**
Acrylic casing	1	Hardware: 6 pieces with 4 screws and 4 nuts	n/a

2. Soldering suggestion Guide
- Please solder the following components in the proceeding order to insure a simple and easy installation process.
- Install and solder low overhead components first: R3, C5, C6, Y1, C7, R1 et R2.
- Install and solder medium overhead components: LS1, JK1, BT1, S1 et S2.
- Install and solder high overhead components: U3 et U2.
- Install and solder input sensors: R5 et R4 – do not solder these units flush to the board; leave sufficient excess lengths to feed these through the acrylic plate.
- Cut all excess lead wires to keep them leveled except for U3 and U2.
- Solder U1 as the final step.

Schéma
Schematic

2. Test unit by plugging in the cable to the device as well as a USB power source and insert the coin cell battery in the cell holder; you should see the 7-Segment display light up. Unplug cable and install device in casing according to the diagram and fasten with hardware.

3. Guide d'opération

Statut	S2	S1	Résultat
Main	unpressed	unpressed	Current time/temperature
state 1	**pressed**	**Unpressed**	**Time setting flashing on HOUR**
state 2	pressed	unpressed	Time setting flashing on MINUTE
state 3	**pressed**	**Unpressed**	**Alarm setting flashing on HOUR**
state 4	pressed	unpressed	Alarm setting flashing on MINUTE
state 5	**pressed**	**Unpressed**	**alarm : turn on or off?**
state 6	pressed	unpressed	Chime hour indicator start HOUR
state 7	**pressed**	**Unpressed**	Chime hour indicator end HOUR
state 8	pressed	unpressed	Turn this feature ON or OFF

You can only change the value with the S1 button and cycle through the states with S2.
Simply upper button is for states; lower button is for changing values.

Intervalle de 1 minute pour changer la température courante pour un affichage de durée de 7 secondes.
Chime indicator is a beep sound to indicate it is currently passed to a new hour. By setting a start and end time, you can set a quiet time to not beep during the night.