Nicu FLORICA (niq_ro)

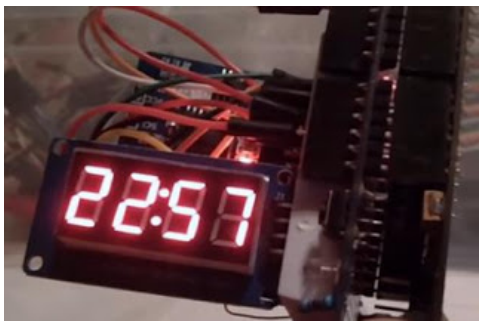
a blog that completes the techniq website at www.tehnic.go.ro and the new website www.arduinotehniq.com ; some of the articles are (and will be) also posted in English on arduinotehniq.blogspot.com

Shows sorted posts by relevance to the **TM1637** query . Sort by date Show all posts

Tuesday, April 25, 2017

Clock on display with TM1637

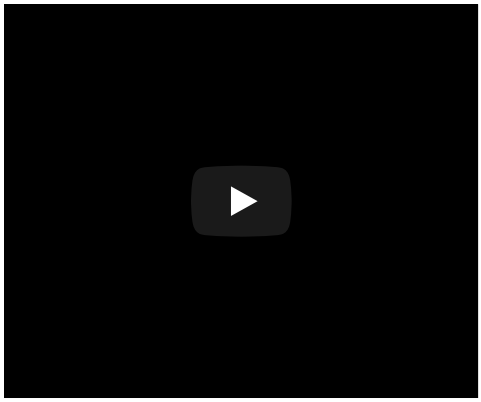
Instead of the article 4-Digit Display controlled by TM1637 and Arduino where we tested the display, we put a DHT11 humidity and temperature sensor and modified a bookcase to display some letters, this time I connected a real-time clock module with DS3231 getting a simple clock in the first phase.



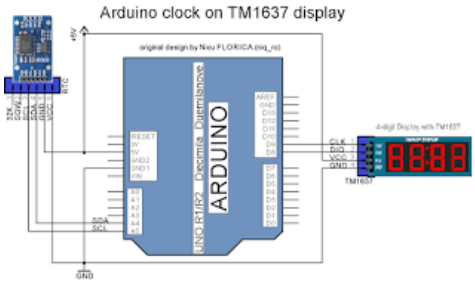
as seen in the first films:
- watch with DS3231 and Arduino on display TM1637

- Arduino clock with DS3231 on TM1637 display

Blog archive



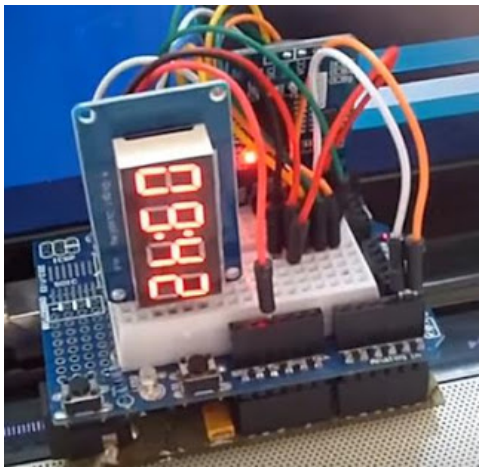
The connection scheme is extremely simple:

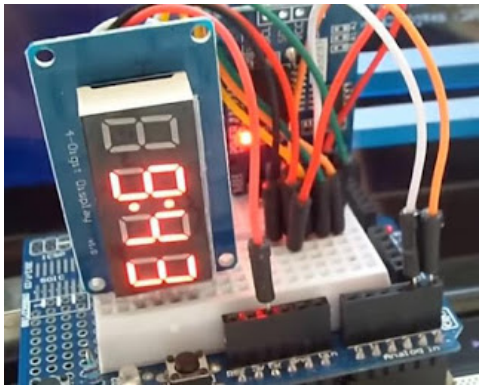


and the sketch used is TM1637_DS3231_clock0.ino .

The usual way of displaying for hours of a 09 digit, which is bothering me so I'm displaying 9 with a space instead of 0 after I have modified the sketch, which becomes TM1637_DS3231_cloc0a.ino , the side that is, it translates like this: if the number of tens of hours is zero, nothing is displayed (character 17 from the modified library TM1637).

```
if ((hh/10) == 0) tm1637.display(0,17);
else
    tm1637.display(0,hh/10);      // hour
```





manual, alarm and ...

► August (9)
► July (8)
► May (3)
► April (1)
► March (2)
► February (3)
► January (3)

► 2016 (59)
► 2015 (60)
► 2014 (68)
► 2013 (77)
► 2012 (5)

Tags

1-Wire
1.5V
1.8 "
10bit
12864
128x64
12bit
1602
1602
16u2
16x2
18B20
2 relay modules
2.4 '
240x320
24x6
2R1G1B
3 threads
315MHz
320x240
32x8
335
39SH-29CAA
4017
4050
433MHz
595
5V / 40A
64 bits
7 segments
723
74HC245D
74HC595

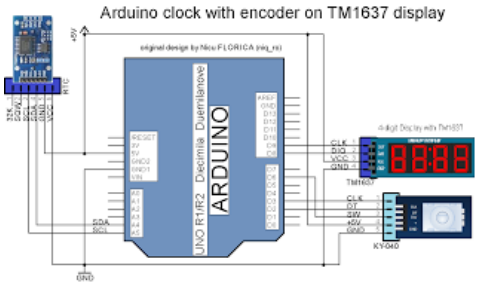
In the movies

- clock with DS3231 and Arduino on display TM1637 (2)

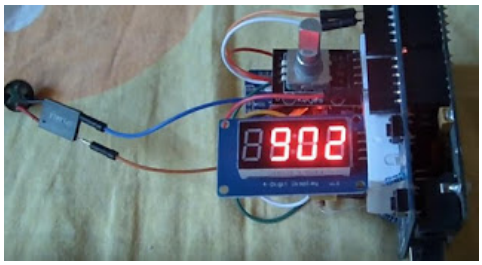
- Arduino clock with DS3231 on TM1637 display (2)

we presented the differences between these two modes of operation.

After that I connected a KY-040 encoder, as shown in the diagram below:

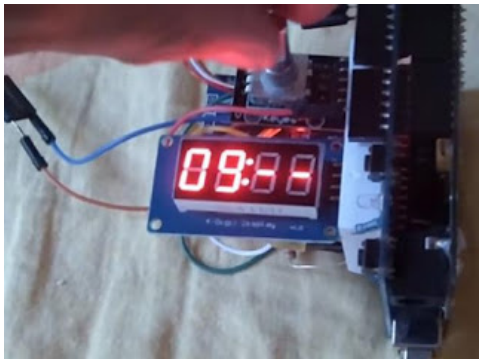


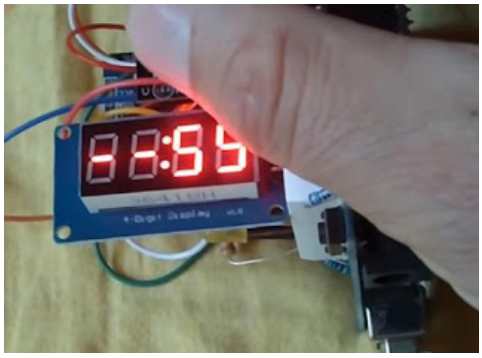
(see also a speaker / buzzer from a computer connected between pin D7 and GND)



and modified the sketch to change the time and minutes, press the encoder button longer to enter the modify mode, first change the clock, turning clockwise to increase the value, or rotate in the sense trigonometric to lower the hour value, then press the encoder button to change the minutes, after the change, press the button again to return to normal operation.

75HC595
8MHz
8u2
95 "
NEEDLE
A4ALL
AC dimmer
AC light dimmer
AC light dimmer. sketch
acoustic
ACS712
actuator
battery
car battery
acoustic
AD9850
Adafruit
display adapter
ADC
ADC121S021
Adelaida
AEG
air conditioning
display
display 10cm
display 3
display 3.95 "
display 7 segments
8x8 LED display
alphanumeric display
8-digit LED display
display FDS-125
display FDS125
graphical display
LCD display
4-digit led display
monochrome display
multiplexed display
display raspberry Pi
serial display
Ajax
alarm
alarm clock
albasete
feeder
adjustable feeder
stabilized feeder





The sketch that does all this is TM1637_DS3231_clock1.ino and the videos that see how it works are:

- clock with DS3231 and Arduino on display TM1637 (3)

- Arduino clock with DS3231 on TM1637 display (3)

26.05.29017

After seeing a comment from an avid passionate Arduino, Vlad Gheorghe , that works with DS1307 instead of DS3231 by replacing RTC_DS3231 rtc line ; with RTC_DS1307 rtc; I remembered that I was typing before, so it works very well with both DS3231 and DS1307 without any changes.

Universal Allimentator
Allview
alternator
AM2302
AM2303
AM3231
ampermeter
Audio amplifiers and music systems
AN6884
Android
ANKH
common anode
sunset
Arduiniq
Arduino
Arduino Bluetooth Controller
house arduino
Arduino Due
arduino IDE
Arduino Mega
Arduino Uno
arduinoforum.nl
arduinows.blogspot.com
Ardutester
AS-102
ASCII
Askola
ATmega 328P
ATMega16
ATMega168
ATmega16u2
ATmega8
ATmega8u2
ATtiny
ATtiny45
ATtiny85
car
audible alert
balance
balance
fart
bass
the battery
light bulb
incandescent bulb
beginner
binary clock

```
#include <Wire.h>
#include "RTClib.h"
//RTC_DS3231 rtc;
RTC_DS1307 rtc;
```

I did this modification and, besides, I did set the hours under 10 to be displayed without 0 in front.

```
if ((sethourstemp/10) == 0) tm1637.display(0,17);
else
   tm1637.display(0,sethourstemp/10);     // hour
```

After uploading the TM1637_DS3231_clock1a.ino sketch, it's ok :

- clock with DS3231 and Arduino on display TM1637 (4)

- Arduino clock with DS3231 on TM1637 display (4)

on April 25, 2017 2 comments: Returns to this post

Tags: DS3231 , encoder , KY-040 , TM1637

Location: Craiova, Romania

Tuesday, April 12, 2016

4 digit display controlled by TM1637 and Arduino

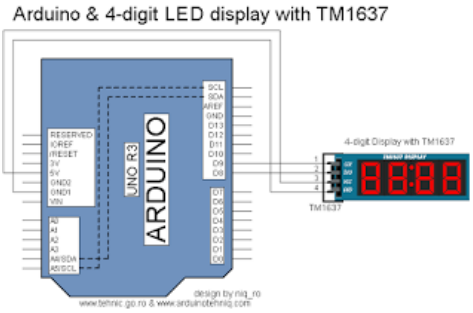
An inexpensive display is the 4 digit 0.36 "(9.14mm) of 7 led segments controlled by integrated TM1637:

Bluetooth
BMP180
bootloader
Christmas tree
Christmas tree
bulb
button without retention
C520
C520D
wiring
calendar
calibration
calibrated
cameleon LED
channel break
Canon
big characters
wooden brick
common cathode
CD4050
clock
alarm clock
clock with binary display
alarm clock
real time clock
CHLH
Christmas tree
flop
clock
code
encoder
Coming home leaving home
electronic components
i2c communication
serial communication
commutation
acoustic switch
comfort
counterfeit
control led
control humidity
rectangular signal converter in continuous voltage
CP2102
CR2032
CR2302
constant current

It can be used for a watch, for temperature and humidity indications, a clock, etc.

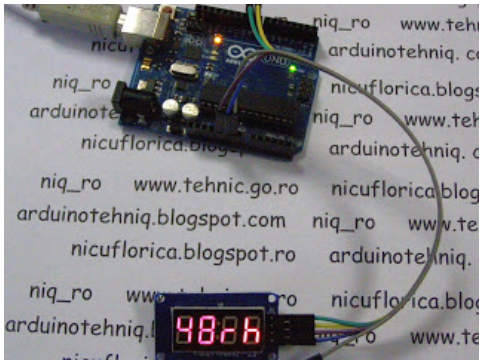
In the beginning I searched the net and found some articles in which this display is displayed along with Arduino, just that I stopped in the article at http://www.arduino.md/hardware/lcd-and-leds/ 0-36-led-display-4-digit-red / which uses the downloadable library from http://www.arduino.md/wp-content/uploads/library/TM1637-4-digit-display-tube .zip !

The test scheme is very simple:

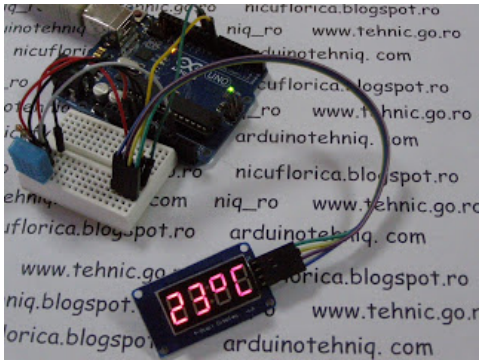


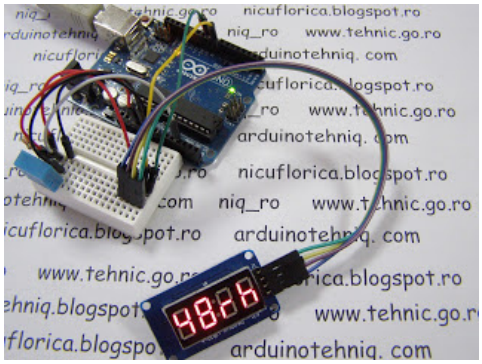
We've adapted the library mentioned above to display other symbols:

- DC
- DAC
- Dallas Semiconductor
- Dallas Semiconductors
- data logger
- weather data
- Day Time Light
- DDS
- decoder
- DHT
- DHT11
- DHT22
- piezo speaker
- resistive divider
- diy
- DMM
- door lock
- driver
- DRL
- DS1307
- DS18B20
- DS3231
- ds3231 ds1307
- DT2095
- dual thermometer
- due
- dx.com
- touch screen
- resistive touch screen
- EEPROM
- electromagnet
- electronic
- electronics
- EM125
- transmitter
- emitter
- EmonLib
- ENC28J60
- encoder
- rotary encoder
- error
- ESP8266
- ESP8266-05
- ESP8266EX
- ESP8266MOD
- Ethercard
- ethernet

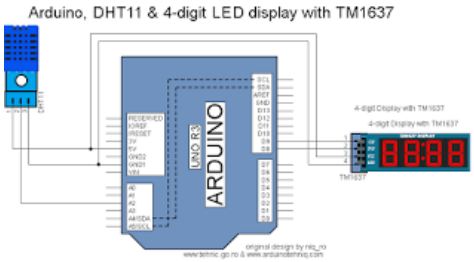


and we also used a DHT11 temperature and humidity sensor (the sketch also allows the use of an AM2302 / DHT22 sensor):





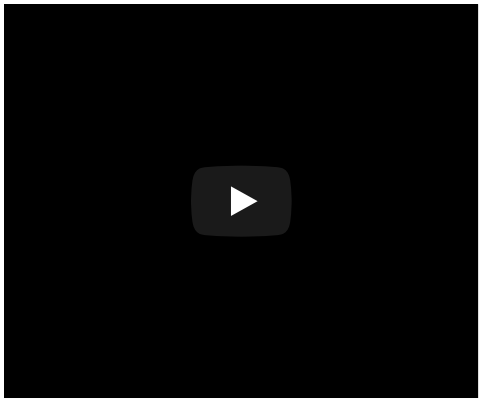
The schema used is:



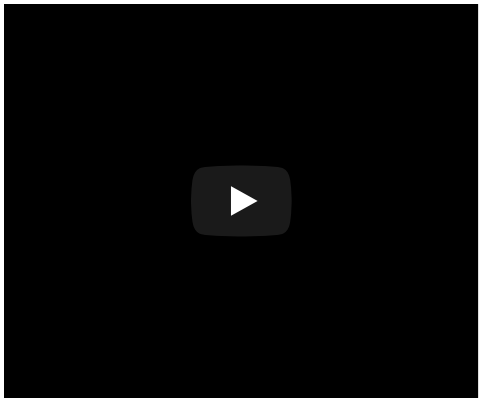
On the github channel (https://github.com/tehniq3/) I put my modified library, which includes the DHT11 sketch, the address being https://github.com/tehniq3/TM1637-display .

I also made a video called Arduino, display with TM1637 and DHT11 sensor

ethernet shield
fake
SDS-125
FDS125
FG209M2
floppy
FM radio
follow me
photoresist
Frankenstein
Frequency counter
free samples
refrigerator
FT232R
FTDI
electric window
gear shift
constant current generator
frequency generator
signal generator
GEOMAR
GFX
Gobetwino
GPRS
GPS
GPS receiver
graduated
graphics
graphics
GY-68
HC-05
HC-06
HC-SR04
HC-SR501
HD44780
HDLO-2416
HDLO2416
high
hygrometer
hobby
Holtek
HT12D
HT12E
HTML
HUB40A
I2C
ILI9341



and another one in English, called Arduino, TM1637 display & DHT11 sensor



on April 12, 2016 A Comment: Returns to this post

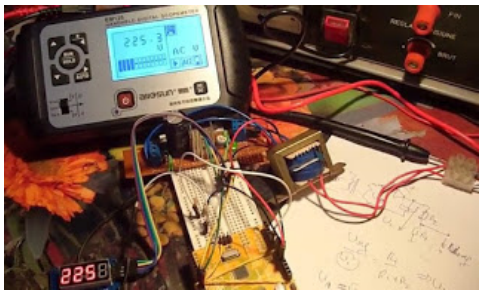
Tags: TM1637

Thursday, September 15, 2016

Measurement of network voltage value: 230V / 50Hz

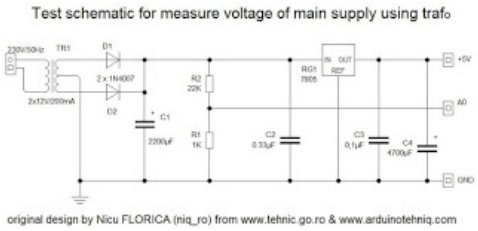
česká verze

For applications where I need the voltage value from the socket, I've been thinking of using a simple system that allows me to do it independently: low voltage transformer, rectifier, voltage filter, stabilization and reduction to 5V for Arduino power supply or microcontroller ATmega328 (or otherwise weaker).

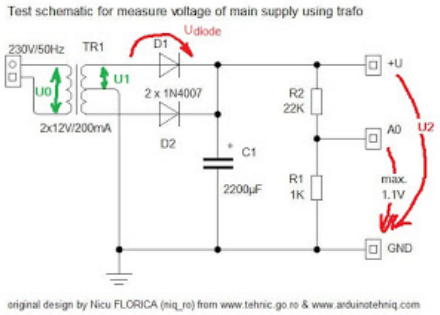


and the complex test scheme (with LM7805 for stabilization) although I have in the assembly a LM317 set to 5V, as I presented in the article Voltage Stabilizer with LM317 :

the laser printer
INA219
tall
heater
beginner
beginners
incubator
indicator
battery indicator
indicator panel
speed indicator
infrared
intense intensity
interface
USB interface
internal temperature
ITRON
play lights
Joule Thief
joystick
keypad
kinderu56
KTM-S1201
KTY81-110
KW4-563ASA
KY-040
L200
car cool box
cornfield
large font
launch4j
Lavamat Regina 804
LCD
LCD 16x2
LCD 20x4
LCD12864
LCD1602
LCD160x
LCD16x2
LCD2004
LDR
LED
ice 1W
LED matrix
multicolor ice
multicolored addressable led
LED organ



but the importance is the part to measure:



To measure accuracy, we used the internal reference voltage of 1.1V of the Arduino board, so the voltage at pin A0 can not exceed this value.

$$UA0 / U2 = R1 / (R1 + R2)$$

The maximum voltage that can measure it with the resistance values in the resistive divider is:

$$U2 = UA0 * (R1 + R2) / R1 = 1.1V * (1k + 22k) / 1k = 25.3V$$

Because the voltage U2 is:

$$U2 = U1 * 1.41\text{-}Udiode$$

it results that the alternative voltage in the secondary is

$$U1 = (U2 + Udiode) / 1.41$$

results in the value of the voltage in the network

$$U0 = U1 * k,$$

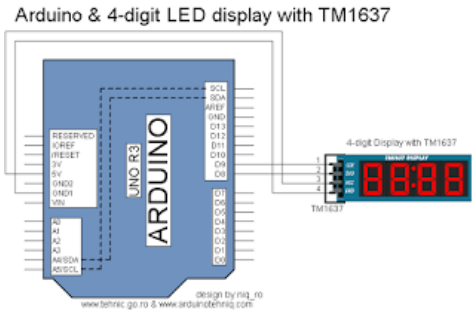
where k is the transformation ratio.

Example: I have a transformer that is inscribed 220V / 2x12V 220mA but at output I measured 11V so the transformation ratio is 220: 11 = 20. The voltage drop on a 1N4007 rectifier diode in the load is 0.6.-0.7V, we choose Udiode value = 0.65V. Because the resistors have a tolerance, I will also use a correction coefficient to have an indication as a measuring device.

We used a display controlled by the TM1637 integrated 4-digit LED of 7 segments each, which I posted on the blog in the article at http://nicuflorica.blogspot.ro/2016/04/afisaj-cu-4- digit-controlled-tm1637.html and adapted a library found on the net, as found on the Github channel: https://github.com/tehniq3/TM1637-display .

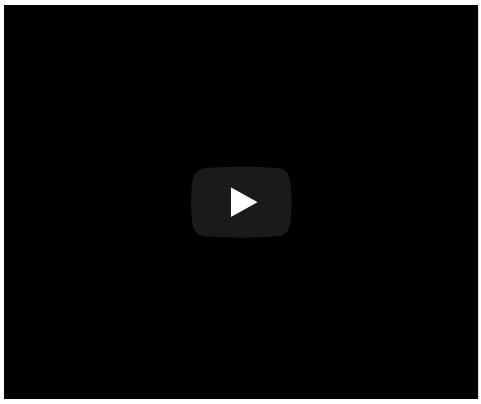
I kept the connection diagram to the compatible Arduino Uno board:

- LED
- LedControl
- 1W LEDs
- graphics library
- light dimmer
- light organ
- current limitation
- LM1036
- LM2577
- LM317
- LM317T
- LM324
- LM335
- LM335Z
- LM35
- LM35DZ
- LM386
- LM50
- LM723
- LPH 7366
- lucadentella
- light
- dynamic lights
- M590
- car
- barrel washing machine
- master
- current measurement
- measuring network voltage
- matrix 8x8 LEDs
- LED array
- LED array
- MAX31820
- MAX6921
- MAX7219
- Maxim Integrated
- MaxMatrix
- MBI5026
- MCP3204
- MCP3208
- MCP41010
- MCP41xxx
- MCP4261
- MCP4921
- MCP4922
- environment
- menu

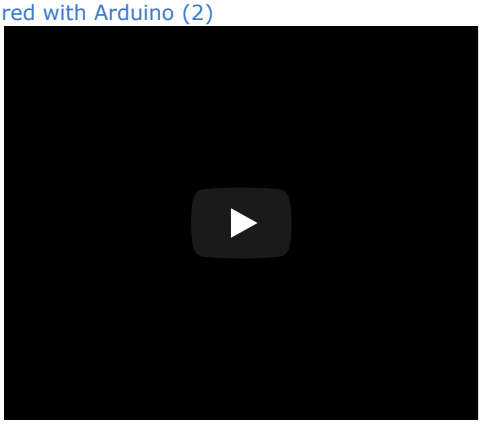


and I connected the A0 pin to the resistor divider besides the power supply.
I made some videos, in which I describe the ones described above, in which the sketch used is main-voltage_0.ino :

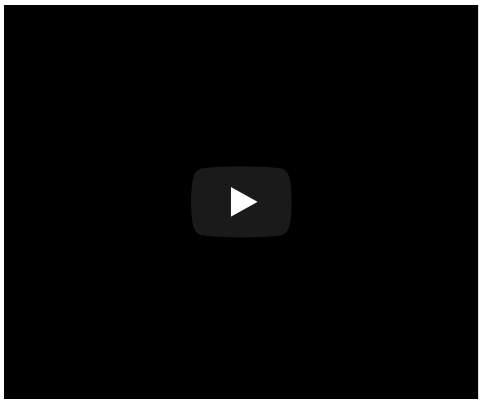
- Network voltage measured with Arduino



- network voltage measured with Arduino (2)

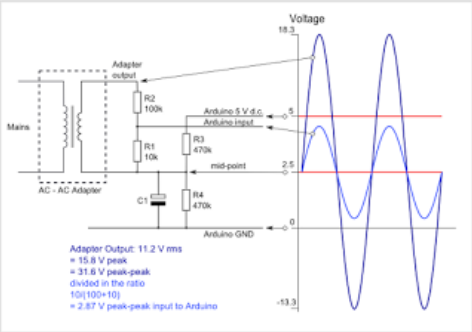


- main supply voltage measured with Arduino



PS: An interesting method is presented in the Measuring AC Voltage article with an AC to AC power adapter

transfer method
MG996R
micro SD
microcontroller
microSD
minimal Arduino
miniorga
miniorga of lights
miniorga lights
weather ministry
Mivarom
serial display mode
sample
samples
fitting
MotionPie
motoas
motor
DC engine
MP160
MP180
MP250
MPtool
multifunctional
multimeter
multimeter
multiplexing
multiplexed
multiplixat
MX-05
MX-FS-03V
NeoPixel
Neoway
niq_ro
niqro.3x.ro
NodeMcu
Nokia 3310
Nokia 3410
Nokia 5110
noobs
Norika
NRF24L01
electric mirror
OLED
OneWire
OpenEnergyMonitor
operational



on September 15, 2016 No comments: Links to this post

Labels: network voltage measurement
Location: Craiova, Romania

Home Page

Subscribe to: Posts (Atom)

Ardutester - component identifier

Looking for information on the super-multi-tester with ATmega8 (168, 328, etc.) developed by Markus Frejek to use the Ardu ...

The presence sensor HC-SR501 and Arduino

At the end of 2011, we presented a motion-driven motion sensor that is used to control a bulb (or other ...

Adjustable voltage stabilizer (1,2..12V) with LM317T

For cases where we need to feed an assembly or consumer (portable radio, bullet, etc.) from a fixed fixed voltage source ...

optocoupler
Oracal
orga lights
self-locking oscillator
oscilloscope
OSTB5131A
Otto DIY
Otto robot
P20 display
P20F04D-12L
web page
pasword
PC keyboard
PCD8544
PCF8574
PCF8574T
PCF8812
Peltier
piezo speaker
PIR
Pixma
PL2303HX
Network board
relay board
LAN card
intake pump
engine startup
serial port
digital potentiometer
power supply
PPAS102
PPi
pressure
beautiful code presentation
program
programmer
programmer
progressive
project
protection with the return of the feature
short-circuit protection
PWM
Quintrix
cooler
FM radio
RadioHead
risen

Raspberry Pi
Raspa
RC
RC522
RDA5807
Realtek
receiver
receiver
GPS receiver
precision rectifier
register
shift register
adjustment
adjust the alarm
adjust year
adjust the date
adjust the time
adjust humidity
relays
relay
relay protection
relay protection to minimum and maximum voltage
regulator relay
remote
reset the printer
network
RF
RFID
RFID-RC522
RGB
RGB LEDs
RH_NRF24
roto Otto
Robofun
roroid
Rpi
rpm
RTC
RTL8188ETV
speed changer
slave
SD
sd module
SDA5708
security code
motion sensor

sensor present
temperature sensor
senzor ultrasonic distanta
senzor umiditate
serial LCD module
servo
servomotor
seven segment
shield
shift register
sistem acces
sketch
slave
SLT-6010B
smartphone
SMS
soare
software
soil moisture
SPI
SpurkFun
SSD1306
ST7735
ST7735B
ST7781
ST7920
stabilizator
stabilizator cu reactie
stabilizator parametric
stabilizator reglabil
stapan
statie meteo
step-down converter
stepper motor
steps
STM32
STM32F103C8
STM32F103C8T6
sursa laborator
sursa reglabila
sursa teniune
sursa tensiune
switch
SWTFT
tastatura
tastatura calculator
TEA5767

tehnic.go.ro
tehniq
Tehnium
telecomanda
temperatura
temperature senzor
temporizare
teorie
termometru
termometru dublu
termostat
termostat cu 2 praguri
testare
Texas Instruments
TFT
TFT 2.2"
thermometer
thermostat
ThingSpeak
TM1637
TME
TMP36
ton control
tone control
toner
tonner
touch rezistiv
Touch Screen
TPS5420
tranceiver
transfer
transfer proiect Arduino
transformator curent
treapta viteza
tronixstuff
TSP5430
TTL
tachometer
TVOUT
Tx
u8g
u8glib
ucglib
watering
uiarles
ultrasonic
moisture

Unidos
unipolar
USB
variable light intensity
voltage variator
variable voltage
VFD
VGA
VGAx
vintage
vinyl sticker
Vitacom
voltampermetru
voltmeter
voltmeter
volume
volumes
VUmeter
vumetru
W5100
wattmeter
weather
web thermostat
webserver
webthermostat
WeMos
WeMos D1
wi-fi
WiFi
windows 7
wireless
wooden clock
wooden ice clock
WS2801
WS2811
WS2812
yala electromagnetics
zener
Zenner

About me

Nicu FLORICA

Urmărește 0

View my full profile