

lamaPLC: TM1637 7-segment display



The TM1637 module is a driver for 4-digit 7-segment displays. These chips are standard in inexpensive display units. They communicate with the processor using an **I²C-like protocol**. The implementation relies entirely on software emulation and uses no specialized hardware, aside from GPIO pins. It is assumed that pull-up resistors are present, typically integrated into the display module.

- Operating voltage: 3.3 – 5 V DC
- Maximum current draw: 80mA
- Reverse polarity protection: Yes

Wiring Diagram

TM1637 Pin	Arduino	Pin Description
GND	GND	Ground
VCC	5V or 3.3V Power	(3.3V–5.25V DC)
DIO	Digital Pin 3	Data Input/Output (configurable)
CLK	Digital Pin 2	Clock Input (configurable)



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Required Library

Install the **TM1637Display** library by Avishay Orpaz through the Arduino IDE Library Manager (Sketch > Include Library > Manage Libraries...)

Arduino code

This code initializes the display, sets the brightness, and loops through a simple counter.

```
#include <TM1637Display.h>
```

```
// Define the connections
#define CLK 2
#define DIO 3

// Create a display object
TM1637Display display(CLK, DIO);

void setup() {
  display.setBrightness(0x0f); // Set brightness (0x00 to 0x0f)
  display.clear();           // Clear the display
}

void loop() {
  // Show a static number
  display.showNumberDec(1234);
  delay(2000);

  // Counter loop
  for (int i = 0; i <= 100; i++) {
    display.showNumberDec(i);
    delay(100);
  }

  display.clear();
  delay(1000);
}
```

Sources

[Arduino Doc TM1637 library](#)

Sensor topics on lamaPLC

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• LamaPLC: CJMCU-3901/PMW-3901 compact optical flow sensor module/IC by PixArt with SPI communication	2026/04/23 21:52	cjmcu-3901, cjmcu, pmw3901, pmw-3901, optical flow, sensor, pixart, spi, communication, arduino, code, pmw3901mb-txqt
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• LamaPLC: HX711 24-bit analog-to-digital converter (ADC)	2026/04/11 18:28	hx711, hx-711, analog-to-digital, adc, converter, load cell, wheatstone bridge, weight, sensor, communication, arduino, code
• lamaPLC: INA modules with Arduino libraries	2026/04/23 21:52	i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina219, gy-219, ina226, gy-216, ina228, gy-228, ina237, ina238, ina260, ina3221, ina
• lamaPLC: INA226 - current/voltage/power monitor with I ² C communication	2026/04/23 21:52	i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina226, ina219, ina
• lamaPLC: LTC3588 - Nanopower energy harvesting power supply IC	2026/04/23 21:52	communication, arduino, sensor, energy harvesting, eh, energy, ambient power
• LamaPLC: M01 - V0.4 Laser ranging sensor with UART communication	2026/04/23 21:52	distance measurement, laser, distance, sensor, m01
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• LamaPLC: MH-Z19 series of NDIR CO ₂ sensors	2026/04/23 21:52	mh-z19, mh-z19d, mh-z19c, mh-z19b, mh-z19e, ndir, co ₂ , sensor, winsen, uart, pwm, communication, non-dispersive infrared, infrared, ir, temperature, arduino, code, tasmota
• lamaPLC: MPU-6050 (HW-123, GY-521) 6-axis MotionTracking device	2026/04/23 21:52	mpu-6050, hw-123, gy-521, 6-axis motiontracking, dmp, temperature, sensor, mems, arduino code, arduino, accelerometer, gyroscope, tilt
• LamaPLC: MQ Winsen Gas-sensors	2026/04/23 21:52	mq, mq-2, mq-3, mq-4, mq-5, mq-6, mq-7, mq-8, mq-9, mq-131, mq-135, mq-137, winsen, gas-sensor, sensor, arduino, code, alcohol, c ₂ h ₅ oh, benzine gas, smoke, lpg, propane, c ₃ h ₈ , hydrogen, h ₂ , methane, ch ₄ , iso-butane, town gas, ammonia, nh ₃
• LamaPLC: PIR sensors	2026/04/23 21:52	hc-sr501, hc-sr505, am-312, ekmb ekmc, pir, motion, sensor, arduino, code

• LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I²C communication	2026/04/23 21:52	paj7620u2 , gy-paj7620 , pixart , gesture recognition , i2c , communication , sensor , arduino , code
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• lamaPLC: RP2040_ETH_Modul: Read BME 680/688 sensor data and store in Modbus input registers	2026/05/12 21:04	code , micropython , 2026 , rp2040 eth , bme680 , i2c , sensor , communication
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• LamaPLC: Texas Instruments ADCs: Delta-sigma multi-channel Analog Converters with SPI communication	2026/04/23 21:52	ads111x , ads12xx , delta-sigma , converter , texas instruments , adc , spi , communication , sensor , arduino , code , ads1110 , ads1112 , ads1113 , ads1114 , ads1115 , ads1118 , ads1119 , ads1220 , ads1232 , ads1234 , ads1256 , ads1261 , ads1263 , multi channel
• LamaPLC: TOFnnnC STMicroelectronics Time-of-Flight (ToF) sensors with I²C communication	2026/04/23 21:52	tof050c , vl6180 , tof200c , vl53l0x , tof400c , vl53l1x , stmicroelectronics , time-of-flight , tof , i2c , communication , sensor , arduino , code
• LamaPLC: UICPAL Temp.humi.sensor	2023/06/25 00:43	simatic , s7 , modbus , communication , temperature , humidity , sensor
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• LamaPLC: Waveshare TOF Laser Range Sensor with UART / I²C communication	2026/04/23 21:52	distance measurement , laser , range , sensor , tof , waveshare

• lamaPLC: XGZP68xx: Silicon Pressure Sensors/Module	2026/05/15 15:17	communication, i2c, sensor, modul, pressure, cfsensor, xgzp68xx, xgzp6810d, xgzp6857d, xgzp6859d, xgzp6887d, xgzp6897d, xgzp6899a, piezoresistive, capacitive
• lamaPLC: YR-3180 - Weight sensor module with UART or Modbus communication	2026/02/15 00:00	communication, modbus, rtu, sensor, weight, yr-3180, hx710b, arduino, ttl, rs-485
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• NT18B07: 7 Kanal RS485 Temperatur Sensor with Modbus RTU	2026/02/14 18:49	nt18b07, sensor, modbus, rtu, rs-485, communication, platine
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