

lamaPLC: HT16K33 display controller

The **HT16K33** is a memory-mapped, multi-function LED controller driver. The maximum display segment count on the device is 128 patterns (16 segments and eight commons), with a 13×3 Maximum matrix key scan circuit. The software-configurable features of the HT16K33 make it suitable for a wide range of LED applications, including LED modules and display subsystems. The HT16K33 is compatible with most microcontrollers and communicates via a two-line bidirectional **I²C** bus.



HT16K33 IC Feature

- Operating voltage: **4.5V-5.5V**
- Integrated RC oscillator
- I²C-bus interface
- 16×8-bit RAM for display data storage
- Max. 16×8 patterns, 16 segments, and eight commons
- R/W address auto-increment
- Max. 13×3 matrix key scanning
- 16-step dimming circuit
- Supports 20/24/28-pin SOP package types



I²C addressing

The base I²C address for an HT16K33 is **0x70**, but it can be changed to one of seven other addresses by setting the four address pins (**A0-A3**) via hardware. Each HT16K33 chip can have a unique address from **0x70** to **0x77**. If multiple HT16K33 devices are used on the same bus, each must have a distinct address, and if you use more than one, their addresses must be sequential, such as **0x70**, **0x71**, **0x72**.

• LamaPLC: Gas sensors	2023/07/01 15:29	gas, sensor, i2c, onewire, communication, mq-3, mq-4, mq-5, mq-6, mq-7, mq-8, mq-9, mq-135, gm-102b, gm-302b, gm-502b, gm-702b, alcohol, ch4, natural gas, smoke, lng, co, co2, lpg, h2, iso-butane, nox, nh3, benzene, town gas, formaldehyde, propane, humidity, temperature, voc, grv gas sens v2
• lamaPLC: HT16K33 display controller	2025/11/22 21:26	i2c, 7-segment display, display, ht16k33, arduino
• LamaPLC: Humidity/temperature / air-pressure / gas / air-quality sensors and modules for Arduino	2025/09/23 19:08	sht20, sht21, sht25, sht30, sht31, sht35, sht40, dht11, dht20, dht22, am2302, dps310, bme280, bme680, bmp180, bmp280, si7021, tc1047a, ds18b20, htu21, htu21d, gy21, gy68, gy bme280, scd30, modul, humidity, temperature, air-press, sensor, i2c, spi, modbus, onewire, communication
• lamaPLC: LCD 1602/2004	2025/10/09 21:58	communication, i2c, display, lcd, 1602, 2004, hd44780
• lamaPLC: MCP23017 / MCP23S17 16-Bit I/O Expander with Serial Interface	2025/12/04 00:34	communication, i2c, mcp23017, mcp23s17, spi, i o expander, serial, cjmcu-2317
• lamaPLC: Signal level converters	2025/11/22 19:12	pca9306, i2c, voltage, level, converter
• lamaPLC: TCA9548A (HW617); Low-Voltage 8-Channel I²C Switch Module	2025/11/22 18:48	tca9548a, hw617, i2c, switch, communication, expansion board, arduino
• lamaPLC: TM1637 7-segment display	2025/10/09 16:03	i2c, 7-segment display, display, tm1637, arduino

[i2c, 7-segment display, display, HT16K33, Arduino](#)

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