

# LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I<sup>2</sup>C communication

The PAJ7620U2 is a highly integrated gesture-recognition sensor module from Pixart that detects up to nine hand gestures and proximity via an I<sup>2</sup>C interface. It is commonly available on breakout boards for use with microcontrollers such as Arduino or Raspberry Pi.



The sensor module integrates an optical lens and an infrared (IR) LED to function even in low-light or dark environments.

## Key Features

- **Supported Gestures:** 9 basic gestures: Up, Down, Left, Right, Forward, Backward, Clockwise (CW) circle, Counter-clockwise (CCW) circle, and Wave. Some modules support up to 13 gestures in a slower mode.
- **Interface:** I<sup>2</sup>C communication interface (up to 400 kbit/s), default address: **0x73**
- **Operating Voltage:** Typically 2.8V to 3.6V (sensor chip); breakout boards often include onboard voltage translators for 3.3V/5V compatibility. If using a basic breakout board without a voltage regulator, connect a 3.3V supply to the VCC pin. If using a module that specifies 5V compatibility (such as the Waveshare or Gravity series), you can safely use either 3.3V or 5V.
- **Detection Distance:** Effective range of 5 cm to 15 cm, with some setups reaching up to 20 cm.
- **Ambient Light Immunity:** High immunity to ambient light, up to <100k Lux.
- **Power Consumption:** Designed for low-power operation, suitable for battery-operated devices.
- **Array Size:** 60×60 pixels
- **Gesture speed:** 60~600°/s in Normal Mode and 60~1200°/s in Gaming Mode



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## Arduino wiring

- SCL: A5

- GND: GND
- SDA: A4
- Vdd: 5V

## Arduino code

Here is the example code that uses the **RevEng PAJ7620** Library to recognize 9 gestures:

```
#include "RevEng_PAJ7620.h"

RevEng_PAJ7620 sensor = RevEng_PAJ7620();

void setup() {
  Serial.begin(9600);
  if (!sensor.begin()) {
    Serial.print("PAJ7620U2 initialization failed");
  }
}

void loop() {
  Gesture gesture = sensor.readGesture();

  switch (gesture) {
    case GES_FORWARD:
      Serial.println("FORWARD");
      break;
    case GES_BACKWARD:
      Serial.println("BACKWARD");
      break;
    case GES_LEFT:
      Serial.println("LEFT");
      break;
    case GES_RIGHT:
      Serial.println("RIGHT");
      break;
    case GES_UP:
      Serial.println("UP");
      break;
    case GES_DOWN:
      Serial.println("DOWN");
      break;
    case GES_CLOCKWISE:
      Serial.println("CLOCKWISE");
      break;
    case GES_ANTICLOCKWISE:
      Serial.println("ANTICLOCKWISE");
      break;
    case GES_WAVE:
      Serial.println("WAVE");
      break;
  }
}
```

```
}
}
```

## I<sup>2</sup>C topics on lamaPLC

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- [lamaPLC: Energy, power, current, and voltage](#) 2025/05/31 23:32 [i2c, i c, communication, arduino, energy, power, current, sensor, ina226 ens160, sciosense, gas-quality, i2c, communication, sensor, arduino, code, eco2, tvoc, aqi, indoor air quality, iaq, co2, voc](#)
- [LamaPLC: ENS ScioSense Multi-gas sensors with I<sup>2</sup>C communication](#) 2026/04/23 21:52 [esp8266, esp32, esp32-c2, esp32-c3, esp32-c5, esp32-c6, esp32-c61, esp32-h2, esp32-s2, esp32-s3, esp32-p4, espressif systems, communication, ethernet, ip, wi-fi, thread, zigbee, matter, homekit, bluetooth, mqtt, adc, spi, uart, i2c, i2s, rmt, pwm, usb, usb otg, twai](#)
- [lamaPLC: ESP32 / ESP8266](#) 2025/11/22 00:07 [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: Gas sensors](#) 2023/07/01 17:29 [stmicroelectronics, lsm303dlhc, i2c, lsm303, sensor, gy-511, 6dof, pololu, module, arduino](#)
- [lamaPLC: GY-511 6DOF sensor module](#) 2026/03/22 01:44 [ak8963, gy-9250, mpu-9250, 9-axis, motion detection, magnetometer, communication, i c, i2c, spi](#)
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- [lamaPLC: INA modules with Arduino libraries](#) 2026/04/11 19:54 [i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina226, ina219, ina](#)
- [lamaPLC: INA226 - current/voltage/power monitor with I<sup>2</sup>C communication](#) 2026/04/23 21:52 [i2c, i c, communication, arduino, energy, power, current, monitor, sensor, ina226, ina219, ina](#)

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• LamaPLC: MAX30100/MAX30102 Heart Rate Click Sensor Module	2026/04/23 21:52	max30102, max30100, heart rate click, sensor, communication, i2c, arduino, code
• lamaPLC: MCP23017 / MCP23S17 16-Bit I/O Expander with Serial Interface I <sup>2</sup> C / SPI	2026/04/23 21:52	communication, i2c, mcp23017, mcp23s17, spi, i o expander, serial, cjmcu-2317, cjmcu
• lamaPLC: MLX90614 (GY-906) infrared non-contact thermometer	2026/05/08 00:03	communication, i2c, temperature, mlx90614, gy-906, modul, infrared, non-contact thermometer, dsp, pwm, smbus, hailege
• lamaPLC: PCF857x I/O Expander chip/modul with I <sup>2</sup> C communication	2026/05/14 15:21	communication, i2c, pcf857x, pcf8574, pcf8574a, pcf8575, i o expander, i o extension, nxp, texas instruments
• LamaPLC: Pixart PAJ7620U2 Gesture recognition sensors/module with I <sup>2</sup> C 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: MLX90614 simple	2026/05/12 17:06	code, micropython, 2026, rp2040 eth, i2c, communication, mlx90614
• lamaPLC: RP2040_ETH_Modul: Read BME 680/688 sensor data	2026/05/12 21:06	code, micropython, 2026, rp2040 eth, bme680, i2c, sensor, communication
• lamaPLC: RP2040_ETH_Modul: Read BME 680/688 sensor data and store in Modbus input registers	2026/05/12 18:58	code, micropython, 2026, rp2040 eth, bme680, i2c, sensor, communication
• LamaPLC: SC16IS750 / SC16IS752: One or two serial (UART) ports from microcontroller via I <sup>2</sup> C or SPI communication	2026/04/23 21:52	cjmcu-750, cjmcu-752, cjmcu, nxp, sc16is750, sc16is752, uart, serial, i2c, spi, modul, converter, arduino, code
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• LamaPLC: SHT Sensirion Temperature/humidity sensor with I <sup>2</sup> C communication	2026/04/23 21:52	sht20, sht21, sht25, sht30, sht31, sht35, sht40, gy21, temperature, humidity, i2c, communication, sensor, arduino, code
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• lamaPLC: TM1637 7-segment display	2026/02/14 18:26	i2c, 7-segment display, display, tm1637, arduino
• LamaPLC: TOFnnnC STMicroelectronics Time-of-Flight (ToF) sensors with I <sup>2</sup> C communication	2026/04/23 21:52	tof050c, vl6180, tof200c, vl5310x, tof400c, vl5311x, stmicroelectronics, time-of-flight, tof, i2c, communication, sensor, arduino, code

- [LamaPLC: VL53Lnn STMicroelectronics time-of-flight \(ToF\) laser-ranging sensors with I<sup>2</sup>C communication](#) 2026/04/23 21:52 [vl53l0x, vl53l1x, vl53l0 1xv2, gy-530, time-of-flight, tof, laser-ranging, i2c, communication, sensor, arduino, code](#)
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- [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](#)
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- [SSH1106/SSD1306 OLED Display with I<sup>2</sup>C communication](#) 2026/02/14 18:27 [i2c, oled, display, ssd1306, sh1106, ssh1106, arduino, cmos](#)

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