IC1

# ICP-10111 Barometric Pressure Sensor Module

*Professional electronic component*

## PRODUCT OVERVIEW

The UNIT ICP-10111 Barometric Pressure Sensor Module is a compact and efficient sensor designed for high-accuracy atmospheric pressure measurements with low power consumption. Based on MEMS capacitive technology, this module offers ultra-low noise performance, exceptional relative accuracy, and stable sensor throughput. Ideal for weather monitoring, altitude measurement, and environmental sensing, it delivers industry-leading precision in demanding applications.

# KEY TECHNICAL SPECIFICATIONS

## 🔌 CONNECTIVITY

| | |
|---|---|
| Primary Interface: | **I²C (up to 400 kHz, address 0x63)** |
| Connector Type: | **Qwiic + Pin Headers** |
| Logic Levels: | **VCC-referenced (1.8V – 5.5V tolerant)** |

## 🔧 MECHANICAL

| | |
|---|---|
| Board Dimensions: | **20.32 mm × 17.78 mm** |
| Mounting Holes: | **4 × Ø 2.2 mm** |
| Weight: | **~2.5 g** |
| Package Type: | **Compact breakout board** |

## PIN CONFIGURATION

| VOLTAGE LEVEL | FUNCTION |
|---|---|
| 3.3 V – 5.5 V | Provides power to the on-board regulator and sensor core. |
| 0 V | Common reference for power and signals. |
| 1.8 V to VCC | Serial data line for I²C communications. |
| 1.8 V to VCC | Serial clock line for I²C communications. |

## KEY FEATURES

**❓ feature not specified**
No specific features found

**◎ Key Applications**
Weather Stations & Barographs, Altimeters & UAVs, Indoor/Outdoor Navigation and more

## TYPICAL APPLICATIONS

| | | |
|---|---|---|
| Weather Stations & Barographs | Altimeters & UAVs | Indoor/Outdoor Navigation |
| Wearables & IoT | Climatology & Research | Weather Forecasting |

## ADDITIONAL TECHNICAL INFORMATION

### 📦 OVERVIEW

| FEATURE | SPECIFICATION |
|---|---|
| Pressure operating range | 30 to 110 kPa |
| Noise and current consumption | ULN mode: 0.4 Pa @ 10.4 µALN mode: 0.8 Pa @ 5.2 µALP mode: 3.2 Pa @ 1.3 µA |
| Pressure Sensor Relative Accuracy | ±1 Pa for any 10 hPa change over 950 hPa–1050 hPa at 25°C |
| Pressure Sensor Absolute Accuracy | ±1 hPa over 950 hPa–1050 hPa, 0°C to 65°C |

| FEATURE | SPECIFICATION |
|---|---|
| Pressure Sensor Temperature Coefficient Offset | ±0.5 Pa/°C over 25°C to 45°C at 100 kPa |
| Temperature Sensor Absolute Accuracy | ±0.4°C |
| Temperature operating range | -40 °C to 85 °C |
| Host Interface | I2C at up to 400 kHz |
| Single Supply voltage | 1.8V ±5% |
| RoHS and Green compliant | Yes |

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# HARDWARE DOCUMENTATION

## MECHANICAL DIMENSIONS



**Mechanical dimensions in millimeters (mm)**
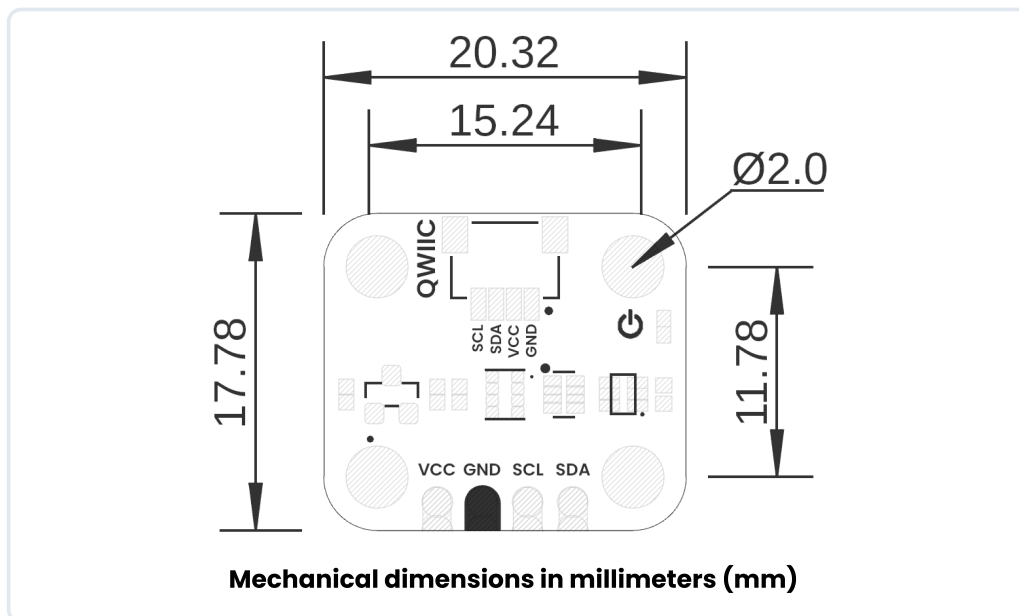
Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY
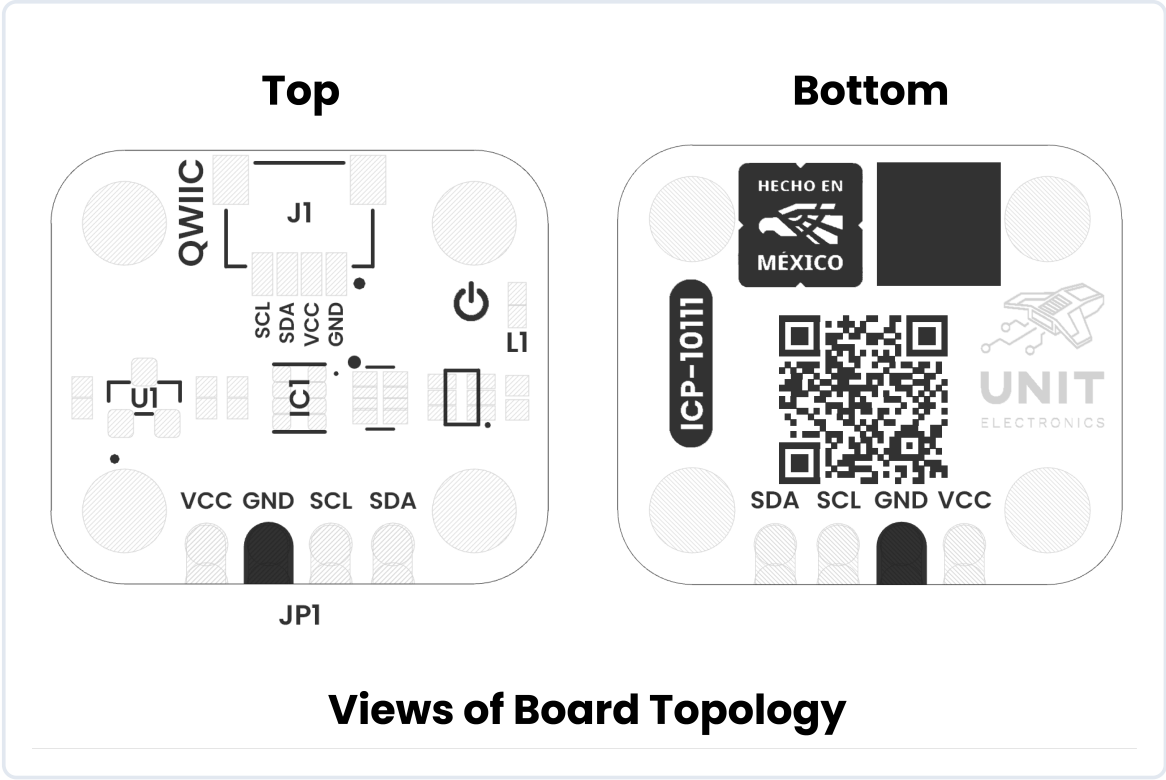


Connection topology and system integration diagram

*Click image to open in full size*

## COMPONENT REFERENCE

| REF. | DESCRIPTION |
|------|-------------|
| IC1 | ICP-10111 Barometric Pressure Sensor |
| L1 | Power On LED |
| U1 | ME6206A18XG 1.8V Regulator |
| JP1 | 2.54 mm Castellated Holes |
| J1 | QWIIC Connector (JST 1 mm pitch) for I2C |

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CIRCUIT SCHEMATIC

Circuit Schematic

Complete circuit schematic showing all component connections

**View Complete Schematic PDF**

# PIN DESCRIPTION

*Detailed pin assignment and electrical specifications*

## SIGNAL DESCRIPTION

| FUNCTION | NOTES |
|---|---|
| Power Supply | 3.3V or 5V |
| Ground | Common ground for all components |

| VOLTAGE LEVEL | FUNCTION |
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# PIN CONFIGURATION LAYOUT

*Physical connector layout and pin positioning*

Pin Configuration Layout

Complete pin configuration diagram showing all connectors, pin assignments, and electrical connections for proper integration

**IC1 v1.0**
**Professional Technical Datasheet**

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For commercial distribution