UNIT

UNIT JUN R3 Development Board

v1.0

2025-09-23

Rev. A

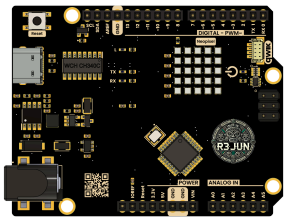
Professional electronic component

PRODUCT OVERVIEW

Professional electronic module designed for reliable performance and easy integration with modern development platforms.

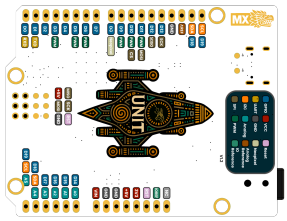
PRODUCT VIEWS

TOP VIEW



Component placement and connectors

BOTTOM VIEW



Underside components and connections

KEY TECHNICAL SPECIFICATIONS

🔌 CONNECTIVITY

Primary Interface: **GPIO (Interrupt)**

Connector Type: **JST 4-pin 1.0mm**

Logic Levels: **VCC-referenced (2V – 5.5V tolerant)**

PIN CONFIGURATION

FUNCTION	NOTES
RX	Serial Receive
TX	Serial Transmit
Digital I/O	Interrupt capable
PWM	Pulse Width Modulation
Digital I/O	
PWM	Pulse Width Modulation
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Digital I/O	
Digital I/O	
PWM	Pulse Width Modulation
SPI CS	Chip Select for SPI
SPI MOSI	Master Out Slave In
SPI MISO	Master In Slave Out
SPI SCK	Serial Clock
Analog Input	10-bit ADC
Analog Input	10-bit ADC
Analog Input	10-bit ADC
Analog Input	10-bit ADC
I2C SDA	Serial Data Line
I2C SCL	Serial Clock Line
Power Supply	5V or 3.3V depending on design
Ground	Common ground reference

KEY FEATURES

Touch-only sensing

No physical press required – reacts to proximity of a finger.

Fast response

< 80 ms touch detection time.

Auto-calibration

Compensates for environmental changes and drift.

On-board pull-up/down

Ensures clean digital output.

JST PH-2.0 connector

Quick-disconnect cable interface.

Selectable modes

Momentary or toggle output (via solder-jumper on the board).

Mounting holes

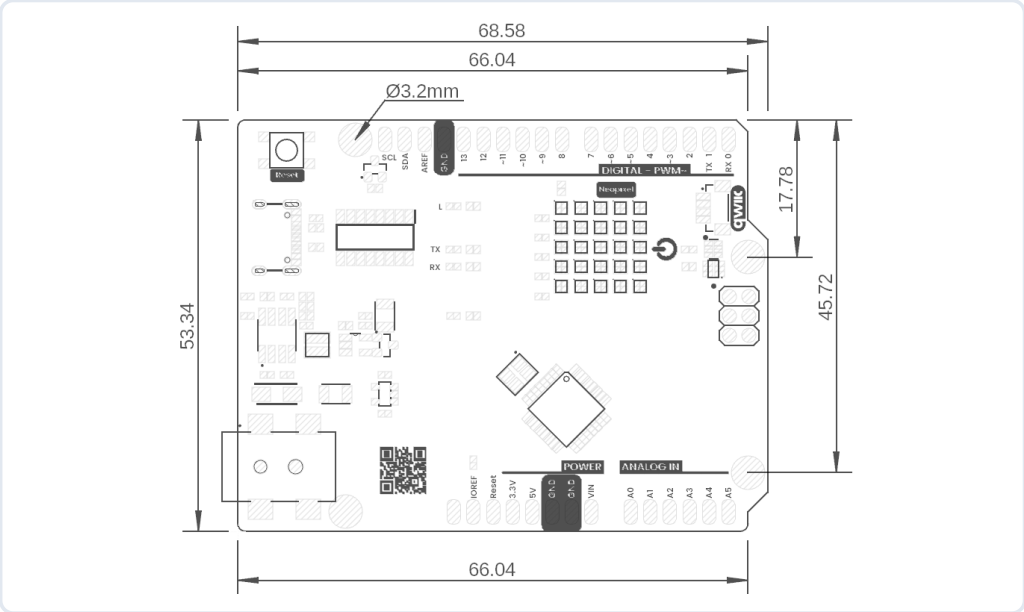
Two M3 screw holes for easy panel integration.

🎯 Key Applications

User interfaces for wearables and handheld devices, Touch-activated lamps, buzzers or relays, Capacitive keyboards and remote controls and more

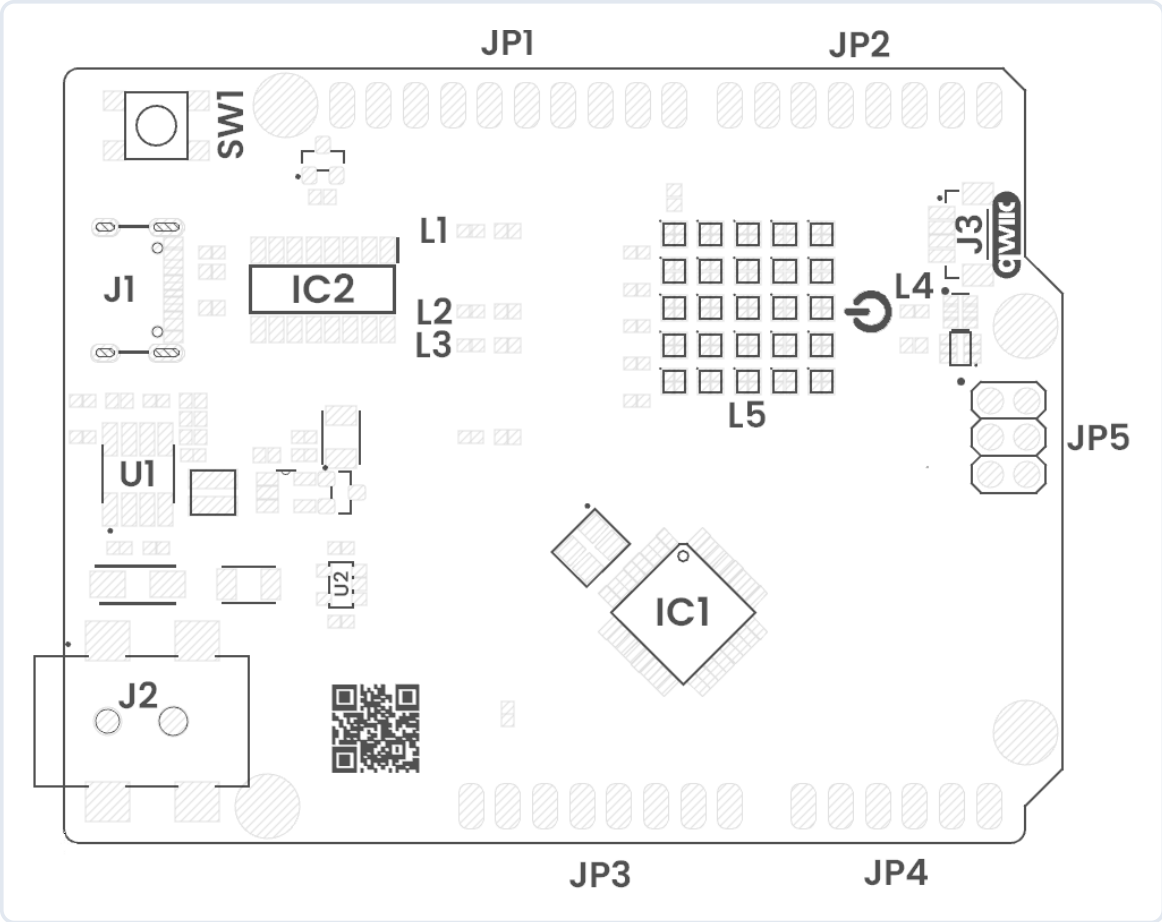
HARDWARE DOCUMENTATION

MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY



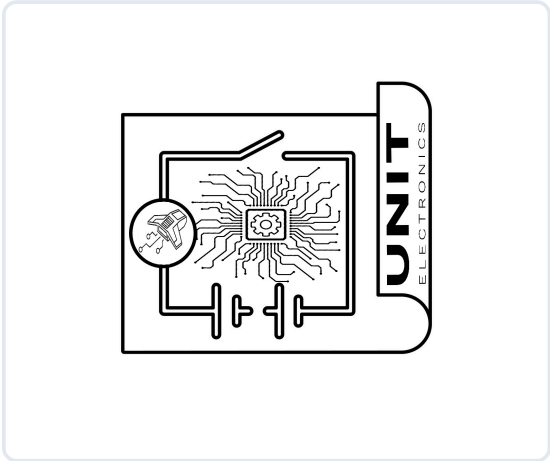
Connection topology and system integration diagram

Click image to open in full size

COMPONENT REFERENCE

REF.	DESCRIPTION
IC1	ATMEGA 328P Microcontroller
IC2	CH340 USB to Serial Controller
U1	MP1482 5V Step-Down Regulator
U2	AP2112K 3.3V Regulator
SW1	Reset Push Button
L1	Built-In LED
L2	Tx LED
L3	Rx LED
L4	Power On LED
L5	Neopixel Matrix
J1	USB Type-C Connector
J2	5mm DC Barrel Power Jack
J3	QWIIC Connector (JST 1mm)
JP1	Header for GPIOs
JP2	Header for GPIOs
JP3	Header for Power Supply and System Functions
JP4	Header for GPIOs (Analog)
JP5	Header for GPIOs (SPI)

CIRCUIT SCHEMATIC



Complete circuit schematic showing all component connections

View Complete Schematic PDF

PIN DESCRIPTION

Detailed pin assignment and electrical specifications

SIGNAL DESCRIPTION

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Professional Technical Datasheet

Date: 2025-09-23
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