



## Main Features

- Support transparent Modbus TCP/RTU, Modbus ASCII & MQTT
- Support nCare & Web GUI remote configuration
- Web-based configuration
- 9600~115200 bps baudrate for RS-232/422/485 transmissions
- Secure data access with WPA, WPA2
- 1 x 10/100 fast Ethernet port
- Support 9~36V wide range DC input with 2 pin Phoenix contact terminal block
- Support -20~70°C extended operating temperature
- LED indicators to display: power, serial status and Wi-Fi RSSI signal strength
- SNTP client for time synchronization

## Product Overview

NIO 50 brings IoT connectivity into factories, gearing unconnected industrial equipment and machines for smart manufacturing and Industry 4.0. The NIO 50 delivers data acquisition capability, IoT connectivity, convenience of remote monitoring, and industrial durability to provide end-to-end connectivity for the Industrial Internet of Things (IIoT). For Fieldbus-based controllers, legacy manufacturing machines, and serial-based devices, NIO 50 fills the communication gap between edge nodes to the cloud, enabling field data to be harnessed for manufacturing process optimization, remote management, and preventive maintenance.

## Specifications

### Serial Port

- 1 x RS232/422/485 (software selectable)
- RS232/422/485 with isolation
  - Data bits: 8
  - Stop bits: 1
  - Parity: none, even, odd
  - Baud rate: 9600 bps to 115.2 Kbps

### Wireless

- Wi-Fi: 802.11 b/g/n 1x1

### Ethernet

- 1 x 10/100 Base-TX
- MDI/MDIX auto cross

### Reset

- 1 x Reset/restore to default push button
- Press reset button 3 seconds interval for factory default

### Physical and Power

- DC 9~36V with 2 pins Phoenix contact terminal block
- Din-rail (optional)/wall mountable
- Dimension: 110 mm x 87 mm x 25 mm
- Weight: 600 g

### LED Indicator

- 1 x Power
- 1 x Serial status (orange, green, bi-color)
- 4 x RSSI indicator

### SW Features

- OS: FreeRTOS
- Wi-Fi operating mode: Client mode
- Management: nCare, web GUI
- Web GUI for configuration
- Ethernet firmware upgrade
- SNTP client (real IP, static)
- Factory default/reset

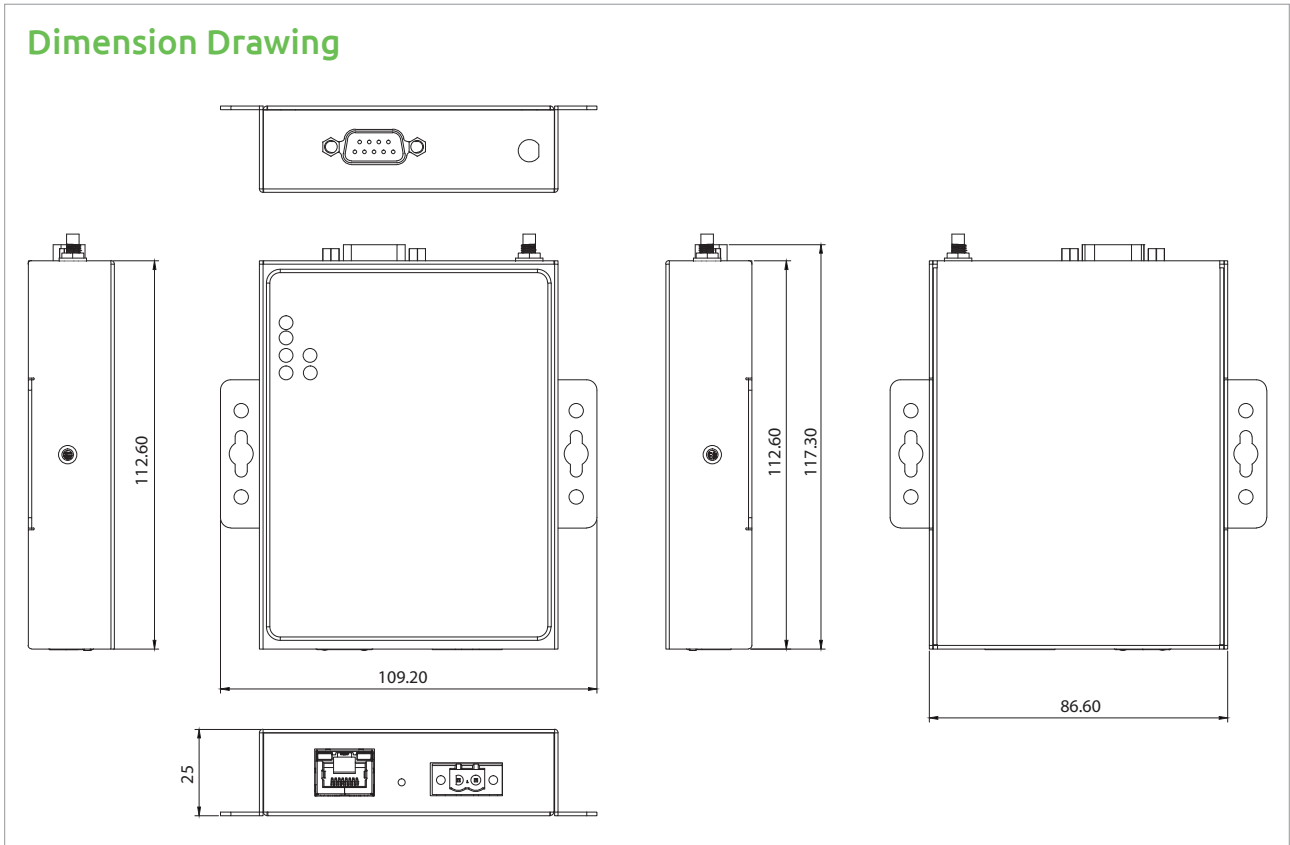
### Protocol

- Modbus TCP
- Modbus RTU
- Modbus ASCII
- MQTT client for Serial/Ethernet to Wi-Fi
- Transparent mode

### Environment Protection

- Operating temperature: -20°C~70°C
- Storage temperature: -40°C~85°C

## Dimension Drawing



### Relative Humidity

- ♦ Operating: 5%~95%, non-condensing

### Certification

- ♦ EMI: FCC, CE Class A
- ♦ RF
  - FCC: Part 15C
  - CE: EN 300328
- ♦ EN60950-1
- ♦ EMC: EN 301 489-1/17, FCC Part 15 subpart B, EN 55022/55024

## Ordering Information

- ♦ **NIO 50 (P/N: 10T00005000X0)**  
Industrial Wi-Fi Serial/Ethernet device gateway