DATA SHEET

NIAGARA EDGE CONTROLLER

# Niagara IOT

## Full-Stack Edge Controller




English edition translated from the Chinese original (Niagara_IoT_Datasheets-CN_26.6.1, 2026-B001). In case of any discrepancy, the Chinese edition prevails.

| | |
|---|---|
| **Supply availability** · 供货说明 | Continues to be supplied in China through 2027.<br>在中国市场继续供货至 2027 年。 |

## Product Definition

Niagara IOT is a compact embedded full-stack edge controller engineered to execute deterministic control logic, integrate heterogeneous field devices, manage alarms and historical data, and provide local visualization — all inside a single Niagara framework.

The controller consolidates integration, control processing and monitoring services into one runtime environment, so edge devices operate autonomously while exposing standardized data securely to enterprise supervisory systems or cloud platforms.

Niagara IOT maintains operational continuity when the wide-area network is interrupted. It is optimized for low-to-medium density deployments that require embedded sequence control, device orchestration and secure device-to-cloud communication.

## Target Industries

- Electric vehicle charging networks
- Fuel stations and CNG filling stations
- Quick-service restaurant chains and distributed retail
- Remote utility and infrastructure sites
- Small commercial facilities

## Technical Capabilities

- Deterministic local control execution
- Multi-protocol device integration and standardization
- Alarm handling and historical data logging
- Browser-based visualization access
- Role-based authentication and secure communication
- Autonomous operation independent of WAN connectivity

## Core Application Scenarios

- Embedded control within packaged mechanical or electrical systems
- Distributed site automation (fuel, refrigeration, lighting, HVAC)
- Latency-sensitive control loops
- Operation of sites independent of the wide-area network
- Local operator dashboards and maintenance access

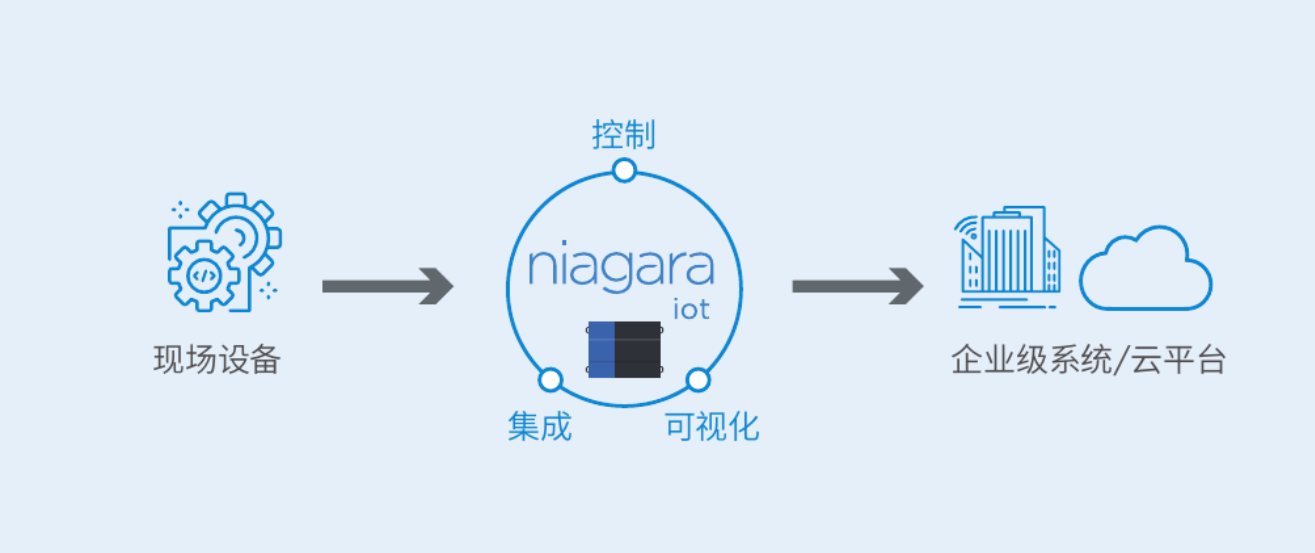
Niagara IOT is deployed where local sequence control, autonomous operation and visualization are required at the edge.

## Licensing Editions

| Model | Point Limit |
|---|---|
| Niagara IOT-100P | 100 points |
| Niagara IOT-150P | 150 points |
| Niagara IOT-200P | 200 points |

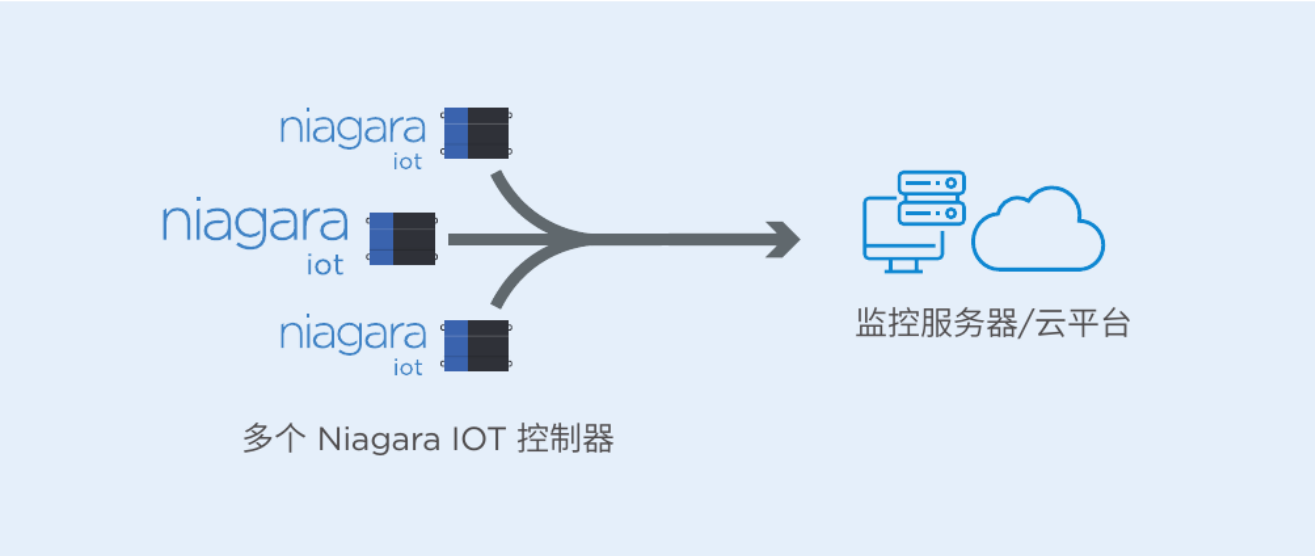
## Architecture Patterns

### Edge Control Architecture



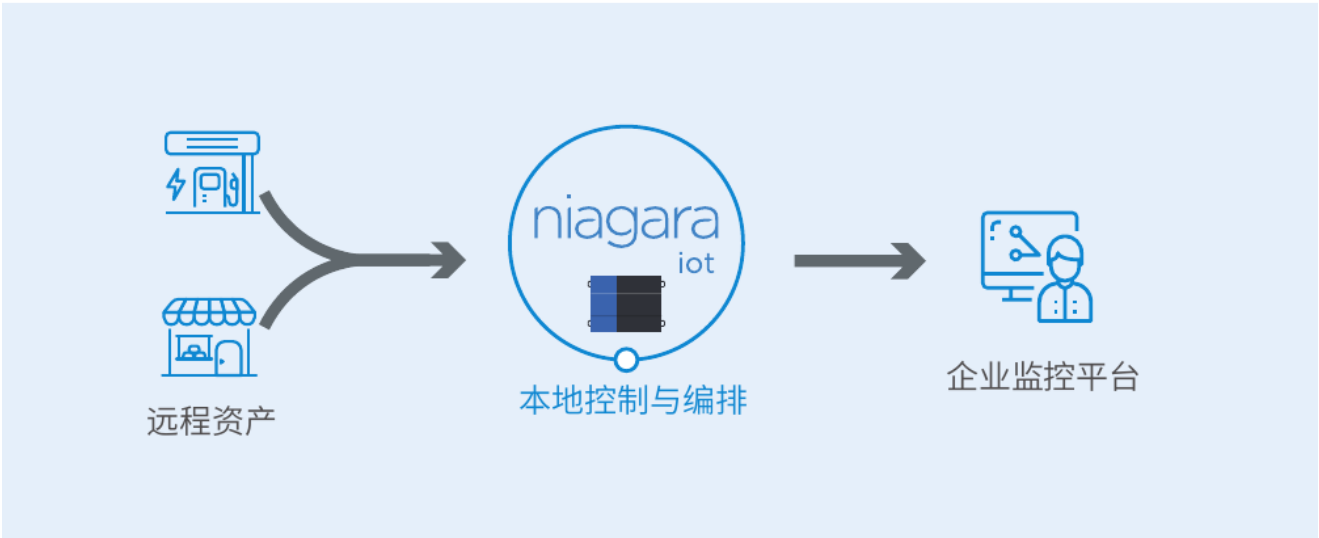

- Control logic executes locally
- Data is published to enterprise systems / cloud platforms
- Autonomous operation when the WAN is interrupted

### Distributed Multi-Site Architecture




- Standardized edge intelligence across sites
- Centralized visibility of device clusters
- Distributed control execution

## Distributed Asset Control Architecture




- Multi-subsystem edge orchestration
- Structured data exposed for device-cluster analytics
- Local continuity with centralized visualization

## Ordering Information

| Model | Description |
|---|---|
| Niagara-IOT-100P | Niagara IOT controller, 2 x 10/100 M Ethernet ports, 2 x RS-485 serial ports, 100-point license. |
| Niagara-IOT-150P | Niagara IOT controller, 2 x 10/100 M Ethernet ports, 2 x RS-485 serial ports, 150-point license. |
| Niagara-IOT-200P | Niagara IOT controller, 2 x 10/100 M Ethernet ports, 2 x RS-485 serial ports, 200-point license. |
| NPB-8000-2X-485 | Additional dual RS-485 serial port expansion module. |
| NPB-8000-232 | Additional RS-232 serial port expansion module. |
| IO-R-16 | Remote 16-point RS-485 I/O module (8 UI, 4 RO, 4 AO). |
| IO-R-34 | Remote 34-point RS-485 I/O module (16 UI, 10 RO, 8 AO). |

## Hardware Specifications

Processor: TI AM3352, 1000 MHz ARM® Cortex™-A8

Memory: 1 GB DDR3 SDRAM

Storage: Micro SD card with 4 GB flash storage / 2 GB user storage

Real-time clock: No battery

Power: 24 V AC/DC*

### Wi-Fi (Client or WAP)

IEEE 802.11a/b/g/n

IEEE 802.11n HT20 @ 2.4 GHz

IEEE 802.11n HT20/HT40 @ 5 GHz

Configurable wireless modes (Off, WAP or Client)

WPA-PSK / WPA2-PSK support

### Interfaces

(2) isolated RS-485 interfaces

(2) 10/100 MB Ethernet ports

USB Type-A connector

Backup and restore support

Secure boot

### Software

Runs Niagara Framework® 4.1 or later

Niagara Analytics 2.1 compatible with Niagara 4.4 or later

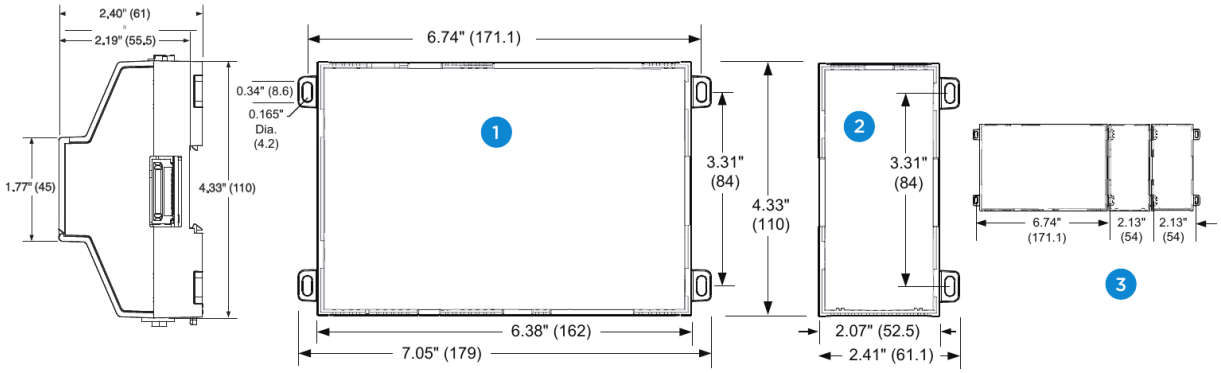
* Niagara Enterprise Security requires four hours of backup power.

## Installation and Dimensions

1. Niagara IOT controller: allow at least 1.5" (38 mm) clearance on all sides. For the optional Wi-Fi antenna, allow at least 3" (76 mm) clearance at the bottom.
2. Expansion modules: up to four (4) may be used.
3. Distance between the centres of the tabs from one unit to the next.

## NIAGARA IOT 控制器的安装与尺寸

1. Niagara IOT 控制器：所有侧面至少留出 1.5″ (38mm) 间隙，对于可选的 Wi-Fi 天线，底部至少留出 3″ (76mm) 的间隙。
2. 扩展模块：最多可使用四 (4) 个。
3. 从一个单元到另一个单元的凸片中心之间的距离。




与（DIN43880）外壳相兼容。
适合安装到面板或 EN50022 标准的 35 毫米轨道上

可应要求提供 Visio 模板

| | | |
|---|---|---|
| 2.40" (61 mm) | 2.19" (55.5 mm) | 6.74" (171.1 mm) |
| 1.77" (45 mm) | 4.33" (110 mm) | 6.38" (162 mm) |
| 7.05" (179 mm) | 2.07" (52.5 mm) | 2.41" (61.1 mm) |
| 3.31" (84 mm) | 4.33" (110 mm) | 2.13" (54 mm) |
| 0.34" (8.6 mm) | 0.165" dia. (4.2 mm) | — |

### Mounting

Compatible with DIN 43880 enclosures.

Suitable for panel mounting or EN 50022 standard 35 mm DIN rail.

Visio templates available on request.

## Agency Certifications

- UL 916
- CE EN 61326-1
- RCM
- FCC Part 15, Subpart B, Class B
- FCC Part 15, Subpart C
- CSA C22.2 No. 205 – M1983 "Signal Equipment" (c-UL)
- 1999/5/EC R&TTE; Directive
- CCC
- SRRC
- RSS
- RoHS

## Environmental Specifications

Operating temperature: -20 to 60 °C

Storage temperature: -40 to 85 °C

Humidity: 5% to 95%, non-condensing

Shipping and vibration: ASTM D4169, Assurance Level II

MTTF: 10+ years

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Translation note: This English edition was translated from the Chinese edition (document 2026-B001, March 2026). The Chinese edition is the authoritative version; where wording differs, the Chinese original takes precedence.