JNC

Smart Box – Embedded Edge AI
IoT Logic Control System

DO4
DO8
DO16

The Perfect IoT Bridge for Field Equipment

The IoT Smart Logic Control System (Embedded Edge AI) features a modular, plug-and-play design that needs no wiring checks, downtime, programming, or custom panel work — enabling rapid deployment and effortlessly upgrading both new and legacy equipment to smart IoT management. With built-in embedded edge-AI control, it integrates IoT control, data collection, ESG monitoring (optional current detection), and equipment health diagnostics (optional current detection) in a single unit, delivering efficient, stable, all-round monitoring and control — the ideal solution for smart factories and sustainable management.



[Features]

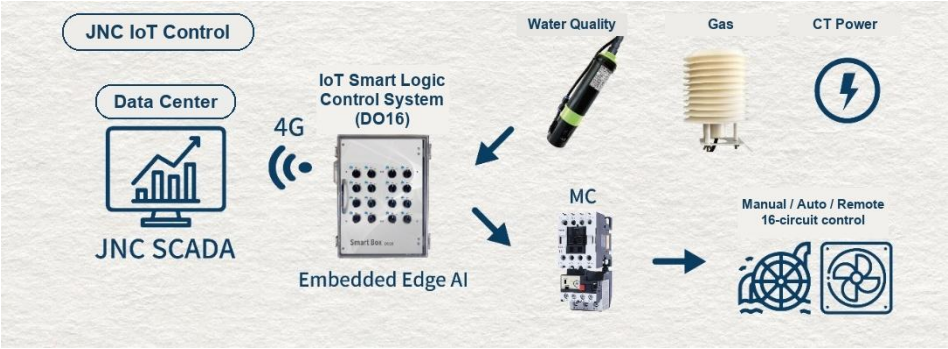
- The industry's most compact IoT control box, offering the highest number of control points.
- Commercialized PCB manufacturing — no customization required, fast to deploy, with stable and reliable quality.
- The industry's only fully CE/FCC-certified control system (competitors' assembled panels are uncertified).
- Built-in power and signal surge/lightning protection ensures stable operation.
- Plug-in relays enable quick replacement without downtime.
- Cloud / on-site synchronization: full visibility of field switch status with conflict-free data sync.
- Both manual field control and automatic logic: equipment can be started or stopped manually on site, avoiding control conflicts between the system and the field.
- Easy maintenance: fool-proof connector design needs no wiring checks — simply swap the circuit board to restore operation.
- Fast deployment: no wiring checks, no programming, no downtime, no custom panels — ships directly from stock.
- Flexible scheduling and logic control: multiple selectable logic modes including value linkage, alternating operation, greenhouse net retract/extend control, software interlock, and time-period control — flexibly meeting diverse control needs.
- Real-time monitoring and push alerts: optional load-current detection tracks equipment health in real time and proactively pushes abnormality alerts.
- Automatic alternating operation: switches to the next unit automatically when a device fails.
- Intuitive management: enter device names directly (e.g., "1F water pump") for easy

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identification.

- Multiple communication options: built-in Ethernet or Wi-Fi, with optional 4G.
- Edge-computing capability: a PAC (Programmable Automation Controller) architecture provides logic computation and field control; once the logic is set, it judges and controls equipment independently with no network connection.
- No PLC skills required: control logic is configured intuitively through a web interface, with no barrier to entry.
- Seamless JNC SCADA integration: fully transparent read/write with the JNC SCADA system lets you configure the Smart Box remotely from the SCADA platform — no on-site visit needed, greatly improving management efficiency.
- With the installed water-quality sensors, it can compute two indices — the River Pollution Index (RPI) and the Aquaculture Water Quality Index (AQUA.WQI) — helping users grasp water conditions faster.

[Applications] Factory equipment, building utilities, aquaculture, livestock, plant factories, environmental control



[Model Selection] DO Code1-Code2-Code3

Code1	Control Points	Code2	Enclosure Material	Code3	4G Transmission
4	4 relay control points	ABS	ABS + anti-UV material, IP67	N	None
4R	4 relay control points with intermediate relays (supports live L/N output)				
8	8 relay control points	Z	Powder-coated galvanized steel	4G	4G communication
16	16 relay control points	S	304 stainless steel	4GV	4G communication + video

※ Current detection requires the optional CT485-100A.

[Specifications]

Model	DO4/8/16-ABS	DO4-Z/S	DO8/16-Z/S
Power	110/220VAC (50/60Hz) ◆ Power consumption: 100W		
Dry Contact Rating	Dry contact current <1A, max voltage 250VAC		
Communication Interface	RS-485 ×1 / Modbus RTU		
Ethernet Interface	RJ-45 Ethernet with Web Service / Modbus TCP		
Control Points	4 / 8 / 16 sets		
Enclosure Material	ABS + anti-UV material, IP67	Powder-coated galvanized steel / 304 stainless steel	Powder-coated galvanized steel / 304 stainless steel
Dimensions (W×H×D)	Outdoor dual-door with window 300*400*190mm	Outdoor dual-door with window 430*600*210mm	Outdoor dual-door with window 600*800*218mm
Weight	<6 kg	<25 kg	<38 kg
Product Photo			
Safety Certifications	EU CE safety certification, US FCC certification		

[Control Interface]

Host Screen



SCADA Screen

