

DeltaV™ 200-series PLC

- Simple Integration & High Availability
- Easy Troubleshooting & Maintenance
- IIoT-ready in a Compact Footprint
- Flexible Architecture with a Wide Range of Communication Options



Introduction

DeltaV™ 200-series Programmable Logic Controllers (PLCs) provide integrated control and I/O engineered for connected machine automation in a compact, high-density form factor. Built with a defense-in-depth approach, it combines open programming and open communications with trusted, standards-based connectivity to sensors, actuators, and external software platforms. The result is reduced integration effort, cost, and complexity for OEMs and end users. Using the same high performance runtime and engineering environment as the DeltaV 300 series PLC, the DeltaV 200 series PLC also helps extend DeltaV consistency into compact machine, skid, and hybrid applications where space, flexibility, and integration are important.

The DeltaV 200 series High Density Slice I/O system extends this capability with a modular architecture designed for efficient machine design and operation. Its high channel density and hot-swap maintenance help streamline deployment while improving system availability and uptime. The platform easily scales as application requirements evolve.

The 200 series PLC is engineered for straightforward configuration using PAC Machine Edition* and integrates directly into DeltaV using MTP and native DeltaV OPC UA clients. This approach reduces integration effort and enables a more unified control environment across hybrid and discrete applications. By combining flexible hardware, standard engineering tools, and DeltaV connectivity, the platform supports consistent control execution and faster, more direct access to operational data, helping operations respond more quickly, scale with less friction, and maintain control with confidence.

*PAC Machine Edition (PME) is Emerson's single engineering environment used to configure, program, and maintain DeltaV PLC product lines, including I/Os and related automation components. For more information please refer to PAC Machine Edition Product Data Sheet.

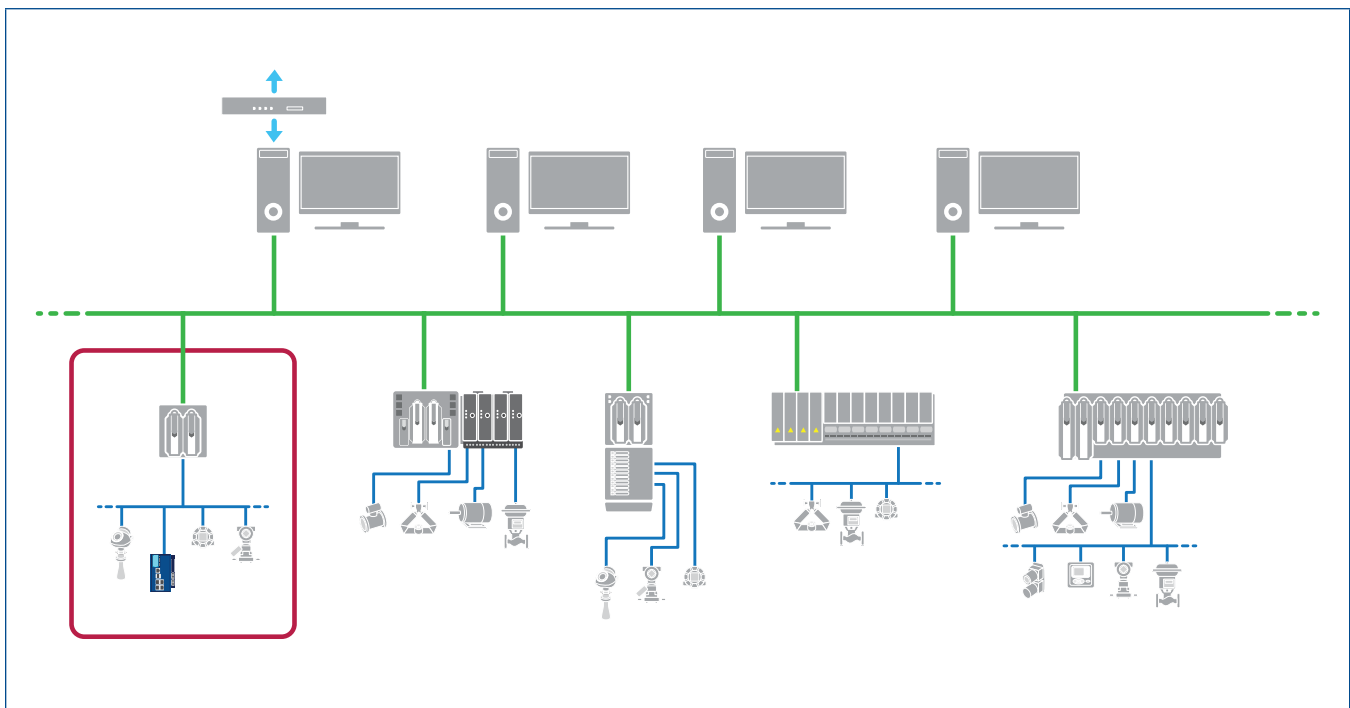
DeltaV 200-series Platform Integration into DeltaV DCS Environment

The DeltaV 200-series PLC platform can be integrated into DeltaV DCS environment in two distinct ways, depending on whether the customer needs PLC-centric control or expanded I/O flexibility.

PLC-centric application integrated into DeltaV DCS environment: For brownfield or greenfield applications that require PLC-style execution, including ladder logic, high-speed sequencing, machine control, or utility control, the DeltaV 200-series PLC can be integrated with DeltaV to provide system-level operations, visualization, and

coordination. In this configuration, the 200-series PLC is connected to DeltaV via OPC UA using a DeltaV OPC UA Client such as the Ethernet I/O Card (EIOC). Optional MTP support can be used to streamline and automate the integration workflow.

Slice-based Remote I/O Expansion: When the DeltaV PK Controller is the controller of choice, but the application requires a broader I/O mix, flexible deployment form factors, or compatibility with legacy systems, the DeltaV 200-series slice-based remote I/O provides an effective solution. This architecture supports deployment in racks as small as a single card while enabling integration with existing installations. In this configuration, the slice-based remote I/O connects to the DeltaV PK Controller via PROFINET.



Integrating high-speed control, ladder logic, and modular engineering into the DeltaV™ system through the deployment of the DeltaV 200-series PLC with a redundant Ethernet I/O card.

One Runtime, One Tool Chain for DeltaV PLC Platform

Because DeltaV 200-series PLCs use the same runtime as DeltaV 300-series PLCs, users can reuse existing application libraries and templates while scaling performance and footprint for smaller installations. This helps standardize engineering across platforms, simplify deployment, and make it easier to extend proven strategies into compact machine designs. Fast, easy-to-configure DeltaV PLC technology and a broad range of native I/O options support scalable automation and highly distributed modular machine architectures.

Remote, Real-time Diagnostics

The DeltaV 200-series PLC platform makes remote diagnostics easier with an integrated web server and advanced diagnostic capabilities. System faults can be identified remotely, helping reduce the need to travel to the machine and saving both time and cost. The web server allows operators to view diagnostic information and upgrade firmware over the web without additional tools or software. Diagnostic information can also be used inside the application, making it easier to prioritize service trips, respond faster to critical issues, and support more efficient maintenance planning.

Open Communications

Built-in open communications make it easy for DeltaV 200-series compact PLCs to connect to a wide range of third-party devices. With real-time I/O networking, up to three 1 Gbps Ethernet ports, and support for protocols including PROFINET, OPC UA, Modbus/TCP, and DNP3, the platform provides the connectivity needed for modern machine and industrial applications.

High Availability

With the PNS101 network adapter, the DeltaV 200-series PLC platform supports PROFINET System Redundancy (PNSR). This allows synchronized independent PLCs to service the I/O and transition from the active PLC to the backup PLC without interruption. The result is a compact control platform that helps reduce unplanned downtime and support more resilient operation.

Higher Performance in Half the Space

DeltaV 200-series I/O combines high density and a compact footprint to help maximize limited cabinet space. It can accommodate up to 64 modules and 1024 I/O points per drop, while 11.5 mm I/O slices support efficient cabinet design. Optional potential distribution modules can also help reduce external components by providing simple connections for input power, output power, and functional earth. This makes the 200-series platform especially a great fit for packaged skids, modular systems, and other installations where rail space is limited.

Intuitive Integration

The DeltaV 200-series PLC platform is designed for fast response and straightforward integration. Its high-speed system bus can read up to 256 DI/DOs in 20 microseconds, while intuitive I/O mapping helps simplify integration into the control application. Fast backplane speeds, power reserves for future expansion, and a consistent user interface make the platform well suited for machine and factory automation applications with growing complexity, as well as modular systems that need compact, scalable control.

Open Programming

In addition to traditional IEC 61131 languages, DeltaV 200-series compact PLCs also natively support C. This gives users more flexibility to develop and run high-performance algorithms that support proprietary production strategies and advanced automation technologies.

Cybersecurity Out of the Box

Security is built into the DeltaV 200-series PLC platform to help protect critical assets from cyber threats. With Achilles Level 2 Certification and technologies such as Trusted Platform Modules (TPM) and secure boot, the platform is designed to help prevent malicious applications and unauthorized operating systems. Centralized configuration supports encrypted firmware updates from a secure location, while built-in secure communication protocols help protect against man-in-the-middle and denial-of-service attacks.

Specifications

200-series PLCs

Product	EPXCPE210	EPXCPE220	EPXCPE240
User Memory	1 MB	2 MB	4 MB
System I/O	2048 DIO 32128 AIO		
Local I/O Modules	32	64	
Network Redundancy	MRP Manager/Client		
Ethernet Ports	1 – 100/1000 1-2-port switch 100/1000		
Ethernet Protocols	S RTP Client/Server Modbus TCP Client/Server OPC-UA Server EGD PROFINET	S RTP Client/Server Modbus TCP Client/Server OPC-UA Server EGD PROFINET DNP3 Outstation	
Remote I/O Devices	16 PROFINET	32 PROFINET	
Serial Capabilities	Serial Ports: 1 – RS-232 Serial Protocols: ASCII Serial, Modbus/RT Slave		
USB Interface	2 – USB A2.0		
Memory Card	1 – Micro SD		
Temp Range	-40°C to +70°C		

200-series I/O

Interface

- Copper RJ-45 for Ethernet models and DB-9 for serial network adapters

Expansion

- Up to 64 active I/O modules per network adapter Power Supply 20.4V – 28.8V DC

Environmental

Operating Temperature	-20°C to +60°C (-4°F to +140°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Air Humidity (operation/transport)	5% to 95%, noncondensing per DIN EN 61131-2

Standard Module Wire Gauge

- Between 0.14 mm² and 1.5 mm² (AWG 26 – 16)

Protection

- IP20

Module Dimensions (Height x Width x Depth)

- Network adapter: 120.0 mm (4.72 in) 52.0 mm (2.05 in) 76.0 mm (2.99 in)
- I/O module: 120.0 mm (4.72 in) 11.5 mm (0.45 in) 76.0 mm (2.99 in)
- End plate: 120.0 mm (4.72 in) 3.5 mm (0.14 in) 76.0 mm (2.99 in)
- End bracket: 120.0 mm (4.72 in) 8.0 mm (0.32 in) 36.06 mm (1.42 in)

Mounting Format

- DIN Rail

Network Interfaces

- PROFINET
- PROFIBUS DP
- Modbus TCP
- EtherCAT
- EtherNet/IP

Network Redundancy

- Media Redundancy Protocol (MRP)

System Redundancy

- PROFINET System Redundancy (requires EPXPNS101)

I/O Redundancy

- Via Application Code

Media Connector

- Media Redundancy Protocol (MRP)

Network Redundancy

- 2x RJ45

Galvanic Isolation

- Yes

Hot Swap

- Yes

Agency Approvals

- UL
- UL HazLoc Class 1 Division 2
- CE
- ATEX Zone 2
- TUV SIL3
- CCC

Marine

- DNV

Channel Density

- 4 - 16 points

Max I/O per Drop

- 1024

Ordering Information

200-series PLCs

Model Number	Product Description
EPXCPE210DV	DeltaV 200-series PLC, 3xRJ45 1Gbps Ethernet, 1xRS-232 Serial, 1.0MB User Memory
EPXCPE220DV	DeltaV 200-series PLC, 3xRJ45 1Gbps Ethernet, 1xRS-232 Serial, 2.0MB User Memory
EPXCPE240DV	DeltaV 200-series PLC, 3xRJ45 1Gbps Ethernet, 1xRS-232 Serial, 4.0MB User Memory

200-series I/O

Part Number	Module Description
Network Adapters	
EPXPNS001	PROFINET IRT Network adapter, 2Cu RJ45 Ports, Supports up to 64 active IO modules
EPXPNS001LITE ⁽¹⁾	PROFINET RT Network Adapter, 2 Cu RJ45 ports, supports 16 active IO modules
EPXPNS101	PROFINET System Redundancy Network Adapter, 2 Cu RJ45 Ports, 1024 bytes (Input + Output)
EPXEIP001	EtherNet/IP Network Adapter, 2 Cu RJ45 Ports, 1024 bytes (Input + Output)
EPXETC001	EtherCAT Network Adapter, 2 Cu RJ45 Ports, 1024 bytes (Input + Output)
EPXMBE001	Modbus TCP Network Adapter, 2Cu RJ45 Ports, supports up to 64 active IO Modules
EPXMBE001LITE ⁽¹⁾	Modbus TCP Network Adapter, 2 Cu RJ45 ports, supports up to 16 active IO Modules
EPXMBE101	Modbus TCP Dual LAN Network Adapter, 2 Cu RJ45 Ports, 2048 bytes (Input +Output)
EPXPBS001	PROFIBUS DP-V1 Network Adapter
Digital Inputs	
EP-1214	4 Points, Positive Logic 24VDC, 2,3, or 4 Wire
EP-1218	8 Points, Positive Logic, 24VDC 2 Wire
EP-125F	16 Points, Positive Logic, 24VDC, 1 Wire
EP-12A8 ⁽²⁾	8 Points, Positive Logic , 2-Wire, Isolated
EP-12F4 ⁽³⁾	4 Points, Positive Logic 24VDC, 2,3, or 4 Wire, Time stamp
EP-1318	8 Points, Positive Logic, 24VDC 3 Wire
EP-153F	16 Points, Negative Logic, 24VDC, 0.5A
EP-1804	4 Points 110/230 VAC (65 – 277 VAC), 2 Wire,
EP-1901	1 Safe Feed-Input, 24 VDC
EP-1902	2 Safe Feed-Inputs, 24 VDC
EP-1922	2 Safe Feed-Inputs, 24 VDC

Part Number	Module Description
Digital Outputs	
EP-2214	4 Points, Positive Logic 24VDC, 0.5A, 2,3, or 4 Wire
EP-2218	8 Points, Positive Logic, 24VDC, 0.5A, 2 Wire
EP-225F	16 Points, Positive Logic, 24VDC, 0.5A, 1 Wire
EP-22A4 ⁽²⁾	4 Points, Positive Logic, 24VDC, 4A DC or 2A AC, 2 Wire, Isolated
EP-2614	4 Points, Positive Logic 24VDC, 2.0A, 2,3, or 4 Wire
EP-2634	4 Points, Positive/Negative Logic 24VDC, 2.0A, 2,3, or 4 Wire
EP-2714	4 Points, Positive Logic, 24 - 220 VDC/VAC, 6A, 2 Wire
EP-2814	4 Points, Positive Logic, 230 VAC, 1A
EP-291F	16 Points, Negative Logic, 24VDC, 0.5A, 1 Wire
Analog Inputs	
EP-1813	8 Channels, 16 Bytes Input, 16 Bytes Output Power Measurement Module
EP-3124	4 Channels Voltage/Current 12 Bits 2, 3, or 4 Wire
EP-3164	4 Channels Voltage/Current 16 Bits 2, 3, or 4 Wire
EP-3264	4 Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-32A4 ⁽²⁾	4 Channels Isolated Voltage/Current 16 Bits with Diagnostics 2 Wire
EP-3368	8 Channels Current 16 Bits 2, 3, or 4 Wire– requires HD Connectors EP-8360
EP-3468	8 Channels Current 16 Bits 2, 3, or 4 Wire, Channel Diagnostic– requires HD Connectors EP-8360
EP-3664	4 Differential Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3704	4 Channels RTD 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3804	4 Channels TC 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-3914 ⁽²⁾	4 Channels Potentiometer, 16 bits with Diagnostics, 3 wire or 3 wire connection +FE
Analog Outputs	
EP-4164	4 Channels Voltage/Current 16 Bits 2, 3, or 4 Wire
EP-4264	4 Channels Voltage/Current 16 Bits with Diagnostics 2, 3, or 4 Wire
EP-42A2 ⁽²⁾	2 Channels Voltage/ Currents 16 Bits Diagnostics 2-Wires, Isolated
Special Function Modules	
EP-5111	1 Channel High Speed Counter, AB 100 kHz 1 DO 24VDC, 0.5A
EP-5112	2 Channel High Speed Counter, AB 100 kHz
EP-5121	1 Channel High Speed Counter, AB 500 kHz
EP-5212	2 Channel Frequency Measurement, 100 kHz
EP-5261	1 Channel Serial Communications, 232, 422, 485
EP-5311	SSI Encoder, BCD or Gray-Code Format, 5/24 VDC

Part Number	Module Description
EP-5324	4 Channels IO Link Communication Module, 24VDC, 0.5A
EP-5422	2 Channels PWM Output, Positive Logic, 24VDC, 0.5A
EP-5442	2 Channels PWM Output, Positive Logic, 24VDC, 2.0A
EP-5501 ⁽²⁾	1 Channel Stepper Motor, 2 phase
EP-5612 ⁽²⁾	2 Channels Strain gauge, 24 Bits with Diagnostics 4 or 6 wire
EP-5714 ⁽²⁾⁽³⁾	4 Channels Analog HART Input, Current 16 Bits with Diagnostics 2, 3, or 4 Wire
Power Modules	
EP-700F	16 Channels 24VDC Potential Distribution Functional Earth
EP-710F	16 Channels 24VDC Potential Distribution +0VDC from Input Current Path
EP-711F	16 Channels 24VDC Potential Distribution +24 VDC from Input Current Path
EP-750F	16 Channels 24VDC Potential Distribution +0VDC from Output Current Path
EP-751F	16 Channels 24VDC Potential Distribution +24 VDC from Output Current Path
EP-7631	1 Channel 24VDC Input Flow 10A
EP-7641	1 Channel 24VDC Output Flow 10A
EP-7990	Bounce Free Hot Swap Module
Accessories	
EP-8100	Label Marker for I/O Connections (use with EP-8101)
EP-8101	Paper Labels for I/O Connections (use with EP-8100)
EP-8150	Snap-In-Module Marker (Qty 500)
EP-8300	Base connector, I/O Module (Qty 5)
EP-8301	DIN Rail Termination Kit, Replacement
EP-8360	High-Density IO Connector Pack (8 x 4-Signal Connectors)
EP-8310	Empty Slot Filler Module
EP-8400	Swing-Arm Kits, Connector Frame and Connectors (Qty 30)
EP-8631	Base Connector, Power Feed, Input Current path (Qty 5)
EP-8641	Base Connector, Power Feed, Output Current path (Qty 5)

(1) These modules do not meet Marine Certification. Max operating temp of 50°C

(2) CPE2xx PLCs do not support these modules

(3) These modules are not supported with LITE network adapters

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