

## Web-Server Open PLC & Removable High-Speed I/O: D-Series ◦

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Sichuan Odot Automation System Co., Ltd.

# Open PLC

A controller compliant with the IEC 61499 & IEC 61131-3 standard and supporting Profinet master functionality

### Versatile Master Protocol Options

Supports optional Profinet and EtherCAT master protocols  
Future support planned for IO-Link, EtherNet/IP, and additional protocols

### Industry-Innovative Commercial Benchmark

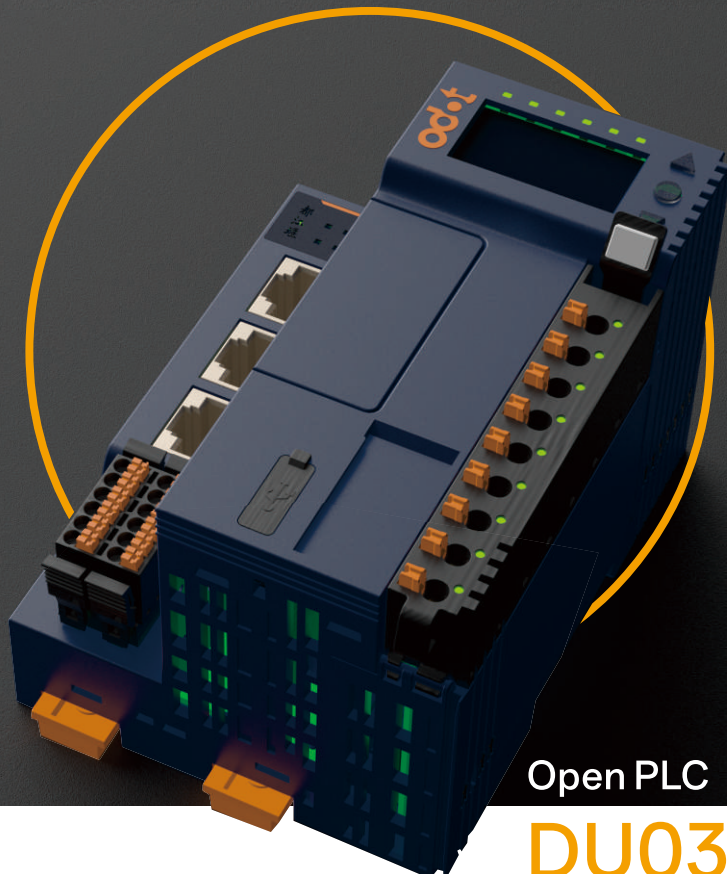
The world's first commercially available IEC 61499 + Profinet solution  
IEC 61499 standard features include distributed architecture, hardware-software decoupling, and object-oriented design

### Open Ecosystem for Cost Reduction

Free programming software available to help enterprises reduce development and operational costs

### Powered by AIOSYS

A Digitally-Enabled Open Control Software Platform



Open PLC

**DU03L**

DUJIANGYAN Series

### Supported Protocols



Product Model	DU03L	
Product Image		
<b>Communication Board Specifications</b>		
System Power Supply	Input Voltage	19.2-28.8 VDC (Nominal 24 VDC)
	Current Consumption	Max. 2A @ 24 VDC
	Protection Features	Overcurrent protection, Reverse polarity protection, Surge suppression
Field Power Supply	Voltage Range: 19.2-28.8 VDC (Nominal 24 VDC)	
	Maximum Output Current: 8A DC	
Supported I/O Modules	Up to 32 modules	
Maximum Bus I/O Data Area	Input: 1024 Bytes; Output: 1024 Bytes	
Wiring Specifications	0.2mm <sup>2</sup> (AWG 24) 1.5mm <sup>2</sup> (AWG 16)	
Status Indication	PWR SOL RUN STA NET IO	
<b>Core Specifications</b>		
Processor Platform	Armv8 Cotex-A35 1.5Ghz*2	
RAM	1G	
ROM	1G	
Display	OLED screen + 3 function buttons	



### External Interfaces

Card Slot	1 × TF card
Switches	RUN/STOP
Physical Interfaces	2 × RS485 (configurable as RS422) + 1 × CAN + 1 × Type-C
Network Interfaces	2 × RJ45 (switched ports) + 1 × RJ45 (configuration port)
	10/100 Mbps, auto-negotiation, full duplex

### Controller Specifications

Platform	AIOSYS
Supported Protocols	PROFINET or EtherCAT (selectable), Modbus, OPC UA, HTTP, TCP/UDP, and MQTT
Web Configuration	Supported
Programming Languages	IEC 61131-3 (Structured Text)/IEC 61499 (Function Blocks)
Backplane Cycle Time	0.6ms
Backplane Redundancy	Supported
Maximum Cyclic Task	None; event-driven architecture

### General Specifications

#### Transportation & Storage Conditions

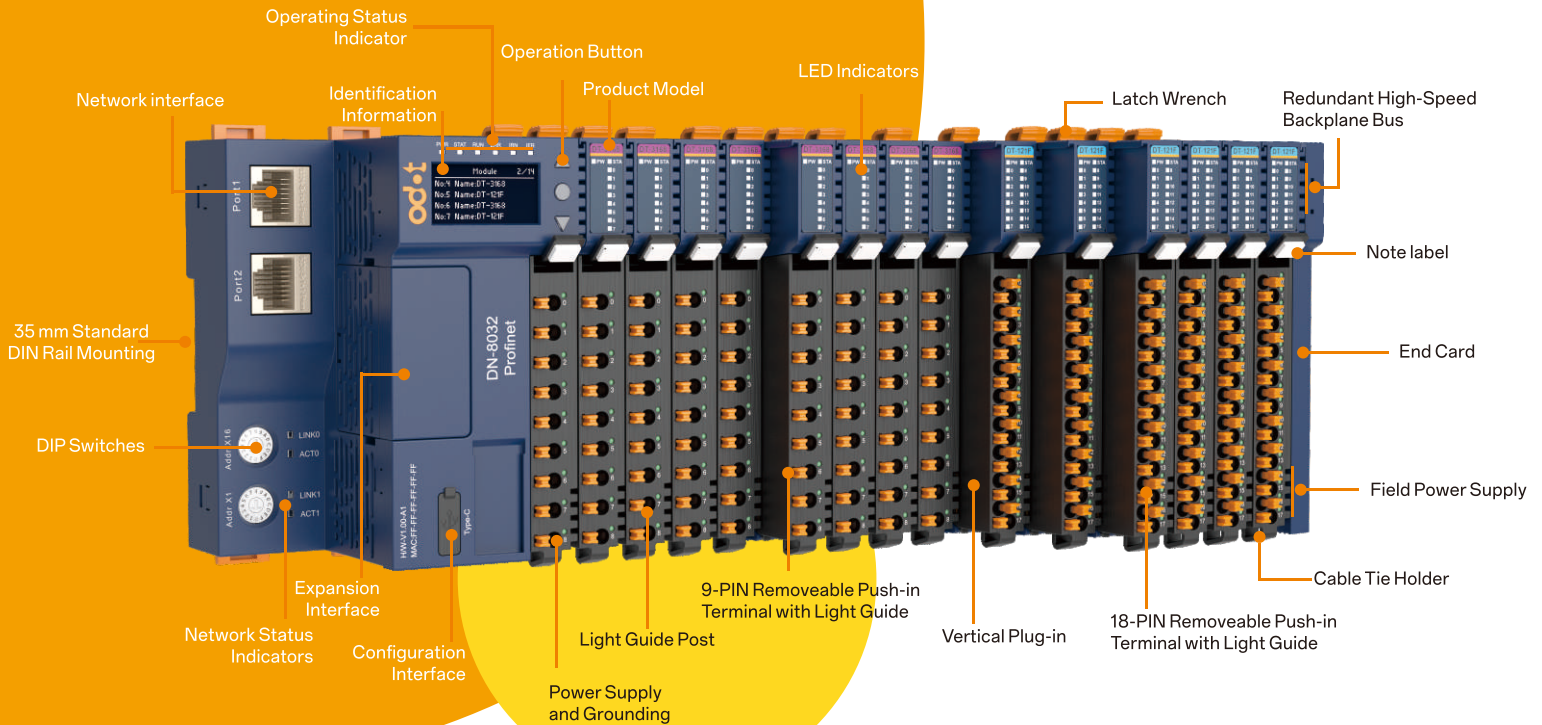
Climatic Conditions	Ambient Temperature	-40°C to +85°C
	Relative Humidity	5%~95%, non-condensing
	Atmospheric Pressure	Equivalent to altitudes of 0~3000 m
Mechanical Conditions	Free Fall	With transport packaging, withstands 5 drops from 1-meter height onto concrete surface

#### Operating Conditions

Climatic Conditions	Ambient Temperature	-20°C to +60°C
	Relative Humidity	5%~95%, non-condensing
	Atmospheric Pressure	Altitude ≤ 2000 m
	Pollution Degree	Designed for Pollution Degree 2 environments
Mechanical Conditions Sine Vibration	Sine Vibration	5 Hz < f < 8.4 Hz: Random 3.5 mm displacement, Continuous 1.75 mm
		8.4 Hz < f < 150 Hz: Random 1.0 g acceleration, Continuous 0.5 g
	Shock Resistance	Half-sine wave, 159 m/s <sup>2</sup> , duration 11 ms, 6 shocks per axis (X, Y, Z)
Electromagnetic Compatibility (EMC)	EMC Immunity Level	Compliant with IEC 61131-2
	Electrostatic Discharge (ESD)	Air Discharge: 8 kV, Contact Discharge: 4 kV
		Performance Level: Class A
	Surge Immunity	DC Power Supply: 1 kV (Common Mode), 0.5 kV (Differential Mode)
		I/O and Communication Ports: 1 kV (Common Mode)
Electrical Fast Transient/Burst	Power Supply Coupling: 2 kV, 5 kHz; I/O and Communication Coupling: 1 kV, 5 kHz	
	Performance Level: Class A	
Ingress Protection	IP20	
Cooling Method	Natural air cooling	
Mounting Method	35 mm DIN rail mounting	

# Removeable redundant backplane remote IO

D Series



## Removeable Design · Easier Installation

Zigzaggy push-in terminal layout with light guide  
Removeable terminals for easy maintenance and replacement

## Redundant Backplane · Enhanced Reliability

Backplane bus supports redundancy  
Supports up to 32 I/O modules  
Full-load refresh cycle: 0.6 ms

## Visual Status · Accurate Diagnostics

Each module features independent diagnostics  
Detects I/O module status and terminal status

## Multiple Scenarios · Ready for Any Challenge

Operating temperature: -30 to 70°C, adaptable to various kinds of harsh industrial environments

## Custom Development

Supports OEM, ODM, or custom module/function development

## Superior EMC Performance

EMC performance far exceeds IEC 61000-4 standard

## Supported Protocols



Supported Protocols				
Product Model	DN-8031	DN-8032	DN-8033	DN-8034
Product Image				

### Communication Specifications

Communication Protocol	Modbus TCP	Profinet	EtherCAT	EtherNet/IP
Communication Interface	RJ45			
Number of Interfaces	2			
Transmission Rate	10/100Mbps			

### Technical Specifications

Maximum Number of Expandable I/O Modules	32			
Maximum Total Input Data Length	Maximum Total I/O Data Length: 8192 Bytes	1440 Byte	1024 Byte	504 Byte
Maximum Total Output Data Length		1440 Byte	1024 Byte	504 Byte
Field Power Supply	Power Supply: 19.2-28.8 VDC (typical 24 VDC)			
System Power Supply	Power Supply: 19.2-28.8 VDC (typical 24 VDC)			
Protection Circuit	Overcurrent protection, reverse polarity protection			
Connection Method	Direct push-in wiring			

### General Specifications

Dimensions (W × D × H)	119*80*83mm
Weight	245g
Mounting Type	35 mm DIN rail mounting
Operating Temperature (Vertical Installation)	-30°C~60°C
Operating Temperature (Horizontal Installation)	-30°C~70°C
Storage Temperature	-40°C~85°C
Relative Humidity	5-95% RH, non-condensing
Altitude Limit	<2000m
Protection Type	IP20
Pollution Degree	II
Wire Gauge Range	0.2mm <sup>2</sup> (AWG 24) 1.5mm <sup>2</sup> (AWG 16)
Stripping Length	10mm



## Digital Input Modules

Model	Specifications
DT-1218	24V DC-8DI - High-level input, PNP, counting function, counting frequency < 200 Hz, built-in COM port
DT-121F	24V DC-16DI - High-level input, PNP, counting function, counting frequency < 200 Hz, built-in COM port
DT-122F	24V DC-16DI - Low-level input, NPN, counting function, counting frequency < 200 Hz, built-in COM port
DT-125F	24V DC-16DI - High-level input, PNP, counting function, counting frequency < 200 Hz, external COM port, independent power supply
DT-126F	24V DC-16DI - Low-level input, NPN, counting function, counting frequency < 200 Hz, external COM port, independent power supply



## Digital Output Modules

Model	Specifications
DT-221F	24VDC-16DO - Low-level output, NPN, 24V DC @ 0.5A
DT-2228	24VDC-8DO - High-level output, PNP, 24V DC @ 0.5A
DT-222F	24VDC-16DO - High-level output, PNP, 24V DC @ 0.5A
DT-225F	24VDC-16DO - Low-level output, NPN, 24V DC @ 0.5A, independent power supply
DT-226F	24VDC-16DO - High-level output, PNP, 24V DC @ 0.5A, independent power supply
DT-2794	Monostable - 4CH relay output, resistive load: 2A @ 250VAC/30VDC, inductive load: 2A @ 250VAC/30VDC, channel-to-channel isolation



## Analog Input Modules

Model	Specifications
DT-3168	0-5V DC / 0-10V DC / $\pm 5$ V DC / $\pm 10$ V DC, 8CH, 16-bit (including sign bit)
DT-3238	0-20mA / 4-20mA, 8CH, 16-bit (including sign bit)
DT-3434	0-20mA / 4-20mA, 4CH, 16-bit (including sign bit), channel-to-channel isolation
DT-3364	0-5V DC / 0-10V DC / $\pm 5$ V DC / $\pm 10$ V DC, 4CH, 16-bit (including sign bit), channel-to-channel isolation
DT-3714	RTD PT100, 4CH, accuracy $\pm 1.5^{\circ}\text{C}$ (full temperature range), supports 2- or 3-wire sensors
DT-3804	TC Thermocouple Input (Types J, K, E, T, S, R, B, N), 4CH Measurement accuracy: $\pm 0.3\%$ FSR @ $25^{\circ}\text{C}$ , $\pm 0.5\%$ FSR @ $-35\sim 70^{\circ}\text{C}$ , adjustable filter parameters



## Analog Output Modules

Model	Specifications
DT-4234	0-20mA / 4-20mA, 4CH, 16-bit single-ended
DT-4238	0-20mA / 4-20mA, 8CH, 16-bit single-ended
DT-4164	0-5VDC / 0-10VDC / ±5VDC / ±10VDC, 4CH, 16-bit (including sign bit)
DT-4168	0-5VDC / 0-10VDC / ±5VDC / ±10VDC, 8CH, 16-bit (including sign bit)



## Special Modules

Model	Specifications
DT-5122	2-channel encoder SSI input, 5V differential, input frequency ≤ 2MHz
DT-5800	Terminal module - mandatory module, with diagnostic function



## Hybrid Modules

Model	Specifications
DT-623F	24VDC-8DI, bidirectional input, counting frequency <200Hz & 24VDC-8DO, high-level output, 24VDC @ 0.5A



## Expansion Power Modules

Model	Specifications
DT-7221	Field power 8A + system power 2A expansion module (configuration required)