DU03L

Programmable Logic Controller

FEATURE

- IEC 61131-3: Supports classic (LD) and (ST) for standard PLC engineers.
• IEC61499: Fully supports distributed, event-driven control system modeling for next-generation automation.
• C Language: Allows integration of complex mathematical algorithms, machine learning models, or proprietary IP code directly into the control cycle.

- Beyond its selectable EtherCAT/PROFINET Master capability, the DU03L acts as a universal gateway for the factory floor. It natively supports:
• Ethernet: Modbus TCP (Client & Server), TCP/UDP Free Port communication.
• Serial/Bus: Modbus RTU (Master & Slave), CAN transparent transmission.
• Process Control: Built-in PID control algorithms for precise analog regulation.

- • Redundant Backplane: Ensures zero data loss when communicating with massive D-Series expansion racks (DI, DO, AI, AO modules).
• Wiring Capacity: The spring light guide terminals accept wire diameters from 0.2mm² (AWG 24) to 1.5mm² (AWG 16), ensuring gas-tight, vibration-proof connections.

The world's first commercially available IEC61499+Profinet solution utilizes IEC61499 standards, including distributed, hardware-software decoupling, and object-oriented design.Supports optional Profinet and EtherCAT masters, with future support for IO-Link, EtherNet/P, and more.

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General Parameters

Module Consumption	130mA@24VDC
System Power	19.2~28.8VDC (Nominal: 24VDC) | Anti-inversion protection: support
Internal Bus Supply Current	Max.2A@5VDC
Field Power	19.2~28.8VDC (Nominal: 24VDC)
Field Power Current	Max. DC 8A
Wirring Diameter	Min.0.2mm²(AWG24) | Max.1.5mm²(AWG16)
Terminal Pluggable	Support
The Maximum Number of Expansion Modules	32
Backplane Bus	Double bus redundancy
Installation	35mm DIN-Rail
Dimension	119*83*80mm
Product Certification	CE Certification

Hardware Interface

Ethernet	3*RJ45, Port1 and Port2 are debugging or communication interfaces, port3 is the EtherCAT/ PROFINET master interface
	10/100 Mbit/s, Full duplex, automatic MDI/MDIX
CAN Interface	1*CAN interface, terminal wiring
	Transmission rate: 10 kbit/s - 1000 kbit/s
RS485 Interface	2*RS485 interface, terminal wiring
	Transmission rate: 300bps-500Kbps
Type-C Interface	1 (Reserved interface)
TF Card Interface	1
Data Storage	1GB
Program Storage	1GB
Retentive Memory	512K Bytes
Real-time Clock	Support

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Motion Control

Type of Axis	Real axis, Imaginary axis
Type of Real Axis	EtherCAT Servo axis
Uniaxial Control	Speed control, Position control
Multi-axis Linkage	Electronic cam, Electronic gear

Communication Parameter

Modbus TCP Server	Function code: 01/02/03/04/05/06/15/16/23
Modbus TCP Client	Support up to 8 servers to connect
	Function code: 01/02/03/04/05/06/15/16/23
Modbus RTU/ASCII Master	Function code: 01/02/03/04/05/06/15/16/23
Modbus RTU/ASCII Slave	Support
CAN Free-port Communication	Protocols: CAN 2.0A/B
TCP/UDP Free-port Communication	Support

Programming software

Programming Platform	AIOSYS
Programming Language	LD, ST, C
Complex Variables	Support structural variables
Configuration (Own Parameters and Communication)	Support
Global Variable	Support
Engineering Encryption	Support
PLC Program Debugging	Support
TRACE	Support
Emulation	Support
Data Record	Support
Formulation	Support

Environmental Parameters

Horizontal Installation Operating Temperature	-30°C - 60°C
Vertical Installation Operating Temperature	-30°C - 50°C
Storage Temperature	-40°C - 85°C
Environment Humidity	5%~95%RH (No condensation)
Installation Altitude	<2000m
Pollution Degree	°C
Protection Grade	IP20
Mechanical Properties	Comply with IEC61131-2, IEC60068-2-6, IEC6008-2-27
Insulation Withstand	Comply with IEC61131-2
EMC Performance	Comply with IEC61131-2、IEC61000-4