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# DL205 Series

## CPU Specifications

### CPU Module

D2-265



### Performance Specifications

| Items   | Specifications   |
|---|--|
| Program Memory Capacity (Word)  | 50.9 K   |
| Ladder Memory Capacity (Word)   | 24,064 MRAM*1  |
| Data Register Capacity (Word)   | 26,880 (Power failure holding possible area: 14,592, Non-power failure holding area: 12,288)   |
| Backup  | ○  |
| Maximum Input/Output Points (I,Q,M,GI,GQ)                               | 8,192  |
| Input/Output Points that can be Mounted Via the CPU Base                | 512  |
| Maximum Number Via the Local Expansion Base                             | 4  |
| Input/Output Points that can be Mounted Via the CPU and Expansion Bases | 1536 (Expansion base for up to four units)   |
| Serial Remote I/O (Points)  | Up to 8,192 (Including CPU and expansion input/output)   |
| Remote I/O Channels   | 8 (7 + 1 CPU port)   |
| Input/Output Points per Remote channel                                  | 2,048  |
| Ethernet Remote I/O   | ○  |
| Discrete input/output points  | Up to 8,192 (Including CPU and expansion input/output)   |
| Analog Input/Output Channels  | Allocate to the data register.   |
| Remote I/O Channels   | Restriction by power consumption   |
| Input/Output Points per Remote channel                                  | 16,384 (When using I, Q, M, GI, GQ and data registers any area.)   |
| Maximum Slave Number per Channel  | 16   |
| Processing Speed Sequence Instruction (LD Instruction)                  | 0.1 μs   |
| Processing Speed Data Processing Instruction (ADD Instruction)          | 0.5 μs   |
| Standard Scan Time (During 1K Boolean Operation)                        | 0.5 ms   |
| Ladder Type   | ○  |
| Stage Type  | ○ 1,024  |
| Rewrite During RUN  | ○  |
| Variable / Fixed Scan   | Variable   |
| Number of Instructions and Functional Memory                            | 365  |
| Internal Relay  | 2,048  |
| Timer   | 256  |
| Counter   | 256  |
| Direct Input/Output   | ○  |
| Subroutines   | ○  |
| For/Next Loop   | ○  |
| Timed Interrupt   | ○  |
| Integer Math  | ○*2  |
| Floating-point Math   | ○  |
| Trigonometric Functions   | ○  |
| Table Instructions  | ○  |
| PID Control   | ○, 16 loops  |
| Drum Sequencer  | ○  |
| Bit of Word   | ○  |
| ASCII Output  | ○, Input/Output  |
| Real-time Clock / Calendar  | ○  |
| Internal Diagnostics  | ○  |
| Password  | ○, Multi-level   |
| System/User Error Log   | ○  |
| Communication Function: Port 1  | Transmission method: RS-232C compatible (Non-isolated)<br>Transmission speed: 9,600 bps (Fixed) Connection: 6-pin modular (Female) jack Protocol: K sequence (S), MODBUS/RTU (S) |

|  |  |
|--|--|
| Communication Function: Port 2                         | Transmission method: RS-232C, RS-422, RS-485 compatible (Non-isolated) Transmission speed: 300, 600, 1,200, 2,400, 4,800, 9,600, 19,200, 38,400, 14,400, 28,800, 57600, 115200 Connection: High-density D-sub 15-pin connector (Female) Protocol: DirectNET(M/S), MODBUS/RTU (M/S), Non-procedure (M/S), PRINT/ASCII input, K sequence (S) |
| Communication Function: Port 3 (Ethernet / Flnet Port) | Transmission method: Ethernet, FL-net (Can be switched by the 4-row DIP SW1 OFF: Ethernet / ON: FL-NET) Transmission speed: 100BASE-TX, 10BASE-T (Automatic negotiation) Connection: RJ45 format modular connector Ethernet mode: - K sequence (S) -Direct NET (M/S) -MODBUS TCP/IP (M/S)  |

### Outline

To enable a miniature PLC to be used more dynamically and comfortably, the D2-265 adds an Ethernet communication port, expandable memory capacity, and faster processing to the basic major functions of conventional DL205 series PLCs.

#### CPU Realizes Ethernet Communications

Ethernet communications conventionally require dedicated modules (H2-ECOM100). Since the D2-265 is equipped with an Ethernet communication port, it can realize Ethernet communications (ECOM protocol, MODBUS/TCP, FL-net (OPCN-2), etc.) without using a dedicated module. Thus, the D2-265 can be connected to programming tools and various types of Ethernet communication equipment, and communicate an enormous amount of information at higher speed. Moreover, it reduces the system cost.

#### Strengthened Collaboration with FL-net (OPCN-2)<sup>\*3</sup> Communications

With the use of FL-net, which is an industrial open network, you can grasp production information among communication devices of different manufacturers in real-time. The D2-265 supports both common memory functions that share data with other FL-net-supporting devices and message transmission functions that deliver only necessary data when it is necessary, making the creation of a more flexible and open control system possible.

#### Memory Capacity Expansion

If there is a shortage of program capacity or register capacity in a conventional D2 series PLC, a large-size PLC of a large capacity is required. However, the D2-265 increases the program capacity by 8K words and the register capacity by 12K words, realizing space-savings and cost reductions in your control panel configuration.

#### No Battery Means Maintenance-free.

Conventional PLCs are equipped with a battery to save memory. However, the D2-265 requires no battery because it is mounted with a non-volatile memory (MRAM<sup>\*4</sup>) that enables high-speed writing. Therefore, it requires no maintenance such as battery replacement.

#### Increased Processing Speed to Enhance Productivity

With increasing need for high speed data transmission and large capacity memory processing, the processing speed of PLCs may cause a bottleneck in the entire control system. Therefore, if the processing speed of PLCs is increased and the tact time of the entire system is shortened, productivity improves and manufacturing loads can be reduced.

\*1 When an MRAM is mounted. The battery-less (maintenance free) calendar / clock functions are backed up by a high-capacity capacitor. When the power source OFF state continues for a long time, the calendar / clock information is deleted. The calendar / clock data is stored for approx. two weeks (when it is stored at a room temperature of 25°C).

\*2 Integer, floating point, trigonometric function (The floating-point arithmetic is sped up by a microcomputer that has a built-in FPU.)

\*3 A standard for industrial open network that interconnects programmable controllers, numerical control robots, and computers, which was born in the factory automation field. It is established as a Japanese Industrial Standard (JIS B 3521) and Japan Electrical Manufacturers' Association Standards (JEM 1480, JEM-TR 213, and JEM-TR 214).

\*4 Magnetoresistive Random Access Memory