

Features and Specifications

The DL105 micro PLCs contain the CPU, power supply and I/O all in the same housing. If you examine the CPU Specifications table, you'll see that we included many features found in our modular CPUs.

Review the specs

Make sure these features can satisfy the requirements of your application. Since these units are completely self-contained, you cannot expand the system or replace the CPU as you would in a modular system.

System capacity

System capacity is the ability to accommodate a variety of applications. For ladder memory, most Boolean instructions require one word. Some other instructions, such as timers, counters, etc., require two or more words. Our V-memory words are useful for data storage, etc.

Performance

The performance is simply the scan time, which is the amount of time required to read the inputs, solve the RLL program and update the outputs.

Instructions and diagnostics

Make sure the unit offers the instructions you need.

Communications

All DL105 units offer one RS-232 port, capable of 9,600 baud.

Specialty features

With the DC input and/or DC output versions, we also offer several high-speed I/O features.

AC-powered units

F1-130AA

10 AC inputs, 8 AC outputs, 1.7 A/point

F1-130AD

10 AC inputs, 8 DC outputs, 1.0 A/point, two outputs can be used as 7 kHz pulse output, 0.5 A/point

F1-130AR

10 AC inputs, 8 relay outputs, 7 A/point

F1-130DA

10 DC inputs, 4 inputs are filtered inputs, can also be configured as a single 5 kHz high-speed counter, interrupt input, or pulse catch input
8 AC outputs, 1.7 A/point

F1-130DD

10 DC inputs, 4 points are filtered inputs, can also be configured as a single 5 kHz high-speed counter, interrupt input, or pulse catch input
8 DC outputs, 1.0 A/point, 2 outputs can be used as 7 kHz pulse output, 0.5 A/point

F1-130DR

10 DC inputs, 4 inputs are filtered inputs, can also be configured as a single 5 kHz high-speed counter, interrupt input, or pulse catch input
8 relay outputs, 7 A/point

DC-powered units

F1-130DD-D

10 DC inputs, 4 inputs can be used as 5 kHz high-speed counter, interrupt inputs, or pulse catch inputs
8 DC outputs, 1.0 A/point, two outputs can be used as 7 kHz pulse output, 0.5 A/point

F1-130DR-D

10 DC inputs, 4 inputs can be used as 5 kHz high-speed counter, interrupt inputs, or pulse catch inputs
8 relay outputs, 7 A/point

Programming

Handheld programmer...D2-HPP <-->
DirectSOFT Programming for Windows
PC-DSOFT5 <-->
PC-DS100 <-->
PC-R50-U (upgrade) <-->

Note: Either high-speed input or pulse output can be used, but not in the same configuration.

DL105 CPU Specifications

System capacity

Total memory available (words) 2.4K
Ladder memory (words) 2,048 EEPROM
V-memory (words) 384
User V 256
Non-volatile user V 128
Battery backup No
Total I/O 18
Inputs 10
Outputs 8
I/O expansion No

Performance

Contact execution (Boolean) 3.3 μ s
Typical scan (1K Boolean)¹ 5-6 ms

Instructions and diagnostics

RLL ladder style Yes
RLL^{PLUS}/flowchart style (Stages) Yes/256
Run-time editing Yes
Supports Overrides No
Variable/fixed scan Variable
Instructions 91
Control relays 256
Timers 64
Counters 64
Immediate I/O Yes
Subroutines No
For/next loops No
Timed interrupt Yes
Integer math Yes
Floating-point math No
PID No
Drum sequencers Yes
Bit of word No
ASCII print No
Real-time clock/calendar No
Internal diagnostics Yes
Password security Multi-level
System and user error log No

Communications

Built-in ports one, RS-232-C
K-sequence (proprietary protocol) Yes
DirectNETTM No
MODBUS master/slave No
ASCII out No
Baud rate (fixed) 9,600 baud

Specialty features

Filtered inputs Yes²
Interrupt input Yes²
High-speed counter Yes, 5 kHz²
Pulse output Yes, 7 kHz²
Pulse catch input Yes²

1- Our 1K program includes contacts, coils, and scan overhead. If you compare our products to others, make sure you include their scan overhead.

2- Input features are only available on units with DC inputs. Output features are only available on units with DC outputs.

DL105 Hardware Features

CPU status indicators

RUN	.....ON	.....	CPU is in RUN mode
	.....OFF	.....	CPU is in PROGRAM mode
PWR	.....ON	.....	CPU power good
	.....OFF	.....	CPU power failure
CPU	.....ON	.....	CPU internal diagnostics has detected an error
	.....OFF	.....	CPU is OK

Mode control

The DL105 units do not have mode switches like many of our modular CPUs. You can set the unit (using special V-memory locations) so that it will power up in RUN mode.

Communications port

Protocol	.....	K-sequence slave
Devices	.....	Can connect with HPP, DirectSOFT, DV-1000, C-More Panels
Specs	.....	6P6C RJ12 connector
	.....	RS-232-C, 9,600 baud, Odd parity, Fixed station address (1), 8 data bits (one start, one stop bit), Asynchronous, half-duplex, DTE

RJ12 Connector Port 1 Pinout

Pin	Signal
1	0V
2	5V
3	RS-232 Data in
4	RS-232 Data out
5	5V
6	0V

Fixed EEPROM memory

The DL105 units offer built-in EEPROM memory.

NOTE: Terminals accept 16-24 AWG. For 16 AWG, use type TFFN or Type MTW. Other types of 16 AWG may be acceptable, but it really depends on the thickness of the wire insulation.

