

# 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 9600 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

### F1-130AR

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

### F1-130DA

10 DC inputs, 4 inputs are filtered inputs, can also be configured as a single 5kHz 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 7kHz pulse output, 0.5 A/point

### F1-130DR

10 DC inputs, 4 inputs are filtered inputs, can also be configured as a single 5kHz high-speed counter, interrupt input, or pulse catch input

8 relay outputs, 7A/point

## DC-powered units

### F1-130DD-D

10 DC inputs, 4 inputs can be used as 5kHz high-speed counter, interrupt inputs, or pulse catch inputs

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

### F1-130DR-D

10 DC inputs, 4 inputs can be used as 5kHz high-speed counter, interrupt inputs, or pulse catch inputs

8 relay outputs, 7A/point

## Programming

Handheld programmer.....D2-HPP.....	\$445.00
DirectSOFT Programming for Windows	
PC-DSOFT6.....	\$417.00
PC-DS100.....	\$0.00
PC-R60-U (upgrade).....	\$263.00

**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 us
Typical scan (1K Boolean) <sup>1</sup> .....	5-6 ms

### Instructions and diagnostics

RLL ladder style.....	Yes
RLL <sup>PLUS</sup> /flowchart style (Stages).....	Yes/256
Run-time editing.....	Yes
Supports Overrides.....	No
Variable/fix 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
DirectNET™.....	No
MODBUS master/slave.....	No
ASCII out.....	No
Baud rate (fixed).....	9600 baud

### Specialty features

Filtered inputs.....	Yes <sup>2</sup>
Interrupt input.....	Yes <sup>2</sup>
High-speed counter.....	Yes, 5kHz <sup>2</sup>
Pulse output.....	Yes, 7kHz <sup>2</sup>
Pulse catch input.....	Yes <sup>2</sup>

**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  
 .....OFF..... has detected an error  
 .....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.

