Step 4: Select the I/O Modules

There are several factors you should consider when choosing an I/O module.

1. Environmental specifications: What environmental conditions will the I/O module be subjected to?

2. Hardware specifications: Does this product have the right features, performance and capacity to adequately serve your application?

3. Field termination: How does this module connect to field devices? Do you need a sinking or sourcing DC module?

4. Power budget: It is very important that your module selections operate within the base power budget. Refer to the power budget description later in this section.

Check the environmental specifications

The following table lists the environmental specifications that globally apply to the DL205 system (CPUs, bases, and I/O modules). Be sure the modules you choose are operated within these environmental specifications.

Specifications and ratings

Storage temperature*
-4ºF – 158ºF (-20ºC to 70ºC)

Ambient operating temperature**
32ºF – 131ºF (0º to 55ºC)

Ambient humidity
30% - 95% relative humidity (non-condensing)

Vibration resistance
MIL STD 810C, Method 514.2

Shock resistance
MIL STD 810C, Method 516.2

Noise immunity
NEMA (ICS3-304)

Atmosphere
No corrosive gases

* Storage temperature for the Handheld Programmer is –4º to 158ºF (-20º to 70ºC)

** Operating temperature for the Handheld Programmer is 32º to 122ºF (0º to 50ºC)

This logo is placed by each I/O module that supports ZIPLink connection systems. (The I/O modules are listed at the end of this section.) See the Terminal Blocks and Wiring section for details on ZIPLinks.

Review I/O hardware specifications

The hardware specifications for every DL205 module are described later in this section.

Take time to understand the specification charts, the derating curves and the wiring diagrams. The module specifications should help you determine if this module is right for your application.

Factors affecting field termination

DL205 modules use three types of field terminations. They include a low density removable terminal block (used on modules with eight or fewer points), a high density removable terminal block (European style terminal block available on modules with 12 to 16 points), and a 40-pin connector (for modules with 32 points). The module diagrams indicate the connector type that is on the module. You can also use our super fast and inexpensive ZIPLink I/O connector systems.

Module types and suggested AWG range

4 point
16* - 24 AWG
8 point
16* - 24 AWG
12 point
16* - 24 AWG
16 point
16* - 24 AWG
32 point
Ribbon and Solder-style Connectors

* Note: 16 AWG Type TFFN or Type MTW can be used on 8 pt. modules. Other types of 16 AWG may be acceptable, but it really depends on the thickness of the wire insulation. If the insulation is too thick and you use all the I/O points, then the plastic terminal cover may not close properly.
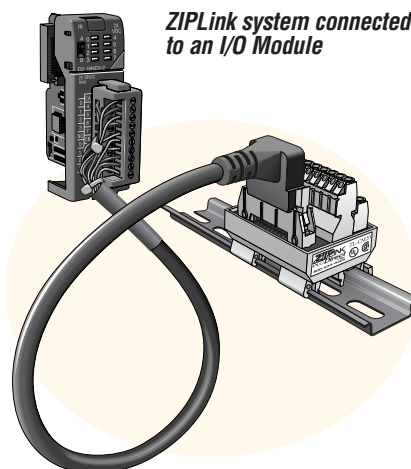
ZIPLink system connected to an I/O Module

Need spare parts?

Sometimes it is helpful to have extra I/O module connectors or spare fuses. The DL205 spare parts and accessories are listed below:

- D2-FILL – Filler module for empty slots
- D2-8IOCON – 8-pt. I/O terminal blocks
- D2-16IOCON – 16-pt. I/O terminal blocks
- D2-IOCVR – Spare terminal block covers
- D2-FUSE-1 – Fuses for D2-12TA
- D2-FUSE-3 – Fuses for D2-04TD1, D2-04TRS, D2-08TR, D2-08CDR
- D2-FUSE-4 – Fuses for D2-12TR
- D2-ACC-1 – Base power terminal strip screws
- D2-ACC-2 – Spare terminal screws for 4-pt. and 8-pt. I/O modules
- ZL-D24-CON-X – Solder-type connector for 32-pt. and 64-pt. modules
- **DIN***nectors* and **ZIP***Links* — Refer to the Terminal Blocks and Wiring section of this catalog for the complete line of products available.

DIN*nectors* terminal blocks

DINnectors are DIN-rail mounted connectors or terminal blocks. They provide a means of connecting and identifying two or more wires. All **DIN**nectors are UL, CSA, VDE, SEV, RINA and IEC approved. For more information, refer to the Terminal Blocks and Wiring section.

ZIPLink connection systems

ZIPLinks consist of PLC interface cables and connector modules that offer "plug and play" capability by plugging one end of the ZIPLink cable into an I/O module and the other end into the ZIPLink connector module. This eliminates the tedious process of wiring PLC I/O terminals to terminal blocks individually. For more information, refer to Wiring Solutions in this section or see the Terminal Blocks and Wiring Solutions section in this catalog.