

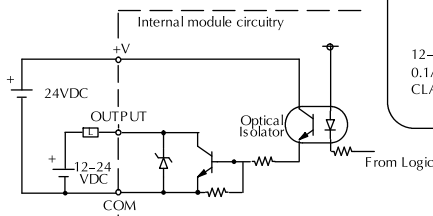
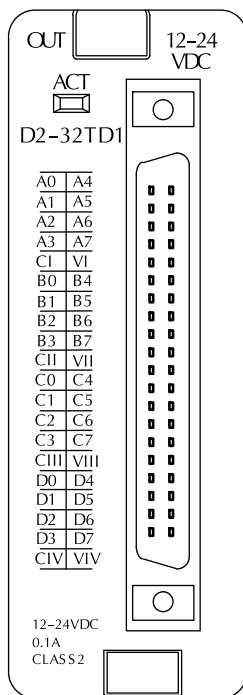
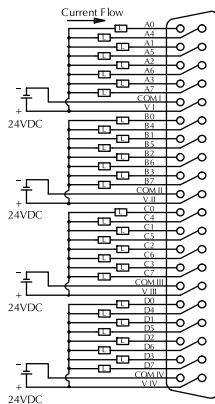
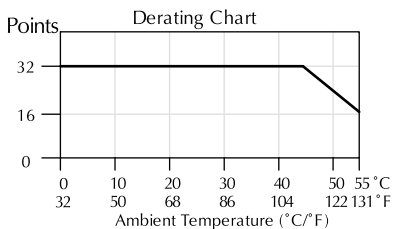
# DC Output Modules

| D2-32TD1 DC Output <---->   |  |
|---|--|
| <b>Outputs per Module</b>   | 32 (current sinking)                       |
| <b>Commons per Module</b>   | 4 (8 I/O terminal points)                  |
| <b>Output Type</b>  | NPN open collector                         |
| <b>Operating Voltage</b>  | 12-24 VDC                                  |
| <b>Peak Voltage</b>   | 30 VDC                                     |
| <b>ON Voltage Drop</b>  | 0.5 VDC maximum                            |
| <b>Minimum Load Current</b>   | 0.2 mA                                     |
| <b>Max Load Current</b>   | 0.1A/point; 3.2A per module                |
| <b>Max Leakage Current</b>  | 0.1 mA @ 30 VDC                            |
| <b>Max Inrush Current</b>   | 150 mA for 10 ms                           |
| <b>Base Power Required 5VDC</b>   | 350 mA                                     |
| <b>OFF to ON Response</b>   | 0.5 ms                                     |
| <b>ON to OFF Response</b>   | 0.5 ms                                     |
| <b>Terminal Type (not included)</b>   | removable 40-pin connector <sup>1</sup>    |
| <b>Status Indicator</b>   | Module activity (no I/O status indicators) |
| <b>Weight</b>   | 2.1 oz. (60g)                              |
| <b>Fuses</b>  | None                                       |
| <b>External DC Power Required</b>   | 20-28 VDC max. 120 mA (all points on)      |
| <sup>1</sup> Connector sold separately.<br>See Terminal Blocks and Wiring for wiring options. |  |

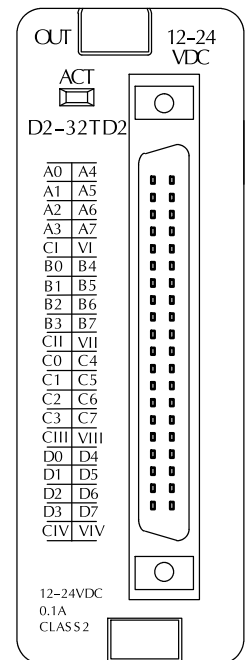
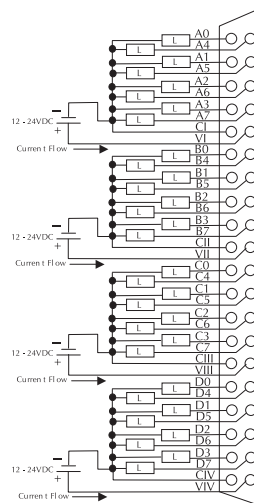
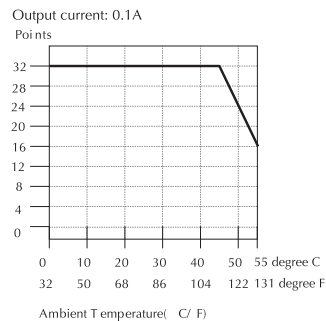
See page 4-78 for part numbers of ZIPLink cables and connection modules compatible with this I/O module.

| D2-32TD2 DC Output <---->   |  |
|---|--|
| <b>Outputs per Module</b>   | 32 (current sourcing)                      |
| <b>Commons per Module</b>   | 4 (8 I/O terminal points)                  |
| <b>Output Type</b>  | Transistor                                 |
| <b>Operating Voltage</b>  | 12 to 24 VDC                               |
| <b>Peak Voltage</b>   | 30 VDC                                     |
| <b>ON Voltage Drop</b>  | 0.5 VDC @ 0.1A                             |
| <b>Minimum Load Current</b>   | 0.2 mA                                     |
| <b>Max Load Current</b>   | 0.1A/point; 0.8A/common                    |
| <b>Max Leakage Current</b>  | 0.1 mA @ 30 VDC                            |
| <b>Max Inrush Current</b>   | 150 mA @ 10 ms                             |
| <b>Base Power Required 5VDC</b>   | 350 mA                                     |
| <b>OFF to ON Response</b>   | 0.5 ms                                     |
| <b>ON to OFF Response</b>   | 0.5 ms                                     |
| <b>Terminal Type (not included)</b>   | Removable 40-pin connector <sup>1</sup>    |
| <b>Status Indicator</b>   | Module activity (no I/O status indicators) |
| <b>Weight</b>   | 2.1 oz (60g)                               |
| <b>Fuses</b>  | None                                       |
| <sup>1</sup> Connector sold separately.<br>See Terminal Blocks and Wiring for wiring options. |  |

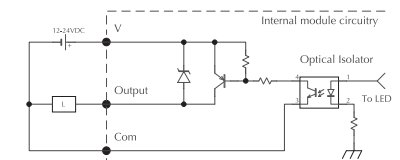
See page 4-78 for part numbers of ZIPLink cables and connection modules compatible with this I/O module.



Derating Chart



Equivalent Input Circuit



## Cut PLC wiring time to minutes instead of hours

The ZIPLink wiring system eliminates the normally tedious process of wiring PLC I/O to terminal blocks. Simply plug one end of a ZIPLink pre-wired terminal block cable into your I/O module and the other end into a ZIPLink connector module. It's that easy. ZIPLinks use half the space, at a fraction of the total cost of terminal blocks.

ZIPLinks are available in a variety of styles to suit your needs, including fused, relay and sensor/LED connector modules. ZIPLinks are available for all DL205 Series PLC discrete and analog input and output modules.

For complete information see ZIPLinks in the Terminal Blocks and Wiring Solutions section.



## Specify your ZIPLink system

Use the Compatibility Matrix table below:

|  |   |
|--|---|
| <b>Step 1</b>  | Locate the I/O module part number.  |
| <b>Step 2</b>  | Locate Connector Module Type. (Feedthrough Module, Fuse Module, etc...)                                 |
| <b>Step 3</b>  | Select the cable length by replacing the # symbol with: Blank = 0.5m, -1 = 1.0m, -2 = 2.0m <sup>1</sup> |
| <sup>1</sup> Note: Cable part number denotes compatibility between Connector Module and I/O Modules. |   |

| ZIPLink Wiring System Compatibility Matrix for DL205 PLCs |                     |                     |              |               |              |               |                      |               |                |                |
|---|---------------------|---------------------|--------------|---------------|--------------|---------------|----------------------|---------------|----------------|----------------|
| Step 2: Connector Module Type                             |                     | Feedthrough Modules |              | Fuse Modules  |              | Relay Modules | Sensor Input Modules |               | Pigtail Cable  |                |
| Step 1: I/O Module  | Number of Terminals | ZL-RTB20            | ZL-RTB40     | ZL-RFU20      | ZL-RFU40     | ZL-RRL16-24   | ZL-LTB16-24          | ZL-LTB32-24   |                |                |
| Step 3: Cables  |                     |                     |              |               |              |               |                      |               |                |                |
| <b>Inputs</b>   |                     |                     |              |               |              |               |                      |               |                |                |
| <b>I/O Module</b>   | D2-08ND3            | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-16ND3-2          | 19                  | ZL-D2-CBL19# |               |              |               | ZL-D2-CBL19#         |               | ZL-D2-CBL19#P  |                |
|   | D2-32ND3            | 40                  |              | ZL-D24-CBL40# |              |               |                      | ZL-D24-CBL40# | ZL-D24-CBL40#P |                |
|   | D2-32ND3-2          | 40                  |              | ZL-D24-CBL40# |              |               |                      | ZL-D24-CBL40# | ZL-D24-CBL40#P |                |
|   | D2-08NA-1           | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-08NA-2           | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-16NA             | 19                  | ZL-D2-CBL19# |               |              |               |                      |               | ZL-D2-CBL19#P  |                |
|   | <b>Outputs</b>      |                     |              |               |              |               |                      |               |                |                |
|   | D2-04TD1*           | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-08TD1            | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-08TD2            | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-16TD1-2          | 19                  | ZL-D2-CBL19# |               | ZL-D2-CBL19# |               | ZL-D2-CBL19#         |               |                | ZL-D2-CBL19#P  |
|   | D2-16TD2-2          | 19                  | ZL-D2-CBL19# |               | ZL-D2-CBL19# |               |                      |               |                | ZL-D2-CBL19#P  |
|   | D2-32TD1            | 40                  |              | ZL-D24-CBL40# |              | ZL-D24-CBL40# |                      |               |                | ZL-D24-CBL40#P |
|   | D2-32TD2            | 40                  |              | ZL-D24-CBL40# |              | ZL-D24-CBL40# |                      |               |                | ZL-D24-CBL40#P |
|   | D2-08TA             | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | F2-08TA             | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
|   | D2-12TA             | 19                  | ZL-D2-CBL19# |               | ZL-D2-CBL19# |               |                      |               |                | ZL-D2-CBL19#P  |
|   | D2-04TRS*           | 10                  | ZL-D2-CBL10# |               |              |               |                      |               |                |                |
| D2-08TR   | 10                  | ZL-D2-CBL10#        |              |               |              |               |                      |               |                |                |
| F2-08TRS*   | 19                  | ZL-D2-CBL19#        |              |               |              |               |                      |               | ZL-D2-CBL19#P  |                |
| F2-08TR**   | 10                  | ZL-D2-CBL10#        |              |               |              |               |                      |               |                |                |
| D2-12TR   | 19                  | ZL-D2-CBL19#        |              | ZL-D2-CBL19#  |              |               |                      |               | ZL-D2-CBL19#P  |                |
| <b>Combo In/Out</b>                                       |                     |                     |              |               |              |               |                      |               |                |                |
| D2-08CDR  | 10                  | ZL-D2-CBL10#        |              |               |              |               |                      |               |                |                |

\*Caution: The D2-04TD1, D2-04TRS, and F2-08TRS outputs are derated not to exceed 2 Amps per point and 2 Amps per common when used with the ZIPLink wiring system.

\*\*The F2-08TR outputs are derated not to exceed 2 Amps per point and 4 Amps per common when used with the ZIPLink wiring system.

ZIPLink Connector Module and Cable specifications found in Terminal Blocks and Wiring Section

# Power Requirements

## These charts help determine your power requirements

This section shows the amount of power supplied by each of the base power supplies and the amount of power consumed by each DL205 device. The Power Consumed charts list how much INTERNAL power from each power source is required for the DL205 devices. Use this information when calculating the power budget for your system.

In addition to the internal power sources, the DL205 bases offer a 24 VDC auxiliary power supply with external power connections. This auxiliary power supply can power external devices.

## Use ZIPLinks to reduce power requirements

If your application requires a lot of relay outputs, consider using the ZIPLink AC or DC relay output modules. These modules can switch high current (10A) loads without putting a load on your base power budget. Refer to the Terminal Blocks and Wiring Solutions section in this catalog for more information.

This logo is placed next to the I/O modules that are supported by the ZIPLink connection systems. See the I/O module specifications at the end of this section.



| Power Consumed            |        |               |
|---------------------------|--------|---------------|
| Device                    | 5V(mA) | 24V Auxiliary |
| <b>Operator Interface</b> |        |               |
| DV-1000                   | 150    | 0             |
| C-more Micro-Graphic      | 210    | 0             |

| Power Supplied |       |        |               |              |       |        |               |
|----------------|-------|--------|---------------|--------------|-------|--------|---------------|
| Device         | Price | 5V(mA) | 24V Auxiliary | Device       | Price | 5V(mA) | 24V Auxiliary |
| <b>Bases</b>   |       |        |               | <b>Bases</b> |       |        |               |
| D2-03B-1       | <---> | 2600   | 300           | D2-06BDC1-1  | <---> | 2600   | None          |
| D2-03BDC1-1    | <---> | 2600   | None          | D2-06BDC2-1  | <---> | 2600   | 300           |
| D2-04B-1       | <---> | 2600   | 300           | D2-09B-1     | <---> | 2600   | 300           |
| D2-04BDC1-1    | <---> | 2600   | None          | D2-09BDC1-1  | <---> | 2600   | None          |
| D2-06B-1       | <---> | 2600   | 300           | D2-09BDC2-1  | <---> | 2600   | 300           |

| Power Consumed                   |        |               |
|----------------------------------|--------|---------------|
| Device                           | 5V(mA) | 24V Auxiliary |
| <b>CPUs</b>                      |        |               |
| D2-230                           | 120    | 0             |
| D2-240                           | 120    | 0             |
| D2-250-1                         | 330    | 0             |
| D2-260                           | 330    | 0             |
| H2-WPLC**                        | 680    | 0             |
| <b>DC Input Modules</b>          |        |               |
| D2-08ND3                         | 50     | 0             |
| D2-16ND3-2                       | 100    | 0             |
| D2-32ND3                         | 25     | 0             |
| D2-32ND3-2                       | 25     | 0             |
| <b>AC Input Modules</b>          |        |               |
| D2-08NA-1                        | 50     | 0             |
| D2-08NA-2                        | 100    | 0             |
| D2-16NA                          | 100    | 0             |
| <b>Input Simulator Module</b>    |        |               |
| F2-08SIM                         | 50     | 0             |
| <b>DC Output Modules</b>         |        |               |
| D2-04TD1                         | 60     | 20            |
| D2-08TD1                         | 100    | 0             |
| D2-08TD2                         | 100    | 0             |
| D2-16TD1-2                       | 200    | 80            |
| D2-16TD2-2                       | 200    | 0             |
| F2-16TD1P                        | 70     | 50            |
| F2-16TD2P                        | 70     | 50            |
| D2-32TD1                         | 350    | 0             |
| D2-32TD2                         | 350    | 0             |
| <b>AC Output Modules</b>         |        |               |
| D2-08TA                          | 250    | 0             |
| F2-08TA                          | 250    | 0             |
| D2-12TA                          | 350    | 0             |
| <b>Relay Output Modules</b>      |        |               |
| D2-04TRS                         | 250    | 0             |
| D2-08TR                          | 250    | 0             |
| F2-08TR(S)                       | 670    | 0             |
| D2-12TR                          | 450    | 0             |
| <b>Combination In/Out Module</b> |        |               |
| D2-08CDR                         | 200    | 0             |

| Power Consumed             |            |                   |
|----------------------------|------------|-------------------|
| Device                     | 5V(mA)     | 24V Auxiliary     |
| <b>Analog Modules</b>      |            |                   |
| F2-04AD-1                  | 100        | 5                 |
| F2-04AD-2                  | 110        | 5                 |
| F2-08AD-1                  | 100        | 5                 |
| F2-08AD-2                  | 100        | 5                 |
| F2-02DA-1                  | 40         | 60 (note 1)       |
| F2-02DA-1L                 | 40         | 70 @ 12V (note 1) |
| F2-02DA-2                  | 40         | 60                |
| F2-02DA-2L                 | 40         | 70 @ 12V          |
| F2-02DAS-1                 | 100        | 50 / channel      |
| F2-02DAS-2                 | 100        | 60 / channel      |
| F2-08DA-1                  | 30         | 50 (note 1)       |
| F2-08DA-2                  | 60         | 140               |
| F2-4AD2DA                  | 60         | 80 (note 1)       |
| F2-8AD4DA-1                | 35         | 100 (note 1)      |
| F2-8AD4DA-2                | 35         | 80 (note 1)       |
| F2-04RTD                   | 90         | 0                 |
| F2-04THM                   | 110        | 60                |
| <b>Specialty Modules</b>   |            |                   |
| D2-CTRINT                  | 50*        | 0                 |
| D2-CM / D2-EM              | 100/130    | 0                 |
| H2-CTRIO                   | 400        | 0                 |
| D2-DCM                     | 300        | 0                 |
| F2-DEVNETS                 | 160        | 0                 |
| F2-SDS-1                   | 160        | 0                 |
| H2-PBC                     | 530        | 0                 |
| H2-EBC(-F)                 | 450, (640) | 0                 |
| H2-ECOM(-F)                | 450, (640) | 0                 |
| H2-ECOM100                 | 300        | 0                 |
| F2-CP128                   | 235        | 0                 |
| <b>Remote I/O</b>          |            |                   |
| H2-ERM(-F)                 | 320, (450) | 0                 |
| D2-RMSM                    | 200        | 0                 |
| D2-RSSS                    | 150        | 0                 |
| <b>Programming Devices</b> |            |                   |
| D2-HPP                     | 200        | 0                 |

\*requires external 5VDC for outputs  
Note 1: Add an additional 20 mA per output loop.