

DC Output Modules

NOT SUPPORTED IN D2-230, D2-240 AND D2-250 CPUs.

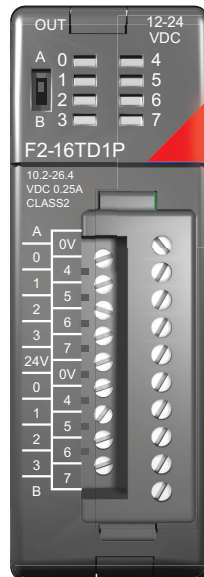
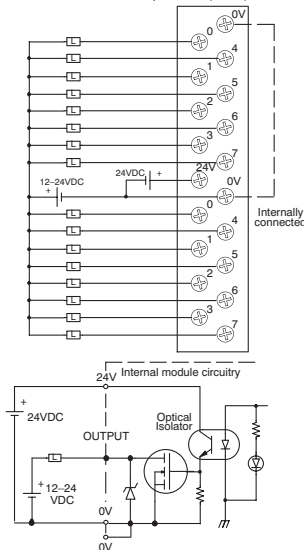
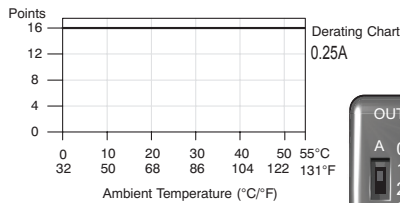
NOT SUPPORTED IN D2-230, D2-240 AND D2-250 CPUs.

| F2-16TD1P DC Output with Fault Protection | |
|---|---|
| Inputs per module | 16 (status indication) |
| Outputs per module | 16 (current sinking) |
| Commons per module | 1 (2 I/O terminal points) |
| Output type | NMOS FET (open drain) |
| Operating voltage | 10.2–26.4 VDC, external |
| Peak voltage | 40 VDC |
| AC frequency | N/A |
| ON voltage drop | 0.7 V (output current 0.5 A) |
| Overcurrent trip | 0.6A min., 1.2 A max. |
| Minimum load current | 0.2 mA |
| Maximum load current | 0.25 A/point; 4A/common |
| Max leakage current | 0.2 mA (load detect enabled); 0.3 mA disabled |
| Max inrush current | Self-limited |
| Base power required 5V | 70 mA |
| OFF to ON response | 0.5 ms |
| ON to OFF response | 0.5 ms |
| Terminal type | Removable (D2-16IOCON) |
| Status indicators | Logic Side |
| Weight | 2.0 oz. (25g) |
| Fuses | None |
| External DC required | 24 VDC +/-10% @ 50 mA |
| External DC overvoltage shutdown | 27V, outputs are restored when voltage is within limits |

| F2-16TD2P DC Output with Fault Protection | |
|---|---|
| Inputs per module | 16 (status indication) |
| Outputs per module | 16 (current sourcing) |
| Commons per module | 1 |
| Output type | NMOS FET (open source) |
| Operating voltage | 10.2–26.4 VDC, external |
| Peak voltage | 40 VDC |
| AC frequency | N/A |
| ON voltage drop | 0.7 V (output current 0.5 A) |
| Overcurrent trip | 0.6 A min., 1.2 A max. |
| Minimum load current | 0.2 mA |
| Maximum load current | 0.25 A/point; 4A/common |
| Max leakage current | 0.2 mA (load detect enabled); 0.3 mA disabled |
| Max inrush current | Self-limited |
| Base power required 5V | 70 mA |
| OFF to ON response | 0.5 ms |
| ON to OFF response | 0.5 ms |
| Terminal type | Removable (D2-16IOCON) |
| Status indicators | Logic Side |
| Weight | 2.0 oz. (25g) |
| Fuses | None |
| External DC required | 24 VDC +/-10% @ 50 mA |
| External DC overvoltage shutdown | 27V, outputs are restored when voltage is within limits |

Module detects the following faults:

1. Missing external 24 VDC
2. Open load
3. Over temperature
4. Over load current

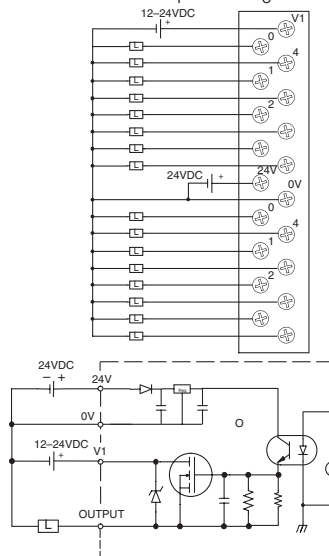
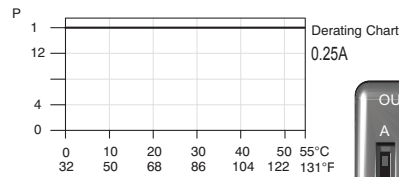


When the A/B switch is in the A position, the LEDs display the output status of the module's first 8 output points. Position B displays the output status of the module's second group of 8 output points.

| CPU | Firmware Required |
|----------|-----------------------|
| D2-250-1 | Version 4.80 or later |
| D2-260 | Version 2.60 or later |

Module detects the following faults:

1. Missing external 24 VDC
2. Open load
3. Over temperature
4. Over load current



When the A/B switch is in the A position, the LEDs display the output status of the module's first 8 output points. Position B displays the output status of the module's second group of 8 output points.

| CPU | Firmware Required |
|----------|-----------------------|
| D2-250-1 | Version 4.80 or later |
| D2-260 | Version 2.60 or later |

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:

| | |
|--|---|
| Step 1 | Locate the I/O module part number. |
| Step 2 | Locate Connector Module Type. (Feedthrough Module, Fuse Module, etc...) |
| Step 3 | Select the cable length by replacing the # symbol with: Blank = 0.5m, -1 = 1.0m, -2 = 2.0m ¹ |
| ¹ 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 | | | | | | | | | | |
| Inputs | | | | | | | | | | |
| I/O Module | 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 | |
| | Outputs | | | | | | | | | |
| | 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 | |
| Combo In/Out | | | | | | | | | | |
| 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 |
| Operator Interface | | |
| DV-1000 | 150 | 0 |
| C-more Micro-Graphic | 210 | 0 |

| Power Supplied | | | | | | | |
|----------------|-------|--------|---------------|--------------|-------|--------|---------------|
| Device | Price | 5V(mA) | 24V Auxiliary | Device | Price | 5V(mA) | 24V Auxiliary |
| Bases | | | | Bases | | | |
| 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 |
| CPUs | | |
| D2-230 | 120 | 0 |
| D2-240 | 120 | 0 |
| D2-250-1 | 330 | 0 |
| D2-260 | 330 | 0 |
| H2-WPLC** | 680 | 0 |
| DC Input Modules | | |
| D2-08ND3 | 50 | 0 |
| D2-16ND3-2 | 100 | 0 |
| D2-32ND3 | 25 | 0 |
| D2-32ND3-2 | 25 | 0 |
| AC Input Modules | | |
| D2-08NA-1 | 50 | 0 |
| D2-08NA-2 | 100 | 0 |
| D2-16NA | 100 | 0 |
| Input Simulator Module | | |
| F2-08SIM | 50 | 0 |
| DC Output Modules | | |
| 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 |
| AC Output Modules | | |
| D2-08TA | 250 | 0 |
| F2-08TA | 250 | 0 |
| D2-12TA | 350 | 0 |
| Relay Output Modules | | |
| D2-04TRS | 250 | 0 |
| D2-08TR | 250 | 0 |
| F2-08TR(S) | 670 | 0 |
| D2-12TR | 450 | 0 |
| Combination In/Out Module | | |
| D2-08CDR | 200 | 0 |

| Power Consumed | | |
|----------------------------|------------|-------------------|
| Device | 5V(mA) | 24V Auxiliary |
| Analog Modules | | |
| 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 |
| Specialty Modules | | |
| 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 |
| Remote I/O | | |
| H2-ERM(-F) | 320, (450) | 0 |
| D2-RMSM | 200 | 0 |
| D2-RSSS | 150 | 0 |
| Programming Devices | | |
| D2-HPP | 200 | 0 |

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