

Specifying an I/O Wiring System

| Compatibility Matrix Chart for DL205/305/405 PLCs | | | | | | | | | |
|---|----------------------|-----------|-----------|--------------------------|---------------|---------------|--------------------------|---------------|--------------|
| I/O Modules | Feed-through Modules | | | AC-Powered Relay Modules | | | DC-Powered Relay Modules | | |
| | ZL-CM20 | ZL-CM24 | ZL-CM40 | ZL-CM08RL120 | ZL-CM16RL120A | ZL-CM16RL120B | ZL-CM08RL24 | ZL-CM16RL24A | ZL-CM16RL24B |
| D2-08NA-1 | ZL-2CBL1# | - | - | - | - | - | - | - | - |
| D2-08ND3 | ZL-2CBL1# | - | - | - | - | - | - | - | - |
| D2-16NA | ZL-2CBL2# | - | - | - | - | - | - | - | - |
| D2-16ND3-2 | ZL-2CBL2# | - | - | - | - | - | - | - | - |
| D2-32ND3 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D2-32ND3-2 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D2-08TA | ZL-2CBL1# | - | - | ZL-2CBL1# | - | - | - | - | - |
| D2-08TD1 | ZL-2CBL1# | - | - | - | - | - | ZL-2CBL1# | - | - |
| D2-08TD2 | ZL-2CBL1# | - | - | - | - | - | ZL-2CBL1# | - | - |
| D2-08TR | ZL-2CBL1# | - | - | - | - | - | ZL-2CBL1# | - | - |
| D2-12TA | ZL-2CBL2# | - | - | - | ZL-2CBL2# | - | - | - | - |
| D2-12TR | ZL-2CBL2# | - | - | - | - | - | - | - | - |
| D2-16TD1-2 | ZL-2CBL2# | - | - | - | - | - | - | ZL-2CBL2# | - |
| D2-16TD2-2 | ZL-2CBL2# | - | - | - | - | - | - | ZL-2CBL2# | - |
| D2-32TD1 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D2-32TD2 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D3-16NA | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| D3-16ND2-1 | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| D3-16ND2F | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| D3-16NE3 | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| D3-08TA-1 | ZL-3CBL2# | - | - | ZL-3CBL1FR8# | - | - | - | - | - |
| D3-16TA-2 | ZL-3CBL2# | - | - | - | ZL-3CBL2FR16# | - | - | - | - |
| D3-16TD1-1 | ZL-3CBL2# | - | - | - | - | - | - | ZL-3CBL2FR16# | - |
| D3-16TD2 | ZL-3CBL2# | - | - | - | - | - | - | ZL-3CBL2FR16# | - |
| D4-08ND3S | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-16NA | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-16NA-1 | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-16ND2 | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-16ND2F | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-16NE3 | - | ZL-4CBL2# | - | - | - | - | - | - | - |
| D4-32ND3-1 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-32ND3-2 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-64ND2 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-16TA | - | ZL-4CBL2# | - | - | - | ZL-4CBL2# | - | - | - |
| D4-16TD1 | - | ZL-4CBL2# | - | - | - | - | - | - | ZL-4CBL2# |
| D4-16TD2 | - | ZL-4CBL2# | - | - | - | - | - | - | ZL-4CBL2# |
| D4-32TD1 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-32TD1-1 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-32TD2 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| D4-64TD1 | - | - | ZL-4CBL4# | - | - | - | - | - | - |
| H2-CTRIO | ZL-2CBL2# | - | - | - | - | - | - | - | - |
| F3-08TAS | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| F3-16ND3F | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| F3-16TA-2 | ZL-3CBL2# | - | - | - | - | - | - | - | - |
| F4-08NE3S | - | ZL-4CBL2# | - | - | - | - | - | - | - |

NOTE: # Cables are available in 0.5, 1.0 and 2.0 meter lengths. The length is designated by the last digit in the part number: (blank) = 0.5m, 1 = 1.0m, 2 = 2.0m long. Example: ZL-2CBL2-2 represents a cable length of 2 meters.

Specifying an I/O Wiring System, (cont.)

Compatibility Matrix Chart for DL205/305/405 PLCs (cont'd)

| I/O Modules | Fuse Modules | | | LED Modules | | | | | Communication Adapter Boards | |
|-------------|--------------|---------------|------------|-------------|-------------|------------|-------------|-------------|---|---------------|
| | ZL-CM08TF | ZL-CM16TF1 | ZL-CM16TF2 | ZL-CM08L24 | ZL-CM08L120 | ZL-CM16L24 | ZL-CM16L120 | ZL-CM32L524 | DN-15TB | DN-25TB |
| D2-08NA-1 | - | - | - | - | ZL-2CBL1# | - | - | - | ZL-DN15TB-CBL | ZL-DN25TB-CBL |
| D2-08ND3 | - | - | - | ZL-2CBL1# | - | - | - | | | |
| D2-16NA | - | - | - | - | - | - | ZL-2CBL2L# | - | Note: the communication modules will work only with the DL06/250/260/350/450 bottom ports and the DL205/305/405 DCM modules. | |
| D2-16ND3-2 | - | - | - | - | - | ZL-2CBL2L# | -- | - | | |
| D2-08TA | ZL-2CBL1# | - | - | - | - | - | -- | - | | |
| D2-08TD1 | ZL-2CBL1# | - | - | - | - | - | -- | - | | |
| D2-08TD2* | - | - | - | - | - | - | - | - | | |
| D2-08TR | ZL-2CBL1# | -- | - | - | - | - | - | - | | |
| D2-12TA | - | ZL-2CBL2# | - | - | - | - | - | - | | |
| D2-12TR | - | ZL-2CBL2# | - | - | - | - | - | - | | |
| D2-16TD1-2 | - | ZL-2CBL2# | - | - | - | - | - | - | | |
| D2-16TD2-2 | - | ZL-2CBL2# | - | - | - | - | -- | - | | |
| D2-32TD1* | - | - | - | - | - | - | - | - | | |
| D2-32ND3 | - | - | - | - | - | - | - | ZL-4CBL4# | | |
| D3-16NA | - | - | - | - | - | - | ZL-3CBL2L# | - | | |
| D3-16ND2-1* | - | - | - | - | - | - | - | - | | |
| D3-16ND2F* | - | - | - | - | - | - | - | - | | |
| D3-16NE3 | - | - | - | - | - | ZL-3CBL2L# | - | - | | |
| D3-08TA-1 | - | ZL-3CBL1FR8# | - | - | - | - | - | - | | |
| D3-16TA-2 | - | ZL-3CBL2FR16# | - | - | - | - | - | - | | |
| D3-16TD1-1 | - | ZL-3CBL2FR16# | - | - | - | - | - | - | | |
| D3-16TD2 | - | ZL-3CBL2FR16# | - | - | - | - | - | - | | |
| D4-08ND3S* | - | - | - | - | - | - | - | - | | |
| D4-16NA | - | - | - | - | - | - | ZL-4CBL2# | - | | |
| D4-16NA-1* | - | - | - | - | - | - | - | - | | |
| D4-16ND2 | - | - | - | - | - | ZL-4CBL2# | - | - | | |
| D4-16ND2F | - | - | - | - | - | ZL-4CBL2# | - | - | | |
| D4-16NE3 | - | - | - | - | - | ZL-4CBL2# | - | - | | |
| D4-32ND3-1 | - | - | - | - | - | - | - | ZL-4CBL4# | | |
| D4-32ND3-2 | - | - | - | - | - | - | - | ZL-4CBL4# | | |
| D4-64ND2 ** | - | - | - | - | - | - | - | ZL-4CBL4# | | |
| D4-16TA | - | - | ZL-4CBL2# | - | - | - | - | - | | |
| D4-16TD1 | - | - | ZL-4CBL2# | - | - | - | - | - | | |
| D4-16TD2 | - | - | ZL-4CBL2# | - | - | - | - | - | | |
| D4-32TD1* | - | - | - | - | - | - | - | - | | |
| D4-32TD1-1* | - | - | - | - | - | - | - | - | | |
| D4-32TD2* | - | - | - | - | - | - | - | - | | |
| D4-64TD1* | - | - | - | - | - | - | - | - | | |
| F3-08TAS* | - | - | - | - | - | - | - | - | | |
| F3-16ND3F* | - | - | - | - | - | - | - | - | | |
| F4-08NE3S* | - | - | - | - | - | - | - | - | | |

*NOTE: These I/O modules are not supported by ZIPLink Fuse and LED modules.

**NOTE: 64-point modules for the DL405 require two cables per module. Cables are available in 0.5, 1.0 and 2.0 meter lengths. The length is designated by the last digit in the part number: (blank) = 0.5m, -1 = 1.0m, 2 = 2.0m long. Example: ZL-2CBL2-2 represents a cable length of 2 meters.

Specifying an I/O Wiring System, (cont.)

| Compatibility Matrix Chart For DL05/06 PLCs | | | | | |
|---|----------------------|---------------|--------------|--------------|-------------|
| I/O Modules | Feed-through Modules | Relay Modules | | Fuse Modules | LED Modules |
| | ZL-CM056 | ZL-CM08RL24 | ZL-CM16RL24B | ZL-CM16TF2 | ZL-CM16L24 |
| D0-16TD1 | ZL-CBL056 | - | ZL-CBL056FR | ZL-CBL056FR | - |
| D0-16TD2 | ZL-CBL056 | - | ZL-CBL056FR | ZL-CBL056FR | - |
| D0-16ND3 | ZL-CBL056 | - | - | - | ZL-CBL056L |

Connection Cables

| ZIPLink Connection Cables | | | | |
|---|---|-------------------|----------------|-------|
| Part Number | Description | Insulation Rating | Conductor Size | Price |
| Standard DL205 8 Channel | | | | |
| ZL-2CBL1 | DL205-8 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL1-1 | DL205-8 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL1-2 | DL205-8 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Standard DL205 16 Channel | | | | |
| ZL-2CBL2 | DL205-16 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL2-1 | DL205-16 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL2-2 | DL205-16 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| LED/Sensor DL205 16 Channel | | | | |
| ZL-2CBL2L | DL205-16, ZIPLink LED/sensor module cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL2L-1 | DL205-16, ZIPLink LED/sensor module cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-2CBL2L-2 | DL205-16, ZIPLink LED/sensor module cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Standard DL305 16 Channel | | | | |
| ZL-3CBL2 | DL305-16 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2-1 | DL305-16 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2-2 | DL305-16 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| LED/Sensor DL305 16 Channel | | | | |
| ZL-3CBL2L | DL305-16, ZIPLink LED/sensor module cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2L-1 | DL305-16, ZIPLink LED/sensor module cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2L-2 | DL305-16, ZIPLink LED/sensor module cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Fuse/Relay DL305 8 Channel | | | | |
| ZL-3CBL1FR8 | DL305-8, ZIPLink fuse/relay module cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL1FR8-1 | DL305-8, ZIPLink fuse/relay module cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL1FR8-2 | DL305-8, ZIPLink fuse/relay module cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Fuse/Relay DL305 16 Channel | | | | |
| ZL-3CBL2FR16 | DL305-16, ZIPLink fuse/relay module cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2FR16-1 | DL305-16, ZIPLink fuse/relay module cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL2FR16-2 | DL305-16, ZIPLink fuse/relay module cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Standard DL305 16 Channel | | | | |
| ZL-3CBL3 | DL305-16 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL3-1 | DL305-16 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL3-2 | DL305-16 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Fuse/Relay DL305 16 Channel | | | | |
| ZL-3CBL3FRD16 | DL305-16, ZIPLink fuse/relay module cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL3FRD16-1 | DL305-16, ZIPLink fuse/relay module cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL3FRD16-2 | DL305-16, ZIPLink fuse/relay module cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Standard DL405 16 Channel | | | | |
| ZL-4CBL2 | DL405-16 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-4CBL2-1 | DL405-16 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-4CBL2-2 | DL405-16 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |
| Standard DL205 or DL405 32 Channel | | | | |
| ZL-4CBL4 | DL205 or DL405-32 ZIPLink cable, 1.6 ft. (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-4CBL4-1 | DL205 or DL405-32 ZIPLink cable, 3.3 ft. (1.0M) | 300V 80°C | #24 AWG | <---> |
| ZL-4CBL4-2 | DL205 or DL405-32 ZIPLink cable, 6.5 ft. (2.0M) | 300V 80°C | #24 AWG | <---> |

ZL-2CBL1xx



ZL-2CBL2xx



ZL-3CBL2xx



ZL-3CBL3xx



ZL-4CBL2xx



ZL-4CBL4xx



PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pushbuttons/Lights

Process

Relays/Timers

Comm.

TB's & Wiring

Power

Circuit Protection

Enclosures

Appendix

Part Index

Connection Cables (cont.)

| ZiPLink Connection Cables | | | | |
|------------------------------------|--|-------------------|----------------|-------|
| Part Number | Description | Insulation Rating | Conductor Size | Price |
| Communication Adapter | | | | |
| ZL-DN15TB-CBL | 15 pin shielded cable for DN-15TB module 6.5 ft (2M) | 300V 80°C | #28 AWG | <---> |
| ZL-DN25TB-CBL | 25 pin shielded cable for DN-25TB module 6.5 ft (2M) | 300V 80°C | #28 AWG | <---> |
| Ready to Wire w/Pigtail End | | | | |
| ZL-2CBL2-2P | DL-205-16 Ready-to-wire 20 conductor cable, 2A max/conductor 6.5 ft (2M) | 300V 80°C | #24 AWG | <---> |
| ZL-3CBL3-2P | DL-305-16 Ready-to-wire 24 conductor cable, 2A max/conductor 6.5 ft (2M) | 300V 80°C | #24 AWG | <---> |
| Standard DL05/06 | | | | |
| ZL-CBL056 | Ziplink cable for DL05 and 06 16 point I/O modules to Ziplink feedthrough modules (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-CBL056L | Ziplink cable for DL05 and 06 16 point I/O LED modules (0.5M) | 300V 80°C | #24 AWG | <---> |
| ZL-CBL056FR | Ziplink cable for DL05 and 06 16 point I/O fuse/relay modules (0.5M) | 300V 80°C | #24 AWG | <---> |
| Standard | | | | |
| ZL-DB9-CBL | Cable with 9-pin Dsub connectors on both ends, black. male/female, (2M) | 300V 80°C | #28 AWG | <---> |
| ZL-DB15-CBL | Cable with 15-pin Dsub connectors on both ends, black. male/female, (2M) | 300V 80°C | #28 AWG | <---> |
| ZL-DB25-CBL | Cable with 25-pin Dsub connectors on both ends, black. male/female, (2M) | 300V 80°C | #28AWG | <---> |
| ZL-RJ12-CBL | Reverse-wired cable with two RJ12 connectors, black. (2M) | 300V 80°C | #28 AWG | <---> |

Note: Use ZL-DN15TB-CBL cable only for Communication Module DN-15TB; Super VGA cables will not function correctly.

ZL-2CBL2-2P*



* Can be used with any brand PLC.

ZL-CBL056L



ZL-DN15TB-CBL



ZL-DN25TB-CBL



ZIPLink Five-second PLC wiring system

Cut your PLC wiring time down to minutes instead of hours!

The ZIPLink system eliminates the normally tedious process of wiring PLC I/O to terminal blocks. Simply plug one end of a ZIPLink cable into a DirectLOGIC 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. Some are designed exclusively for DirectLOGIC PLCs, while others may be used with various PLC brands. ZIPLinks are available for our most popular discrete input and output PLC I/O modules. Analog and high current PLC I/O modules are not supported by ZIPLinks.

DirectLOGIC PLCs: Whether you want the ability to quickly wire simple point-to-point connections, or the ability to fuse, switch, or isolate your outputs, or the convenience of LED device status indication for monitoring your inputs, we have a ZIPLink module that is right for you. Most DIN-rail mountable ZIPLink modules are available in your choice of eight or sixteen-channel versions, in either 24 VDC or 110 VAC voltages.

Other PLC brands: Use ZIPLink "pigtail" cables and connector modules to wire to most brands of PLCs or controllers. These cables are supplied with a "plug and play" connector on one end, and an unwired, color-coded wire bundle on the other end for user connection to the PLC or controller terminal block.

D-subminiature connectors: For PLCs, controllers, operator interfaces, or other devices utilizing D-subminiature connectors, we now have standard ZIPLink cables and connector modules in 9, 15, and 25-pin male/female configurations for fast, convenient wiring.



Specialty ZIPLink connector modules: Got an RJ12 connector that you need to wire to? Use our RJ12 connector module. Need just a couple of additional relays in your PLC system? Try our single or four-channel relay socket modules. Having PLC problems due to transient noise generated from switching inductive loads? Try our 8-channel transorb diode modules to clear up those problems fast.

Specify your ZIPLink system

Step 1: Locate the I/O module part number.

Use the Compatibility Matrix chart on pages 26-50 and 51 to locate the I/O module part number.

(Note that discrete high current and analog modules are not supported by ZIPLinks and must be traditionally wired using terminal blocks such as DINectors.)

Step 2: Locate compatible connector module types.

Use the cable numbers (ZL-#CBL##) to locate compatible connector modules (ZL-CM#)

Step 3: Determine which type of connector module

Select the connector module type; feed-through, fuse, LED, etc.

Step 4: Select cable length.

Select the cable length by replacing the # symbol with; blank = 0.5m, -1=1.0m, -2=2.0m

Step 5: Place your order!

CHECK OUT OUR PRICES

| | | |
|--|-----|--|
| <p style="color: green; font-weight: bold;">Ours</p> <p style="font-size: small;">DL405 DC Input</p> <p style="text-align: center; border: 1px solid black; border-radius: 5px; padding: 2px;">I/O module cable</p> <p style="font-size: x-small; color: yellow;">ZL-ACBL2</p> | VS. | <p style="color: white; font-weight: bold;">A-B SLC500</p> <p style="font-size: small; color: white;">16pt DC Input</p> <p style="text-align: center; border: 1px solid black; border-radius: 5px; padding: 2px;">Connector module</p> <p style="font-size: x-small; color: red;">1492-CABLE005B</p> |
| <p style="font-size: x-small;">ZL-CM24</p> | | <p style="font-size: x-small;">1492-IFM20F</p> |
| <p style="font-weight: bold; color: white;">Total: Cable + Terminal Module</p> | | |
| <p style="font-size: x-small;">ZL-CM24</p> | | <p style="font-size: x-small;">1492-IFM20F</p> |

*All prices are U.S. published prices. Allen-Bradley prices taken from <http://shop.rockwellautomation.com> 7/20/07 AutomationDirect prices are from October 2007 Price List. Prices may vary by dealer. Many other part numbers are available from all vendors.



Hand-wire and connect each individual wire, over and over for each module

Which way would you like to do your wiring?

- PLC Overview
- DL05/06 PLC
- DL105 PLC
- DL205 PLC
- DL305 PLC
- DL405 PLC
- Field I/O
- Software
- C-more HMIs
- Other HMI
- AC Drives
- Motors
- Steppers/Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pushbuttons/Lights
- Process
- Relays/Timers
- Comm.
- TB's & Wiring
- Power
- Circuit Protection
- Enclosures
- Appendix
- Part Index