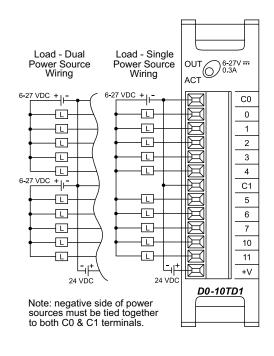
DL05/06 I/O Option Modules

D0-10TD1 \$101.00

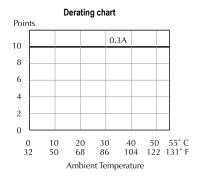
10-point DC output module

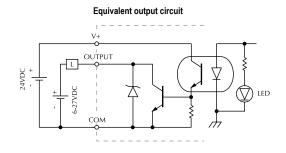
DO-10TD1 Output Sp	ecifications
Number of Outputs	10 (sinking)
Operating Voltage Range	6-27 VDC
Output Voltage Range	5-30 VDC
Peak Voltage	50.0 VDC
Maximum Output Current	0.3 A/point, 1.5 A/common
Minimum Output Current	0.5 mA
Maximum Leakage Current	15µA @ 30.0VDC
On Voltage Drop	0.5 VDC @ 0.3 A
Maximum Inrush Current	1A for 10ms
Off to On Response	< 10es
On to Off Response	< 60es
Status Indicators	Module activity: one green LED
Commons	2 (5 points/common)
Fuse	No fuse
Terminal Type (Included)	Removable: D0- ACC-4
External DC Power Required	20–28 VDC max 200mA (all pts. ON)
Base Power Required (5V)	Max. 150mA (all pts. ON)





See Wiring Solutions for part numbers of ZIPLink cables and connection modules compatible with this I/O module.







Wiring Solutions

Wiring Solutions using the **ZIP**Link Wiring System

ZIPLinks eliminate the normally tedious process of wiring between devices by utilizing prewired cables and DIN rail mount connector modules. It's as simple as plugging in a cable connector at either end or terminating wires at only one end. Prewired cables keep

installation clean and efficient, using half the space at a fraction of the cost of standard terminal blocks. There are several wiring solutions available when using the **ZIP**Link System ranging from

PLC I/O-to-**ZIP**Link Connector Modules that are ready for field termination, options for connecting to third party devices, GS, DuraPulse and SureServo Drives, and specialty relay, transorb and communications modules. Pre-printed I/O-specific adhesive label strips for quick marking of **ZIP**Link modules are provided with **ZIP**Link cables. See the following solutions to help determine the best **ZIP**Link system for your application.

Solution 1: DirectLOGIC I/O Modules to ZIPLink Connector Modules

When looking for quick and easy I/O-to-field termination, a **ZIP**Link connector module used in conjunction with a prewired **ZIP**Link cable, consisting of an I/O terminal block at one end and a multi-pin connector at the other end, is the best solution.

Using the PLC I/O Modules to **ZIP**Link Connector Modules selector tables located in this section,

- 1. Locate your I/O module/PLC.
- 2. Select a ZIPLink module.
- 3. Select a corresponding **ZIP**Link cable.



Solution 2: DirectLOGIC I/O Modules to 3rd Party Devices

For connecting I/O to another device within close proximity of the I/O modules, no extra terminal blocks are necessary when using the **ZIP**Link Pigtail Cables. **ZIP**Link Pigtail Cables are prewired to an I/O terminal block with color-coded pigtail with soldered-tip wires on the other end.

Using the I/O Modules to 3rd Party Devices selector tables located in this section,

- 1. Locate your PLC I/O module.
- Select a ZIPLink pigtail cable that is compatible with your 3rd party device.



Solution 3: GS Series and DuraPulse Drives Communication Cables

Need to communicate via Modbus RTU to a drive or a network of drives?

ZIPLink cables are available in a wide range of configurations for connecting to PLCs and SureServo, SureStep, Stellar soft starters and AC drives. Add a **ZIP**Link communications module to quickly and easily set up a multi-device network.

Using the Drives Communication selector tables located in this section.

- 1. Locate your drive and type of communications.
- 2. Select a **ZIP**Link cable and other associated hardware.





Wiring Solutions

Solution 4: Serial Communications Cables

ZIPLink offers communications cables for use with DirectLOGIC, CLICK, and Productivity3000 CPUs, that can also be used with other communications devices. Connections include a 6-pin RJ12 or 9-pin, 15-pin and 25-pin D-sub connectors which can be used in conjunction with the RJ12 or D-Sub Feedthrough modules.

Using the Serial Communications Cables selector table located in this section,

- 1. Locate your connector type.
- 2. Select a cable.



Solution 5: Specialty ZIPLink Modules

For additional application solutions, *ZIP*Link modules are available in a variety of configurations including stand-alone relays, 24VDC and 120VAC transorb modules, D-sub and RJ12 feedthrough modules, communication port adapter and distribution modules, and SureServo 50-pin I/O interface connection.

Using the **ZIP**Link Specialty Modules selector table located in this section,

- 1. Locate the type of application.
- 2. Select a **ZIP**Link module.



Solution 6: ZIPLink Connector Modules to 3rd Party Devices

If you need a way to connect your device to terminal blocks without all that wiring time, then our pigtail cables with color-coded soldered-tip wires are a good solution. Used in conjunction with any compatible **ZIP**Link connector modules, a pigtail cable keeps wiring clean and easy and reduces troubleshooting time.

Using the Universal Connector Modules and Pigtail Cables table located in this section,

- 1. Select module type.
- 2. Select the number of pins.
- 3. Select cable.



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DL05 / DL06 PLCs tDL5-50



PLC I/O Modules to ZIPLink Connector Modules - DL05/06

	L05/06 PL	C Input Mod	ule <i>ZIP</i> Link Sel	ector		
Pl	LC		ZIP Link			
Input Module	# of Terms	Component Module Part No. Cable Part No.				
<u>D0-10ND3</u>	13	Feedthrough		ZL-D0-CBL13		
D0-10ND3F	13	Feedthrough	ZL-RTB20			
		Feedthrough		ZL-D0-CBL24-L		
<u>D0-16ND3</u>	24	Sensor	ZL-LTB16-24-1	ZL-D0-CBL24-1L ZL-D0-CBL24-2L		
F0-08NA-1	10	See Note 2				

DL05/06 PLC Combo In/Out Module ZIPLink Selector					
P	LC		ZIP Link		
Combo Module	# of Terms	Component	Module Part No.	Cable Part No.	
D0-07CDR	10	See Note 2			
D0-08CDD1	13	Feedthrough	ZL-RTB20	ZL-D0-CBL13	

DLO	05/06 PLC <i>A</i>	Analog Modu	le <i>ZIP</i> Link Sele	ector
PL	C		ZIP Link	
Analog Module	# of Terms	Component Module Cable		
F0-04AD-1	8	See Note 2		
F0-04AD-2	8			
F0-08ADH-1	13			ZL-D0-CBL13
F0-08ADH-2	13	Feedthrough	ZL-RTB20	
F0-04DAH-1	13			
F0-08DAH-1	13			
F0-04DAH-2	13			
F0-08DAH-2	13			
F0-2AD2DA-2	8			
F0-4AD2DA-1	8			
F0-4AD2DA-2	8			
<u>F0-04RTD</u>	Matched Only	See Note 2		
F0-04THM	Matched Only			

	989888	
-/		
//	=	
4		

Note: ZIPLink Connector Modules and ZIPLink Cables specifications are in the **ZIP**Link catalog section.

	DL05/06 PLC 0	utput Module	ZIPLink Selo	ector
	PLC		ZIP Link	
Output Module	# of Terms	Component Module Part No. Cable Part No.		
<u>D0-10TD1</u>	13	Feedthrough	ZL-RTB20	ZL-D0-CBL13
		Feedthrough	ZL-RTB20	ZL-D0-CBL24 *
<u>D0-16TD1</u>	24	Fuse	ZL-RFU20 ³	ZL-D0-CBL24 *
		Relay (sinking)	ZL-RRL16-24-1	ZL-D0-CBL24 *
D0-10TD2	13	Feedthrough	ZL-RTB20	ZL-D0-CBL13
		Feedthrough	ZL-RTB20	ZL-D0-CBL24 *
D0-16TD2	24	Fuse	ZL-RFU20 ³	ZL-D0-CBL24 *
<u> </u>	27	Relay (sourcing)	ZL-RRL16-24-2	ZL-D0-CBL24 *
D0-08TR	10	See Note 2		
F0-04TRS ¹	13	Feedthrough	ZL-RTB20	ZL-D0-CBL13

	DL05/06 PL0	Fixed I/O Z	<i>IP</i> Link Select	or	
	PLC		ZIP Link		
PLC	# of Terms	Component	Component Module Part No. Cable Part No.		
DL05	18	See Note 2			
	20 (Input side only)	Feedthrough	ZL-RTB20	ZL-D06X-CBL20	
DL06	20 (Output side only)	Feedthrough	ZL-RTB20	ZL-D06Y-CBL20	

^{*} Select the cable length by replacing the * with: Blank = 0.5 m, -1 = 1.0 m,

when used with the ZIPLink wiring system.

These modules are not supported by the ZIPLink wiring system.

To ensure proper operation, do not exceed the voltage and current rating of ZIPLink module. ZL-RFU20 = 2A per circuit; ZL-RFU40 = 400mA per circuit.



or -2 = 2.0 m.

Caution: The F0-04TRS relay outputs are derated not to exceed 2A per point

Note: Fuses (5 x 20 mm) are not included. See Edison Electronic Fuse section for (5 x 20 mm) fuse. S500 and GMA electronic circuit protection for fast-acting maximum protection. S506 and GMC electronic circuit protection for time-delay performance. Ideal for inductive circuits.

Power Budgeting for the DL06

The DL06 has four option module slots. To determine whether the combination of modules you select will have sufficient power, you will need to perform a power budget calculation.

Power supplied

Power is supplied from two sources: the internal base unit power supply and, if required, an external supply (customer furnished). The D0-06xx (AC powered) PLCs supply a limited amount of 24VDC power. The 24VDC output can be used to power external devices.

For power budgeting, start by considering the power supplied by the base unit. All DL06 PLCs supply the same amount of 5VDC power. Only the AC units offer 24VDC auxiliary power.

Be aware of the trade-off between 5VDC power and 24VDC power. The amount of 5 VDC power available depends on the amount of 24VDC power being used, and the amount of 24VDC power available depends on the amount of 5VDC power consumed. Determine the amount of internally supplied power from the table to the right.

Power required by base unit

Because of the different I/O configurations available in the DL06 family, the power consumed by the base unit itself varies from model to model. Subtract the amount of power required by the base unit from the amount of power supplied by the base unit. Be sure to subtract 5VDC and 24VDC amounts.

Power required by option modules

Next, subtract the amount of power required by the option modules you are planning to use. Again, remember to subtract both 5VDC and 24VDC.

If your power budget analysis shows surplus power available, you should have a workable configuration.

DL06 Powe	er Supplied by	Base Units
Part Number	5 VDC (mA)	24 VDC (mA)
D0-06xx	1500mA	300mA
	2000mA	200mA
D0-06xx-D	1500mA	none

DL06 Bas	se Unit Power	Required
Part Number	5 VDC (mA)	24 VDC (mA)
D0-06AA	800mA	none
D0-06AR	900mA	none
D0-06DA	800mA	none
D0-06DD1	600mA	280mA*
D0-06DD2	600mA	none
D0-06DR	950mA	none
D0-06DD1-D	600mA	none
D0-06DD2-D	600mA	none
D0-06DR-D	950mA	none

^{*} Only if auxiliary 24VDC power is connected to V+ terminal.

DL06 Power Consumed by Other Devices			
Part Number	5 VDC (mA)	24 VDC (mA)	
<u>D0-06LCD</u>	50mA	none	
D2-HPP	200mA	none	
DV-1000	150mA	none	
C-more Micro-Graphic	210mA	none	

Pow	er l	Budgeting Ex	ample
Power Source		5VDC power (mA)	24VDC power (mA)
D0-06DD1	Α	1500mA	300mA
(select row A or B)	В	2000mA	200mA
Current Require	d	5VDC power (mA)	24VDC power (mA)
D0-06DD1		600mA	280mA*
<u>D0-16ND3</u>		35mA	0
D0-10TD1		150mA	0
D0-08TR		280mA	0
F0-4AD2DA-1		100mA	0
D0-06LCD		50mA	0
Total Used		1215mA	280mA
Domoining	Α	285mA	20mA
Remaining	В	785mA	note 1

^{*} Auxiliary 24 VDC used to power V+ terminal of D0-06DD1 sinking outputs.

Note 1: If the PLC's auxiliary 24 VDC power source is used to power the sinking outputs, use power choice A, above.

by Option Modules Part Number 5 VDC (mA) 24 VDC (mA) D0-07CDR 130mA none D0-08CDD1 100mA none D0-08TR 280mA none D0-10ND3 35mA none D0-10ND3F 35mA none D0-10TD1 150mA none D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none F0-04TRS 250mA none F0-04TRS 250mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-04DAH-1 25mA 25mA F0-08DAH-1 25mA 25mA F0-08DAH-1 25mA 220mA	
D0-07CDR 130mA none D0-08CDD1 100mA none D0-08TR 280mA none D0-10ND3 35mA none D0-10ND3F 35mA none D0-10TD1 150mA none D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-04DAH-1 25mA 25mA F0-04DAH-1 25mA 150mA	
DO-08CDD1 100mA none DO-08TR 280mA none DO-10ND3 35mA none DO-10ND3F 35mA none DO-10TD1 150mA none DO-16TD2 150mA none DO-16ND3 35mA none DO-16TD1 200mA none DO-16TD2 200mA none FO-04TRS 250mA none FO-08NA-1 5mA none FO-04AD-1 50mA none FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-04DAH-1 25mA 25mA FO-04DAH-1 25mA 150mA	
DO-08TR 280mA none DO-10ND3 35mA none DO-10ND3F 35mA none DO-10TD1 150mA none DO-16TD2 150mA none DO-16ND3 35mA none DO-16TD1 200mA none DO-16TD2 200mA none FO-04TRS 250mA none FO-08NA-1 5mA none FO-04AD-1 50mA none FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-04DAH-1 25mA 150mA	
D0-10ND3 35mA none D0-10ND3F 35mA none D0-10TD1 150mA none D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-08ADH-2 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-10ND3F 35mA none D0-10TD1 150mA none D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-10TD1 150mA none D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-10TD2 150mA none D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-08ADH-2 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-16ND3 35mA none D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-08ADH-2 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-16TD1 200mA none D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-08ADH-2 25mA 25mA F0-04DAH-1 25mA 150mA	
D0-16TD2 200mA none F0-04TRS 250mA none F0-08NA-1 5mA none F0-04AD-1 50mA none F0-04AD-2 75mA none F0-08ADH-1 25mA 25mA F0-08ADH-2 25mA 25mA F0-04DAH-1 25mA 150mA	
FO-04TRS 250mA none FO-08NA-1 5mA none FO-04AD-1 50mA none FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-04DAH-1 25mA 150mA	
FO-08NA-1 5mA none FO-04AD-1 50mA none FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-04DAH-1 25mA 150mA	
FO-04AD-1 50mA none FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-04ADH-2 25mA 25mA FO-04DAH-1 25mA 150mA	
FO-04AD-2 75mA none FO-08ADH-1 25mA 25mA FO-08ADH-2 25mA 25mA FO-04DAH-1 25mA 150mA	
FO-08ADH-1 25mA 25mA FO-08ADH-2 25mA 25mA FO-04DAH-1 25mA 150mA	
FO-08ADH-2 25mA 25mA FO-04DAH-1 25mA 150mA	
F0-04DAH-1 25mA 150mA	
F0-08DAH-1 25mA 220mA	
F0-04DAH-2 25mA 30mA	
F0-08DAH-2 25mA 30mA	
F0-2AD2DA-2 50mA 30mA	
F0-4AD2DA-1 100mA 40mA	
F0-4AD2DA-2 100mA none	
F0-04RTD 70mA none	
F0-04THM 30mA none	
DO-DEVNETS 45mA none	
H0-CTRI02 250mA none	
H0-ECOM100 300mA none	
F0-08SIM 1mA none	
D0-DCM 250 mA none	-
F0-CP128 150 mA none	
F0-08SIM 1 mA none	