

# Relay Output Modules

F2-08TRS Relay Output <--->	
Outputs per Module	8
Outputs Points Consumed	8
Commons per Module	8 (isolated)
Output Type	3, Form C (SPDT) 5, Form A (SPST normally open)
Operating Voltage	7A @ 12-28 VDC, 12-250 VAC 0.5A @ 120VDC
Peak Voltage	150 VDC, 265 VAC
ON Voltage Drop	N/A
AC Frequency	47 to 63Hz
Minimum Load Current	10mA @ 12 VDC
Max Load Current (resistive)	7A/point <sup>3</sup> (subject to derating)
Max Leakage Current	N/A
Max Inrush Current	12A
Base Power Required 5VDC	670 mA
OFF to ON Response	15 ms (typical)
ON to OFF Response	5ms (typical)
Terminal Type (included)	Removable; D2-16IOCON
Status Indicator	Logic side
Weight	5.5oz. (156g)
Fuses	None



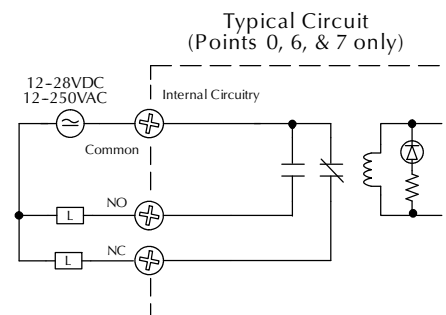
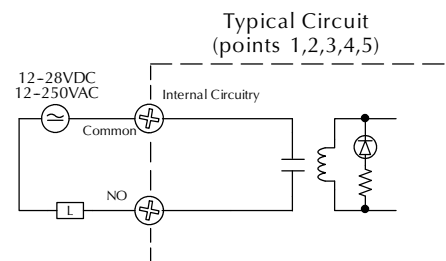
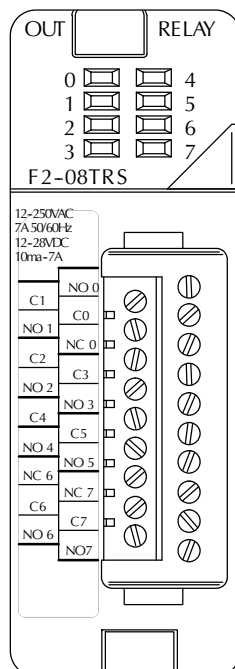
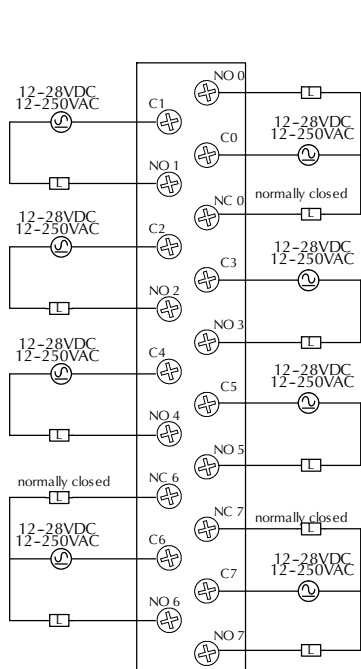
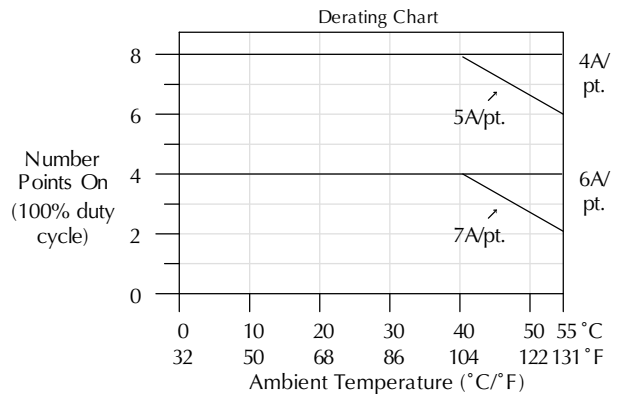
See page 4-78 for part numbers of ZIPLink cables and connection modules compatible with this I/O module.

Typical Relay Life <sup>1</sup> (Operations) at Room Temperature			
Voltage & Type of Load <sup>2</sup>	Load Current		
	50mA	5A	7A
24 VDC Resistive	10M	600k	300k
24 VDC Solenoid	-	150k	75k
120 VDC Resistive	-	600k	300k
120 VDC Solenoid	-	500k	200k
220 VAC Resistive	-	300k	150k
220 VAC Solenoid	-	250k	100k

1) Contact life may be extended beyond those values shown with the use of arc suppression techniques described in the DL205 User Manual. Since these modules have no leakage current, they do not have built-in snubber. For example, if you place a diode across a 24 VDC inductive load, you can significantly increase the life of the relay.

2) At 120 VDC 0.5A resistive load, contact life cycle is 200k cycles.

3) Normally closed contacts have 1/2 the current handling capability of the normally open contacts.



## 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>D2-08ND3</b>	10	ZL-D2-CBL10#							
<b>D2-16ND3-2</b>	19	ZL-D2-CBL19#					ZL-D2-CBL19#		ZL-D2-CBL19#P
<b>D2-32ND3</b>	40		ZL-D24-CBL40#					ZL-D24-CBL40#	ZL-D24-CBL40#P
<b>D2-32ND3-2</b>	40		ZL-D24-CBL40#					ZL-D24-CBL40#	ZL-D24-CBL40#P
<b>D2-08NA-1</b>	10	ZL-D2-CBL10#							
<b>D2-08NA-2</b>	10	ZL-D2-CBL10#							
<b>D2-16NA</b>	19	ZL-D2-CBL19#							ZL-D2-CBL19#P
<b>Outputs</b>									
<b>D2-04TD1*</b>	10	ZL-D2-CBL10#							
<b>D2-08TD1</b>	10	ZL-D2-CBL10#							
<b>D2-08TD2</b>	10	ZL-D2-CBL10#							
<b>D2-16TD1-2</b>	19	ZL-D2-CBL19#		ZL-D2-CBL19#		ZL-D2-CBL19#			ZL-D2-CBL19#P
<b>D2-16TD2-2</b>	19	ZL-D2-CBL19#		ZL-D2-CBL19#					ZL-D2-CBL19#P
<b>D2-32TD1</b>	40		ZL-D24-CBL40#		ZL-D24-CBL40#				ZL-D24-CBL40#P
<b>D2-32TD2</b>	40		ZL-D24-CBL40#		ZL-D24-CBL40#				ZL-D24-CBL40#P
<b>D2-08TA</b>	10	ZL-D2-CBL10#							
<b>F2-08TA</b>	10	ZL-D2-CBL10#							
<b>D2-12TA</b>	19	ZL-D2-CBL19#		ZL-D2-CBL19#					ZL-D2-CBL19#P
<b>D2-04TRS*</b>	10	ZL-D2-CBL10#							
<b>D2-08TR</b>	10	ZL-D2-CBL10#							
<b>F2-08TRS*</b>	19	ZL-D2-CBL19#							ZL-D2-CBL19#P
<b>F2-08TR**</b>	10	ZL-D2-CBL10#							
<b>D2-12TR</b>	19	ZL-D2-CBL19#		ZL-D2-CBL19#					ZL-D2-CBL19#P
<b>Combo In/Out</b>									
<b>D2-08CDR</b>	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.