

# USING DURAPULSE GS3 AC DRIVES WITH AUTOMATIONDIRECT PLCs

---



## APPENDIX

# B

### CONTENTS OF THIS APPENDIX

<i>Compatible AutomationDirect PLCs and Modules . . . . .</i>	<i>.B-2</i>
<i>Typical PLC Connections to DURApulse GS3 AC Drives . . . . .</i>	<i>.B-8</i>
<i>CLICK PLC and Sinking DC Output Modules . . . . .</i>	<i>B-8</i>
<i>CLICK PLC and Sourcing DC Output Modules. . . . .</i>	<i>B-9</i>
<i>CLICK PLC Sourcing Analog Current Output Modules . . . . .</i>	<i>.B-10</i>
<i>CLICK PLC DC Input Modules. . . . .</i>	<i>.B-10</i>
<i>DirectLOGIC Sinking DC Output Modules . . . . .</i>	<i>.B-11</i>
<i>DirectLOGIC Sourcing DC Output Modules . . . . .</i>	<i>.B-12</i>
<i>DirectLOGIC Voltage or Current Sourcing Analog Output Modules. . . . .</i>	<i>.B-13</i>
<i>DirectLOGIC PLC DC Input Modules . . . . .</i>	<i>.B-14</i>
<i>Digital Output Terminal Wiring. . . . .</i>	<i>.B-14</i>
<i>Relay Contact Output Terminal Wiring. . . . .</i>	<i>.B-14</i>

### COMPATIBLE AUTOMATIONDIRECT PLCs AND MODULES

The following tables show which AutomationDirect PLCs and modules can be used with the GS3-Series DURAPULSE AC Drive.

AutomationDirect PLC Modules for Use with DURAPULSE GS3 AC Drives	
<b>CLICK PLCs *</b>	
<b>C0-00DD1-D</b>	CLICK CPU, 8 <u>DC in</u> / 6 <u>sinking DC out</u> ; requires 24 VDC power supply; RS-232C Modbus/ASCII comm port. Discrete Inputs: 8 DC inputs, 24 VDC sink/source, 2 isolated commons. Discrete Outputs: 6 DC outputs, 5-27 VDC sinking, 0.1A/pt, 2 isolated commons.
<b>C0-00DD2-D</b>	CLICK PLC CPU, 8 <u>DC in</u> / 6 <u>sourcing DC out</u> ; requires 24 VDC power supply; RS-232C Modbus/ASCII comm port, 3-wire RS-485 Modbus/ASCII comm port. Discrete Inputs: 8 DC inputs, 24 VDC sink/source, 2 common. Discrete Outputs: 6 DC outputs, 24 VDC sourcing, 0.1A/point, 2 common.
<b>C0-00DR-D</b>	CLICK PLC CPU, 8 <u>DC in</u> / 6 <u>relay out</u> ; requires 24VDC power supply; 8k steps program memory; 6.4k words data memory; RS-232C Modbus/ASCII comm port. Discrete Inputs: 8 DC inputs, 24VDC sink/source, 2 common. Discrete Outputs: 6 relay outputs, 6-240 VAC / 6-27 VDC Form A (SPST) relays, 1.0A/point, 1 common.
<b>C0-02DD1-D</b>	CLICK CPU, 4 <u>DC in</u> / 4 <u>sinking DC out</u> ; 2 channels <u>analog in</u> / 2 channels <u>analog out</u> (current/voltage selectable); requires 24 VDC power supply; RS-232C Modbus/ASCII comm port, 3-wire RS-485 Modbus/ASCII comm port. Discrete Inputs: 4 DC inputs, 5-27 VDC sink/source, 1 common. Discrete Outputs: 4 DC outputs, 24 VDC sinking, 0.1A/point, 1 common. Analog Inputs: 2 channels 4-20 mA or 0-5 VDC. Analog Outputs: 2 channels 4-20 mA or 0-5 VDC.
<b>C0-02DD2-D</b>	CLICK PLC CPU, 4 <u>DC in</u> / 4 <u>sourcing DC out</u> , 2 channels <u>analog in</u> / 2 channels <u>analog out</u> (current / voltage selectable); requires 24 VDC power supply; RS-232C Modbus/ASCII comm port, 3-wire RS-485 Modbus/ASCII comm port. Discrete Inputs: 4 DC inputs, 24 VDC sink/source, 1 common. Discrete Outputs: 4 DC outputs, 24 VDC sourcing, 0.1A/point, 1 common. Analog Inputs: 2 channels 4-20 mA or 0-5 VDC. Analog Outputs: 2 channels 4-20 mA or 0-5 VDC.
<b>C0-02DR-D</b>	CLICK PLC CPU, 4 <u>DC in</u> / 4 <u>relay out</u> , 2 channels <u>analog in</u> / 2 channels <u>analog out</u> (current / voltage selectable); requires 24 VDC power supply; RS-232C Modbus/ASCII comm port, 3-wire RS-485 Modbus/ASCII comm port. Discrete Inputs: 4 DC inputs, 24 VDC sink/source, 1 common. Discrete Outputs: 4 relay outputs, 6-240 VAC / 6-27 VDC Form A (SPST) relays, 1.0A/point, 1 common. Analog Inputs: 2 channels 4-20 mA or 0-5 VDC. Analog Outputs: 2 channels 4-20 mA or 0-5 VDC.
<b>CLICK DC Input Modules</b>	
<b>C0-08ND3</b>	8-point 12-24 VDC current sinking/sourcing <u>input</u> module; 2 isolated commons.
<b>C0-16ND3</b>	16-point 24VDC current sinking/sourcing <u>input</u> module; 4 isolated commons.
<b>CLICK DC Output Modules</b>	
<b>C0-08TD1</b>	8-point 3.3-27 VDC current <u>sinking output</u> module, 2 isolated commons, 0.3A/point.
<b>C0-08TD2</b>	8-point 12-24 VDC current <u>sourcing output</u> module; 1 isolated common, 0.3A/point.
<b>C0-16TD1</b>	16-point 5-27 VDC current <u>sinking output</u> module, 2 isolated commons, 0.1A/point.
<b>C0-16TD2</b>	16-point 12-24 VDC current <u>sourcing output</u> module; 2 isolated commons, 0.1A/point.
<b>DL05 PLCs *</b>	
<b>D0-05AR</b>	DL05 CPU, 8 AC in / 6 Relay out, 110/220VAC Power Supply. Inputs: 8 AC inputs, 90-120 VAC, 2 isolated commons. Outputs: 6 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 2 isolated commons
<b>D0-05DR</b>	DL05 CPU, 8 DC in / 6 Relay out, 110/220VAC Power Supply. Inputs: 8 DC inputs, 12-24 VDC current sinking/sourcing, 2 isolated commons. Outputs: 6 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 2 isolated commons
<b>D0-05DD</b>	DL05 CPU, 8 DC in / 6 DC out, 110/220VAC Power Supply. Inputs: 8 DC inputs, 12-24 VDC current sinking/sourcing, 2 isolated commons. Outputs: 6 DC outputs, 6-27 VDC current sinking, 1.0A/pt. max.
<b>D0-05DD-D</b>	DL05 CPU, 8 DC in / 6 DC out, 12/24VDC Power Supply. Inputs: 8 DC inputs, 12-24 VDC current sinking/sourcing, 2 isolated commons. Outputs: 6 DC outputs, 6-27 VDC current sinking, 1.0A/pt. max.
<b>D0-05DR-D</b>	DL05 CPU, 8 DC in / 6 Relay out, 12/24VDC Power Supply. Inputs: 8 DC inputs, 12-24 VDC current sinking/sourcing, 2 isolated commons. Outputs: 6 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 2 isolated commons
* "Brick" PLCs may contain some I/O that are not compatible with GS3/DURApulse drives. Refer to "Typical Connections..." section to determine specifically which I/O are compatible.	
( table continued next page )	

<b>AutomationDirect PLC Modules for Use with DURAPULSE GS3 AC Drives (continued from previous page)</b>	
<b>DL06 PLCs *</b>	
<b>D0-06DD1</b>	DL06 CPU, 20 DC in / 16 DC out, 110/220VAC Power Supply, with 0.3A 24VDC Auxiliary Device Power Supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 DC outputs, 12-24 VDC current sinking, 1.0A/pt. max., 4 commons non-isolated (4 points per common)
<b>D0-06DD2</b>	DL06 CPU, 20 DC in / 16 DC out, 110/220VAC power supply, with 0.3A 24VDC auxiliary device power supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 DC outputs, 12-24 VDC current sourcing 1.0A/pt. max., 4 commons non-isolated (4 points per common).
<b>D0-06DR</b>	DL06 CPU, 20 DC in / 16 Relay out, 110/220VAC Power Supply, with 0.3A 24VDC Auxiliary Device Power Supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 4 isolated commons (4 points per common)
<b>D0-06AR</b>	DL06 CPU, 16 AC in / 20 Relay out, 110/220VAC power supply, with 0.3A 24VDC auxiliary device power supply. Inputs: 20 AC inputs, 90-120 VAC, 5 isolated commons (4 inputs per common). Outputs: 16 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 4 isolated commons (4 points per common)
<b>D0-06DD1-D</b>	DL06 CPU, 20 DC in / 16 DC out, 12/24VDC Power Supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 DC outputs, 12-24 VDC current sinking, 1.0A/pt. max., 4 commons non-isolated (4 points per common).
<b>D0-06DD2-D</b>	DL06 CPU, 20 DC in / 16 DC out, 12/24VDC power supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 DC outputs, 12-24 VDC current sourcing, 1.0A/pt. max., 4 commons non-isolated (4 points per common).
<b>D0-06DR-D</b>	DL06 CPU, 20 DC in / 16 Relay out, 110/220VAC Power Supply. Inputs: 20 DC inputs, 12-24 VDC current sinking/sourcing, 5 isolated commons (4 inputs per common). Outputs: 16 Relay outputs, 6-27 VDC, 6-240 VAC, 2A/pt. max., 4 isolated commons (4 points per common)
<b>DL05/DL06 DC Input/Output Modules</b>	
<b>D0-08CDD1</b>	4 pt. 12-24VDC current sinking/sourcing input, 1 common, 4 pt. 12-24VDC sinking output, 0.3A/point, 1.2A/module, removable terminal, no fuse
<b>DL05/DL06 DC Output Modules</b>	
<b>D0-10TD1</b>	10 pt. 12-24 VDC current sinking output module, 2 commons non-isolated (5 pts. per common), 0.3A/point, 1.5A/common, removable terminal, no fuse
<b>D0-10TD2</b>	10 pt. 12-24 VDC current sourcing output module, 2 commons non-isolated (5 pts. per common), 0.3A/point, 1.5A/common, removable terminal, no fuse
<b>D0-16TD1</b>	16 pt. 12-24 VDC current sinking output module, 2 commons non-isolated (5 pts. per common), 0.3A/point, 1.5A/common, removable terminal, no fuse
<b>D0-16TD2</b>	16 pt. 12-24 VDC current sourcing output module, 2 commons non-isolated (5 pts. per common), 0.3A/point, 1.5A/common, removable terminal, no fuse. One pre-wired Ziplink cable ( 0.5 meter) and terminal block connector module required for this I/O module
<b>DL05/DL06 Analog Modules</b>	
<b>F0-04DAH-1</b>	4 channel current analog output module; 4-20 mA; 16-bit resolution
<b>F0-04DAH-2</b>	4 channel voltage analog output module; 0-10V; 16-bit resolution
<b>F0-08DAH-1</b>	8 channel current analog output module; 4-20 mA; 16-bit resolution
<b>F0-08DAH-2</b>	8 channel voltage analog output module; 0-10V; 16-bit resolution
<b>F0-2AD2DA-2</b>	2 channel in, 2 channel out voltage analog option card; 0-5V, 0-10V
<b>F0-4AD2DA-1</b>	4 channel in, 2 channel sourcing out current analog option card; 4-20mA
<b>F0-4AD2DA-2</b>	4 channel in, 2 channel out voltage analog option card; 0-5V, 0-10V
* "Brick" PLCs may contain some I/O that are not compatible with GS3/DURApulse drives. Refer to "Typical Connections..." section to determine specifically which I/O are compatible.	
( table continued next page )	

<b>AutomationDirect PLC Modules for Use with DURAPULSE GS3 AC Drives (continued from previous page)</b>	
<b>DL105 PLCs *</b>	
<b>F1-130DR</b>	DL130 CPU, 10 DC in / 8 Relay out, 110/220VAC Power Supply. Inputs: 10 DC inputs, 12-24 VDC current sinking/sourcing, 3 isolated commons. Outputs: 8 relay outputs, 12-30 VDC, 12-250VAC, 7A/pt. max., 4 isolated commons
<b>F1-130DD</b>	DL130 CPU, 10 DC in / 8 DC out, 110/220VAC Power Supply. Inputs: 10 DC inputs, 12-24 VDC current sinking/sourcing, 3 isolated commons. Outputs: 8 DC outputs, 5-30VDC current sinking, 0.5A/pt. max, 3 internally connected commons
<b>F1-130DR-D</b>	DL130 CPU, 10 DC in / 8 Relay out, 12/24VDC Power Supply. Inputs: 10 DC inputs, 12-24 VDC current sinking/sourcing, 3 isolated commons. Outputs: 8 relay outputs, 12-30 VDC, 12-250VAC, 7A/pt. max., 4 isolated commons
<b>F1-130DD-D</b>	DL130 CPU, 10 DC in / 8 DC out, 12/24VDC Power Supply. Inputs: 10 DC inputs, 12-24 VDC current sinking/sourcing, 3 isolated commons. Outputs: 8 DC outputs, 5-30VDC current sinking, 0.5A/pt. max, 3 internally connected commons
<b>DL205 DC Input/Output Modules</b>	
<b>D2-08CDR</b>	4 pt. 24VDC sinking/sourcing input, 1 common, 4 pt. relay output, 1A/pt., 4A/module, 1 common, replaceable fuse
<b>DL205 DC Output Modules</b>	
<b>D2-08TD1</b>	8 pt. 12-24 VDC current sinking output module, 1 common (2 common terminals), 0.3A/point, 2.4A/module, fused per common (non-replaceable), removable terminal
<b>D2-08TD2</b>	8 pt. 12-24 VDC current sourcing output module, 1 common (2 common terminals), 0.3A/point, 2.4A/module, fused per common (non-replaceable), removable terminal
<b>D2-16TD1-2</b>	16 pt. 12-24 VDC current sinking output module, 1 common (2 common terminals), 0.1A/point, 1.6A/module, no fuse, European type removable terminal
<b>D2-16TD2-2</b>	16 pt. 12-24 VDC current sourcing output module, 1 common (2 common terminals), 0.1A/point, 1.6A/module, no fuse, European type removable terminal
<b>D2-32TD1</b>	32 pt. 12-24 VDC current sinking output module. 1 common (4 common terminals), 0.1A/point, 3.2A/module, no fuse
<b>D2-32TD2</b>	32 pt. 12-24 VDC current sourcing output module, 4 commons (isolated), 0.1A/point, 3.2A/module, no fuse. Requires one connector, sold separately. NOTE: Recommended pre-wired Ziplink connector cable for this I/O Module is part number ZL-4CBL4#; where # designates either 0.5, 1, or 2 meter cable lengths. Accessory cable connector module for ZL-4CBL4# cable is part number ZL-CM40. (Or build a custom cable with D4-IO3264R, D4-IO3264S or D4-IOCBL-1.)
<b>DL205 Relay Output Modules</b>	
<b>D2-04TRS</b>	4-pt. 5-30 VDC or 5-240 VAC isolated relay output module, 4 Form A (SPST) relays, 4 commons, 4A/point, 8.0A/module, replaceable fuse, removable terminal
<b>D2-08TR</b>	8-pt. 5-30 VDC or 5-240 VAC output module, 8 Form A (SPST) relays, 1 common (2 common terminals), 1A/point, 4.0A/module, replaceable fuse, removable terminal
<b>F2-08TR</b>	8-pt relay output, 10A/common, 5-30VDC or 5-240VAC
<b>F2-08TRS</b>	8-pt. 12-28 VDC or 12-240 VAC output module, 5 Form A (SPST) relays, 3 Form C (SPDT) relays, 8 isolated commons, 7A/point max., no fuses, removable terminal
<b>D2-12TR</b>	12 pt. 5-30 VDC or 5-240 VAC relay output module, 12 Form A (SPST) relays, 2 commons, 1.5A/point max., 3.0A/common, 2 replaceable fuses, removable terminal
<b>DL205 Analog Output Module</b>	
<b>F2-02DAS-1</b>	2 channel, 16-bit resolution, Isolated 4-20mA sourcing (2 isolated commons). Designed to operate with 24 VDC user-supplied power supply
<b>F2-02DAS-2</b>	2 channel analog output, 16 bit resolution, isolated, range: 0-5V, 0-10V (2 isolated commons). Designed to operate with 24 VDC user-supplied power supply
<b>F2-08DA-1</b>	8 channel analog output module, 12 bit resolution, range: 4-20mA, sink or source output configurable. Designed to operate with 24 VDC user-supplied power supply.
<b>F2-02DA-2</b>	2 channel analog output module, 12 bit resolution, ranges: 0-5V, 0-10V, -5 to +5V, -10 to +10V. Designed to operate with 24 VDC user-supplied power supply.
<b>F2-08DA-2</b>	8 channel analog output module, 12 bit resolution, ranges: 0-5V, 0-10V. Designed to operate with 24 VDC user-supplied power supply.
* "Brick" PLCs may contain some I/O that are not compatible with GS3/DURApulse drives. Refer to "Typical Connections..." section to determine specifically which I/O are compatible.	
( table continued next page )	

<b>AutomationDirect PLC Modules for Use with DURAPULSE GS3 AC Drives (continued from previous page)</b>	
<b>DL205 Analog Input Modules</b>	
<b>F2-04AD-2</b>	4 channel, 12-bit, 0-5V, 0-10V, -5 to +5V, -10 to +10V. Designed to operate with a 24VDC user supplied power supply
<b>F2-08AD-2</b>	8 channel, 12-bit, 0-5V, 0-10V, -5 to +5V, -10 to +10V. Designed to operate with a 24VDC user supplied power supply
<b>DL205 Analog Combination Modules</b>	
<b>F2-8AD4DA-1</b>	8 channel, 16-bit, 0-20mA in; 4 channel, 16-bit, 4-20mA out. Designed to operate with a 24VDC user supplied power supply.
<b>F2-8AD4DA-2</b>	8 channel, 16-bit, 0-5V, 0-10V in; 4 channel, 16-bit, 0-5V, 0-10V out. Designed to operate with a 24VDC user supplied power supply.
<b>DL305 Relay Output Modules</b>	
<b>D3-08TR</b>	8-pt. 5-30VDC or 5-220VAC output module, 5A/point DC or 4A/point AC, 8 Form A relays (SPST), 2 commons (isolated), non-removable terminal, 2 user replaceable fuses
<b>D3-16TR</b>	16-pt. 5-30VDC or 5-220VAC output module, 2A/point, 16 Form A relays (SPST), 2 commons (isolated), removable terminal, no internal fuses
<b>DL305 Analog Input Modules</b>	
<b>F3-04ADS</b>	4-channel isolated analog input module, 12-bit resolution, ranges: 0-5V, 0-10V, 1-5V, -5V to +5V, -10V to +10V, 0-20mA, 4-20mA. -750 to +750 VDC channel-to-channel isolation.
<b>F3-16AD</b>	16-channel analog input module, 12-bit resolution, ranges: -5 to +5V, -10 to +10V, 0 to 10V, 0 to 20mA. Each point can be either a voltage or current input.
<b>DL305 Analog Output Modules</b>	
<b>F3-04DAS</b>	4-channel isolated analog output module, 12-bit resolution, ranges: 0-5V, 0-10V, -5 to +5V, -10 to +10V, 4-20mA, 0-20mA. -750 to +750 VDC channel-to-channel isolation.
<b>DL405 DC Output Modules</b>	
<b>D4-08TD1</b>	8-pt. 12-24VDC current sinking output module, 2 commons (internally connected), 2A/point, 5A/common, removable terminal
<b>D4-16TD1</b>	16-pt. 5-24VDC current sinking output module, 2 commons (internally connected), 0.5A/point, 3A/common, removable terminal
<b>D4-16TD2</b>	16-pt. 12-24VDC current sourcing output module, 2 commons (isolated), 0.5A/point, 3A/common, removable terminal
<b>D4-32TD1</b>	32-pt. 5-24VDC current sinking output module, 4 commons (isolated), 0.2A/point, 1.6A/common. Requires one connector, sold separately.
<b>D4-32TD2</b>	32-pt. 12-24VDC current sourcing output module, 4 commons (isolated), 0.2A/point, 1A/common. Requires one connector, sold separately.
<b>DL405 Relay Output Modules</b>	
<b>D4-08TR</b>	8-pt. 5-30VDC or 5-250VAC output module, 8 Form A (SPST) relays, 2 commons (isolated), 2A/point, 5A/common, removable terminal
<b>F4-08TRS-1</b>	8-pt. 12-30VDC or 12-250VAC isolated output module, 4 Form A (SPST) and 4 Form C (SPDT) relays, 8 commons (isolated), 10A/point, 40A/module, removable terminal
<b>F4-08TRS-2</b>	8-pt. 12-30VDC or 12-250VAC isolated output module, 4 Form A (SPST) relays and 4 Form C (SPDT) relays, 8 commons (isolated), 5A/point, 40A/module, replaceable fuses, removable terminals
<b>D4-16TR</b>	16-pt. 5-30VDC or 5-250VAC output module, 8 Form A (SPST) relays, 2 commons (isolated), 1A/point, 5A/common, removable terminals
<b>DL405 Analog Input Modules</b>	
<b>F4-04ADS</b>	4-channel isolated analog input module, 12-bit resolution, ranges: 0-5V, 0-10V, 1-5V, -5V to +5V, -10V to +10V, 0-20mA, 4-20mA
<b>F4-08AD</b>	8-channel analog input module, 12-bit resolution, ranges: 4 to 20mA, 1 to 5V, 0 to 20mA, 0 to 5V, 0 to 10V, -5V to +5V, -10V to +10V
<b>F4-16AD-2</b>	16-channel analog input module, 12-bit resolution, ranges: 0-5V, 0-10V
<b>DL405 Analog Output Modules</b>	
<b>F4-04DAS-1</b>	4-channel analog output module, 16-bit resolution, isolated, range: 4 to 20mA current sourcing
<b>F4-04DAS-2</b>	4-channel analog output module, 16-bit resolution, isolated, range: 0-5V, 0-10V
<b>F4-08DA-2</b>	8-channel analog output module, 12-bit resolution, range: 0-5V or 0-10V
<b>F4-16DA-2</b>	16-channel analog output module, 12-bit resolution, range: 0-5V or 0-10V
* "Brick" PLCs may contain some I/O that are not compatible with GS3/DURApulse drives. Refer to "Typical Connections..." section to determine specifically which I/O are compatible.	
( table continued next page )	

<b>AutomationDirect PLC Modules for Use with DURAPULSE GS3 AC Drives (continued from previous page)</b>	
<b>Terminator I/O DC Output Modules</b>	
<b>T1K-08TD1</b>	8 pt. 12-24 VDC current sinking output module, 4 points per common, 1.0A/point, 2 replaceable fuses (T1K-FUSE-1). (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1K-08TD2-1</b>	8 pt. 12-24 VDC current sourcing output module, 4pts/common, 1.0A/point, 2 replaceable fuses. (Use with T1K-08B or T1K-08B1 terminal base.)
<b>T1K-16TD1</b>	16 pt. 12-24 VDC current sinking output module, 4 points per common, 1.0A/point, 4 replaceable fuses (T1K-FUSE-1). (Use with T1K-16B or T1K-16B-1 terminal base.)
<b>T1K-16TD2-1</b>	16 pt. 12-24 VDC current sourcing output module, 4pts/common, 1.0A/point, 4 replaceable fuses. (Use with T1K-16B or T1K-16B-1 terminal base.) Note: Replaces T1K-16TD2 with improved derating. Not a direct replacement; simple device wiring change if used as replacement part for T1K-16TD2.
<b>Terminator I/O Relay Output Modules</b>	
<b>T1K-08TR</b>	8 pt. 5-30 VDC or 5-240 VAC output module, 8 Form A (SPST) relays, 4 points per common, 2.0A/point max., 2 replaceable fuses (T1K-FUSE-2). (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1K-16TR</b>	16 pt. 5-30 VDC or 5-240 VAC output module, 16 Form A (SPST) relays, 4 points per common, 2.0A/point max., 4 replaceable fuses (T1K-FUSE-2). (Use with T1K-16B or T1K-16B-1 terminal base.)
<b>T1K-08TRS</b>	8 pt. 5-30 VDC or 5-240 VAC isolated relay output module, 8 Form A (SPST) relays, 1 point per common, 7.0A/point max., 8 replaceable fuses (T1K-FUSE-3). (Isolation requires use of T1K-16B or T1K-16B-1 terminal base.)
<b>Terminator I/O Analog Input Modules</b>	
<b>T1F-08AD-2</b>	8 channel analog input module, 14 bit resolution (13 bit plus sign bit), range: 0-5VDC, 0-10VDC, +/-5VDC, +/-10VDC. (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1F-16AD-2</b>	16 channel analog input module, 14 bit resolution (13 bit plus sign bit), range: 0-5VDC, 0-10VDC, +/-5VDC, +/-10VDC. (Use with T1K-16B or T1K-16B-1 terminal base.)
<b>Terminator I/O Analog Output Modules</b>	
<b>T1F-08DA-1</b>	8 channel analog output, 12 bit resolution, range: 0-20mA, 4-20mA. (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1F-08DA-2</b>	8 channel analog output, 12 bit resolution, range: 0-5VDC, 0-10VDC, +/-5VDC, +/-10VDC. (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1F-16DA-1</b>	16 channel analog output, 12 bit resolution, range: 0-20mA, 4-20mA. (Use with T1K-16B or T1K-16B-1 terminal base.)
<b>T1F-16DA-2</b>	16 channel analog output, 12 bit resolution, range: 1-5VDC, 1-10VDC, +/-5VDC, +/-10VDC. (Use with T1K-16B or T1K-16B-1 terminal base.)
<b>Terminator I/O Analog Input/Output Modules</b>	
<b>T1F-8AD4DA-1</b>	8 channel analog input module and 4 channel analog output module. Inputs: 14 bit resolution (13 bit plus sign bit), range: -20 to 20mA, 0-20mA, 4-20mA. Outputs: 12 bit resolution, range: 4-20mA, sinking or sourcing compatible. (Use with T1K-08B or T1K-08B-1 terminal base.)
<b>T1F-8AD4DA-2</b>	8 channel analog input module and 4 channel analog output module. Inputs: 14 bit resolution (13 bit plus sign bit), range: 0-5VDC, 0-10VDC, +/-5VDC, +/-10VDC. Outputs: 12 bit resolution, range: 0-5VDC, 0-10VDC, +/-5VDC, +/-10VDC. (Use with T1K-08B or T1K-08B-1 terminal base.)

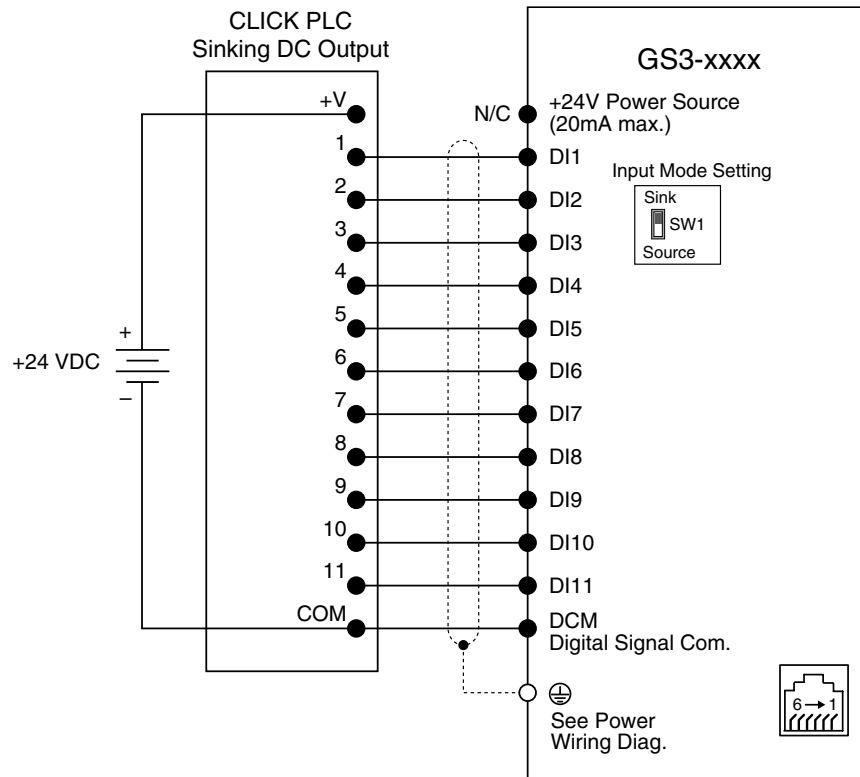
### TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES

The following drawings show some typical connections between DURAPULSE GS3 AC Drives and AutomationDirect PLCs and modules.

#### CLICK PLC AND SINKING DC OUTPUT MODULES

- C0-00-DD1-D
- C0-02-DD1-D
- C0-08-TD1
- C0-16-TD1

#### DC VOLTAGE SUPPLIED FROM PLC OR EXTERNAL SOURCE:



○ Main circuit (power) terminals ● Control circuit terminal ⚡ Shielded leads



Mode switch SW1 needs to be set to the "Sink" position when connecting to a "sinking" output module.

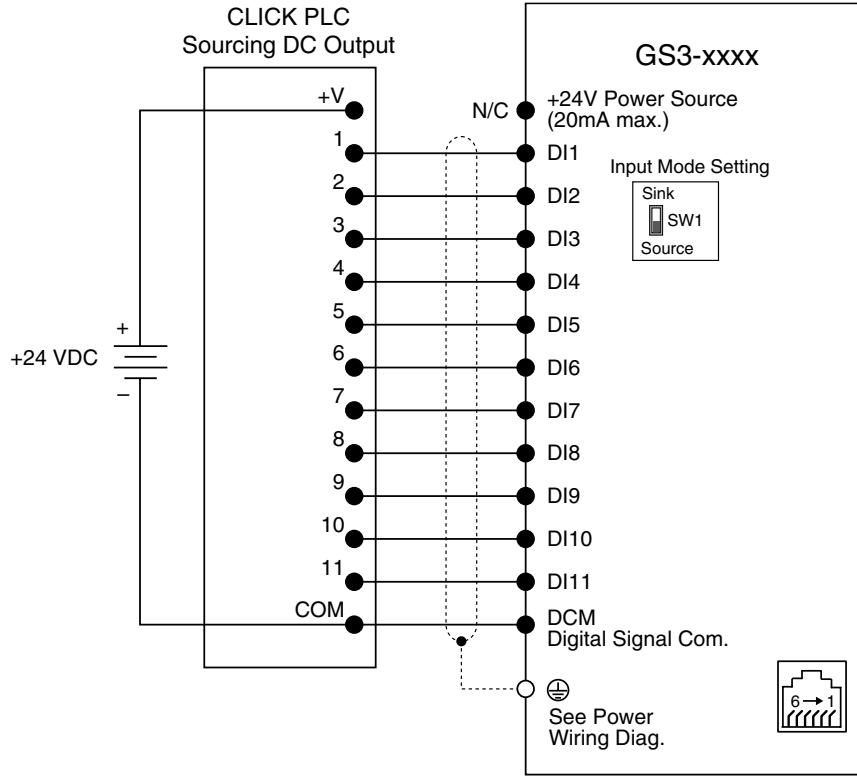


**TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)**

**CLICK PLC AND SOURCING DC OUTPUT MODULES**

- C0-00DD2-D
- C0-02DD2-D
- C0-08TD2
- C0-16TD2

**DC VOLTAGE SUPPLIED FROM PLC OR EXTERNAL SOURCE:**



○ Main circuit (power) terminals ● Control circuit terminal Ⓢ Shielded leads



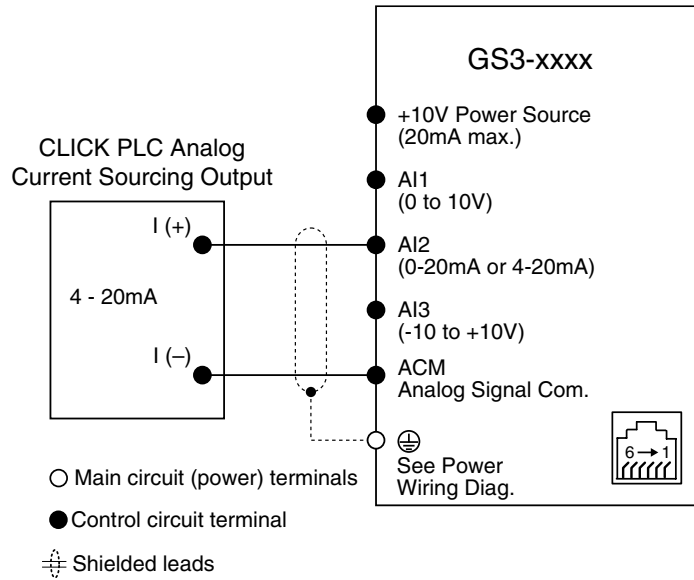
**Mode switch SW1 needs to be set to the “Source” position when connecting to a “sourcing” output module.**



TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)

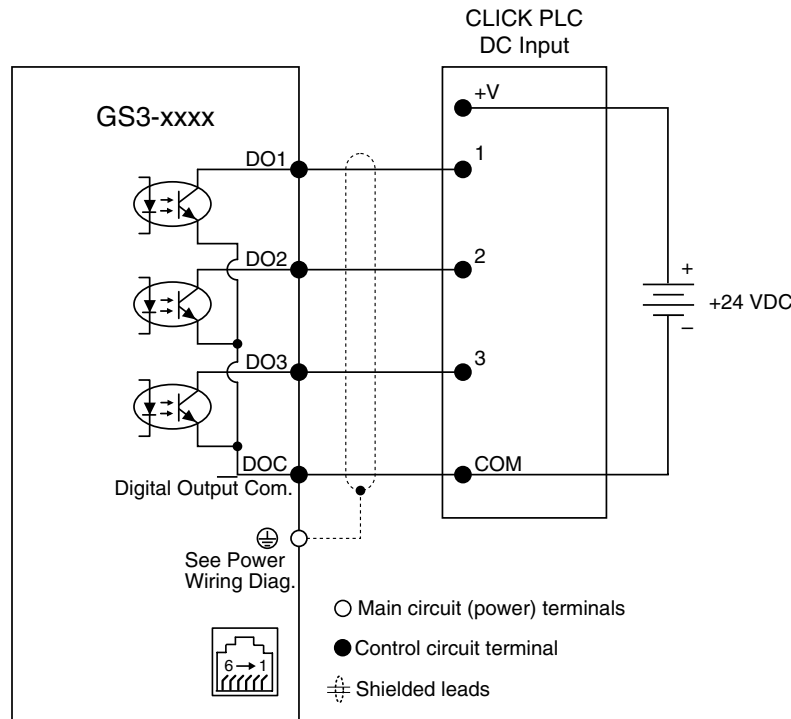
CLICK PLC SOURCING ANALOG CURRENT OUTPUT MODULES

- C0-02DD1-D
- C0-02DD2-D
- C0-02DR-D



CLICK PLC DC INPUT MODULES

- C0-00DD1-D
- C0-02DD1-D
- C0-08ND3
- C0-00DD2-D
- C0-02DD2-D
- C0-16ND3
- C0-00DR-D
- C0-02DR-D



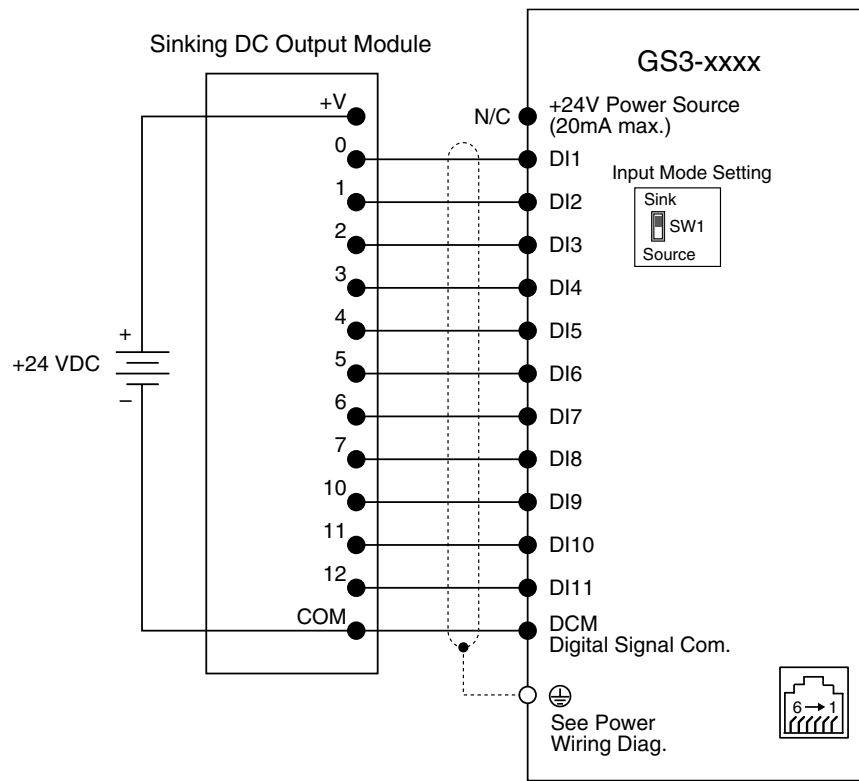
**TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)**

The following drawings show some typical connections between DURAPULSE GS3 AC Drives and DirectLOGIC PLCs and modules.

**DIRECTLOGIC SINKING DC OUTPUT MODULES**

- D0-05DD
- D0-05DD-D
- D0-06DD1
- D0-06DD1-D
- D0-08CDD1
- D0-10TD1
- D0-16TD1
- F1-130DD
- F1-130DD-D
- D2-08TD1
- D2-16TD1-2
- D2-32TD1
- D4-08TD1
- D4-16TD1
- D4-32TD1
- T1K-08TD1
- T1K-16TD1

**DC VOLTAGE SUPPLIED FROM PLC OR EXTERNAL SOURCE:**



○ Main circuit (power) terminals ● Control circuit terminal Ⓢ Shielded leads



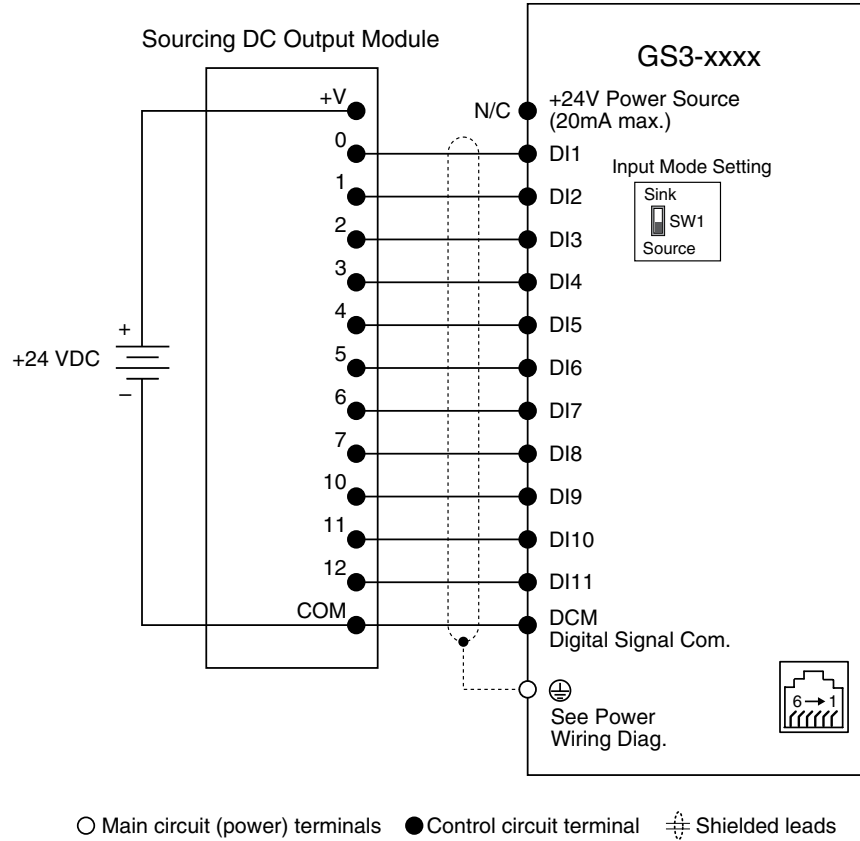
**Mode switch SW1 needs to be set to the “Sink” position when connecting to a “sinking” output module.**

**TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)**

**DIRECTLOGIC SOURCING DC OUTPUT MODULES**

- D0-06DD2
- D0-06DD2-D
- D0-10TD2
- D0-16TD2
- D2-08TD2
- D2-16TD2-2
- D2-32TD2
- D4-08TD2
- D4-16TD2
- D4-32TD2
- T1K-08TD2-1
- T1K-16TD2-1

**DC VOLTAGE SUPPLIED FROM PLC OR EXTERNAL SOURCE:**



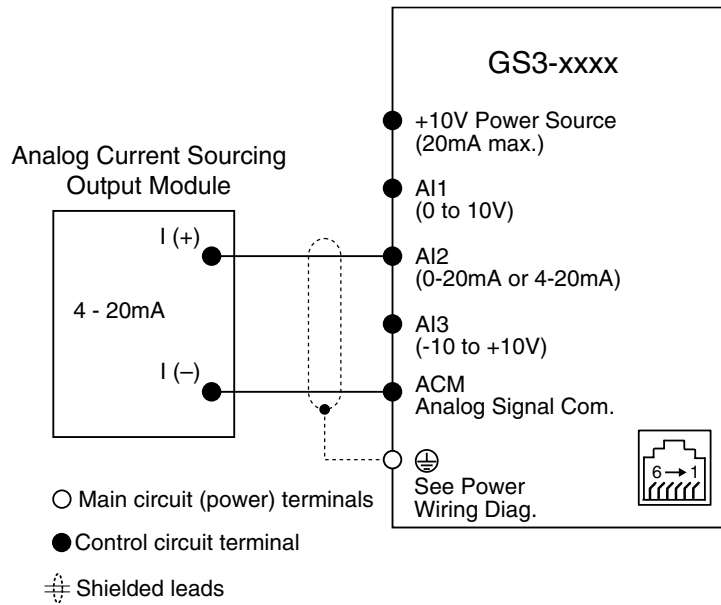
**Mode switch SW1 needs to be set to the “Source” position when connecting to a “sourcing” output module.**

TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)

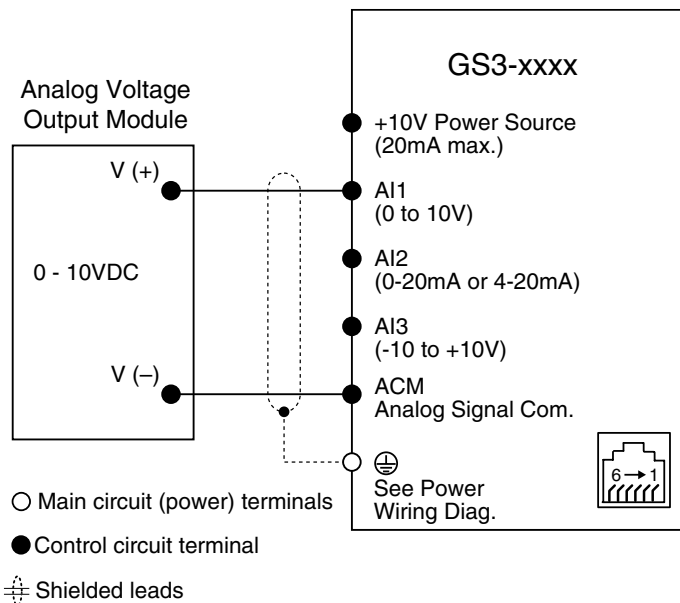
**DIRECTLOGIC VOLTAGE OR CURRENT SOURCING ANALOG OUTPUT MODULES**

- F0-04DAH-1
- F0-04DAH-2
- F0-08DAH-1
- F0-08DAH-2
- F0-2AD2DA-2
- F0-4AD2DA-1
- F0-4AD2DA-2
- F2-02DAS-1
- F2-02DAS-2
- F2-08DA-1
- F2-02DA-2
- F2-08DA-2
- F2-8AD4DA-1
- F2-8AD4DA-2
- F4-08DA-2
- F4-16DA-2
- F4-04DAS-1
- F4-04DAS-2
- T1F-08DA-2
- T1F-16DA-2
- T1F-8AD4DA-1
- T1F-8AD4DA-2

**ANALOG CURRENT SOURCING OUTPUT MODULE**

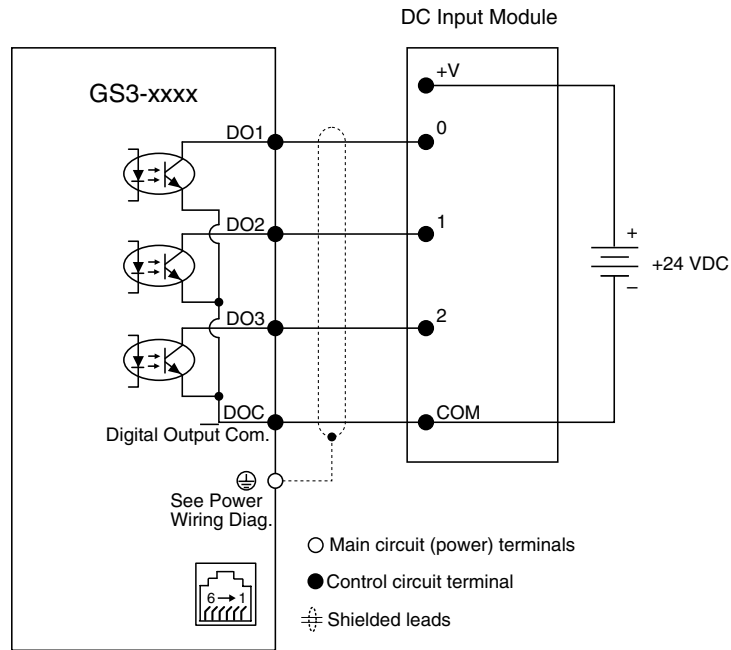


**ANALOG VOLTAGE OUTPUT MODULE**

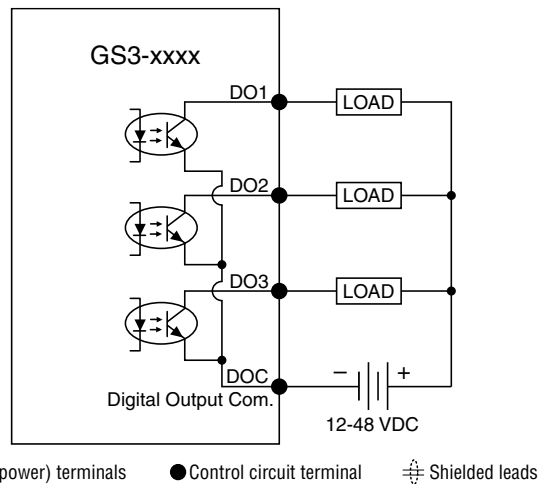


TYPICAL PLC CONNECTIONS TO DURAPULSE GS3 AC DRIVES (CONTINUED FROM PREVIOUS PAGE)

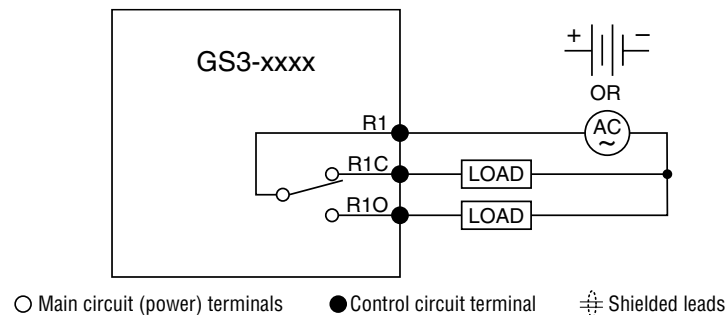
DIRECTLOGIC PLC DC INPUT MODULES



DIGITAL OUTPUT TERMINAL WIRING



RELAY CONTACT OUTPUT TERMINAL WIRING



**BLANK  
PAGE**