Supplied by Customer

Fused External +24VDC
Isolated Power Supply

Typical 2 Amp

Connections made to male 4-pin
Weidmuller connector located on
top edge of ACR8000 board.

+24 VDC
+24 VDC COM

NOTE: PWR2 Pin2 is used to supply the +5VDC voltage for STEPPER output pull-ups. See sheet 4 for STEPPER wiring examples.

Power consumption of one ACR8000 board without analog output, encoder output power, or Digital I/O usage.

+5VDC @ 2.5 Amp
+12VDC @ 0.13 Amp
-12VDC @ 0.12 Amp

GND
+5VDC
-12VDC
+12VDC

Connections made to male 4-pin Weidmuller connector located at lower right, above PC Connector on ACR8000 board.

Suggested Standalone power supply ratings for use with one ACR8000 card.
+5VDC @ 4 Amp
+12VDC @ 1/2 Amp
-12VDC @ 1/2 Amp

Fusing supplied on the ACR8000 Communications Plug-in Module for standalone power inputs.

+5VDC fused at 4 Amps
+12VDC fused at 0.250 Amps
-12VDC fused at 0.125 Amps

ENCODER INPUT

Encoder Inputs to the ACR8000 are capable of handling various types of open-collector and line driver encoders
DO NOT USE WITH CMOS DRIVERS

TYPICAL ENCODER

CHA+	BROWN
CHA-	BRN/WHT
CHB+	GREEN
CHB-	GRN/WHT
ZR+	ORANGE
ZR-	ORN/WHT
+5V	RED
GND	BLACK

CAUTION: Before hook-up consult manual for jumper settings required on ACR8000
Improper settings may cause PERMANENT DAMAGE to encoder

ACR8000

PWR2-1	GND	EXTERNAL GND	PWR1-1
PWR2-2	+5V	EXTERNAL GND	PWR1-2
PWR2-3	-12V	EXTERNAL +24	PWR1-3
PWR2-4	+12V	EXTERNAL +24	PWR1-4
P1A-1	CHA0 +	RXD1	P5-1
P1A-2	CHA0 -	TXD1	P5-2
P1A-3	CHB0 +	GND	P5-3
P1A-4	CHB0 -	MUX1	P5-4
P1A-5	MRK0 +	TXD1A	P5-5
P1A-6	MRK0 -	TXD1B	P5-6
P1A-7	VCC	RXD1A	P5-7
P1A-8	GND	RXD1B	P5-8
P1A-9	CHA1 +	RXD2	P5-9
P1A-10	CHA1 -	TXD2	P5-10
P1A-11	CHB1 +	GND	P5-11
P1A-12	CHB1 -	MUX2	P5-12
P1A-13	MRK1 +	TXD2A	P5-13
P1A-14	MRK1 -	TXD2B	P5-14
P1A-15	VCC	RXD2A	P5-15
P1A-16	GND	RXD2B	P5-16
P1A-17	CHA2 +	STB	P5-17
P1A-18	CHA2 -	AFD	P5-18
P1A-19	CHB2 +	ERR	P5-19
P1A-20	CHB2 -	INIT	P5-20
P1A-21	MRK2 +	SLIN	P5-21
P1A-22	MRK2 -	GND	P5-22
P1A-23	VCC	PD0	P5-23
P1A-24	GND	PD1	P5-24
P1A-25	CHA3 +	PD2	P5-25
P1A-26	CHA3 -	PD3	P5-26
P1A-27	CHB3 +	PD4	P5-27
P1A-28	CHB3 -	PD5	P5-28
P1A-29	MRK3 +	PD6	P5-29
P1A-30	MRK3 -	PD7	P5-30
P1A-31	VCC	ACK	P5-31
P1A-32	GND	BUSY	P5-32
P1B-1	CHA4 +	PE	P5-33
P1B-2	CHA4 -	SLCT	P5-34
P1B-3	CHB4 +		
P1B-4	CHB4 -		
P1B-5	MRK4 +		
P1B-6	MRK4 -		
P1B-7	VCC		
P1B-8	GND		
P1B-9	CHA5 +		
P1B-10	CHA5 -		
P1B-11	CHB5 +		
P1B-12	CHB5 -		
P1B-13	MRK5 +		
P1B-14	MRK5 -		
P1B-15	VCC		
P1B-16	GND		
P1B-17	CHA6 +		
P1B-18	CHA6 -		
P1B-19	CHB6 +		
P1B-20	CHB6 -		
P1B-21	MRK6 +		
P1B-22	MRK6 -		
P1B-23	VCC		
P1B-24	GND		
P1B-25	CHA7 +		
P1B-26	CHA7 -		
P1B-27	CHB7 +		
P1B-28	CHB7 -		
P1B-29	MRK7 +		
P1B-30	MRK7 -		
P1B-31	VCC		
P1B-32	GND		
P1-1	CLOCK +		
P1-2	CLOCK -		
P1-3	DATA +		
P1-4	DATA -		
P1-5	FRAME +		
P1-6	FRAME -		
P1-9	SYNC +		
P1-10	SYNC -		
P4-1	INP-00	P7-1	
P4-2	INP-01	GND	P7-2
P4-3	INP-02	SLRDY	P7-3
P4-4	INP-03	GND	P7-4
P4-5	INP-04	MSTRT	P7-5
P4-6	INP-05	GND	P7-6
P4-7	INP-06	SLACK	P7-7
P4-8	INP-07	SLINT	P7-9
P4-9	INP-08	GND	
P4-10	INP-09		P3-1
P4-11	INP-10	OUT-32	P3-2
P4-12	INP-11	OUT-33	P3-3
P4-13	INP-12	OUT-34	P3-4
P4-14	INP-13	OUT-35	P3-5
P4-15	INP-14	OUT-36	P3-6
P4-16	INP-15	OUT-37	P3-7
P4-17	INP-16	OUT-38	P3-8
P4-18	INP-17	OUT-39	P3-9
P4-19	INP-18	OUT-40	P3-10
P4-20	INP-19	OUT-41	P3-11
P4-21	INP-20	OUT-42	P3-12
P4-22	INP-21	OUT-43	P3-13
P4-23	INP-22	OUT-44	P3-14
P4-24	INP-23	OUT-45	P3-15
P4-25	INP-24	OUT-46	P3-16
P4-26	INP-25	OUT-47	P3-17
P4-27	INP-26	OUT-48	P3-18
P4-28	INP-27	OUT-49	P3-19
P4-29	INP-28	OUT-50	P3-20
P4-30	INP-29	OUT-51	P3-21
P4-31	INP-30	OUT-52	P3-22
P4-32	INP-31	OUT-53	P3-23
P4-33	GISO	OUT-54	P3-24
P4-34	GISO	OUT-55	P3-25
		OUT-56	P3-26
		OUT-57	P3-27
		OUT-58	P3-28
		OUT-59	P3-29
		OUT-60	P3-30
		OUT-61	P3-31
		OUT-62	P3-32
		OUT-63	P3-33
		VISO	P3-34
		VISO	

P2

ASIG-0/STEP-0	P2-1	1	
AGND-0/DIR-0	P2-20	20	
ASIG-1/STEP-1	P2-2	2	
AGND-1/DIR-1	P2-21	21	
ASIG-2/STEP-2	P2-3	3	
AGND-2/DIR-2	P2-22	22	
ASIG-3/STEP-3	P2-4	4	
AGND-3/DIR-3	P2-23	23	
ASIG-4/STEP-4	P2-5	5	
AGND-4/DIR-4	P2-24	24	
ASIG-5/STEP-5	P2-6	6	
AGND-5/DIR-5	P2-25	25	
ASIG-6/STEP-6	P2-7	7	
AGND-6/DIR-6	P2-26	26	
ASIG-7/STEP-7	P2-8	8	
AGND-7/DIR-7	P2-27	27	
AIN-0	P2-9	9	
AIN-1	P2-28	28	
AIN-2	P2-10	10	
AIN-3	P2-29	29	
AIN-4	P2-11	11	
AIN-5	P2-30	30	
AIN-6	P2-12	12	
AIN-7	P2-31	31	
MISC-0/LCUR-0	P2-13	13	
MISC-1/LCUR-1	P2-32	32	
MISC-2/LCUR-2	P2-14	14	
MISC-3/LCUR-3	P2-33	33	
MISC-4/LCUR-4	P2-15	15	
MISC-5/LCUR-5	P2-34	34	
MISC-6/LCUR-6	P2-16	16	
MISC-7/LCUR-7	P2-35	35	
WATCHDOG COMMON	P2-17	17	
WATCHDOG NO	P2-36	36	
WATCHDOG COMMON	P2-18	18	
WATCHDOG NC	P2-37	37	
AGND	P2-19	19	

CONNECTOR DB37

See sheet 2 for analog/stepper interface information.

See sheet 4 and 5 for P2 Analog Input connector wiring examples.

See sheet 3 for P2 DAC/Stepper connector wiring examples.

See sheet 2 for Digital I/O wiring examples

P4-33,34 for test purpose only.
Not for customer use.

P3-33,34 for test purpose only.
Not for customer use.

SERIAL COMMUNICATION

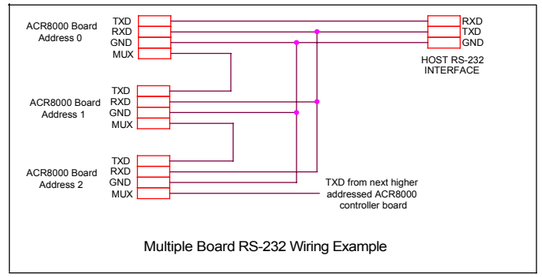
RS-232 Serial Connection
for COM1 and COM2

Autobaud detects the following formats

Parity	Data	Stop Bit
Even	8	1
Odd	7	1
No	8	1

Baud Rates from 300 to 38400
XON/XOFF Control must be used

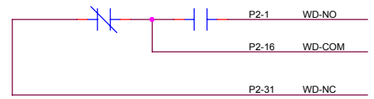
TXD
RXD
GND



Multiple Board RS-232 Wiring Example

WATCHDOG CIRCUIT

Relay contacts shown is state when ACR8000 is without power, or in a processor fault condition.



Watchdog Relay contact rating

1.0 Amp @ 30 VDC

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Chaska, MN
USA 55318

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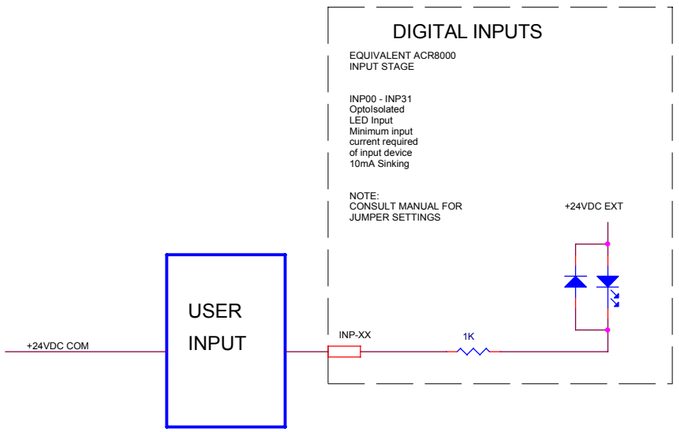
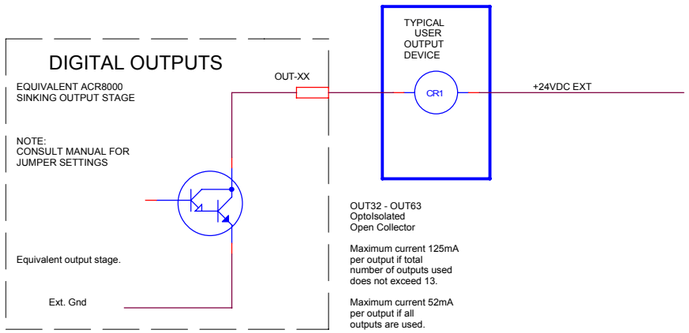
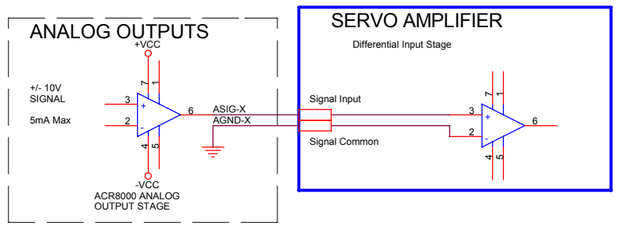
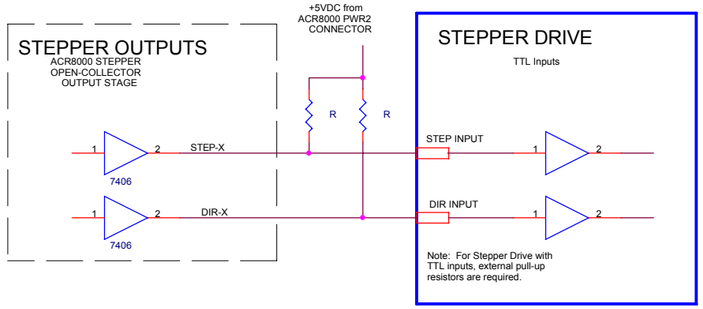
Digital I/O Wiring

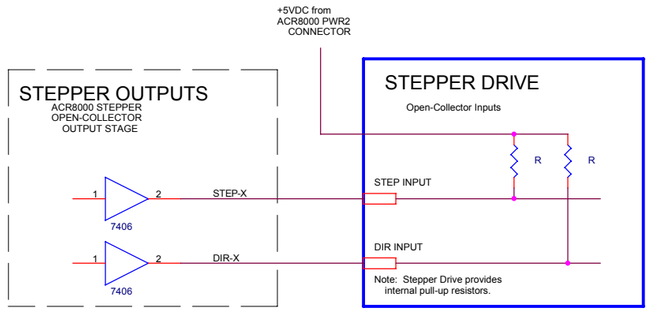


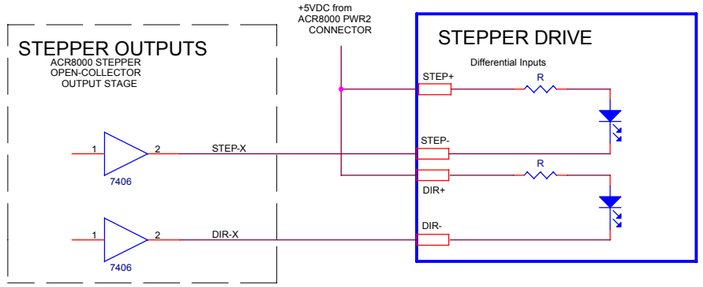


Analog/Stepper Wiring



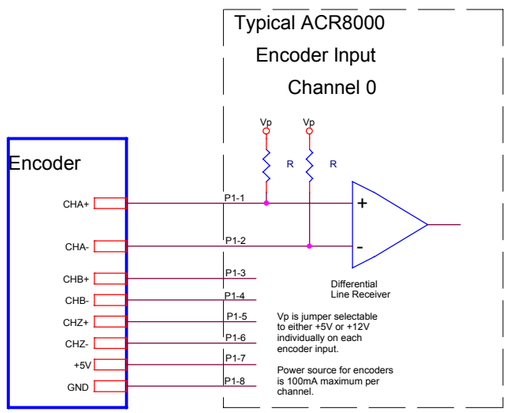




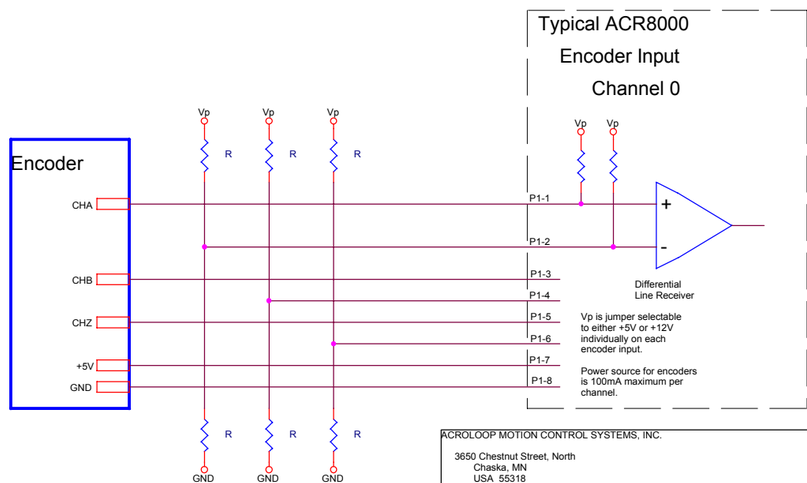


Encoder Wiring

Differential Input



Single-Ended Input



NOTE: External resistor (R) value is:
Vp @ 5V, R = 1K ohm
Vp @ 12V, R = 2K ohm

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ANALOG P2 CONNECTOR OUTPUT WIRING EXAMPLE

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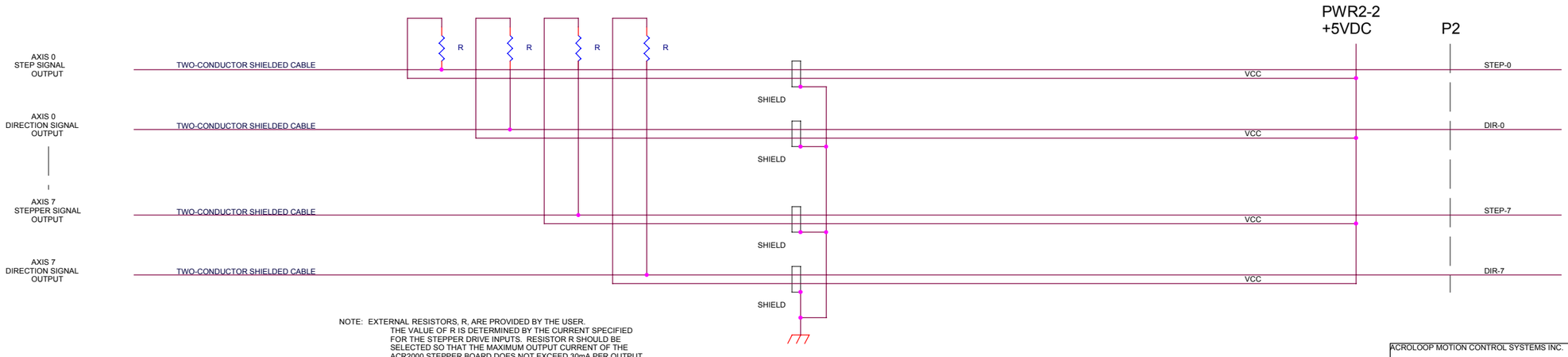
STEPPER P2 CONNECTOR DIFFERENTIAL OUTPUT WIRING EXAMPLE (OPEN-COLLECTOR OUTPUTS PULLED-UP THRU STEPPER DRIVE INPUTS)

STEPPER P2 CONNECTOR SINGLE-ENDED OUTPUT WIRING EXAMPLE (OPEN-COLLECTOR OUTPUTS PULLED-UP TO +5V THRU EXTERNAL RESISTORS)



NOTE: EXTERNAL RESISTORS, R, ARE PROVIDED BY THE USER.
THE VALUE OF R IS DETERMINED BY THE CURRENT SPECIFIED FOR THE STEPPER DRIVE INPUTS. RESISTOR R SHOULD BE SELECTED SO THAT THE MAXIMUM OUTPUT CURRENT OF THE ACR2000 STEPPER BOARD DOES NOT EXCEED 30mA PER OUTPUT.

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Title	ACR8000 STEPPER WIRING EXAMPLE	
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Date: Saturday, December 08, 2001	Sheet 4 of 6	

ANALOG P2 CONNECTOR INPUT WIRING

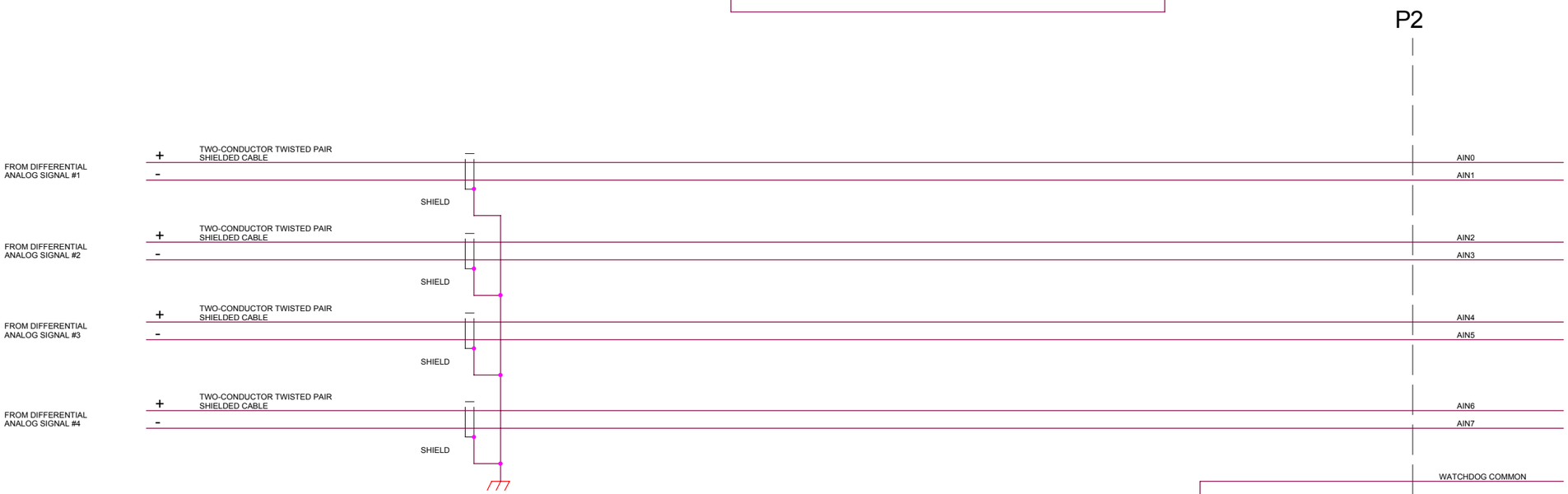
ANALOG TO DIGITAL INPUTS (ADC)

ANALOG TO DIGITAL INPUTS (AIN0 - AIN7) CAN BE USED
AS DIFFERENTIAL OR SINGLE-ENDED INPUTS. ANY
COMBINATION MAY BE USED.

IF USED AS DIFFERENTIAL INPUTS, TWO INPUTS ARE USED
AS SHOWN USING AIN0-AIN1 & AIN2-AIN3. FOUR DIFFERENTIAL
INPUT SIGNALS MAY BE USED WITH AN ACR8000.

IF USED AS SINGLE-ENDED INPUTS, ONE INPUT IS USED
IN CONJUCTION WITH AIN-COM. EIGHT SINGLE-ENDED INPUT
SIGNALS MAY BE USED WITH AN ACR8000.
SEE SHEET 4 FOR SINGLE ENDED WIRING EXAMPLE.

DIFFERENTIAL INPUT PAIRS	+	-
	AIN0	AIN1
	AIN2	AIN3
	AIN4	AIN5
	AIN6	AIN7



WATCHDOG CIRCUIT

TO SERVO DRIVE
SAFETY INTERLOCK
CIRCUIT

WATCHDOG CONTACTS USED TO DISABLE SERVO DRIVE
UNTIL ACR8000 CONTROLLER HAS FULL CONTROL
OF ALL DIGITAL AND ANALOG SIGNALS TO PREVENT
POSSIBLE MOTOR SURGE ON INITIAL START-UP

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Title: ACR8000 ANALOG INPUT WIRING EXAMPLE

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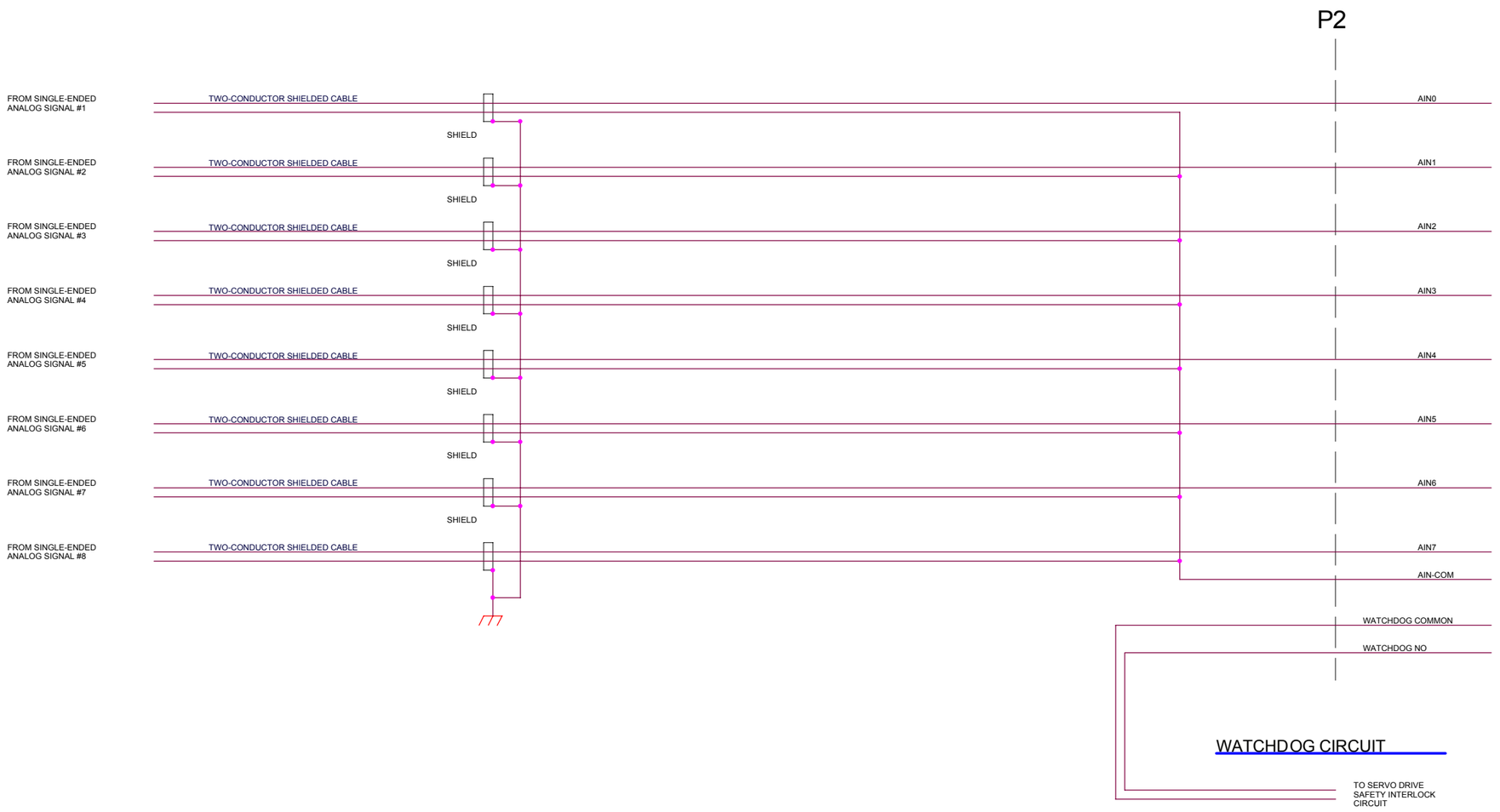
ANALOG P2 CONNECTOR INPUT WIRING



WATCHDOG CONTACTS USED TO DISABLE SERVO DRIVE UNTIL ACR8000 CONTROLLER HAS FULL CONTROL OF ALL DIGITAL AND ANALOG SIGNALS TO PREVENT POSSIBLE MOTOR SURGE ON INITIAL START-UP

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