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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

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

ACR8000 Board Address 0
ACR8000 Board Address 1
ACR8000 Board Address 2
TXD
RXD
GND
MUX

HOST RS-232 INTERFACE

TXD from next higher addressed ACR8000 controller board

Multiple Board RS-232 Wiring Example

WATCHDOG CIRCUIT

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

P2-1 WD-NO
P2-16 WD-COM
P2-31 WD-NC

Watchdog Relay contact rating

1.0 Amp @ 30 VDC

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
		PE	P5-33
		SLCT	P5-34
P1B-1	CHA4 +		
P1B-2	CHA4 -		
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	GND	P7-1
P4-2	INP-01	SLRDY	P7-2
P4-3	INP-02	GND	P7-3
P4-4	INP-03	MSTRT	P7-4
P4-5	INP-04	GND	P7-5
P4-6	INP-05	SLACK	P7-6
P4-7	INP-06	SLINT	P7-7
P4-8	INP-07	GND	P7-9
P4-9	INP-08		
P4-10	INP-09	OUT-32	P3-1
P4-11	INP-10	OUT-33	P3-2
P4-12	INP-11	OUT-34	P3-3
P4-13	INP-12	OUT-35	P3-4
P4-14	INP-13	OUT-36	P3-5
P4-15	INP-14	OUT-37	P3-6
P4-16	INP-15	OUT-38	P3-7
P4-17	INP-16	OUT-39	P3-8
P4-18	INP-17	OUT-40	P3-9
P4-19	INP-18	OUT-41	P3-10
P4-20	INP-19	OUT-42	P3-11
P4-21	INP-20	OUT-43	P3-12
P4-22	INP-21	OUT-44	P3-13
P4-23	INP-22	OUT-45	P3-14
P4-24	INP-23	OUT-46	P3-15
P4-25	INP-24	OUT-47	P3-16
P4-26	INP-25	OUT-48	P3-17
P4-27	INP-26	OUT-49	P3-18
P4-28	INP-27	OUT-50	P3-19
P4-29	INP-28	OUT-51	P3-20
P4-30	INP-29	OUT-52	P3-21
P4-31	INP-30	OUT-53	P3-22
P4-32	INP-31	OUT-54	P3-23
P4-33	GISO	OUT-55	P3-24
P4-34	GISO	OUT-56	P3-25
		OUT-57	P3-26
		OUT-58	P3-27
		OUT-59	P3-28
		OUT-60	P3-29
		OUT-61	P3-30
		OUT-62	P3-31
		OUT-63	P3-32
		VISO	P3-33
		VISO	P3-34

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.

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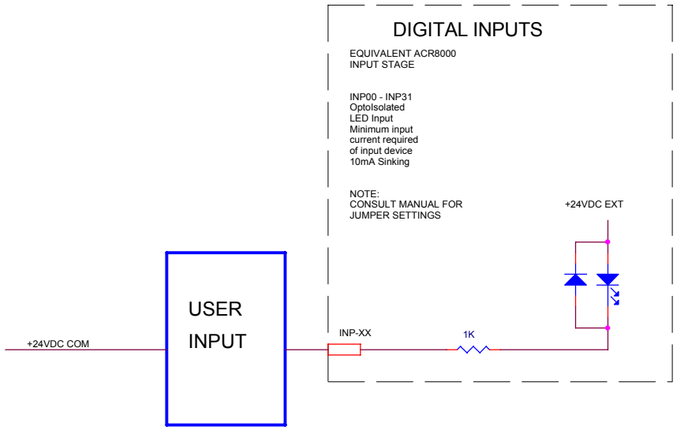
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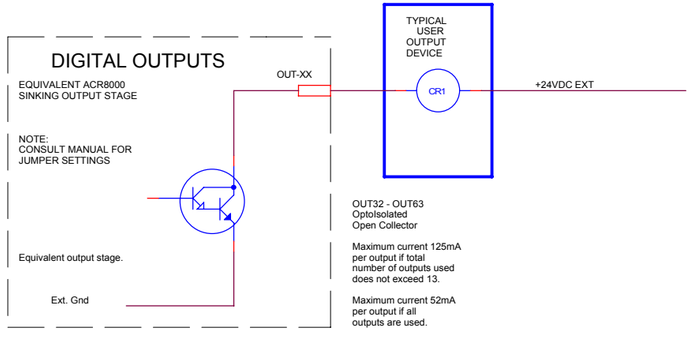
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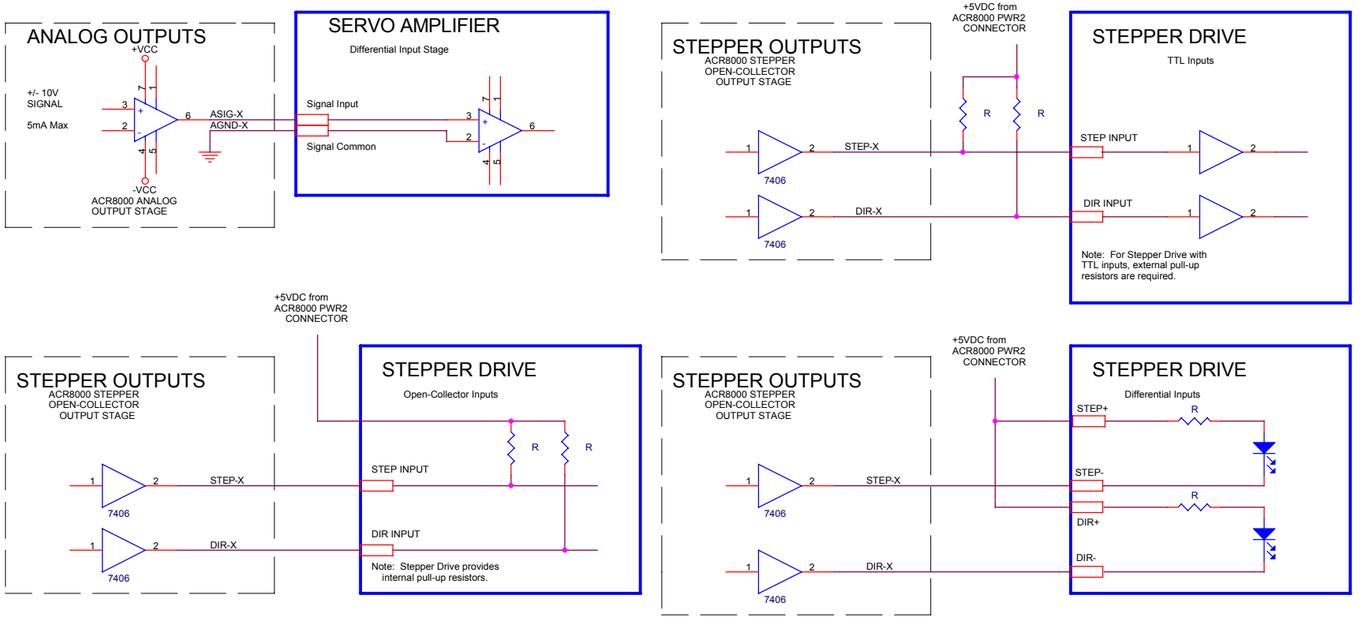
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Digital I/O Wiring



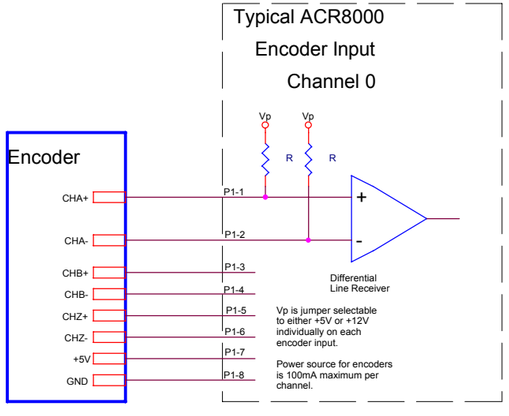


Analog/Stepper Wiring

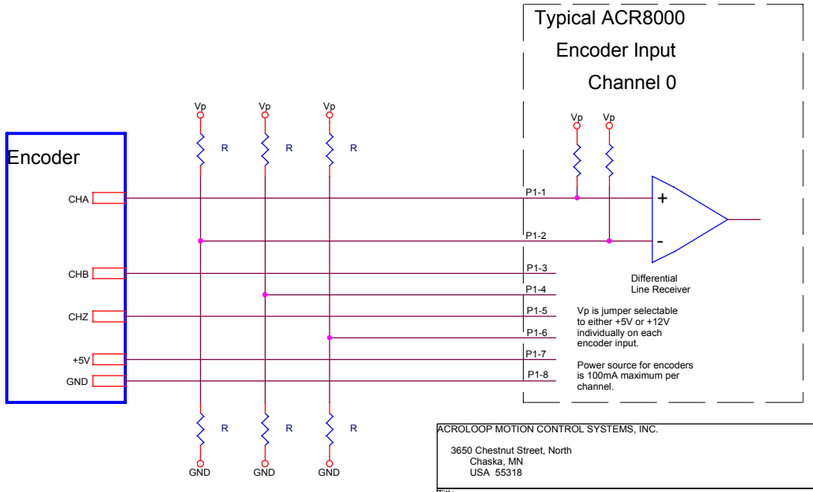


Encoder Wiring

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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Title: ACR8000 WIRING EXAMPLE

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ANALOG P2 CONNECTOR OUTPUT WIRING EXAMPLE



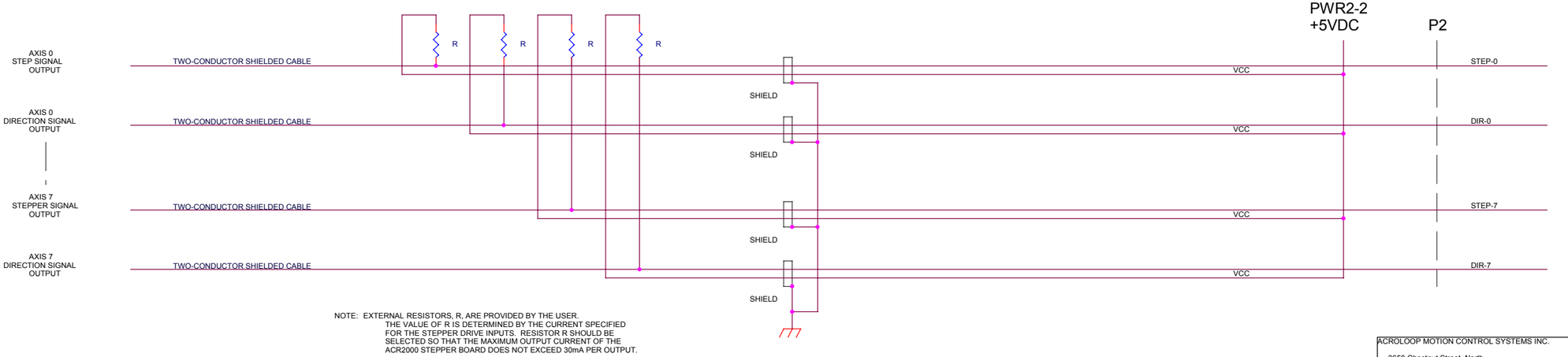
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Title: ACR8000 ANALOG OUTPUT WIRING EXAMPLE		
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STEPPER P2 CONNECTOR DIFFERENTIAL OUTPUT WIRING EXAMPLE (OPEN-COLLECTOR OUTPUTS PULLED-UP THRU STEPPER DRIVE INPUTS)



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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ANALOG P2 CONNECTOR INPUT WIRING

ANALOG TO DIGITAL INPUTS (ADC)

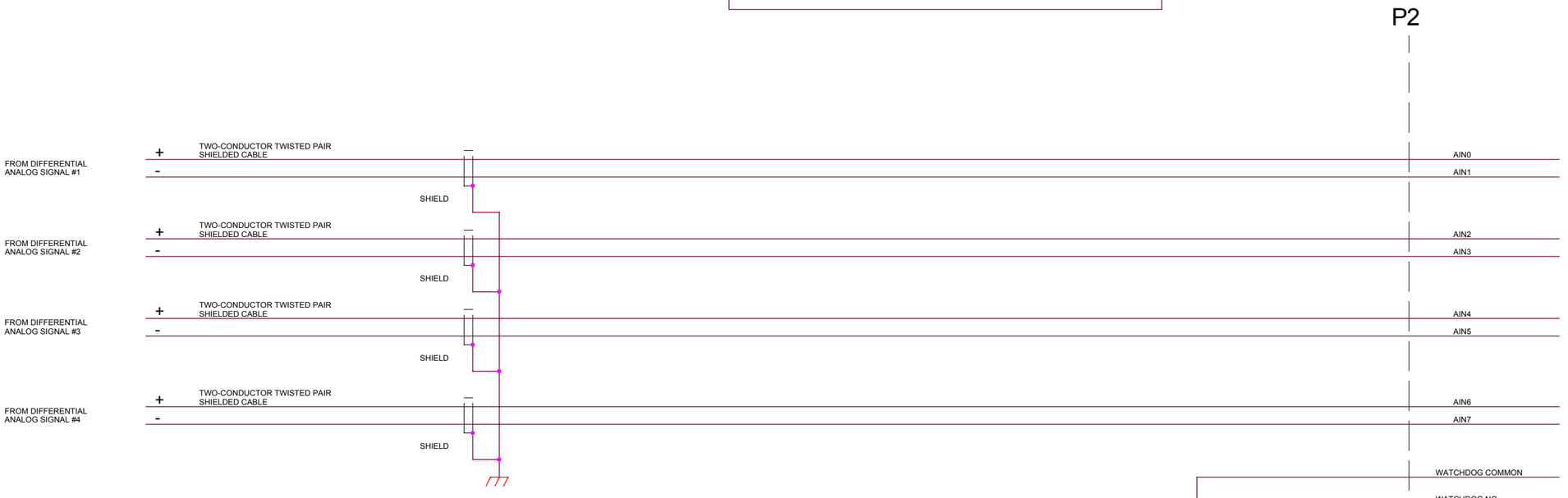
ANALOG TO DIGITAL INPUTS (AIN0 - AIN7) CAN BE USED AS DIFFERENTIAL OR SINGLE-ENDED INPUTS. ANY COMBINATION MAY BE USED.

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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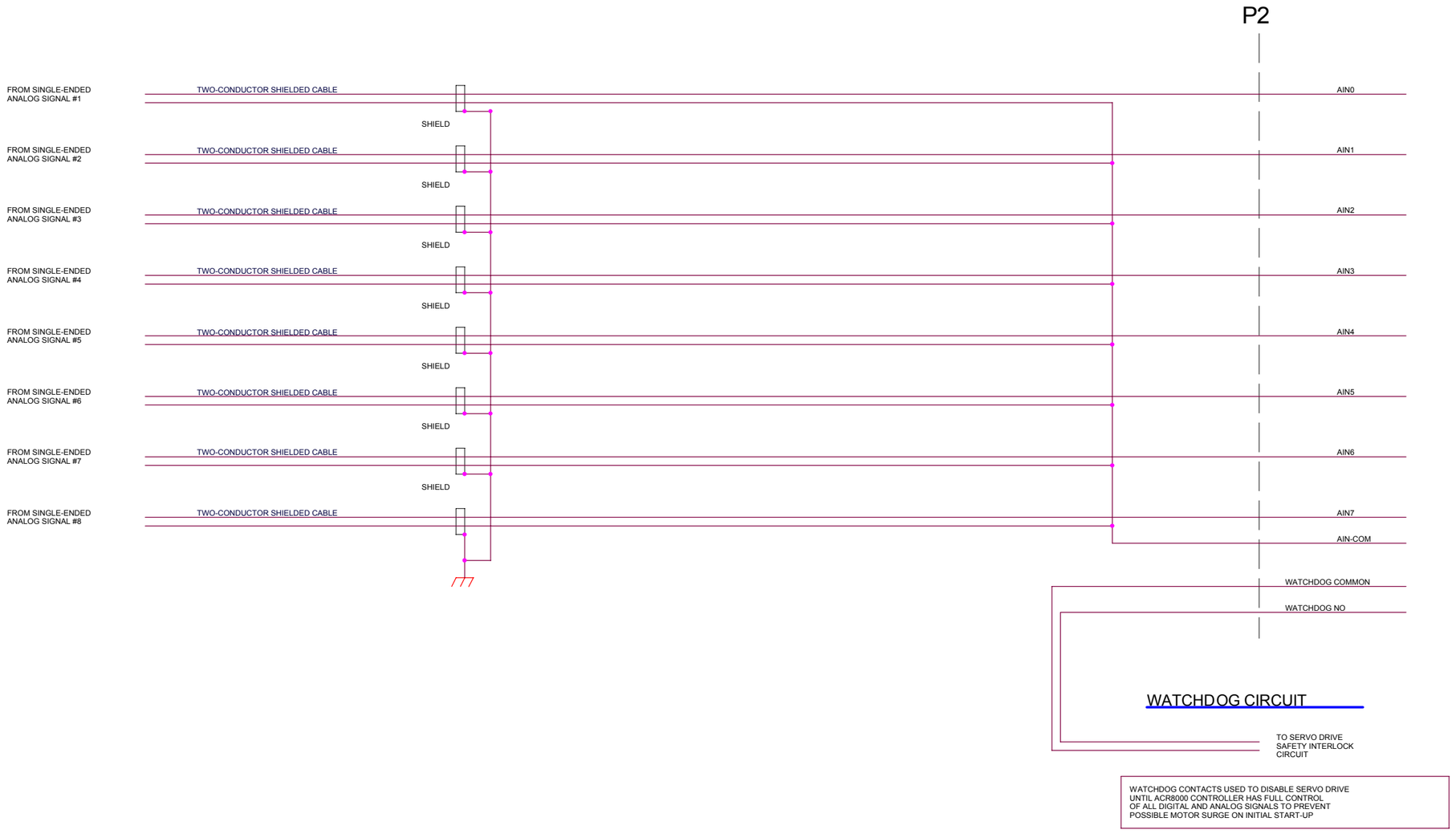
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ANALOG P2 CONNECTOR INPUT WIRING



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