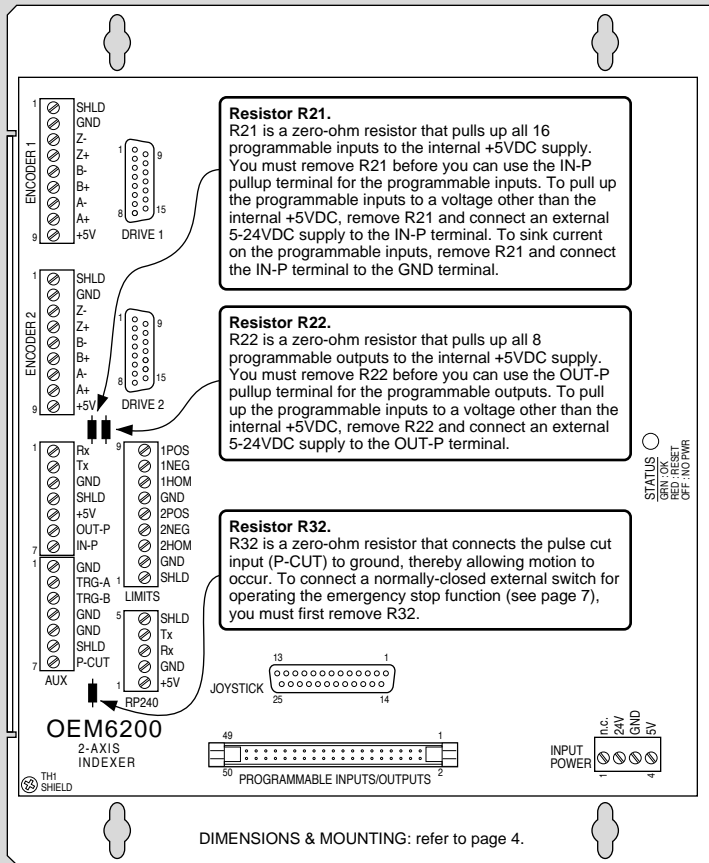


Connections

See also pages 5-21



OTHER PIN OUTS

PROGRAMMABLE I/O

Pin	Function
1	Input #16 (MSB of inputs)
3	Input #15
5	Input #14
7	Input #13
9	Input #12
11	Input #11
13	Input #10
15	Input #9
17	Output #8 (MSB of outputs)
19	Output #7
21	Output #6
23	Output #5
25	Input #8
27	Input #7
29	Input #6
31	Input #5
33	Output #4
35	Output #3
37	Output #2
39	Output #1 (LSB of outputs)
41	Input #4
43	Input #3
45	Input #2
47	Input #1 (LSB of inputs)
49	+5VDC

Even pins connected to common logic gnd.
MSB = most significant bit.
LSB = least significant bit.

DRIVE

Pin	Function
1	Step +
2	Direction +
4	In-Position
5	Drive Fault
7	+5VDC Output
8	Shield (chassis gnd)
9	Step Return (-)
10	Direction Return (-)
11	Shutdown +
12	Shutdown Return (-)
13	Digital Ground
14	Digital Ground

Pins 3, 6, & 15 are reserved

JOYSTICK

Pin	Function
1-3	Analog Channels 1-3
8	Shield (chassis gnd)
14	Digital Ground
15	Axis Select Input
16	Velocity Select Input
17	Release Input
18	Trigger Input
19	Auxiliary Input
23	+5VDC Output

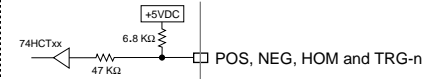
Pins 4-7, 9-13, 20-21, 24-25 are reserved

I/O SPECIFICATIONS & INTERNAL SCHEMATICS

DC Input.....5VDC \pm 5%, 2A min.; or 24VDC \pm 10%, 1A min.
(current requirements depend on the type and amount of I/O used – see page 18).

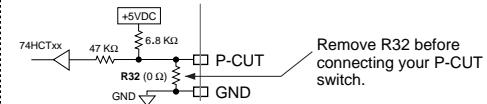
Serial Com.....RS-232C 3-wire (Rx, Tx & GND on the AUX connector);
Up to 99 units in a daisy chain.
9600 baud (or use AutoBaud feature – see page 6);
8 data bits; 1 stop bit; no parity.

Limits and Trigger Inputs (pg. 10 & 13)



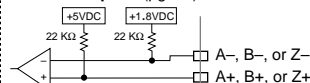
Specs: TTL-compatible*; voltage range = 0-24VDC.

Pulse-Cut (P-CUT) Input (pg. 7)



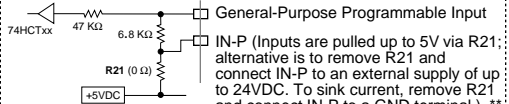
Specs: TTL-compatible*; voltage range = 0-24VDC.

Encoder Inputs (pg. 11)



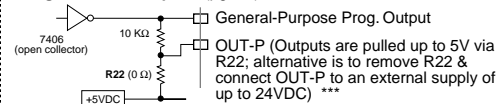
Specs: Differential comparator. Use 2-phase quadrature encoders; max. frequency = 1.6 MHz; min. time between transitions = 625 ns. TTL levels (Low \leq 0.4V, High \geq 2.4V); range = 0-5VDC.

Programmable Inputs (pg. 14)



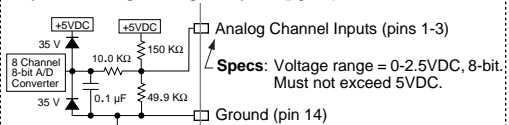
Specs: TTL-compatible*; voltage range = 0-24VDC.

Programmable Outputs (pg. 14)



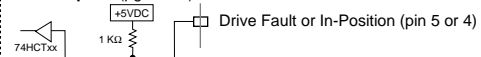
Specs: Open collector output. Max. voltage in OFF state (not sinking current) = 24V; Max. current in ON state (sinking) = 30mA.

Joystick Analog and Digital Inputs (pg. 12)



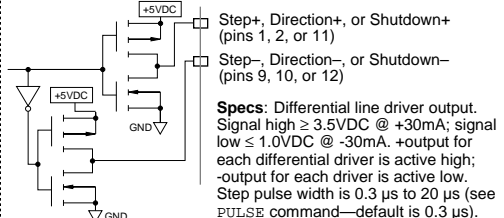
Specs: TTL-compatible*; voltage range = 0-24VDC.

Drive Inputs (pg. 8 & 9)

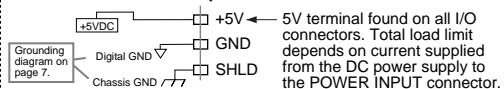


Specs: TTL-compatible*; voltage range = 0-5VDC.

Drive Outputs (pg. 8 & 9)



Terminals found on multiple connectors



* TTL-compatible levels: Low \leq 0.4V, High \geq 2.4V.

** You must remove resistor R21 before using the IN-P pullup terminal.

*** You must remove resistor R22 before using the OUT-P pullup terminal.

Troubleshooting

See also pages 23-27

- STATUS LED: Green = 5V or 24V DC power is applied. Red = power reset required. Off = no power.
- Status information (see command descriptions in 6000 Series Software Reference):
General status information.....TASF, TSSF, TSTAT
Limits (end-of-travel, home).....TASF, TLIM
P-CUT input.....TINOF (bit #6)
Programmable inputs and TRG-n.....TIM, INFNC
Programmable outputs.....TOUT, OUTFNC
- P-CUT input must be grounded to GND terminal to allow motion.
- NEG & POS inputs must be grounded to GND terminal to allow motion (or disable with LHØ command).
- To help prevent electrical noise, shield all connections at one end only (see also Appendix A).
- Error messages while programming or executing programs – see 6000 Series Programmer's Guide.
- Technical support – see phone numbers on inside of front cover, and the HELP command response.