

## TB225 (Rev1) - Baldor Series 23H Drive Setup

This bulletin details required connections to interface a Baldor Series 23H drive to a Centroid control using MPU11 and GPIO4D. Before connecting any interface cables be sure the drive, motor and encoder are connected, shielded and grounded exactly as specified in the Baldor Manual. Verify the encoder cable shield is connected only at the drive. Verify the drive operates correctly by jogging the motor and holding position.

Use a ground isolated DC supply to power the MPU11 and GPIO4D to prevent ground loops to the Baldor drive. Analog control to the drive is via shielded twisted pair with the shield only connected at the drive end. Digital signals to the drive must be separate from the analog cable. Power for the digital signals in this interconnect is provided by the Baldor drive 24 VDC supply. The inputs and outputs are arranged to maximize isolation.

Table 1 lists the primary control connections to the Baldor drive from the GPIO4D . The Baldor drive level 1 input block command select parameter value must be set to ?+/- 10 Volts? to control the drive with this configuration. Be sure to read the notes in the table for required connections. Reference the Baldor Manual ?Bipolar Speed or Torque Operating Mode? connection diagram.

CONNECTOR	GPIO4D DRIVE I/O TERMINALS		BALDOR DRIVE J1 TERMINAL	
	NAME	TERMINAL	NAME	NOTES
H14	AN (AXIS 1)	4	Analog Input +2	1)
H14	AN COM	5	Analog Input -2	1)
		1 and 5	Analog GND	1)
H14	EN	8	ENABLE	2)
H14	OUTCOM	17	Opto Input Common	3)
H10	IN1 (FAULT IN)	19	Opto Out #1	4)
H10	IN2 (+LIMIT SW)			5)
H10	IN3 (-LIMIT SW)			6)
H10	IN4 (E-STOP)			7)
H10	COM 1-4	39	+24VDC	8)
		40	Opto In Power	8)
		9 and 17	Forward Enable	5)
		10 and 17	Reverse Enable	6)
		12 and 17	Torque mode	9)
H1	OUT1	15	Fault Reset	10)

NOTES:

- 1) Connect J1-1 to J1-5 and analog shield, Connect shield at drive end only.
- 2) Drive enable
- 3) Terminal 17 is the common (-) of the Baldor 24VDC Opto supply.
- 4) This input must be mapped in the GPIO4D PLC as the drive fault for this axis.
- 5) +LIMIT SW source wire. This input must be mapped in the GPIO4D PLC as the +LIMIT SW for this axis. The limit switch return wire connects to terminal 17 on the Baldor drive. Terminal 9 and 17 on the Baldor drive must be jumpered to enable motion in this direction.
- 6) -LIMIT SW source wire. This input must be mapped in the GPIO4D PLC as the -LIMIT SW for this axis. The limit switch return wire connects to terminal 17 on the Baldor drive. Terminal 10 and 17 on the Baldor drive must be jumpered to enable motion in this direction.
- 7) This input must be mapped in the GPIO4D PLC as the E-STOP for this axis or the system.
- 8) GPIO4D opto input power supply (+) of the Baldor 24VDC Opto supply. Jumper 39 and 40 to use this supply.
- 9) Must be jumpered to enter Torque mode.
- 10) GPIO4D relay output NO contacts. Used to momentarily connect terminal 15 and 17 to reset the Baldor drive.

PIN	MPU11 ENCODER CONNECTOR		BALDOR DRIVE J1 TERMINAL
	NAME	TERMINAL	NAME
1	N/C		
2	GND	38	Common
3	-INDEX	35	+INDEX
4	-CHB	32	-A
5	-CHA	34	-B
6	+INDEX	36	-INDEX
7	+CHB	31	+A
8	+CHA	33	+B
9	+5V (not used)		

Table-2 lists the connections required for the MPU11 encoder feedback.

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### Document History

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