

The IDEA™ Drive Brushless Motor Controller

The IDEA™ Drive Brushless Motor Controller is a servo drive and fully programmable control unit which will simplify your machine building experience. An intuitive patent-pending Graphic User Interface (GUI) removes the complexity of programming while support tools simplify its quick integration.



Features include:

- RoHS Compliant
- Stand-alone drive unit
- Programming done through Graphic User Interface (GUI)
- Automatic population of motor and drive parameters
- Programmable Speed / Current / Accel-Decel / Current Boost / Interrupts / I/O
- Sinusoidal commutation
- Trapezoidal and S-Curve motion profiles
- USB Communication protocol
- Movement Profile Plotter
- Interactive Program Debug Feature
- Optional motor cables

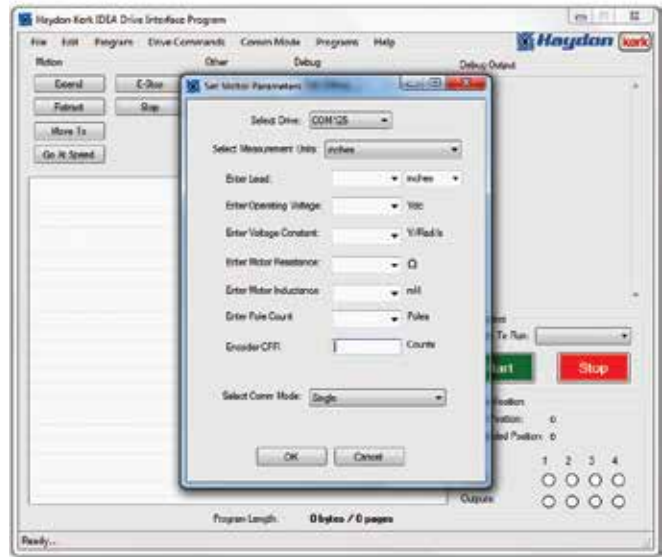
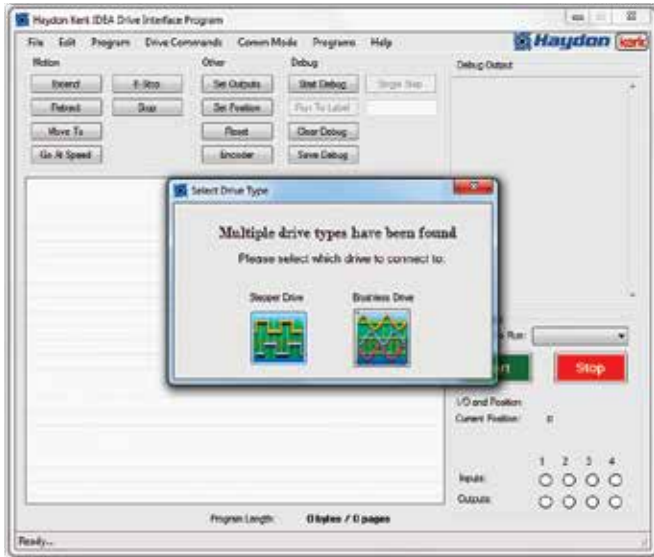
PBL4850E Salient Characteristics

IDEA Drive Part Number	PBL4850E
Drive Input Voltage Range	12 to 48 VDC
Max Drive Current / Phase	4.0 A rms / 6.5 A peak
Current Boost Capability	Optional 30% current boost capability during ramping (6.5 A peak max.)
Communication	USB (mini B)
Commutation	Sinusoidal (Halls and encoder required)
Motor	3 Phase Brushless
Hall Cell Spacing	60° / 120°
Encoder (min. requirement)	5V, Incremental endcoder with 128 CPR min.
Digital I/O Voltage Range	5 to 24 VDC
Digital Inputs	4
Digital Input Max Current	8 mA (each)
Digital Outputs (Sinking)	4
Digital Output Max Current (Sinking)	200 mA
Maximum Temperature	70° measured at heat sink
Program Storage Size	85 Kbytes
Program Storage Memory Type	Flash
Maximum Number Stored Programs	85 - referenced by 10 character program names
Position Counter Range	64 bit
Ramping	Trapezoidal Or S-Curve
Interrupt Sources	4 inputs (rising, falling or both edges) Internal Position Counter (when reaching a programmed position)

ACCESSORIES	PART No.
USB Cable (A to Mini B), 2 meters	56-1346
Power Cable, 1 meter	56-1348
I/O Cable, 1 meter	56-1352
Motor Connector Screw Terminal	56-1570
Hall Cell & Encoder Cable	56-1856

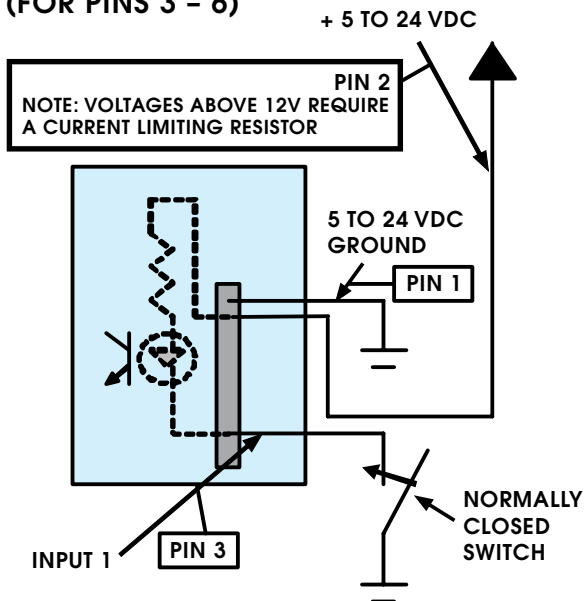
IDEA™ Drive Software is simple to use with on-screen buttons and easy-to-understand programming guides.

Common user interface between stepper and brushless drives allow our users to seamlessly transition across motor technologies.

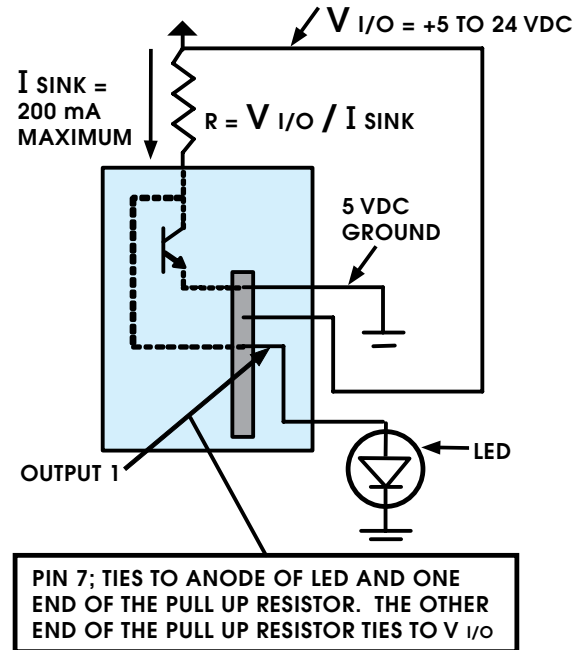


Start performing moves with a brushless motor after entering a few motor characteristics. The graphical user interface is designed with the end user in mind, automatically calculating and populating motion parameters to speed up the development process. The interface can be set to units of inches, millimeters, and revolutions to allow users to easily integrate the drive into linear or rotary based systems. The software program generates motion profiles directly into the system and also contains a “debug” utility allowing line-by-line execution of a motion profile for easy troubleshooting.

TYPICAL I/O INPUT:
(FOR PINS 3 – 6)



TYPICAL I/O OUTPUT:
(FOR PINS 7 – 10)



PBL4850E IDEA™ Drive Engineering Drawings

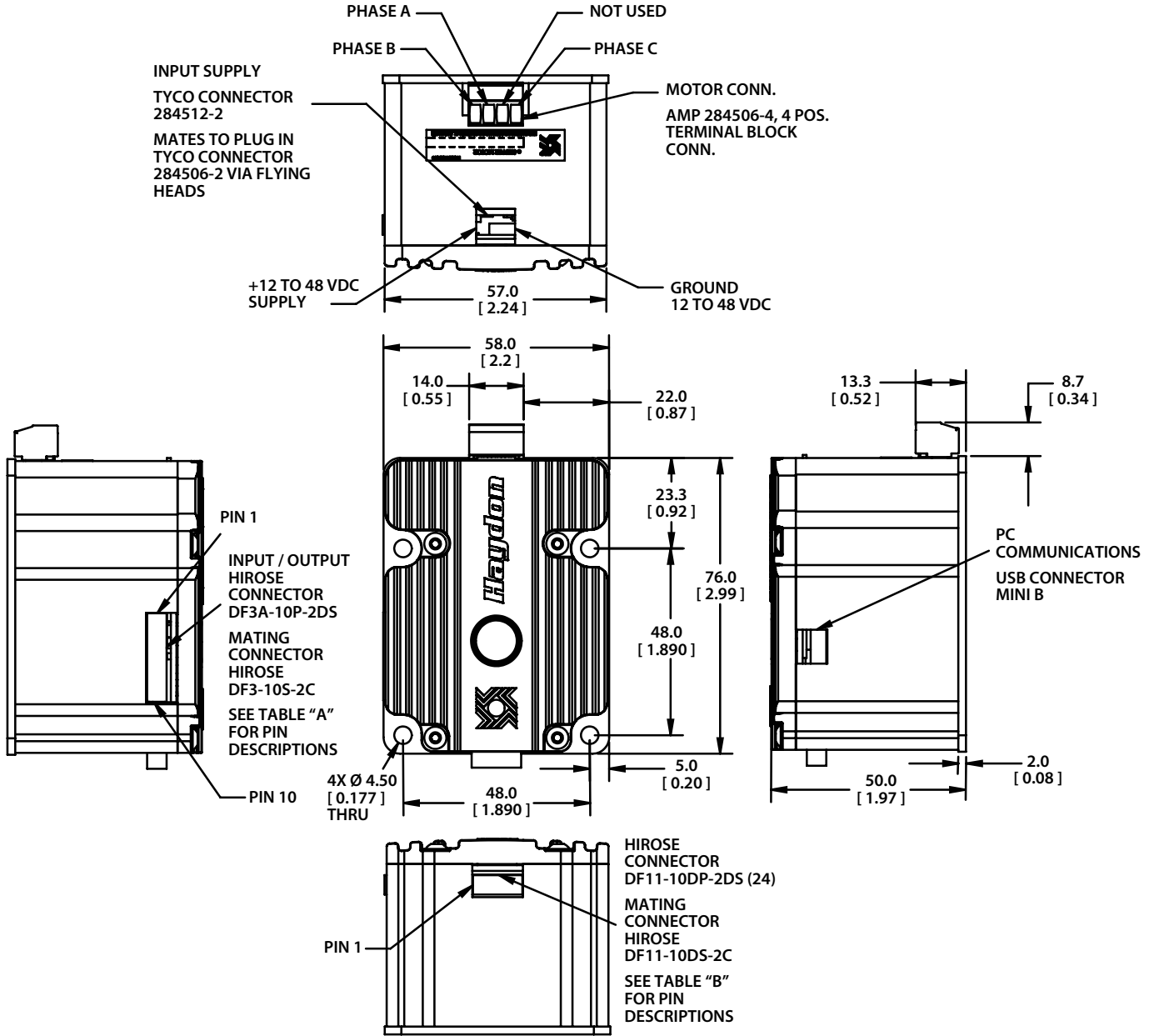


TABLE "A"

PIN POSITION	DESCRIPTION	NOTES
PIN 1	GROUND I/O SUPPLY	5 TO 24 VDC
PIN 2	+ I/O SUPPLY	5 TO 24 VDC
PIN 3	INPUT 1	
PIN 4	INPUT 2	
PIN 5	INPUT 3	
PIN 6	INPUT 4	
PIN 7	OUTPUT 1	
PIN 8	OUTPUT 2	
PIN 9	OUTPUT 3	
PIN 10	OUTPUT 4	

TABLE "B"

PIN #	DESCRIPTION
1	"A" CHANNEL
2	HALL CELL A
3	"B" CHANNEL
4	HALL CELL B
5	INDEX / ENCODER
6	HALL CELL C
7	+ 5V cc
8	+ 5V cc
9	GROUND
10	GROUND