Dayton®

AC Drive
Hybrid Drive™– A Digital Drive with Analog Interface

Rugged Aluminum NEMA 1 / IP 50

Primary Features

Horsepower 1/8 to 1 HP, Jumper Selectable
Input 115/230 VAC - 1ph
Output 230 VAC - 3ph
Starting Torque 200%
Front Panel Power On/Off Switch

Benefits
Saves Time
Easy to Install and Simple to Operate does not require programming or commissioning
Up and running in less than 10 minutes.

Motors Last Longer
Proprietary CL Software
Provides overload protection, prevents motor burnout and eliminates nuisance tripping. UL approved as electronic overload protector for motors.

Energy Saving
Uses only the power the application requires
Replacing constant speed with variable speed will significantly reduce energy costs.

Additional Features

Sensorless Flux Vector Control
Flux Vector Compensation with Static Auto-Tune provides excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque.

Electronic Inrush Current Limit (EICL™) Protection
Eliminates harmful inrush AC line current during power up.

Run/Fault Relay
Can be used to turn equipment on or off, to signal a warning if the drive is put into "Stop" mode, or to signal if a fault has occurred.

On/Off AC Line Switch
Disconnects the AC line.

Ride-Through
Provides smooth recovery to the previous set speed during a momentary power loss.

Holding Torque at Zero Speed
Resists motor shaft rotation when the drive is in "Stop" mode.

Regeneration Protection
Eliminates tripping due to high bus voltage caused by rapid deceleration of high inertial loads.

Undervoltage and Overvoltage Protection
Shuts down the drive if the AC line input voltage goes above or below the operating range.

Short Circuit Protection
Shuts down the drive if a short circuit occurs at the motor (phase-to-phase).

Trimpot Adjustments
Min. Speed, Max. Speed, Accel, Decel, Current Limit, Slip Comp.

Jumper Selections
AC Line Input Voltage, Horsepower, Auto/Manual Start, 50Hz/60Hz Motor Frequency, 1X/2X Motor RPM, Run/Fault Output Relay.

Drive Option

Forward-Stop-Reverse Switch
Provides motor reversing and stop functions.

Applications

- Actuators • Air Cleaners • Amusement Rides
- Ball Pitching Machines • Blowers • Boat Lifts
- Bowling Alley Lane Cleaners • CNC • Conveyors
- Door and Gate Openers • Drilling • Duct Cleaners
- Dumbwaiters • Elevators and Hoists
- Exercise Equipment • Fabric Processing • Fans
- Feeders • Film Processing • Floor Cleaning
- Food Processing • Garment Cutting
- Grinding and Polishing • Hoppers • Horse Walkers
- HVAC • Indexers • Irrigation • Laminating
- Lift Station Pumps • Machine Tools
- Medical • Milling • Mixers • Oven Conveyors
- Packaging • Paint Blenders, Shakers, and Sprayers
- Paper Handling • Portable Equipment Used with GFCIs
- Pottery Wheels • Printing
- Pumps • Range Hoods • Sandblasting • Saws
- Sewing • Stretch Wrap • Textile • Treadmills
- Therapeutic Vibrators • Washing Machines
- Wave Soldering • Web Processing • Wheelchair Lifts
- Whole House Vacuums and Attic Fans
- Wire Feeders • Wood and Metal Lathes and Cutters
- Winders and Unwinders

Call or visit your local branch or go to **grainger.com/dayton** for complete product line information.

Ratings

Part No.	Ratings		Net Weight	
	HP, (kW)	Amps	Lbs.	kg
13E661	1, (0.75)	3.6	2.42	1.09

Specifications

Maximum Load (% of Current Overload for 2 Minutes)	150
Carrier, Switching Frequency (kHz)	16, 8
Output Frequency Resolution (Hz)	0.06
Minimum Output Frequency to Motor (Hz)	0.3
Acceleration Time (Seconds)	0.3 – 20
Deceleration Time (Seconds)	0.3 – 20
Speed Range (Ratio)	60:1
Speed Regulation (30:1 Speed Range, 0 – Full Load) (% Base Speed)	2.5
Stalled Motor Trip Time (Seconds)	6
Braking	Regenerative*
Operating Temperature Range (ºC / ºF)	0 – 40 / 32 – 104
Storage Temperature (ºC / ºF)	-25 – +85 / -13 – +185

*DC Injection Braking – requires factory programming.

Dimensions – (Inches/mm)
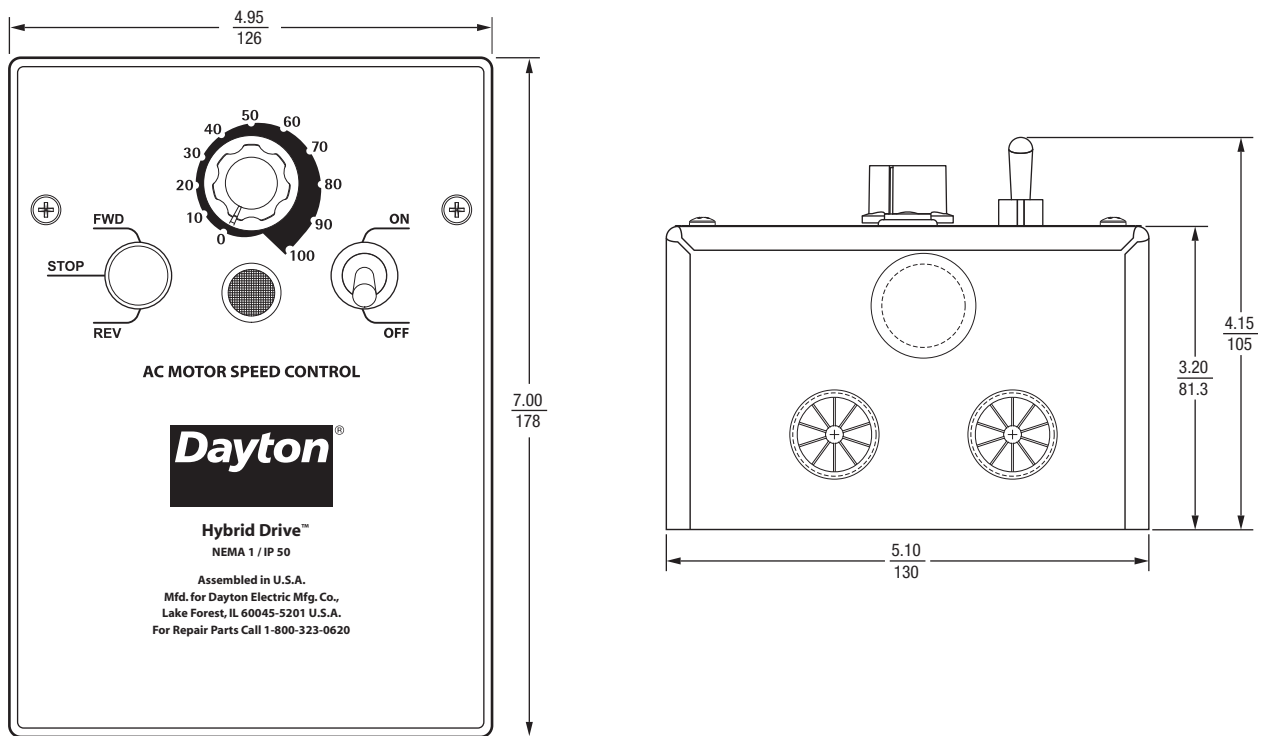
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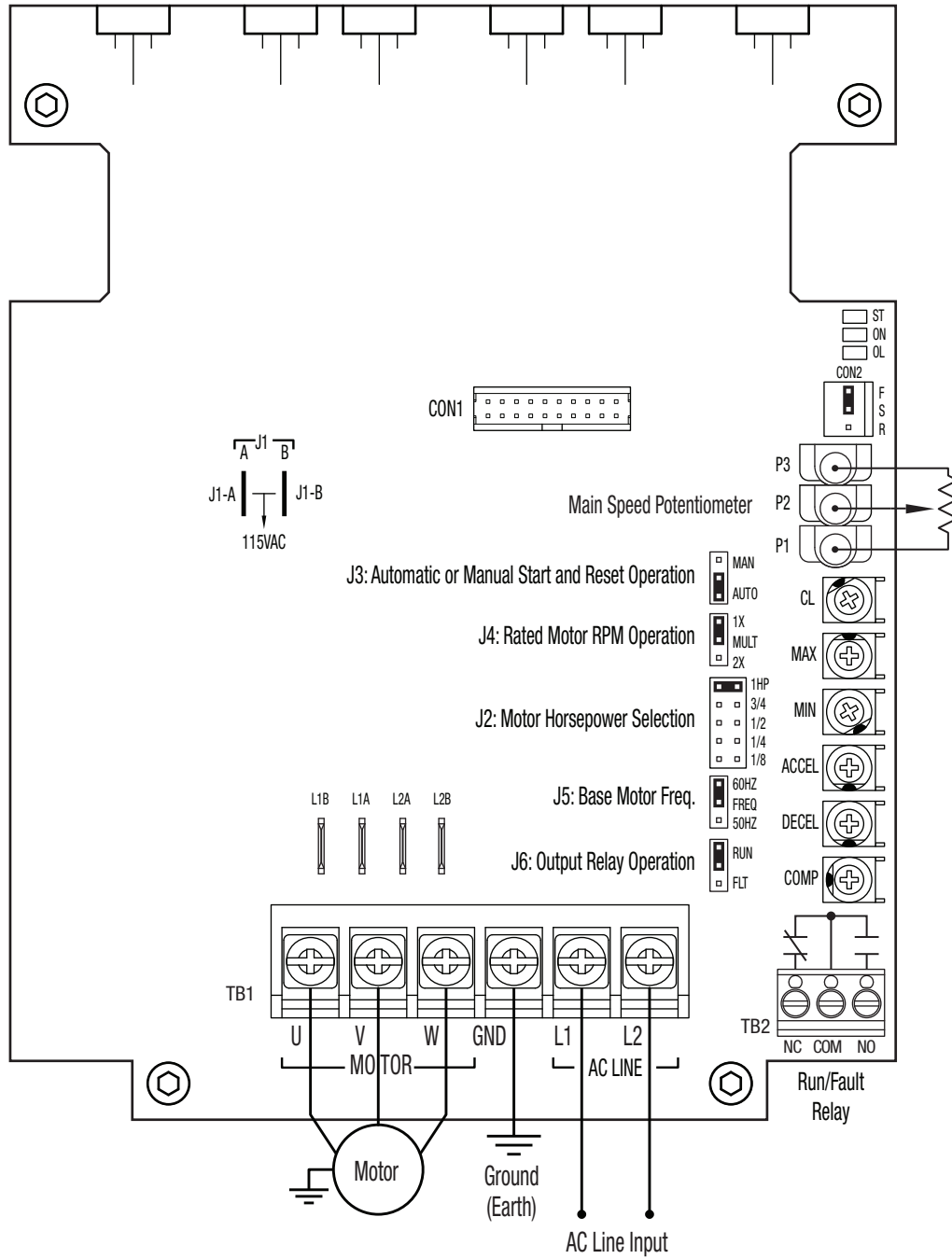
Control Layout

CON1

J1
A   B

J1-A ┤├ J1-B

115VAC

Main Speed Potentiometer

J3: Automatic or Manual Start and Reset Operation — MAN / AUTO

J4: Rated Motor RPM Operation — 1X / MULT / 2X

J2: Motor Horsepower Selection — 1HP / 3/4 / 1/2 / 1/4 / 1/8

L1B L1A L2A L2B

J5: Base Motor Freq. — 60HZ / FREQ / 50HZ

J6: Output Relay Operation — RUN / FLT

TB1

U   V   W   GND   L1   L2

MOTOR   AC LINE

Motor

Ground
(Earth)

AC Line Input

ST
ON
OL

CON2   F
       S
       R

P3
P2   Main Speed Potentiometer
P1

CL

MAX

MIN

ACCEL

DECEL

COMP

TB2

NC   COM   NO

Run/Fault
Relay

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