

# Dayton®

## AC Drive

Digital AC Drive with CSP™\*

**Rugged Die-Cast Aluminum NEMA 4X / IP 65 Enclosure with Hinged Cover**

### Primary Features

Horsepower 1/8 to 5 HP, Programmable

Input 115/230/460 VAC - 1ph & 3ph

Output 230/460 VAC - 3ph

Starting Torque 200%

Digital Display with LED Status Indicators

FDA Approved Finish\*\*

### Benefits

**Saves Time**

**Easy to Install and**

**Simple to Operate**

**Does not require commissioning**

*With CSP™ you are 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.*



\*CSP™ = Common Sense Programming. Parameters are organized into easy-to-understand intuitive groups. \*\*White case only.

Call or visit your local branch or go to [grainger.com/dayton](http://grainger.com/dayton) for complete product line information.

## 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.

### Multi-Function Output 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.

### Jog-Local/Remote

Set the drive to Jog Mode or changes between Local (Keypad) or Remote Operation.

### Built-in Potentiometer

Quickest way to change motor speed.

### 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).

## Drive Options

### IODA Input/Output Multi-Function Board

Adds up to 17 points of additional I/O.

### On/Off AC Line Switch

Disconnects the AC line.

### Liquidtight Fittings

Provides a liquid-tight seal for wiring the drive. Kit includes necessary liquidtight fittings.

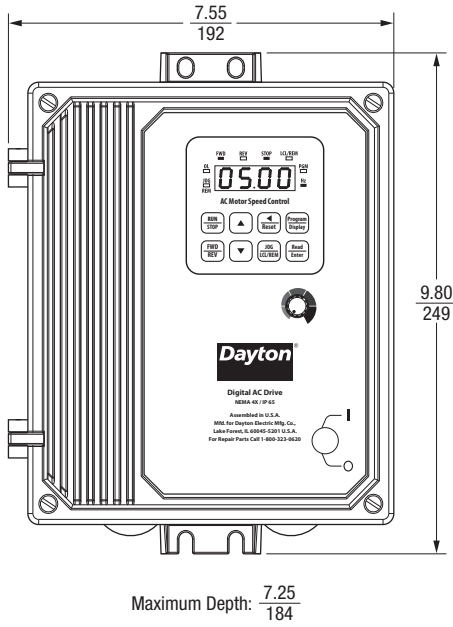


## Applications

- 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](http://grainger.com/dayton) for complete product line information.

Case "B" – (Inches/mm)



## Ratings

### 115/230 VAC 1-Phase Input • 230 VAC 3-Phase Output

Part No.		Ratings		Net Weight		Case
Gray	White*	HP, (kW)	Amps	Lbs.	kg	
13E644	13E645	1, (0.75)	3.6	5.9	2.7	A
13E646	13E647	2, (1.5)	6.7	10.3	4.7	B

### 230 VAC 1-Phase Input • 230 VAC 3-Phase Output

Part No.		Ratings		Net Weight		Case
Gray	White*	HP, (kW)	Amps	Lbs.	kg	
13E648	13E649	3, (2.25)	9	10.3	4.7	B

### 230 VAC 3-Phase Input • 230 VAC 3-Phase Output

Part No.		Ratings		Net Weight		Case
Gray	White*	HP, (kW)	Amps	Lbs.	kg	
13E650	13E651	1, (0.75)	3.6	5.9	2.7	A

### 230 VAC 1 & 3-Phase Input • 230 VAC 3-Phase Output

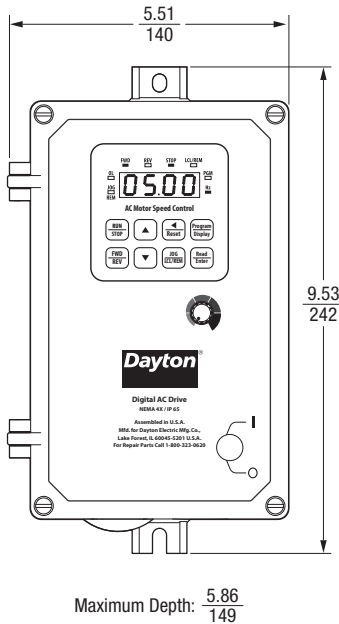
Part No.		Ratings		Net Weight		Case
Gray	White*	HP, (kW)	Amps	Lbs.	kg	
13E652**	13E653**	3, (2.25)	9	10.3	4.7	B

### 460 VAC 3-Phase Input • 460 VAC 3-Phase Output

Part No.		Ratings		Net Weight		Case
Gray	White*	HP, (kW)	Amps	Lbs.	kg	
13E654	13E655	1, (0.75)	2	5.9	2.7	A
13E656	13E657	3, (2.25)	5.5	10.3	4.7	B
13E658	13E659	5, (3.75)	8.3	10.3	4.7	B

\*FDA approved (white case only). \*\*Rated 2 HP, 6.7 Amps w/ 1-Phase Input.

Case "A" – (Inches/mm)



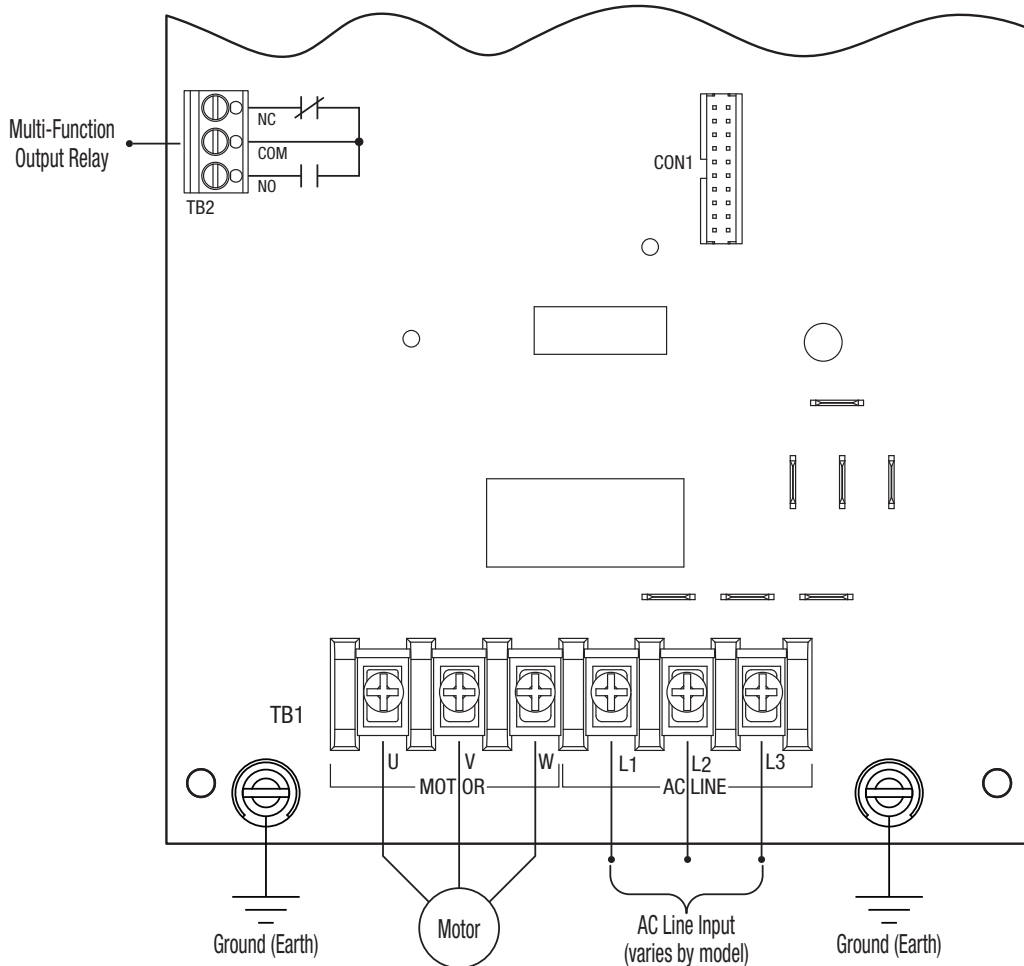
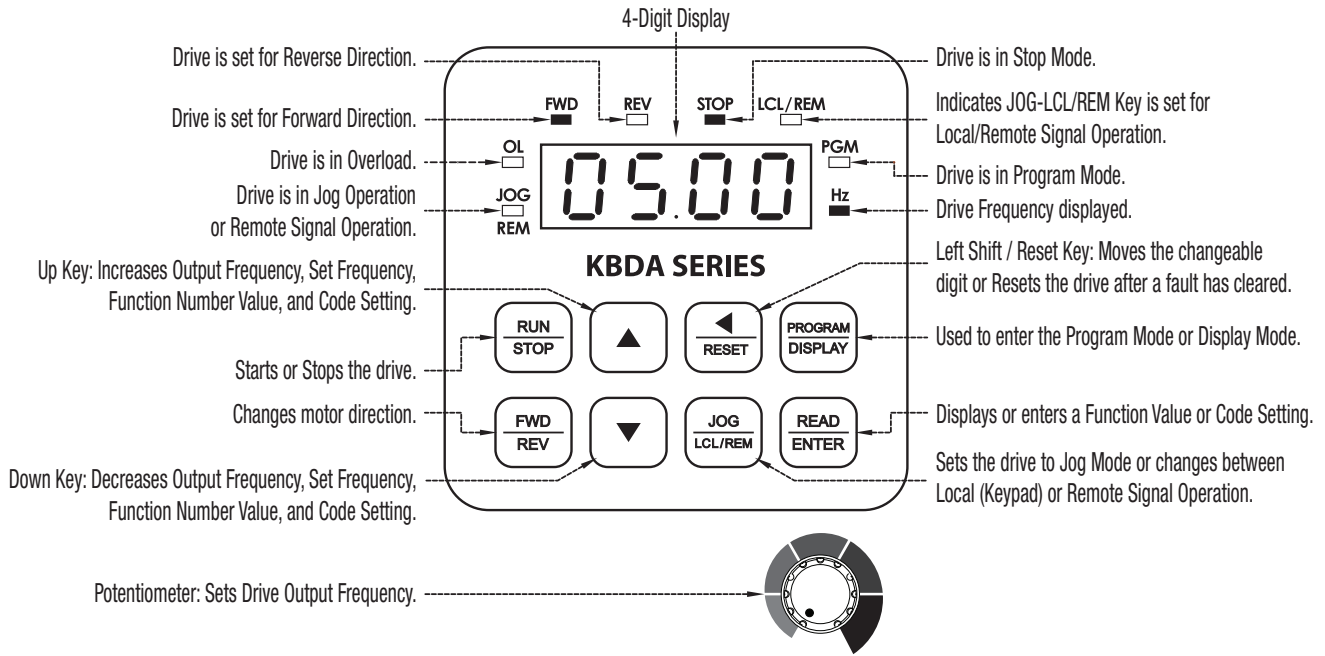
## Specifications

Maximum Load (% of Current Overload for 2 Minutes)	150
Switching Frequency (kHz)	8, 10, 12
Output Frequency Resolution (Hz)	0.06
Minimum Output Frequency to Motor (Hz)	0.3
Acceleration Time (Seconds)	0.1 – 180.0
Deceleration Time (Seconds)	0.3 – 180.0
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 (°C / °F)	0 – 40 / 32 – 104
Storage Temperature (°C / °F)	-25 – +85 / -13 – +185

\*DC Injection Braking - Programmable via keypad.

Call or visit your local branch or go to [granger.com/dayton](http://granger.com/dayton) for complete product line information.

# Control Layout



Find it at Grainger.

Call or visit your local branch or go to [grainger.com/dayton](http://grainger.com/dayton) for complete product line information.

