

## AC ADJUSTABLE SPEED DRIVES SUB-MICRO INVERTER ACCESSORIES



### FHP SERIES AC DRIVES

#### General Specifications:

The FHP Series volts/hertz-type AC drives are as simple to set-up and calibrate as an SCR-type DC drive. Rated from 1/4 to 1HP with 115V, 230V, or 115/230V "doubler" input power ratings.

The cost-conscious and compact chassis design of the FHP Series maintains the industry standard for mounting hole location.

The NEMA 4X enclosed drive has additional features in a compact package size.

With its compact size, standard features and application flexibility, the FHP Series is an excellent choice for most 1 hp and under AC applications.

#### Common features for chassis and enclosed units:

- Compact size – (4.30" x 3.70")
- Industry standard mounting
- Output voltage on dual voltage models is jumper selectable and can double the output voltage – allowing the use of a 230V motor when only 115V power is available.
- Quickly and easily change trimmer pot ranges for 1/15 to 1 hp motors.
- Easy calibration and setup with on board trim pot adjustments for boost, max speed, acceleration, deceleration, to overcome intermittent peak loads, then reduces the torque and torque limit.
- Torque 'foldback' feature – Allows up to 200% torque for short periods (output current) to a safe level that is set with the TQ LIMIT trim pot.
- 16kHz switching frequency, with option to change between 4 and 16kHz in the field.
- Adjustable torque boost for startup – Up to 200% additional torque for loads with high inertia or friction.
- Color-coded on-board LEDs for Power, Fault and Torque Limit enable easy visual determination of drive status.
- Easy start/stop and direction control with enable and Direction terminal connections.
- Accepts speed reference from 0-5VDC isolated signal or wired in speed potentiometer.
- Plug-in Process Control Module (PCM) kit available to accept 0-5VDC, 0-10VDC or 4-20mA input.
- UL listed

#### Special features of the NEMA 4X drive:

- NEMA 4X enclosure
- Jumper selectable DC injection braking or coast to stop
- Brake time and current are adjustable
- Built-in isolation card to accept a speed reference signal
- Min speed adjustment
- Auto or manual restart after power loss

PARAMETER	SPECIFICATIONS FOR ALL FHP MODELS
Max load	150% for 5 minutes
Output frequency	0-120Hz
Output type	6 step PWM
Switching frequency	4-16kHz range* with 16kHz as factory default
Speed regulation and range	±3% of base speed; up to 50:1
On-board adjustable trim pots	Max speed, accel, decel, boost & torque limit
Adjustable maximum frequency range	32-120Hz
Adjustable accel and decel time range	1-12 seconds
Torque boost range	0-200%
LED indicators	Power (green), Fault‡ (red), Torque Limit (yellow)
Instantaneous over-current trip time	3 µsec
Analog reference input and impedance	0-5VDC isolated, ~100Kohm
Plug-in PCM isolator card input	0-5 VDC, 0-10VDC, 4-20mA
Ambient temperature range	0-40°C
Weight (Chassis Models)	1.2 lbs.
Vibration	0.5G max (20-50Hz); 0.1G max (>50Hz)
Approvals	UL, cUL

\* Plug-in capacitor kit (175325) for field adjustments to less than 16kHz; ‡ Faults are Over-voltage, Under-voltage and Instantaneous Over Current trip.

Specifications are subject to change without notice



### FHP SERIES AC DRIVES • CHASSIS MOUNT SINGLE PHASE INPUT/SINGLE OR THREE PHASE OUTPUT

HP	Input Voltage	Output Amps	Output Voltage	Catalog Number	App. Wgt. (lbs.)
1/4	230	1.2	230	175318.00	2
	115/230	1.2	230	175319.00	2
	115	2.4	115	175320.00	3
1/2	230	2.4	230	175321.00	3
	115/230	2.4	230	175310.00	3
	115	4.0	115	175322.00	4
1	230	4.0	230	175323.00	4
	115/230	4.0	230	175311.00	4

### FHP SERIES AC DRIVES • ACCESSORIES

Item Description	Catalog Number	App. Wgt. (lbs.)
Process Control Module (PCM) Kit*	175324.00	2
Carrier Frequency Capacitor Kit	175325.00	1

\* PCM Kit is for use with chassis drives only.

### FHP SERIES AC DRIVES • NEMA 4X (IP65) SINGLE PHASE INPUT/THREE PHASE OUTPUT

- NEMA 4X enclosure
- Min speed adjustment
- Jumper selectable features:
  - DC injection braking or coast to stop
  - Brake time and current are adjustable
  - Auto or manual restart after power loss
- Built-in isolation card to accept a speed reference signal



HP	Input Voltage	Output Amps	Output Voltage	Catalog Number	App. Wgt. (lbs.)
1/6-1	115/230	4.0	230	175326.00	7

### DUAL MODE • DUAL SPEED CONTROL

- Dual Motor, Dual Voltage Control
- SCR Control designed to run two DC motors at the same time in either Independent mode or Slave/ Master mode
- Open Chassis Design
- Dual voltage, 115-230 VAC input with jumper selectable 90/180 VDC output
- Jumper selectable speed and torque mode
- Two trim pots each for the minimum speed, maximum speed, IR compensation, current limit and acceleration/deceleration
- Comes standard with two potentiometers



HP	Input Voltage	Output Amps	Output Voltage	Catalog Number	App. Wgt. (lbs.)
1 HP @ 90 VDC 2 HP @ 180 VDC	115/230	10*⊕	0-90/0-180	174422.00	3

⊕ Heat sink 174314 is required if one side provides more than 5A or the output of both sides is more than 6.5A.