

REV	NOTES	DATE
01	Added SH4, mounting fasteners, box end printing. Removed label. DGR	8/14/12

Fig. 1

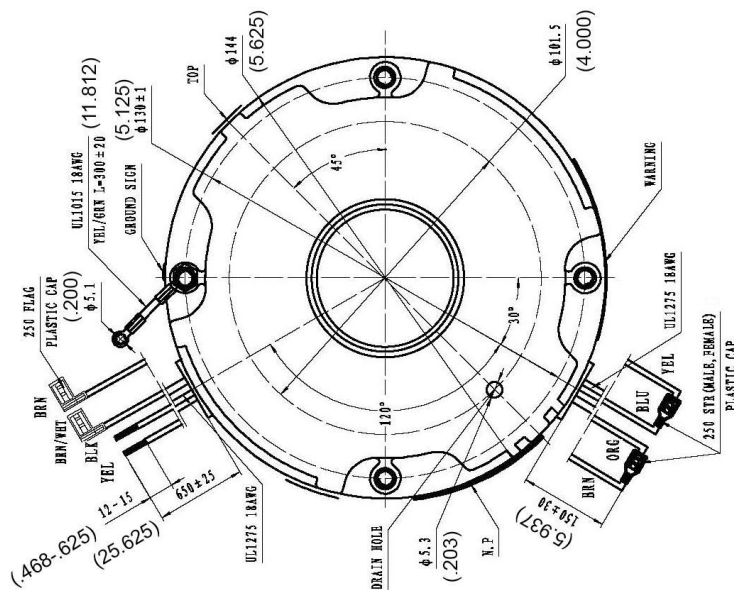
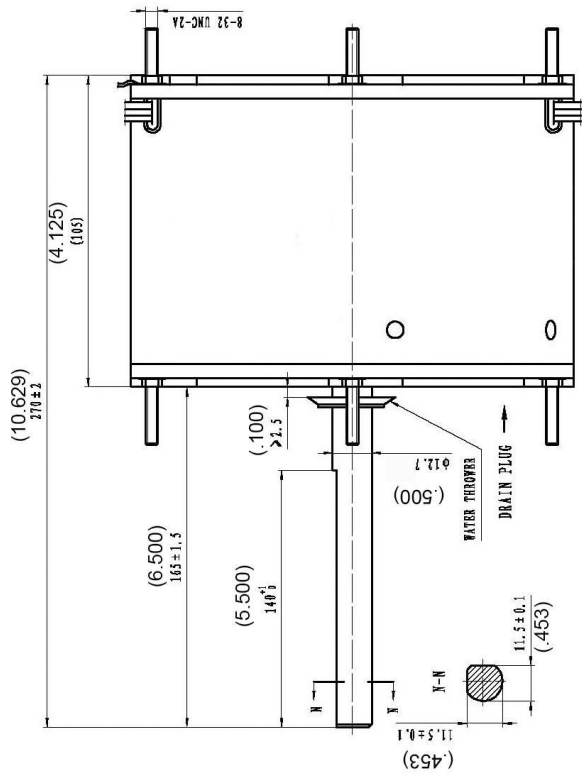


Fig. 2

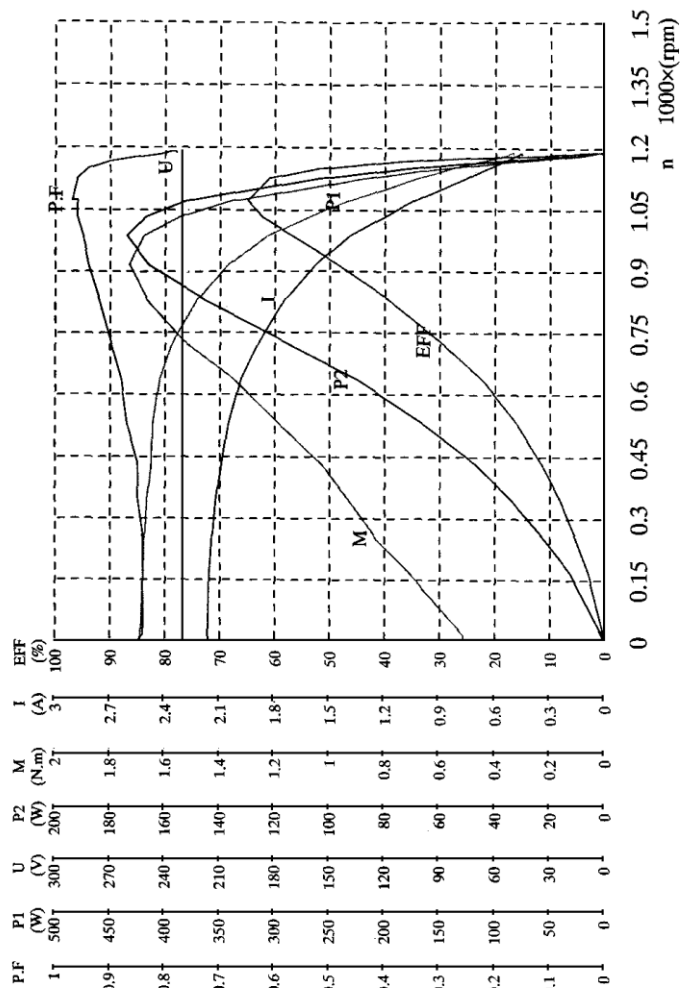
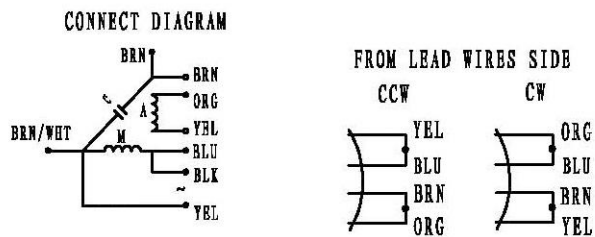


Fig. 3



Part No. [s]

Drawn By: DGR 8/14/12  
 Reviewed By: ESP 9/6/12  
 Date:

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PROTECH UNIVERSAL 1/6 HP Direct Drive Outdoor Condenser Fan Motor – 208-240 V

W51-16CJA1-01


Sheet 1 of 4

REV	NOTES	DATE
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1. **Description** - 1/6 HP, 208-240 V, outdoor condenser fan motor suitable for residential and light commercial HVAC applications. Single speed with reversible rotation.
2. **Physical Characteristics:**
  - a. Dimensions - See Fig. 1. Primary dimensions and tolerances are in millimeters. Parenthetical reference dimensions are in inches.
  - b. Frame Designation - NEMA 48
  - c. Design Type - Permanent split capacitor (PSC) six pole induction motor.
  - d. Overload Protection - Automatic reset thermal protector in series with motor windings. Protector is embedded in direct contact within motor windings.
  - e. Insulation System - Class B (130 C)
  - f. Winding Resistance at 25C - 32.6/41.9 ohms nominal
  - g. Endplates - Cast aluminum
  - h. Shell - Cold-rolled painted steel. Corrosion protection system shall comply with ASTM B117.
  - i. Motor shaft - Cold-rolled steel
  - j. Bearings - One provided in each end plate. Brass sleeve bearings. Permanent hydrodynamic lubrication. Bearing design shall comply with Rheem qualification tests CQP-12.4 and CQP-12.6.
  - k. Thru-bolts - Four 5-3/4 in. [14.6 cm] long 8-32 threaded through-bolts
  - l. Plug for Unused Drain Hole - One rubber plug capable of being removed and installed in the appropriate end plate to prevent water intrusion. Installed in factory for shaft-down operation in the endplate opposite the shaft
  - m. Water Slinger - One rubber washer water slinger installed on motor shaft
  - n. Grommet (Lead Wires) - Two rubber grommets installed in the motor shell to prevent wire chafing
  - o. **Additional hardware to be included:**
    - I. Four (4) #8-32 KEPS nuts or four (4) #8-32 flange nuts to be installed on the motor studs.  
*Optional* - Nuts can be supplied loose in a poly bag. Plating – Zinc
    - II. Four (4) #8-32 x 1/4 in. Phillips hex washer head screws installed on motor shell.  
*Optional* - Screws can be supplied loose in a poly bag. Plating – Zinc
3. **Application/Performance Characteristics:**
  - a. Mounting Methods - Thru-bolt or belly-band
  - b. Mounting Orientation - Shaft-up or Shaft-down
  - c. Rotation Direction - Reversible (controlled via reversing leads)
  - d. Nominal RPM - 1075
  - e. Number of speeds - One
  - f. Torque-Speed Curve - Reference Fig. 2
4. **Electrical Ratings:**
  - a. Horsepower - 1/6 HP
  - b. Voltage - 208-240 VAC (Single Phase)
  - c. Frequency - 60Hz
  - d. Full Load Amps (FLA) -1.2 A
  - e. Locked Rotor Amps (LRA) – 2.1 A
  - f. Required Run Capacitor - 5uF/370V



Part No. [s]

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 <b>Parts Engineering</b>	<b>PROTECH UNIVERSAL 1/6 HP Direct Drive Outdoor Condenser Fan Motor – 208-240 V</b>	Sheet 2 of 4

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**5. Electrical Connections:**

- a. Conductors - All conductors shall be 18 AWG stranded copper wire. Minimum length 25 in. [63.5 cm], except ground lead, minimum 10 in. [25.4 cm]. Length of reversing leads is not specified.
- b. Insulation:
  - i. Type - UL Recognized Appliance Wiring Material, with minimum ratings of 600V, 105C, VW-1.
  - ii. Thickness - Min 3/64 in. [1.19 mm], except ground lead, min. 1/32 in. [0.79 mm]
  - iii. Color - See Fig. 3. Ground lead shall be green or green with a yellow stripe.
- c. Terminations:
  - i. Capacitor Leads - 1/4 in. fully insulated quick connect terminals
  - ii. Ground Lead - Ring terminal with internal paint breaking serrated edge
  - iii. Reversing Leads - Mating male/female fully insulated quick connect terminals

**6. Agency Certifications** - The motor shall comply with the requirements of UL 1004 and UL 2111, and be UL Recognized under the PRGY2 and XEWR2 product categories. UL File Number E256965.

**7. Marking/Labeling** - The labels shown in Fig. 5 and Fig. 6 shall be provided on the motor shell. Labels shall be provided on a UL Recognized Component Marking and Labeling System (PGDQ2 product category) suitable for outdoor use on a painted steel surface, with a rated temperature range of -35°F to 130°F [-37C to 55C]. A date or batch code shall be provided in the area marked "xxxxxxx". The vendor part number shall be provided in the area marked "Yxxxxxxx".

**8. Individual Packaging:**

- a. Carton Material:
  - i. White cardboard
  - ii. Double wall construction
  - iii. Complies with ECT (edge crush test) of at least 150 pounds/in. [10.5kg/cm]
  - iv. Complies with Bursting Test 200 psi [1379 kPa]
  - v. Gross weight capacity should be at least 65 pounds [29.5 kg]
- b. Each box shall be provided with internal packing or support adequate to prevent motor movement within box.
- c. Marking/Labeling - Representative content shown in Fig. 4 shall be color printed on faces of the box. Bar Code shall be in 3 of 9 format. UPC number is 662766361100. A date or batch code shall be provided in the area marked "xxxxxxx". See artwork - **Condenser Motor Box\_16C.ai** for size, CMYK color and layout.



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**Parts  
Engineering**

**PROTECH UNIVERSAL 1/6 HP Direct Drive  
Outdoor Condenser Fan Motor – 208-240 V**

**W51-16CJA1-01**

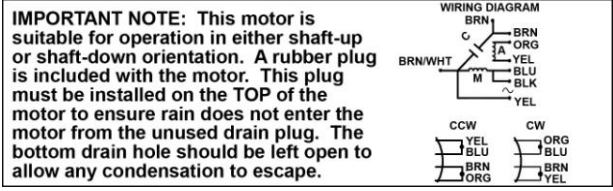
Sheet 3 of 4

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1  
Fig. 4

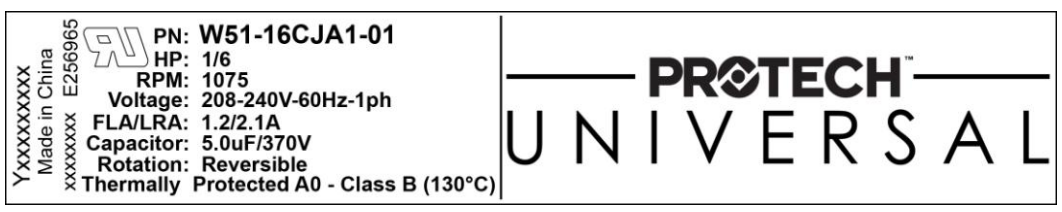


Fig. 5



Label size:  
1.375 in. x 4.25 in.

Fig. 6



Label size:  
1.375 in. x  
7.00 in.

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