

A black and white photograph of an EC MAX electronically commutated motor. The motor is cylindrical with a dark, ribbed body and a flat, metallic top. A long, thin, dark shaft extends vertically from the center of the top. The motor is positioned in the lower-left quadrant of the frame. The background is black, and the left side of the image is decorated with three diagonal stripes in shades of green and white.

EC MAX[®]

ELECTRONICALLY
COMMUTATED
MOTOR

A solution from


Packard
Supplying HVACR solutions with your needs in mind.

EC MAX®

Packard has been working hard to develop the ideal direct drive blower motor that any HVACR contractor can keep in their van. This motor is specifically designed to replace over 100 different types of motors. With an easy wiring application, the EC Max® is the perfect motor!

APPLICATIONS

- Indoor furnace
- Air handlers
- Heat pumps

ACCESSORIES IN THE BOX

- Harness – *the same harness is used for all applications*
- Voltage Plugs
 - One for 115vac (white)
 - One for 230vac (yellow)
- Optional jumper wires and extra terminals
- Optional Y-adapter
- Installation manual



ELECTRONICALLY COMMUTATED DIRECT DRIVE BLOWER MOTORS

FEATURES

- High Efficiency ECM: Up to 80% efficient
- Replaces either PSC or X13 model of equivalent HP
- Dual Voltage Design: Replace 115 or 230V with one motor
- Replaces 100s of different motors
- Wiring harness and simple installation guide included
- Rotation Sensing Technology
 - Automatically selects rotation upon first start up
- 45" wiring harness

Item ID	H.P.	Volts	RPM	Amps	Hertz	Shaft Dimension	Length Less Shaft	Motor Type	Cord Length
46013	1/3	115/230	1075	5.0/3.0	60/50	1/2" x 5"	6 3/8"	ECM	45"
46012	1/2	115/230	1075	6.7/4.0	60/50	1/2" x 5"	6 3/8"	ECM	45"
46034	3/4	115/230	1075	8.2/4.9	60/50	1/2" x 5"	7 5/8"	ECM	45"
46001	1	115/230	1075	11.0/6.7	60/50	1/2" x 5"	7 5/8"	ECM	45"



ENERGY EFFICIENCIES

MOTOR COMPARISON	PSC	X13	EC Max
Technology	Induction Motor	Brushless DC	Brushless DC
Available Horse Power	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1
Speeds	Select 1-5	Select 1-5	Select 1-5
Speed Range	800-1100 RPM	600-1100 RPM	600-1200 RPM
Peak Motor Efficiency	59%	80%	80%
Average Power (Cooling CFM)	515 W	413 W	413 W
Average Power (Continuous Fan CFM)	515 W	200 W	95 W
Application	Retrofit & OEM	OEM	Retrofit for indoor PSC & EC Motor

AIRFLOW TEST

75,000 BTU FURNACE
W/ 3 TON AC COOLING

MODE	PSC	EC Max
Cooling On	667 W	464 W
Heating On	556 W	363 W
Fan On*	556 W	90 W

AIRFLOW TEST

105,000 BTU FURNACE
W/ 4.5 TON AC COOLING

MODE	PSC	EC Max
Cooling On	1007 W	810 W
Heating On	800 W	541 W
Fan On*	800 W	200 W

3/4 HP PSC vs. 1 HP EC Max

*Assuming Furnace Originally Used Heat Speed for Constant Fan

84%
ENERGY
REDUCTION

CONTINUOUS FAN

50%
ENERGY
REDUCTION

HEATING

30%
ENERGY
REDUCTION

COOLING

CROSS REFERENCES

46013



Mars 06103
Mars 06203
Mars 10585
Mars 10586
Mars 10860
US Motors 1864
US Motors 1971
US Motors 1972
genteq 3585
genteq 3586
Packard 43585
Packard 43586
Century 6103E
Century 6203E
Century D1036
Packard D1036AO
Fasco D727
Fasco D923
Century DL1036
Century EM3585
Econmaster EM3585
Century EM3586
Econmaster EM3586
Wagner WG840585
Wagner WG840586

46012



Mars 03587
Mars 03588
Mars 06105
Mars 06205
Mars 10587
Mars 10588
Mars 10860
US Motors 1865
US Motors 1973
genteq 3587
genteq 3588
Century 6105E
Century 6205E
US Motors 6630TS
US Motors 6631RS
US Motors 6631TS
Century EM3587
Econmaster EM3587
Century EM3588
Econmaster EM3588
Wagner WG840587
Wagner WG840588

46034



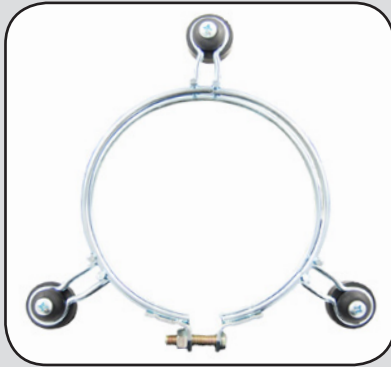
Mars 06107
Mars 06207
Mars 10589
Mars 10590
Mars 10861
genteq 3589
genteq 3590
Packard 43589
Packard 43590
Century 6107E
Century 6207E
US Motors 6640RS
US Motors 6640TS
US Motors 6641TS
US Motors 8904
US Motors 8905
Century D1076
Fasco D728
Fasco D729
Century DL1076
Century EM3589
Econmaster EM3589
Century EM3590
Econmaster EM3590
Wagner WG840589
Wagner WG840590

46001



Mars 03595
Mars 03596
Mars 06110
Mars 06210
Mars 10591
Mars 10592
Mars 10861
genteq 3595
genteq 3596
Packard 43595
Packard 43596
Century 6110E
Century 6210E
US Motors 6650RS
US Motors 6650TS
US Motors 6651TS
US Motors 8906
US Motors 8907
Century BD1106
Century BDL1106
Wagner WG840595
Wagner WG840596

MOUNTING OPTIONS



UNIVERSAL MOUNTING KIT A60048

- Diameter: 5 5/8"
- KIT INCLUDES**
- Steel bracket with 3 welded legs
- 3 steel sleeves
- 3 sets of rubber grommets



FLEX MOUNT BRACKETS

FOR USE WITH THE **46013** AND **46012** MODELS ONLY



TFM55

Features

- 3-Leg Torsion-Flex Brackets
- Diameter: 5 5/8"
- Designed to effectively isolate and prevent torsional vibrations from reaching blower housing and causing noise
- No preassembly; bracket clamps to motor shell. Includes 3 Grommets, 1 Bolt, 1 Nut, 3 Steel Washers



TFM556

Features

- 3-Leg Torsion-Flex Brackets
- Plastic insert allows you to adjust for 5" or 5.5" diameter
- Designed to effectively isolate and prevent torsional vibrations from reaching blower housing and causing noise
- No preassembly; bracket clamps to motor shell. Plastic inserts supplied for adapting bracket to NEMA 42 frame.

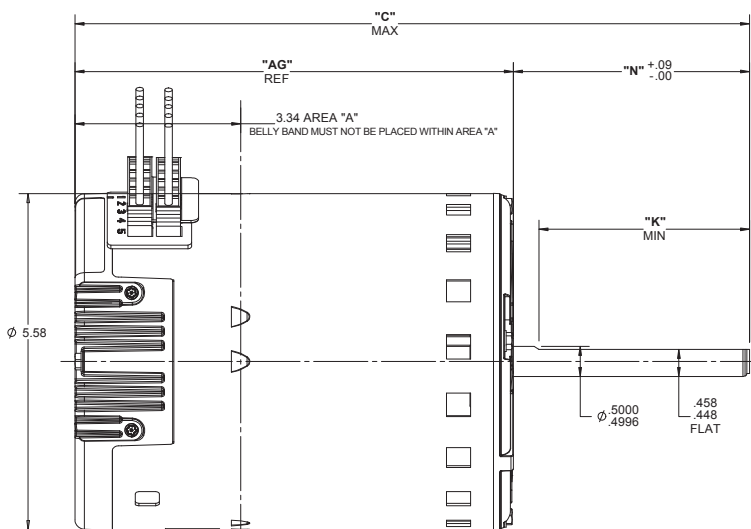
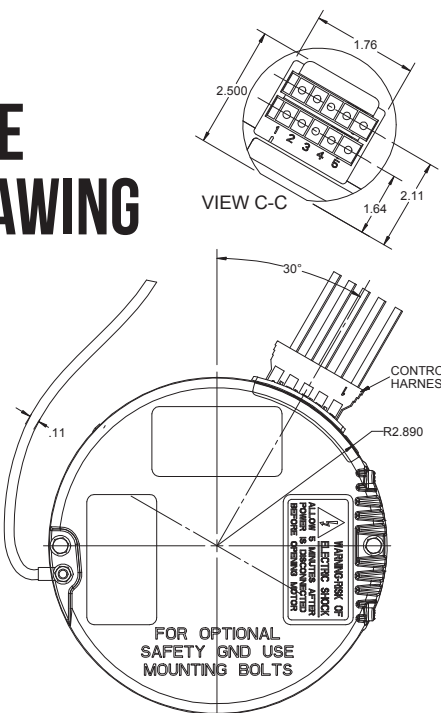


TFM554

Features

- 4-Leg Torsion-Flex Mount
- Diameter: 5 5/8"
- Helps isolate and prevent torsional vibrations from reaching blower housing and causing noise

LINE DRAWING



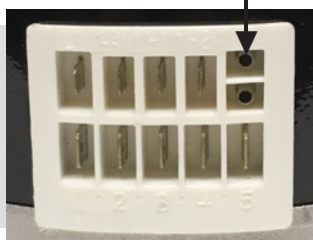
Item ID	C	N	K	AG	Weight
46012	11.26"	4.92"	4.50"	6.34"	12.40 lbs
46013	11.26"	4.92"	4.50"	6.34"	12.40 lbs
46034	12.76"	4.92"	4.50"	7.84"	18.85 lbs
46001	12.76"	4.92"	4.50"	7.84"	18.85 lbs



VOLTAGE

115V OR 230V

Voltage Plug



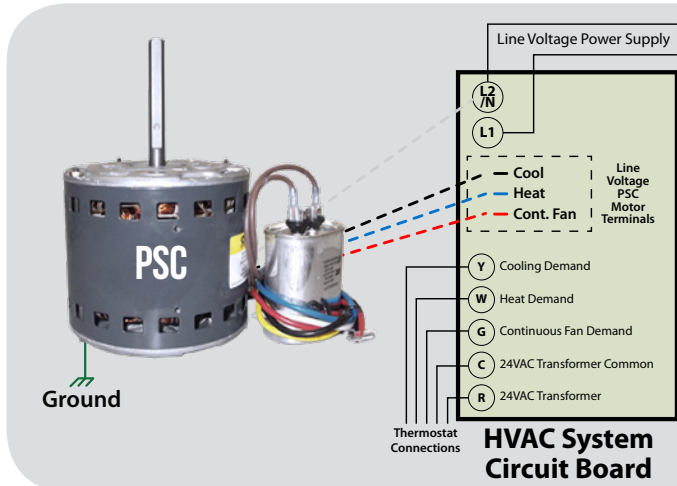
White Voltage Plug
115vac Systems



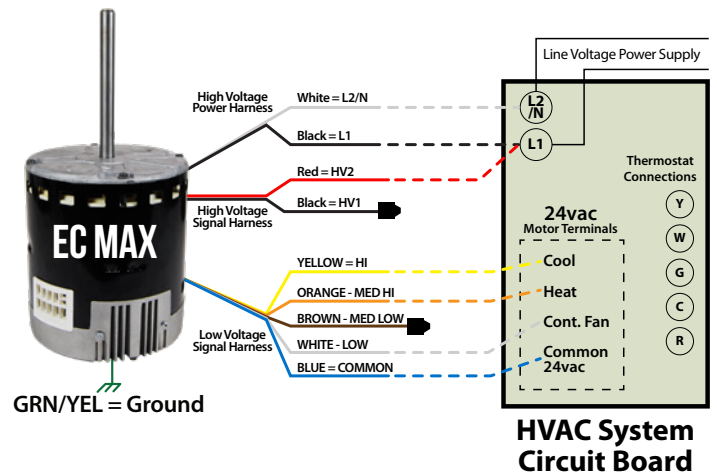
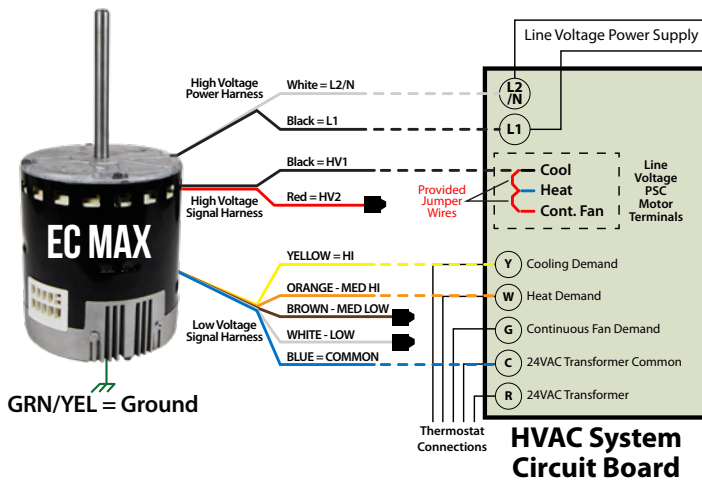
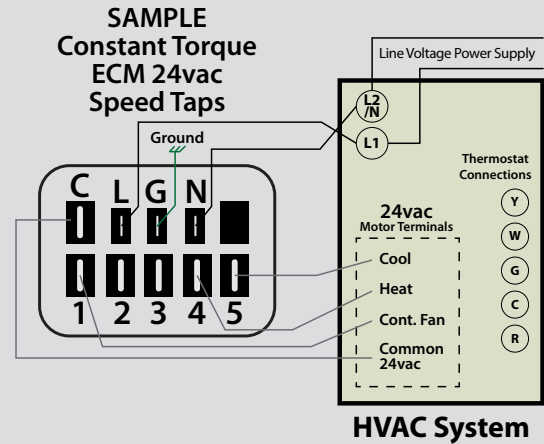
Yellow Voltage Plug
230vac Systems



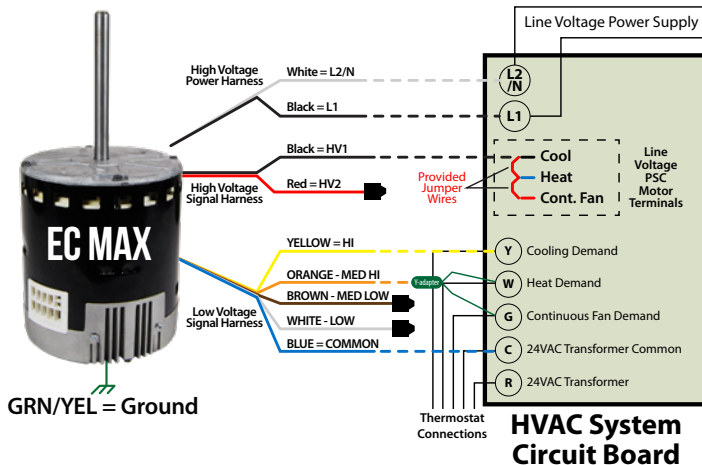
USING EC MAX[®] TO REPLACE PSC (PERMANENT SPLIT CAPACITOR) INDUCTION MOTORS



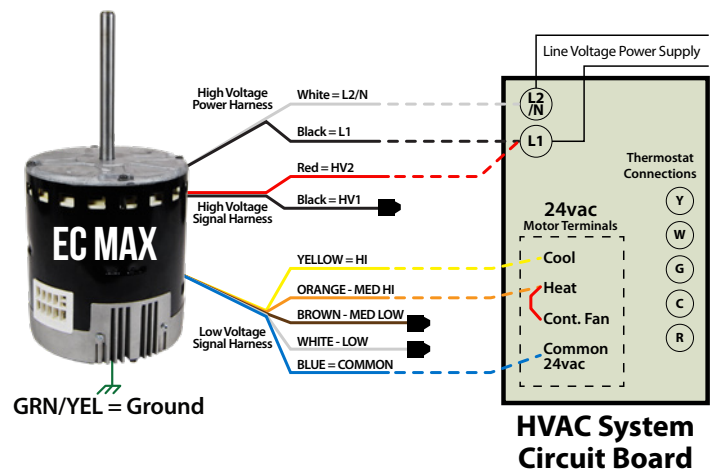
USING EC MAX[®] TO REPLACE CONSTANT TORQUE EC MOTORS



Example connection using the optional Y-adapter.



Example connection of one speed to multiple fan relay outputs from the HVAC system control board or fan relay(s).





EC MAX[®]
ELECTRONICALLY COMMUTATED MOTOR

Scan for
full product
details



SPECIFICATIONS

Voltage Ratings

- 115VAC (*white voltage plug*) allowable range 90-132VAC
- 230VAC (*yellow voltage plug*) allowable range 180-264VAC

Horsepower Ratings 1/3, 1/2, 3/4 & 1

FLA Ratings

- 1/3 Hp = 5.0/3.0
- 1/2 Hp = 6.7/4.0
- 3/4 Hp = 8.2/4.9
- 1 Hp = 11.0/6.7

RPM Rating 1075

Speeds (see chart to the right for estimated RPM values)

- 4 speeds (*LOW, MED-LOW, MED-HI & HI*)

Rotation CW or CCW (*automatically configured*)

Bearing Ball

Ambient Rating 40°C

Enclosure Open Air Over (OAO)

Frame size and dimensions NEMA 48 Frame (5.6" diameter)

DIM A & B

- 1/3 Hp (DIM C = 11.26"), (DIM AG = 6.34")
- 1/2 Hp (DIM C = 11.26"), (DIM AG = 6.34")
- 3/4 Hp (DIM C = 12.76"), (DIM AG = 7.84")
- 1 Hp (DIM C = 12.76"), (DIM AG = 7.84")

Shaft .5" x 5" (4.5" single flat)

Mounting Belly band (*not supplied*)

Harness Lead length 48"

UL Recognized Component

4kV surge protection

SPEED (RPM) RATINGS.

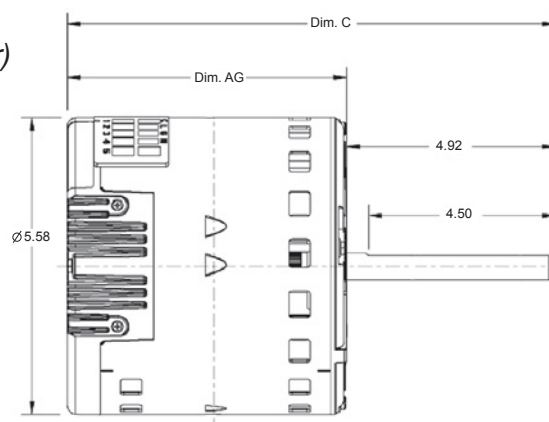
NOTE: ACTUAL RPM WILL VARY DEPENDING ON LOAD.

HI = 1075 RPM

MED-HI = 1000 RPM

MED LOW = 925 RPM

LOW = 850 RPM



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