

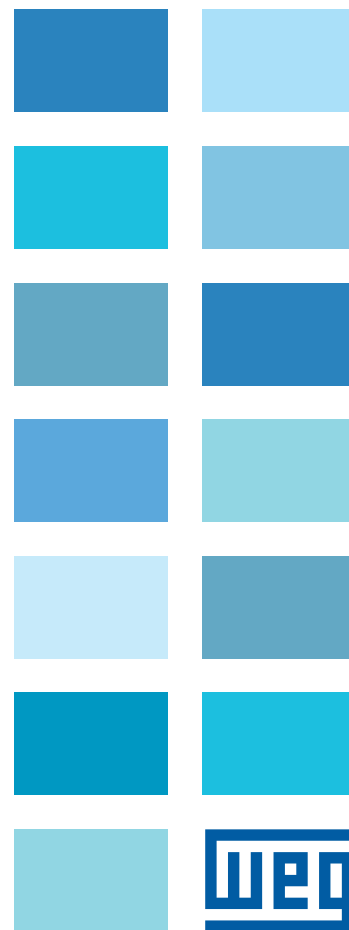
# Emerald ECM - eZA

- Totally Enclosed
- IE5 System Efficiencies (motor+drive)
- Built-in 10V DC power source
- Multiple mounting options available
- Efficient, Quiet, Flexible and Reliable

0-10V DC; 4-20mA or PWM  
Input Signal for Speed Control



**EMERALD**



The simple and efficient solution for air movement applications.

## Emerald eZA - Electronically Commutated Motor

### Standard Features

- Permanent Magnet, Electronically Commutated Motor
- Single-phase, 50/60Hz input
  - 115/208 to 277VAC: 1/6 to 1/2 HP
  - 115/220 to 277VAC: 3/4 HP
  - 220 to 277VAC: 1 to 1.5 HP
- Output power: 1/6 to 1.5 HP at 1800rpm
- N48, steel frame, degree of protection IP54
- Mounting: rods
- Ambient temperature
  - -4°F to 104°F (-20 to 40°C) in TENV<sup>1</sup>
  - -4°F to 140°F (-20 to 60°C) TEAO<sup>2</sup>
- Total efficiency (motor + drive) – IE5<sup>3</sup>
- Vibration Grade A
- Direction of rotation CW/CCW (selectable)
- Continuous speed adjustment (200 to 1800rpm) by:
  - Tact buttons (local)
  - DC voltage (remote): 2 to 10VDC
  - DC current (remote): 4 to 20mA DC
  - Frequency (remote): 10 to 95%
- Local controls optically isolated
- With drain plug and 'V' ring sealing
- Sealed for life bearings
- Power and control cables with 20"(0.5m) long
- Electronic protection: overload, over temperature and locked-rotor.
- Fire mode (Override & Maximum speed mode)

- Applications
- Furnaces
  - Air Handlers
  - Air Conditioning
  - Heat Pumps
  - Refrigeration
  - Ventilation



Figure 1. Thru-bolts mounting

#### Notes:

1. *Totally Enclosed, Non-ventilated. Output limited to 0.85hp. Refer to WEG for electrical data.*
2. *Totally Enclosed, Air Over rated. Minimum airflow over motor frame and drive cover 16.4fps (5m/s).*
3. *Direct method - Input-Output IE levels according to 60034-30-1 and 60034-30-2.*

**Optional features<sup>1</sup>**

- Foot mounting
- Terminal box
- Slinger seal for vertical shaft-up mounting



Figure 2. Thru-bolt and terminal box



Figure 3. Foot mounting



Figure 4. Foot mounting and terminal box

**Nameplate**

**Electronically  
Commutated  
Motor**

MODEL: EZA.5018N1FT48YZ      IE5    Mar. 2019  
 Lot: 0002021247                    PH:1    HP:1/2  
 MAT. No.: 14791728                HZ:50/60    INS:F  
 UL Model: WECM-ST80-40A1  
 FRAME:48YZ                            DUTY-CONT  
 SF:1.00 (TENV 40°C)                ΔT - 80K  
     1.00 (TEAO 60°C)

Performance                            VOLT. 115/208-277V

HP	RPM	Lb.ft	AMPS
0.50	1800	1.44	5.6/3.7-2.8
0.39	1400	1.44	4.6/3.0-2.3
0.28	1000	1.44	3.6/2.4-1.8
0.17	600	1.44	2.3/1.5-1.1

**Voltage selection**  
 115V – Red leads interconnected  
 208-230V – Red leads disconnected

<b>Power leads</b>	<b>Control cable</b>
Line: white	DC voltage [2-10V]: blue
Neutral: black	DC current [4-20mA]: red
Ground: green	PWM [10-95%]: brown
	Speed reference: white
	10VDC source: yellow
	Common: black

**Local switch adjust**

	SW	On	Off
Control	1	Local	Remote
Rotation	2	CW-SE	CCW-SE

**Local speed adjust**  
 SW1: speed down/off      SW2: speed up/on

**WARNING:** refer to motor manual before applying power  
**AVERTISSEMENT:** se référer au manuel du moteur avant de mettre sous tension

HP	Base RPM	Frame	Catalog Model	Weight (lb)	Voltage	Enclosure	C-Dim (in)	N-W (in)
0.16	1800	48YZ	EZA.1618N1BT48YZ	10.4	115/208-277	TENV	11.023	4.0
0.25	1800	48YZ	EZA.2518N1BT48YZ	11.9	115/208-277	TENV	11.220	4.0
0.33	1800	48YZ	EZA.3318N1BT48YZ	13.4	115/208-277	TENV	11.417	4.0
0.5	1800	48YZ	EZA.5018N1BT48YZ	16.3	115/208-277	TENV	11.614	4.0
0.75	1800	48YZ	EZA.7518A1RT48YZ	19.3	115/208-277	TEAO	12.401	4.0
1	1800	48YZ	EZA00118A1DT48YZ	21.2	230-277	TEAO	13.385	4.0
1.5	1800	48YZ	EZA00158A1DT48YZ	25.1	230-277	TEAO	14.172	4.0

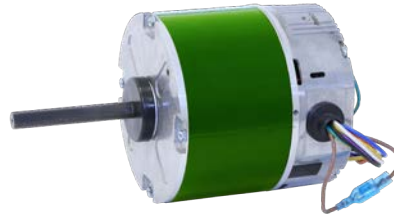
<sup>1</sup>Special features available upon request



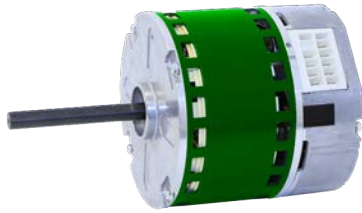
# Emerald Family of Products

## eCS

- Thermostat input control
- Outdoor Applications
- Up to 90% efficiency
- Designed for single and multi-stage units
- Wireless programming
- Efficient, Quiet, Flexible and Reliable



**Constant Speed Technology  
Seven Discrete Speed Outputs**



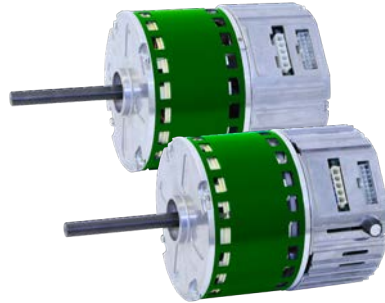
**5 discrete torque levels  
24V AC thermostat inputs**

## eCT

- Thermostat input control
- Indoor Applications
- Up to 90% efficiency
- Up to 5 discrete torque selections
- Wireless programming
- Efficient, Quiet, Flexible and Reliable

## eCV

- Highly Versatile
- Indoor and Outdoor Applications
- Built-in 10V DC power source option
- Multiple mounting options available
- Efficient, Quiet, Flexible and Reliable
- Up to 90% efficiency



**Fully Variable Speed ECM  
0-10V or PWM Input Signal**



**0-10V DC; 4-20mA or PWM  
Input Signal for Speed Control**

## eZA

- Totally Enclosed
- IE5 System Efficiencies (motor+drive)
- Built-in 10V DC power source
- Multiple mounting options available
- Efficient, Quiet, Flexible and Reliable

