

Aircore EC Motor

IES205-15HP-2400RPM

Datasheet



Ordering Information

| | |
|----------------|---|
| Catalog Number | IES205-15-2400-460-A Note: See Control Connections |
| Catalog Number | IES205-15-2400-460-C Note: See Control Connections |
| Catalog Number | IES205-15-2400-460-(A/C)-H Note: See Mechanical Below |

Motor Information

| | |
|--------------------------|----------------------------|
| Rated Power | 15 HP, 11.19 kW |
| Rated Torque | 45 Nm, 33.12 ft-lb |
| Rated Speed | 2400 rpm |
| Max Speed | 2880 rpm |
| Min Speed | 100 rpm |
| Weight (Motor and Drive) | 159.9 lbs, 72.51 kg |
| Frame Diameter | 20.2", 51.3 cm |
| Length (Motor and Drive) | 8.9", 22.6 cm |
| System Efficiency | 91.7%* |
| Duty Cycle | Continuous |
| Variable Speed | Yes, Integrated VFD |
| Service Factor | 1.0 |
| Motor Thermal Protection | Electronically-Protected L |
| Motor Type | TEFC |
| Enclosure Rating | IP54 |

Electrical

| | |
|-------------------------------------|---------------------------------|
| Supply Voltage | 460 VAC \pm 10% |
| Supply Phase | 3 Phase |
| Supply Voltage Frequency | 60 Hz \pm 5% |
| Voltage Imbalance | \pm 3% Phase to Phase Voltage |
| Short Circuit Current Rating (SCCR) | Input - 5 kA, 500 V maximum |
| Rated Amps | 18.0 A (460 VAC) |
| Motor Insulation Class | B |

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Performance



Mechanical

| | |
|-------------------------|---|
| Direction of Rotation | CW/CCW |
| Motor Frame Material | Aluminum |
| Rotor Inertia | 0.49 kg/m ² |
| Bearing Type - DE | Standard: Steel, 6206 sealed, Permanently Lubricated Optional: Hybrid Ceramic (-H in Catalog Number) |
| Bearing Type - NDE | Standard: Steel, 6206 sealed, Permanently Lubricated Optional: Hybrid Ceramic (-H in Catalog Number) |
| Grease Specification | Mobil Polyrex EM |
| Regreasable | No |
| Grounding Brushes | Included - DE |
| Shaft Design | Keyed |
| Motor Mounting Position | Horizontal or Vertical (Shaft Down) |
| Motor Mounting Type | C-Face and Body Mount |

Ambient Operating Conditions

| Condition | Operation | Storage & Transportation |
|----------------------|--|------------------------------|
| Altitude | 0 to 1,000 m (3,300 ft.) above sea level 9% power derate per 1,000 m up to 4,000 m | NA |
| Air Temperature | -25 to 40 °C (-13 to 104 °F) | -40 to 85 °C (-40 to 185 °F) |
| Relative Humidity | 95%, No condensation allowed | 95%, No condensation allowed |
| Contamination Levels | No conductive dust allowed | No conductive dust allowed |

Aircore EC Motor

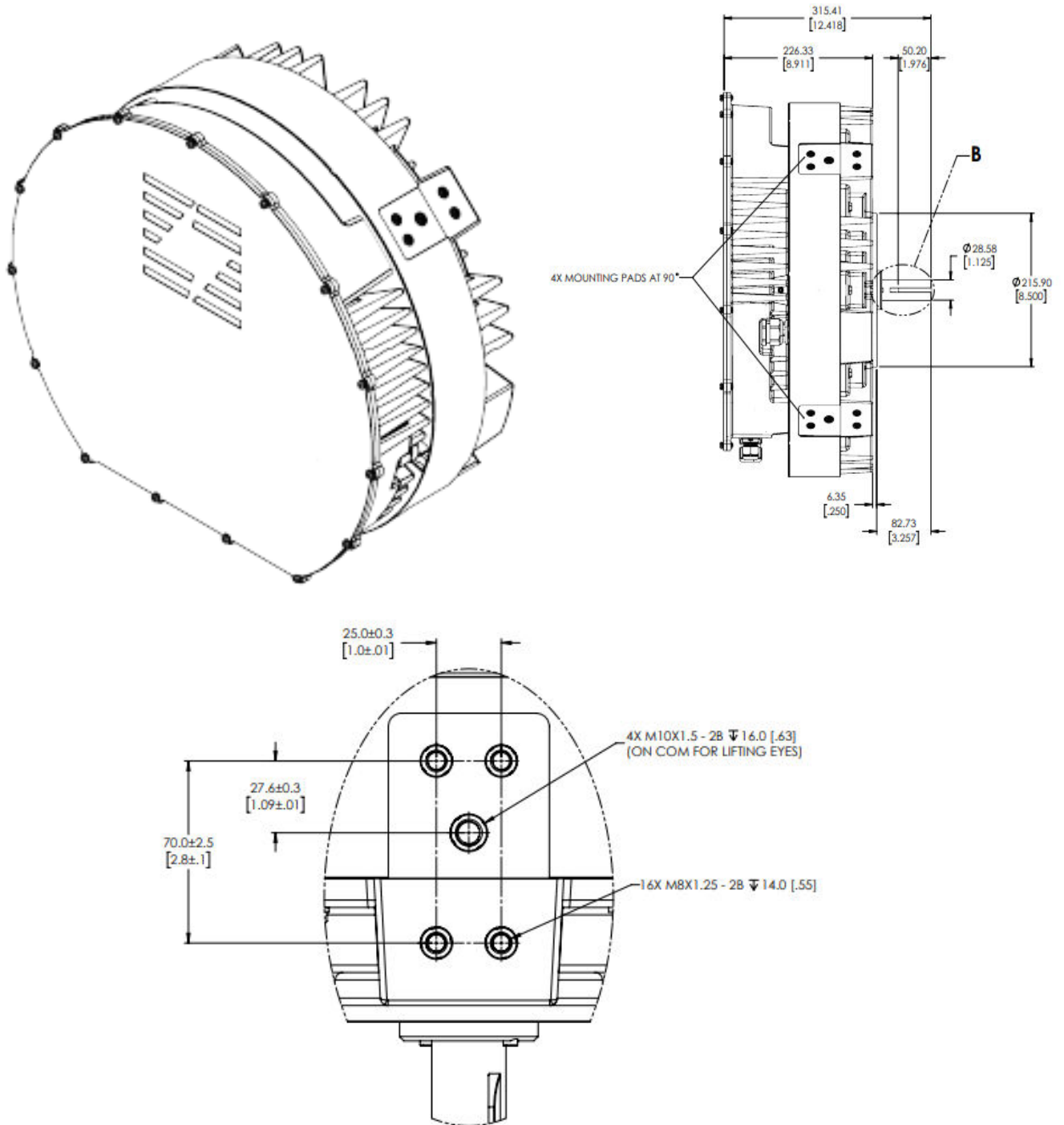
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Mounting Information

Below are the basic measurements needed for installation tasks.

- There are four mounting pad locations.
- Each pad is spaced 90° apart, containing 4 mounting holes and one lifting eye hole.
- This design accommodates many different installation arrangements.

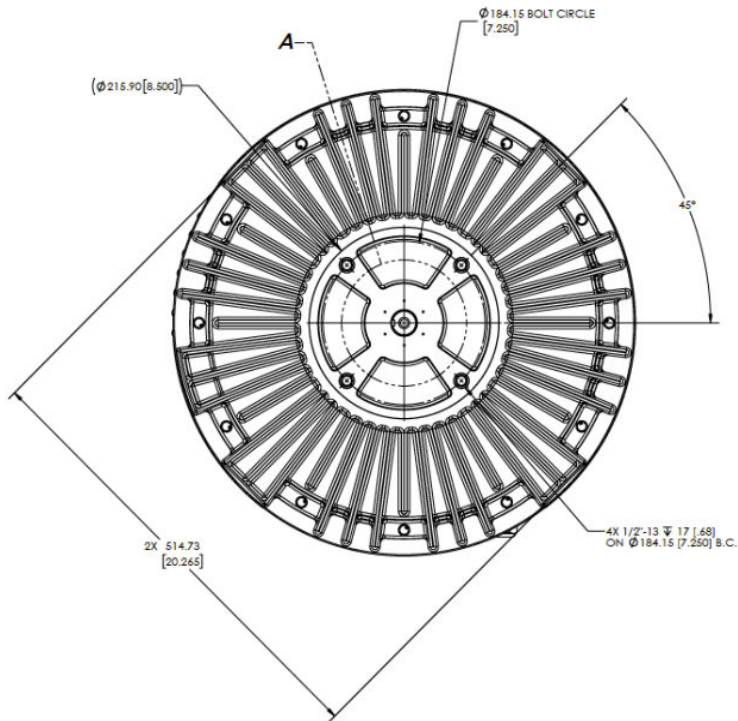


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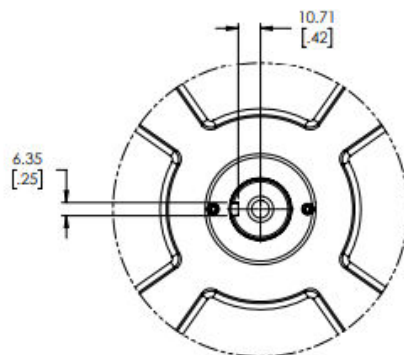
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- The DE face of the mounting block has threaded holes for four bolts (1/2"-13).
- All bolt holes should be used for secure mounting of the motor to equipment.



- Shaft, keyway, and grounding brush dimensions:



DETAIL A
SCALE 2:3

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Control Connections

The IEs User Manual has graphics showing locations of the following Inputs and Outputs.

Note: The letter at the end of the Catalog Number indicates supported VFD Inputs and Outputs

- **A motors support all the I/Os listed below**
- **C motors do not support Analog Outputs**

| Description | Quantity | Type |
|--|----------|---|
| Analog Input Software selectable for voltage or current input | 1 | <ol style="list-style-type: none"> 1. Voltage Signal – 0 to 10 VDC, Rin = 20 kΩ 2. Current Signal – 0 to 20 mA, Rin = 500 Ω 3. Resolution – 0.1% 4. Accuracy - ± 5% |
| Analog Output (See Above) Software selectable for voltage or current output | 1 | <ol style="list-style-type: none"> 1. Voltage – 0 to 10 VDC with 10 mA maximum 2. Current – 0 to 20 mA with load < 500 Ω |
| Auxiliary Voltage | 1 | <ol style="list-style-type: none"> 1. 24 VDC User Supply with ±5% with 250 mA maximum |
| Digital Input | 4 | <ol style="list-style-type: none"> 1. 24 VDC with internal or external supply 2. Input impedance – 1 kΩ |
| Digital Output | 2 | <ol style="list-style-type: none"> 1. Open drain output 2. Maximum Switching Voltage 40 VDC 3. Maximum Switching Current 350 mA |
| Relay Output | 1 | <ol style="list-style-type: none"> 1. Normally Open (NO), Normally Closed (NC) contact arrangements 2. Maximum Switching Voltage of 125 VAC/30 VDC 3. Maximum Switching Current of: <ol style="list-style-type: none"> a. NO – 10 A (VAC)/5 A (VDC) b. NC – 3 A (VAC)/3 A (VDC) |
| EIA-485 Interface for Modbus RTU | 1 | <ol style="list-style-type: none"> 1. Shielded twisted pair cable with impedance of 120 Ω 2. Transfer rate of 19200 baud 3. Half duplex Modbus communication protocol |

Regulatory

| | |
|-----------------|--|
| UL 1004-7 | Standard for Electronically Protected Motors |
| UL 1004-1 | Rotating Electrical Machines – General Requirements |
| CSA C22.2 No.77 | Motors with Inherent Overheating Protection |
| UL 61800-5-1 | Standard for Adjustable Speed Electrical Power Drive Systems, Part 5-1: Safety Requirements & Electrical, Thermal and Energy |

*Preliminary



106 Old Settlers Blvd
Suite D106
Round Rock, TX 78664

info@goinfinitum.com
goinfinitum.com
support.goinfinitum.com

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