

**RADIAL LOAD CAPACITY (Kgs) -
NO AXIAL LOAD - FOR L10 LIFE OF 10,000 HOURS
Radial Load Capacity at the End of the Shaft (Kgs)**

| 2500 RPM | 1750 RPM | 1150 RPM | 850 RPM |
|----------|----------|----------|---------|
| 220 | 250 | 290 | 320 |

**AXIAL THRUST CAPACITY (Kgs) -
NO RADIAL LOAD - FOR L10 LIFE OF 10,000 HOURS
Horizontal Mounting Load Capacity at the End of the Shaft (Kgs)**

| 2500 RPM | 1750 RPM | 1150 RPM | 850 RPM |
|----------|----------|----------|---------|
| 180 | 210 | 240 | 260 |

Notes: Print or enlarge waveforms for improved clarity.
For additional specifications see 10000000118

| REFERENCES | | DESCRIPTION | | CAD DOCUMENT | | | |
|-------------------------|----------|-----------------------|--|---|----|--------------|-----------|
| VERSION / CHANGE NUMBER | | HPK-E1310C-SA42AA,ESE | | CONFIDENTIAL AND PROPRIETARY INFORMATION | | | |
| 00 | 10000004 | | | THIS DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION OF ROCKWELL AUTOMATION, INC. AND MAY NOT BE USED, COPIED OR DISCLOSED TO OTHERS, EXCEPT WITH THE AUTHORIZED WRITTEN PERMISSION OF ROCKWELL AUTOMATION, INC. | | | |
| | | | | PARTS MUST CONFORM TO APPLICABLE ROCKWELL AUTOMATION MANUFACTURING STANDARDS | | | |
| | | | | DR. | VS | DATE | 6/15/2006 |
| | | | | | | SHEET 1 OF 4 | |
| | | | | DOCUMENT NUMBER | | | |
| | | | | 1000000096 | | | |


Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 1470 RPM.
3. Maximum speed: 3000 RPM.
4. Continuous stall torque: 155 Nm (1372 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 380 Nm (3363 lb-in) max.
6. Continuous output rating: 23.8 kW (32.4hp) max at 1465 RPM. Continuous current @ 1470 RPM 80 Amps 0 to peak max.(57.6 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 80 Amps 0 to peak max.(57.6 Amps.RMS)
9. Magnetizing current: 27.7 Amps. RMS ref.
10. Peak stall current: 200 Amps 0 to peak max.(142 Amps. RMS)
11. Insulation class: 180 (H).
12. Housing temperature: 125C max.
13. Winding resistance: .14 Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 5.46 mH, phase to phase Ref.
15. Dielectric rating of motor power connections (U,V,W), and thermostat connections (TS+, TS-) to ground: 2350 VAC RMS 50/60 Hz for 1 second.
16. Rotor inertia: .111 kg-m2 Ref.
17. Rotor balancing: Quality grade G-6.3.
18. Product weight: 166 kg (366 lb) Ref.
19. Operating ambient temperature: 0C to 40C (32F to 104F).
20. Storage ambient temperature: -30C to 70C (-22F to 158F).
21. Relative humidity: 5% to 95% non-condensing.
22. Liquid / dust protection: IP54 with blower installed.
23. Shock: 10 g peak max, 6 msec duration (18 occurrences tested).
24. Vibration: 2.5 g peak max, 30 to 2000 Hz.
25. Shaft material: Steel, grade 1040/1045.
26. Paint: Black. Shaft, key (if provided), flange mounting surface, and connectors are not painted.

Equivalent circuit parameters

- X1: .274 Ohms/phs Ref at 20C to 30C.
- X2: .341 Ohms/phs Ref at 20C to 30C.
- Xm : 6.88 Ohms/phs Ref at 20C to 30C
- R1: .0702 Ohms/phs Ref at 20C to 30C
- R2: .0523 Ohms/phs Ref at 20C to 30C

Notes: "Ref" denotes untoleranced specifications, provided for reference only.
Speed, torque and current specifications are for motor operation with Allen Bradley drives.

| | | |
|---|-----------------------|--------------|
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Feedback Specifications:

Electrical Hardware:

1. SIN, COS waveform output: 1024 sinusoids/rev.
2. SIN, COS waveform amplitude: 0.9 to 1.1 Volts peak to peak.
3. SIN -, COS - voltage offset with respect to power input common: 2.2 to 2.8 VDC.
4. +5VDC voltage input: 4.5 to 12.0 VDC.
5. +5VDC current input: 125 mA DC max continuous, 1.0 A DC max inrush.
6. TS+, TS- thermostat operating voltage: 250 Volts max.
7. TS+, TS- thermostat operating current: 1.6/2.5 Amps max at 0.6/1.0 power factor.

Serial Communication:

1. DATA+, DATA- signal type, rate: RS 485, 9600 baud, asynchronous.
2. Communication hierarchy: Encoder is slave, communication is externally initiated.
3. Single turn absolute position value range: 0 to 32,767 steps (12 bit).
4. Absolute position data: Binary, value increases with CW shaft rotation viewing motor mounting face.
5. Data (byte) format: Start bit, 8 data bits, parity bit, stop bit.
6. Memory storage capacity: 128 bytes, EEPROM.
7. Encoder temperature data: Binary value of encoder temperature in degrees C.

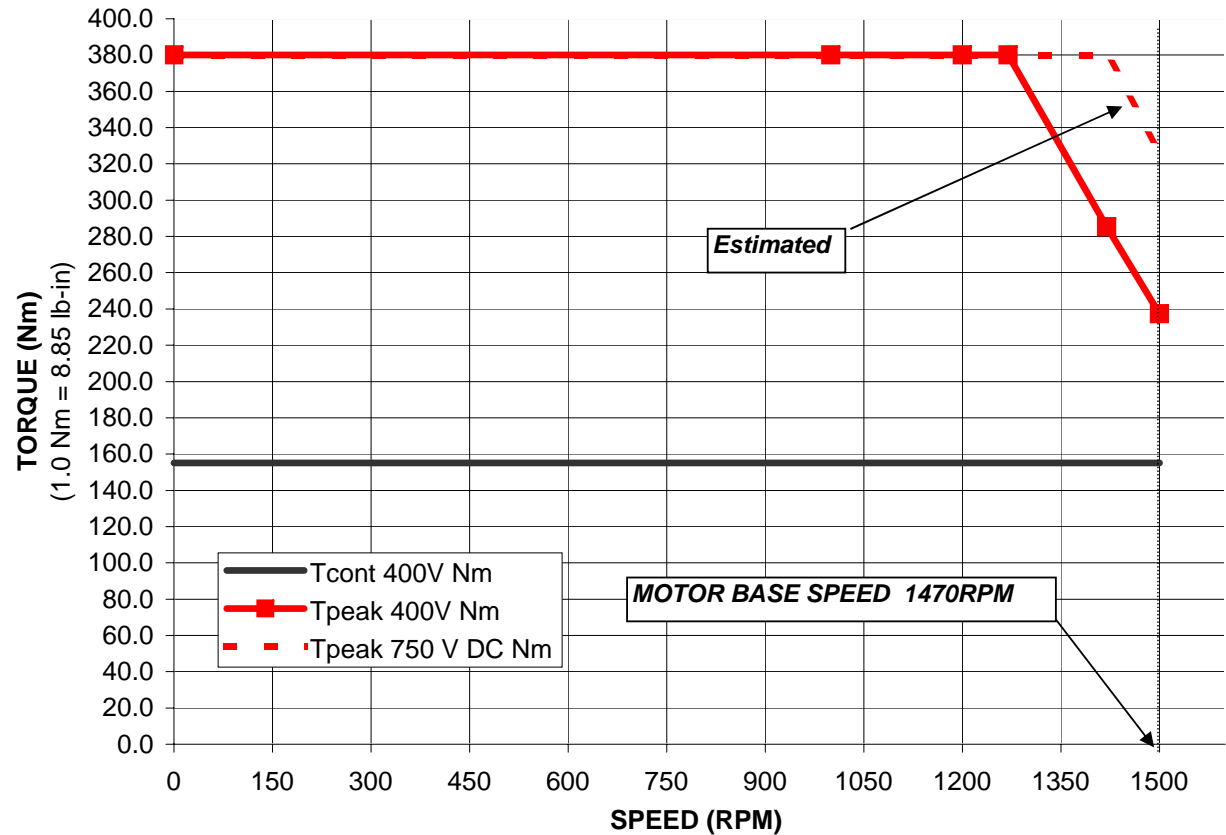
Note: "Ref" denotes untoleranced specifications, provided for reference only.

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| SPEED RPM | TORQUE | | |
|--------------|------------|------------|-------------------|
| | Tcont 400V | Tpeak 400V | Tpeak 750 V DC |
| | Nm | Nm | Nm |
| 0 | 155.0 | 380.0 | 380.0 |
| 1000 | 155.0 | 380.0 | 380.0 |
| 1200 | 155.0 | 380.0 | 380.0 |
| 1270 | 155.0 | 380.0 | 380.0 |
| 1420 | 155.0 | 285.3 | 380.0 |
| 1500 | 155.0 | 237.3 | 327.7 |

| SPEED RPM | TORQUE | | |
|--------------|------------|------------|-------------------|
| | Tcont 400V | Tpeak 400V | Tpeak 750 V DC |
| | lb-in | lb-in | lb-in |
| 0 | 1372.0 | 3363 | 3363 |
| 1000 | 1372.0 | 3363 | 3363 |
| 1200 | 1372.0 | 3363 | 3363 |
| 1270 | 1372.0 | 3363 | 3363 |
| 1420 | 1372.0 | 2525 | 3363 |
| 1500 | 1372.0 | 2100 | 2900 |

**HPK-E1310C-SA42AA Performance with 2099-BM09
at 400 VAC and 750 V DC Drive Input, 40C Motor Ambient**



Note: Nm torque values shown are converted from tested lb-in data.

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