

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
350	390	450	500
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
250	290	330	360

Notes: Print or enlarge waveforms for improved clarity.  
For additional specifications see 10000000134.

REFERENCES		DESCRIPTION		CAD DOCUMENT			
VERSION / CHANGE NUMBER		HPK-E1613E-MA42AA,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			
				1000000113			


Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 2975 RPM.
3. Maximum speed: 5000 RPM.
4. Continuous stall torque: 237 Nm (2097 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 430 Nm (3805 lb-in) max.
6. Continuous output rating: 73.7 kW ( hp) max at 2975 RPM.      Continuous current @ 2975 RPM 242.5 Amps 0 to peak max.(172 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 242.5 Amps 0 to peak max.(172 Amps.RMS)
9. Magnetizing current: 77 Amps. RMS ref.
10. Peak stall current: 440 Amps 0 to peak max.( 312 Amps. RMS)
11. Insulation class: 180 (H).
12. Housing temperature: 125C max.
13. Winding resistance: .0019Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 1.62 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: .206 kg-m2 Ref.
17. Rotor balancing: Quality grade G-6.3.
18. Product weight: 275 kg (606 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 occurances 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: .0814 Ohms/phs Ref at 20C to 30C.  
X2: ..109 Ohms/phs Ref at 20C to 30C.  
Xm : 2.4 Ohms/phs Ref at 20C to 30C  
R1: .00973 Ohms/phs Ref at 20C to 30C  
R2: .00761 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. Multi-turn absolute shaft revolution value range: 0 to 32,767 revolutions (12bit).
5. Absolute position data: Binary, value increases with CW shaft rotation viewing motor mounting face.
6. Data (byte) format: Start bit, 8 data bits, parity bit, stop bit.
7. Memory storage capacity: 128 bytes, EEPROM.
8. Encoder temperature data: Binary value of encoder temperature in degrees C.

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

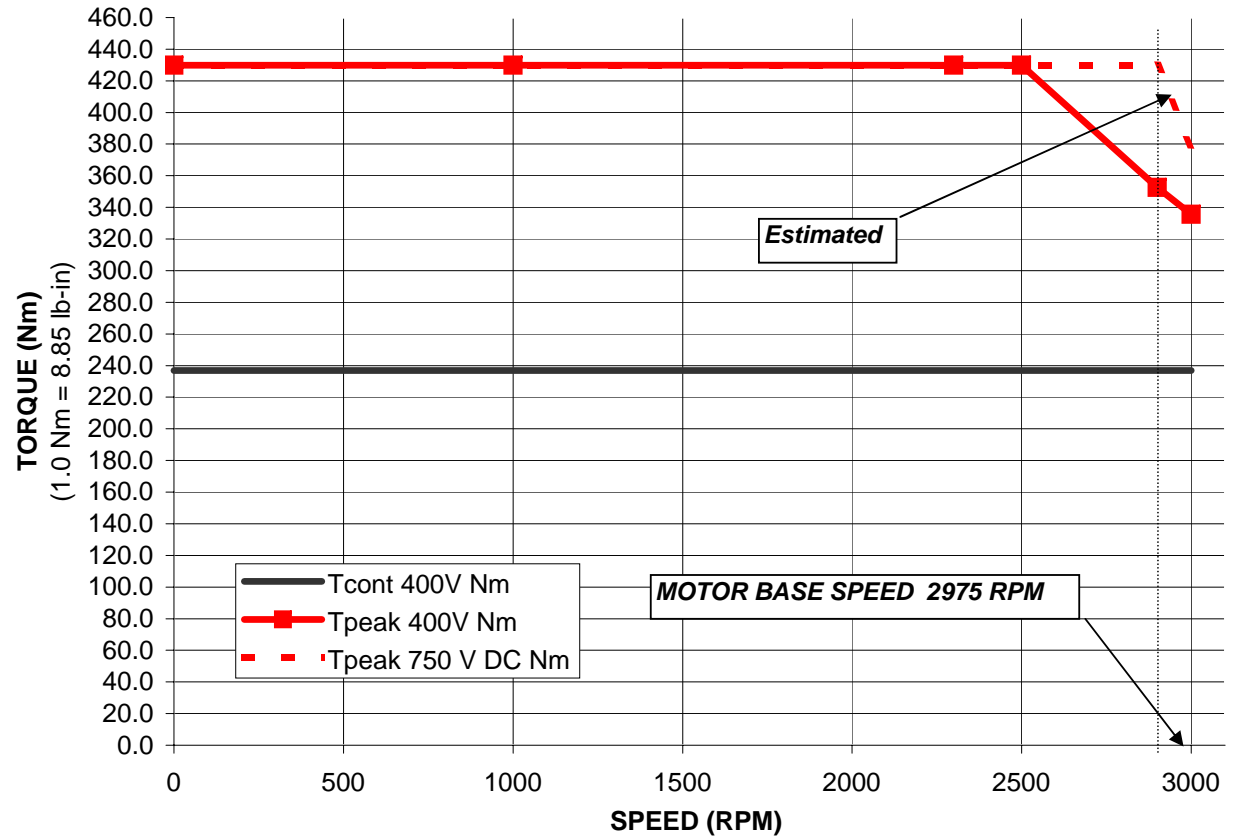
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SPEED RPM	TORQUE		
	Tcont 400V	Tpeak 400V	Tpeak 750 V DC
	Nm	Nm	Nm
0	236.9	429.9	429.9
1000	236.9	429.9	429.9
2300	236.9	429.9	429.9
2500	236.9	429.9	429.9
2900	236.9	352.5	429.9
3000	236.9	335.6	378.5

SPEED RPM	TORQUE		
	Tcont 400V	Tpeak 400V	Tpeak 750 V DC
	lb-in	lb-in	lb-in
0	2097.0	3805	3805
1000	2097.0	3805	3805
2300	2097.0	3805	3805
2500	2097.0	3805	3805
3000	2097.0	3120	3805
3000	2097.0	2970	3350

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

### HPK-E1613E-MA42AA Performance with 2099-BM11 at 400 VAC and 750 V DC Drive Input, 40C Motor Ambient



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