

WAVEFORMS PER CW SHAFT ROTATION VIEWING MOTOR MOUNTING FACE

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	

01	1020346	VS	RELEASED		
REV	ECN	BY	REVISION DESCRIPTION	CHKR	DATE
PREPARED BY		DATE	DESIGN ENGINEER		DATE
VS		1/6/2006			
TITLE					
ES, ELEC, HPK-B1308C-MA42AA					
Allen-Bradley			PART NO.		
			L13M5170ESE		
			A SIZE	SHEET	1 OF 4

Notes: Print or enlarge waveforms for improved clarity.  
For additional specifications see L13M5170ESM.

Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 1465 RPM.
3. Maximum speed: 3000 RPM.
4. Continuous stall torque: 141 Nm (1247 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 262 Nm (2319 lb-in) max.
6. Continuous output rating: 21.6 kW max at 1465 RPM. Continuous current @ 1465 RPM 59.6 Amps 0 to peak max.(42.3 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 59.6 Amps 0 to peak max.(42.3 Amps.RMS)
9. Magnetizing current: 18.6 Amps. RMS ref.
10. Peak stall current: 119.3 Amps 0 to peak max.( 84.6 Amps. RMS)
11. Insulation class: 180 (H).
12. Housing temperature: 125C max.
13. Winding resistance: .26 Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 10.1 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: .098 kg-m<sup>2</sup> Ref.
17. Rotor balancing: Quality grade G-6.3.
18. Product weight: 152 kg (335 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: .504 Ohms/phs Ref at 20C to 30C.  
X1: .58 Ohms/phs Ref at 20C to 30C.  
Xm : 12.4 Ohms/phs Ref at 20C to 30C  
R1: .13 Ohms/phs Ref at 20C to 30C  
R2: .0944 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.

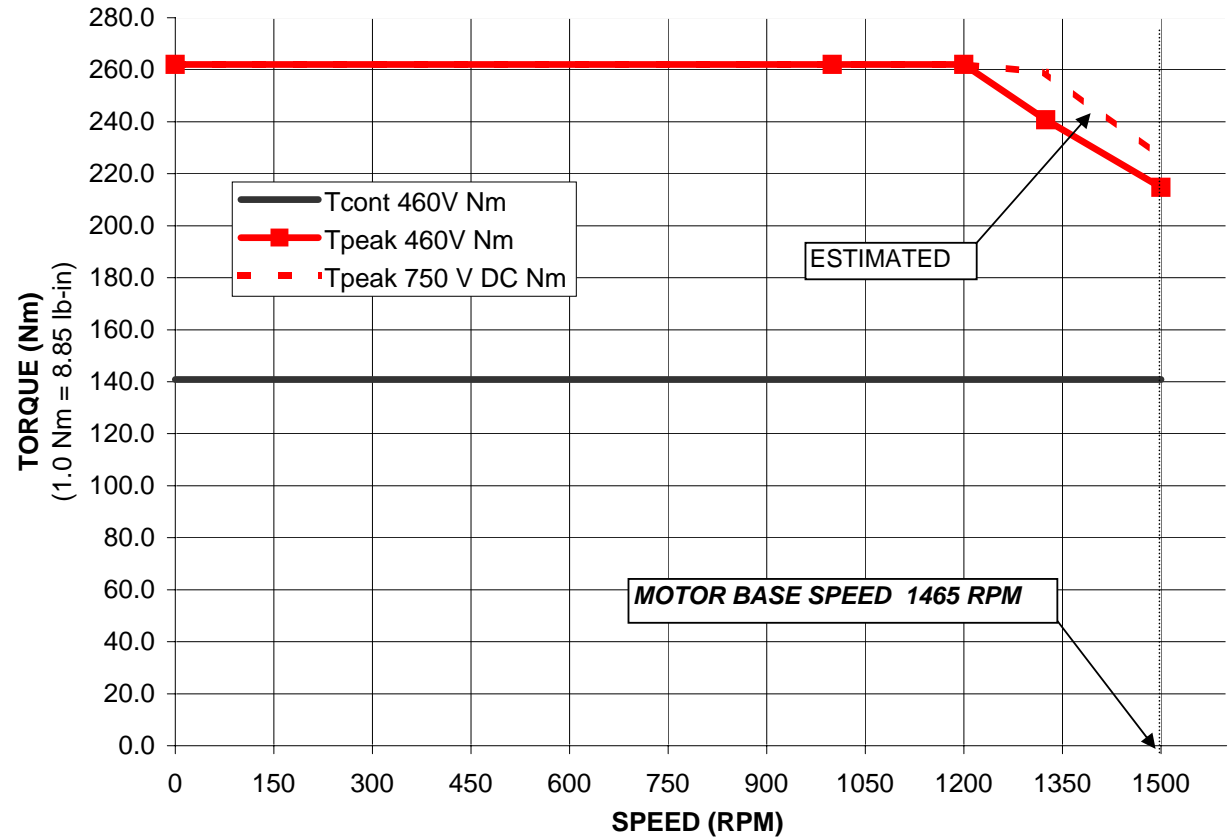
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SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	Nm	Nm	Nm
0	140.9	262.0	262.0
1000	140.9	262.0	262.0
1200	140.9	262.0	262.0
1325	140.9	240.7	259.1
1500	140.9	214.7	226.0

SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	lb-in	lb-in	lb-in
0	1247.0	2319	2319
1000	1247.0	2319	2319
1200	1247.0	2319	2319
1325	1247.0	2130	2319
1500	1247.0	1900	2000

**HPK-B1308C-MA42AA Performance with 2099-BM07  
at 460 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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