

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)**

<b>2500 RPM</b>	<b>1750 RPM</b>	<b>1150 RPM</b>	<b>850 RPM</b>
<b>350</b>	<b>390</b>	<b>450</b>	<b>500</b>

**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)**

<b>2500 RPM</b>	<b>1750 RPM</b>	<b>1150 RPM</b>	<b>850 RPM</b>
<b>250</b>	<b>290</b>	<b>330</b>	<b>360</b>

01	1021550	VS	RELEASED		
REV	ECN	BY	REVISION DESCRIPTION	CHKR	DATE
PREPARED BY		DATE	DESIGN ENGINEER	DATE	
VS		4/4/2006			
TITLE					
ES, ELEC, HPA-B1613C-SC44AA					
Allen-Bradley			PART NO.		
			L16M5202ESE		
			A SIZE	SHEET	1 OF 4

Notes: Print or enlarge waveforms for improved clarity.  
For additional specifications see L16M5202ESM.

Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 1470 RPM.
3. Maximum speed: 3000 RPM.
4. Continuous stall torque: 271 Nm (2398 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 541.9 Nm (4796 lb-in) max.
6. Continuous output rating: 41.7 kW ( hp) max at 1465 RPM.      Continuous current @ 1470 RPM 109.8 Amps 0 to peak max.(78 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 109.8 Amps 0 to peak max.(78 Amps.RMS)
9. Magnetizing current: 31.1 Amps. RMS ref.
10. Peak stall current: 217 Amps 0 to peak max.( 154 Amps. RMS)
11. Insulation class: 180 (H).
12. Housing temperature: 125C max.
13. Winding resistance: .118 Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 4.9 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-m<sup>2</sup> Ref.
17. Rotor balancing: Quality grade G-6.3.
18. Product weight: 305 kg (672 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 w/lt 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), front mounting surface, and connectors are not painted.

Equivalent circuit parameters

X1: .243 Ohms/phs Ref at 20C to 30C.  
X1: .305 Ohms/phs Ref at 20C to 30C.  
Xm : 7.35 Ohms/phs Ref at 20C to 30C  
R1: .058 Ohms/phs Ref at 20C to 30C  
R2: .0455 Ohms/phs Ref at 20C to 30C

BRAKE: 460VAC 20Nm max. holding torque

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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Allen-Bradley		PART NO.	
		L16M5202ESE	
		A SIZE	SHEET 2 OF 4

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.

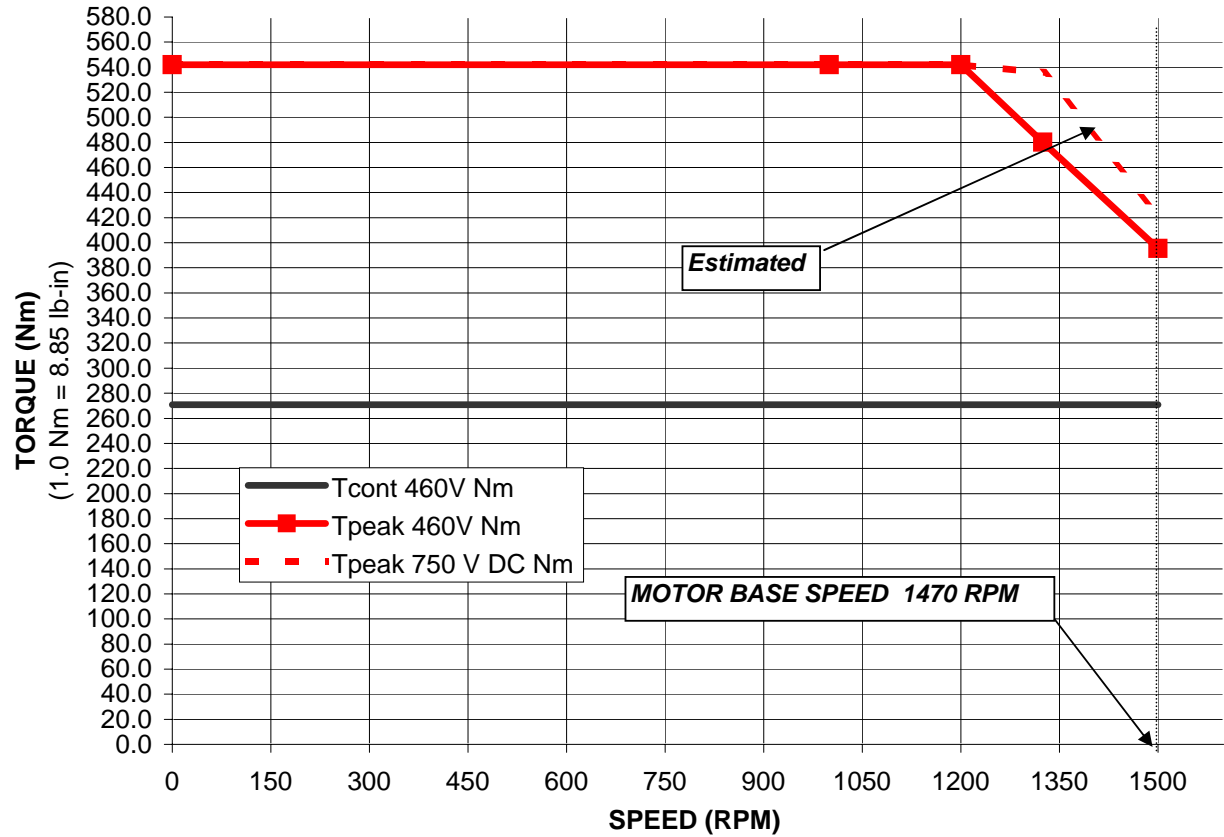
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SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	Nm	Nm	Nm
0	271.0	541.9	541.9
1000	271.0	541.9	541.9
1200	271.0	541.9	541.9
1325	271.0	480.2	535.9
1500	271.0	395.5	423.7

SPEED RPM	TORQUE		
	Tcont 460V	Tpeak 460V	Tpeak 750 V DC
	lb-in	lb-in	lb-in
0	2398.0	4796	4796
1000	2398.0	4796	4796
1200	2398.0	4796	4796
1325	2398.0	4250	4796
1500	2398.0	3500	3750

**HPA-B1613C-SC44AA Performance with 2099-BM09  
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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