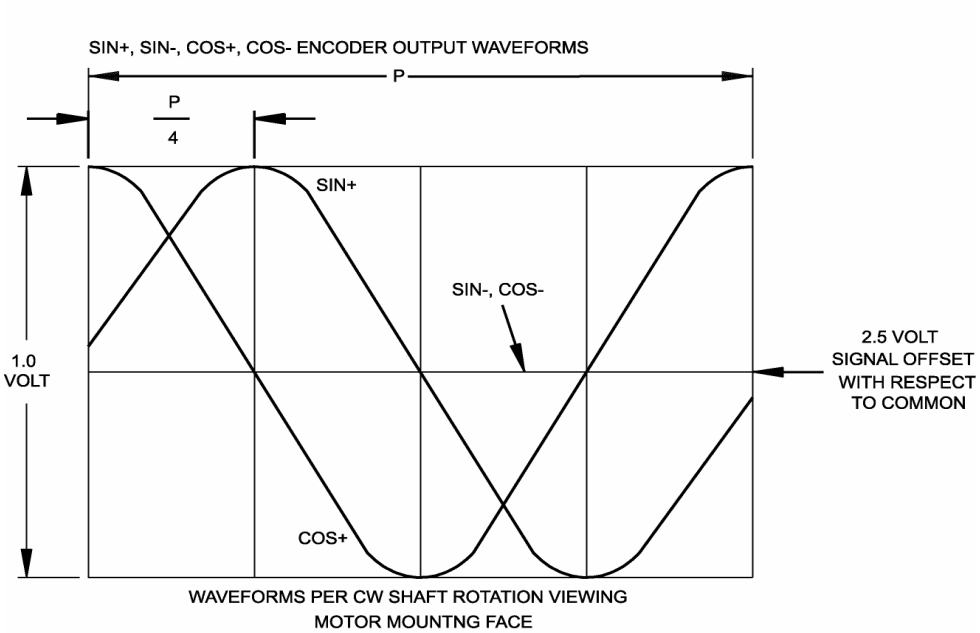


**RADIAL LOAD CAPACITY (Kgs) -**
**NO AXIAL LOAD - FOR L10 LIFE OF 10,000 HOURS**
**Radial Load Capacity at the End of the Shaft (Kgs)**

| 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 L16M5177ESM.

| REV | ECN | BY | REVISION DESCRIPTION | CHKR | DATE |
|---|---|---|---|---|---|
| 01 | 1020346 | VS | RELEASED | | |

| PREPARED BY | DATE | DESIGN ENGINEER | DATE |
|---|---|---|---|
| VS | 1/11/2006 | | |

TITLE

ES, ELEC, HPK-B1609E-MA42AA

Allen-Bradley

PART NO.
L16M5177ESE

A SIZE | SHEET 1 OF 4

Specifications:

1. Motor type: 4 pole, 3 phase, asynchronous, ventilated
2. Base speed: 2965 RPM.
3. Maximum speed: 5000 RPM.
4. Continuous stall torque: 156 Nm (1381 lb-in) max at 155C winding temperature in a 40C
5. Peak stall torque: 270 Nm (2390 lb-in) max.
6. Continuous output rating: 48.4 kW ( hp) max at 2965 RPM. Continuous current @ 2970 RPM 124.4 Amps 0 to peak max.(88.2 Amps.RMS)
7. Operating voltage: 460 VAC RMS Ref. (Not for direct connection to AC line).
8. Continuous stall current: 124.4 Amps 0 to peak max.(88.2 Amps.RMS)
9. Magnetizing current: 31.4 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: .065 Nom. Ohms, phase to phase at 20C to 30C.
14. Winding inductance: 5.8 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: .147 kg-$m^2$ Ref.
18. Product weight: 213 kg (469 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: .288 Ohms/phs Ref at 20C to 30C.
X1: .319 Ohms/phs Ref at 20C to 30C.
Xm : 7.23 Ohms/phs Ref at 20C to 30C
R1: .0326 Ohms/phs Ref at 20C to 30C
R2: .0227 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.

| | |
|---|---|
| 01 | TITLE |
| REV | ES, ELEC, HPK-B1609E-MA42AA |
| Allen-Bradley | PART NO. L16M5177ESE |
| | 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. 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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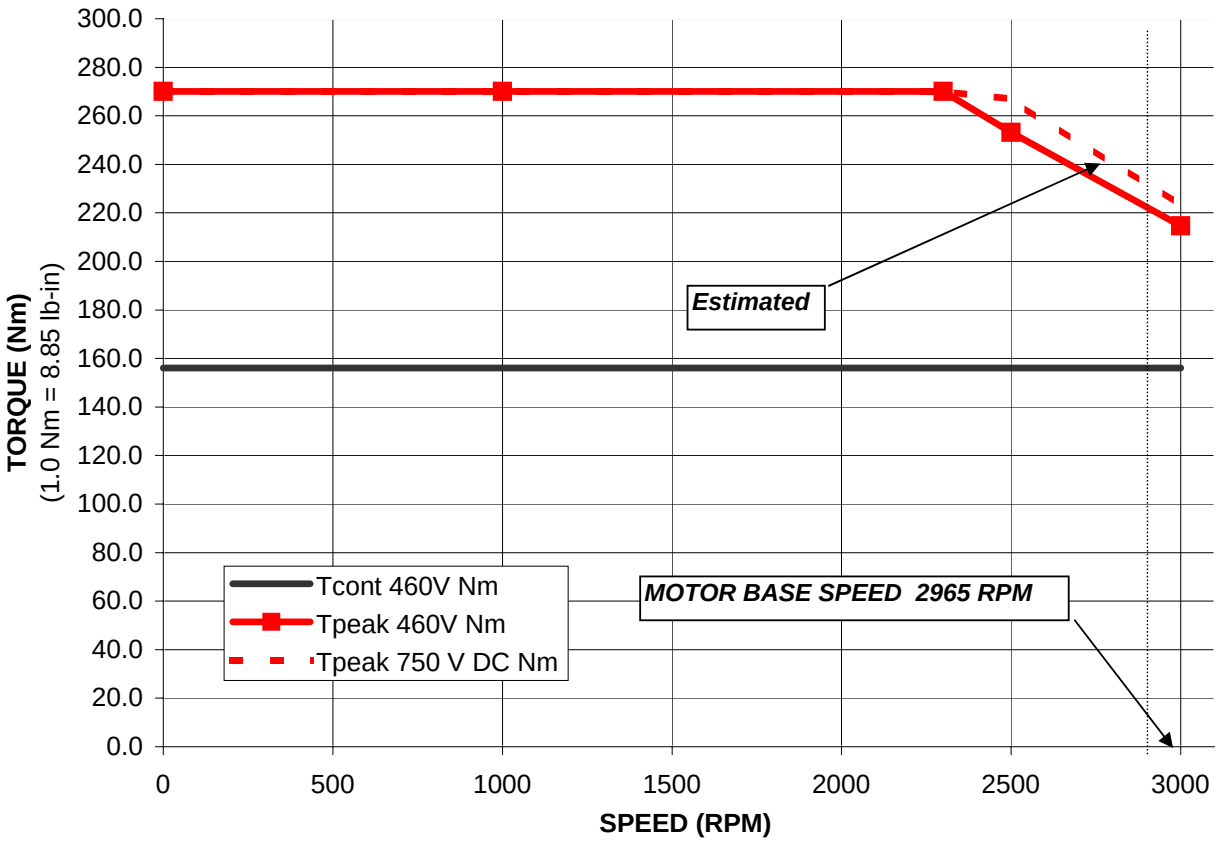
| 01 | TITLE |
| REV | ES, ELEC, HPK-B1609E-MA42AA |
| Allen-Bradley | PART NO. L16M5177ESE |
| A SIZE | SHEET 3 OF 4 |

| SPEED RPM | TORQUE | | |
|---|---|---|---|
| | Tcont 460V | Tpeak 460V | Tpeak 750 V DC |
| | Nm | Nm | Nm |
| 0 | 156.0 | 270.1 | 270.1 |
| 1000 | 156.0 | 270.1 | 270.1 |
| 2300 | 156.0 | 270.1 | 270.1 |
| 2500 | 156.0 | 253.1 | 267.0 |
| 3000 | 156.0 | 214.7 | 222.6 |

| SPEED RPM | TORQUE | | |
|---|---|---|---|
| | Tcont 460V | Tpeak 460V | Tpeak 750 V DC |
| | lb-in | lb-in | lb-in |
| 0 | 1381.0 | 2390 | 2390 |
| 1000 | 1381.0 | 2390 | 2390 |
| 2300 | 1381.0 | 2390 | 2390 |
| 2500 | 1381.0 | 2240 | 2390 |
| 3000 | 1381.0 | 1900 | 1970 |

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

**HPK-B1609E-MA42AA Performance with 2099-BM09**
**at 460 VAC and 750 V DC Drive Input, 40C Motor Ambient**




| | |
|---|---|
| 01 | TITLE |
| REV | ES, ELEC, HPK-B1609E-MA42AA |
| Allen-Bradley | PART NO. L16M5177ESE |
| | A SIZE / SHEET 4 OF 4 |