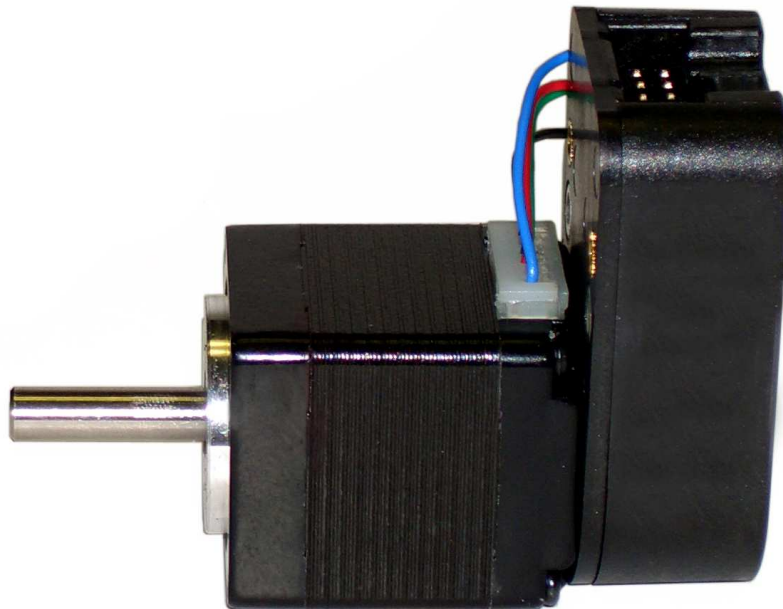


NEMA 11 M-Grade Motor/Encoder



Note: Motor specifications (including torque curves) are only true when the motors are used in conjunction with QuickSilver’s SilverLode™ Controller/Drivers (i.e. SilverNugget™ and SilverDust™). See the datasheets for more details.

General Motor Specifications

Specifications	11-1
Maximum Speed (RPM)	4000
Optimal Speed (RPM)*	1000
Torque at Optimal Speed oz-in/ mNm	8 57
Continuous Stall Torque oz-in/ mNm	9 64
Peak Power (Mech. Watts)	13.2
Rotor Inertia oz-in ² /Kg-m ²	0.05 9.1E-07
Weight ounces/Kg	5 0.14
Maximum Current (amps)**	1.3
Maximum Radial Force (lbs)	6.3
Maximum Axial Force (lbs)	2.25

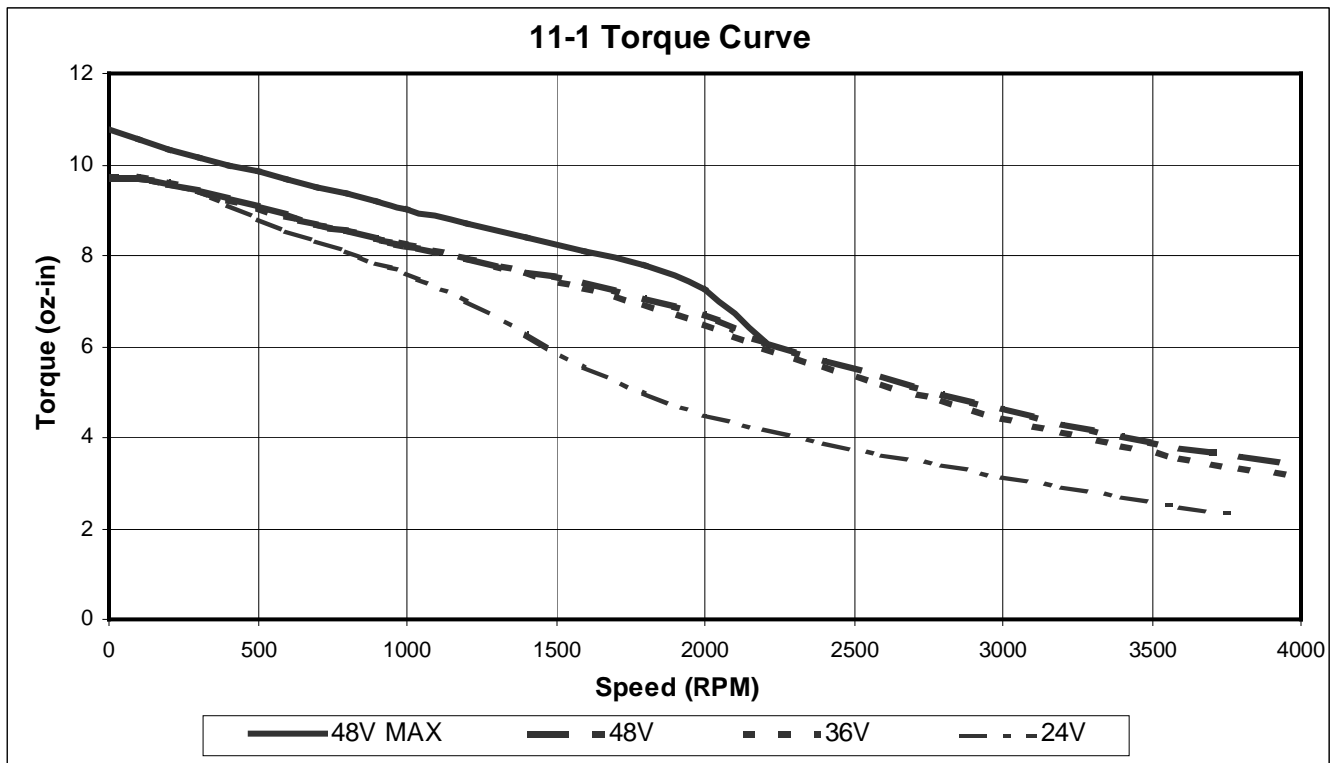
*Optimal Speed: Near maximum power and efficiency.

**Maximum Current: Maximum current controller/driver requires from power supply to achieve torque curves.

Torque Curves

48V Max is the torque of the motor when the Torque Limits (TQL) command is set to “Max” (see SilverLode Command Reference for details on the TQL command). Operating the motor in this mode requires proper heat sinking on the Controller/Driver and motor to prevent overheating.

All other torque curves represent motor torque at the specified voltage when the TQL command is set to "100%". These curves represent torque up to 100% duty cycle depending on ambient temperature, heat sinking and air flow.



Electrical Specifications

Encoder Interface

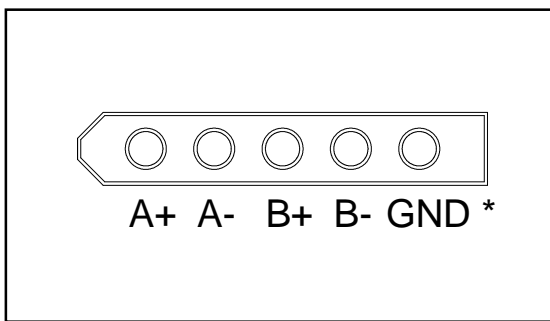
Encoder Counts Per Revolution: 4000
Index Pulse: 1

Connector Data

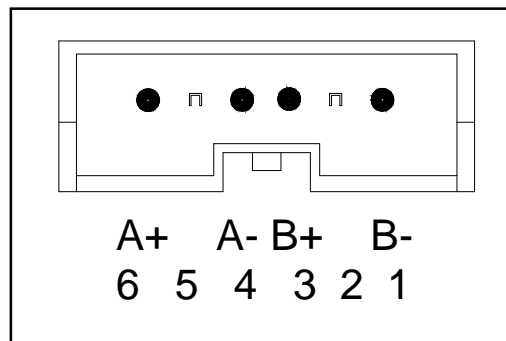
Motor Winding Interface

This motor is offered with two motor connector options –0B-0BB and –J. The –0B-0BB is compatible with our other M-Grade motors, -J is a JST PAL series connector with a smaller physical size, and is compatible with our QCI-C2-D15P-xx-S0040 cables, which allow for direct connections to our I-Grade Controllers.

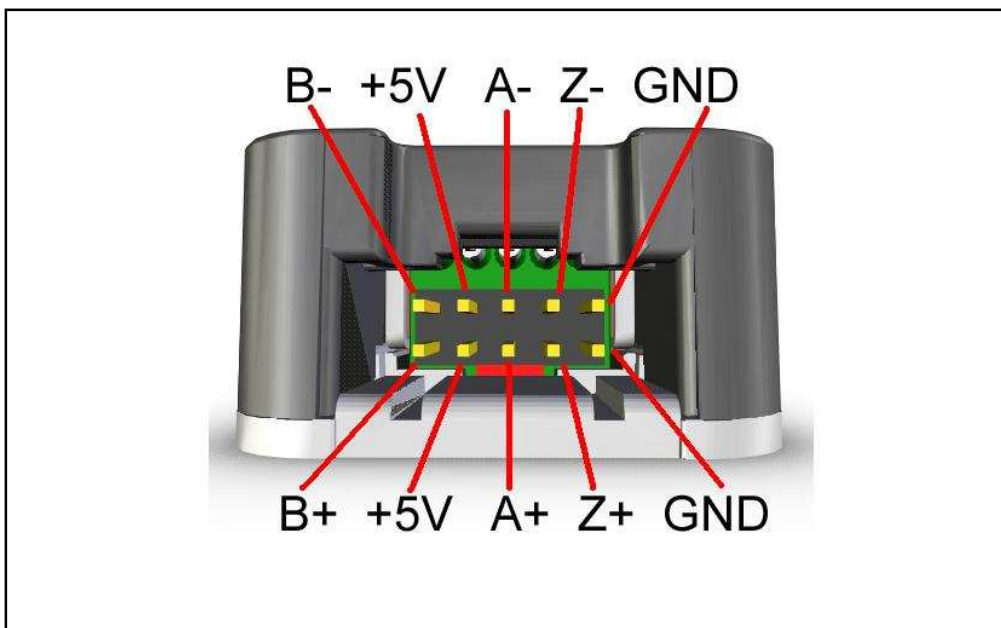
-0B-0BB suffix



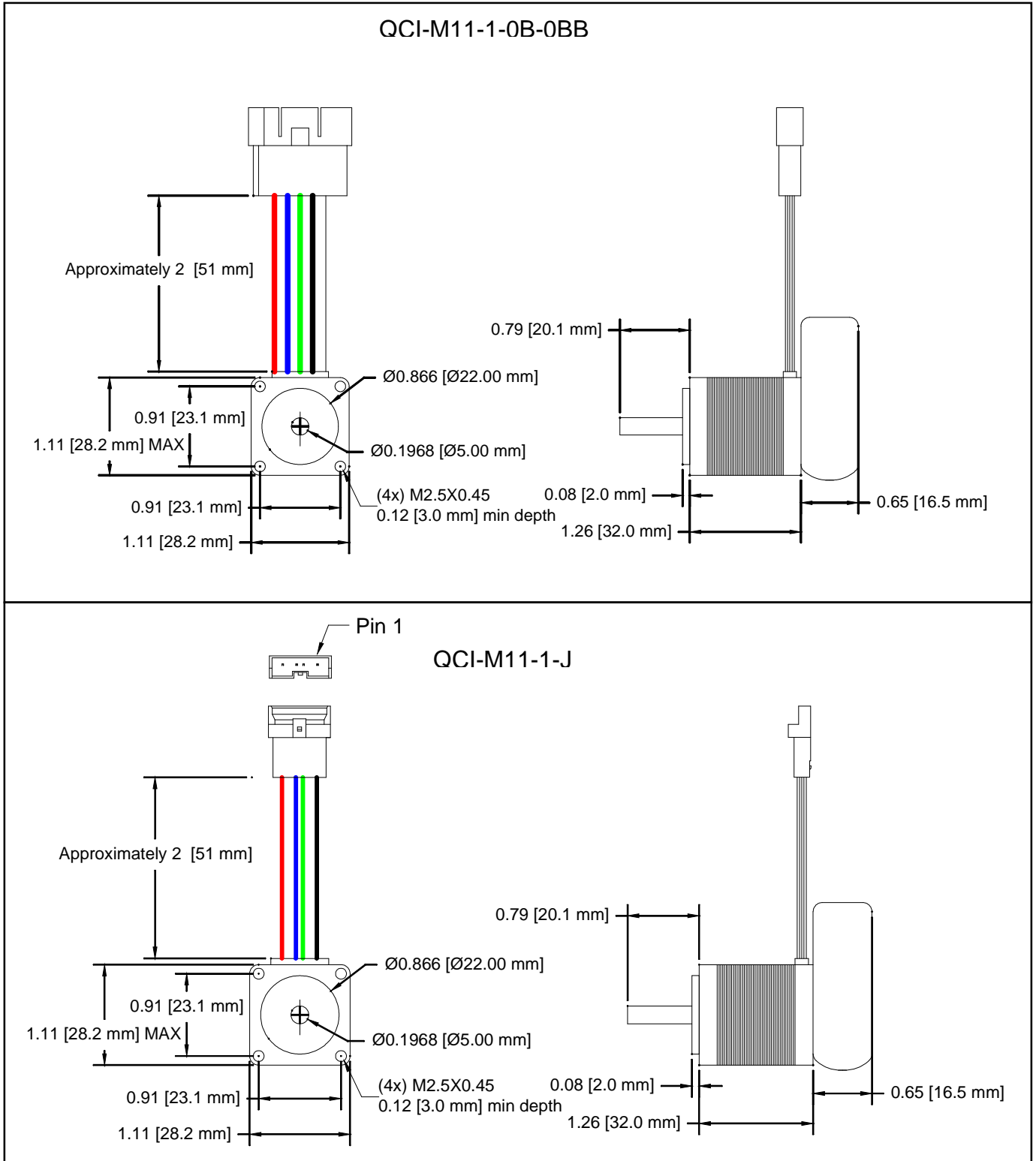
-J suffix



Encoder Interface



Mechanical Specifications



Note: See our website for 2D drawings and 3D models.

Environmental Specifications

Operational Temperature

-10 C to +80 C

Storage Temperature

- 40 C to +85 C

Humidity

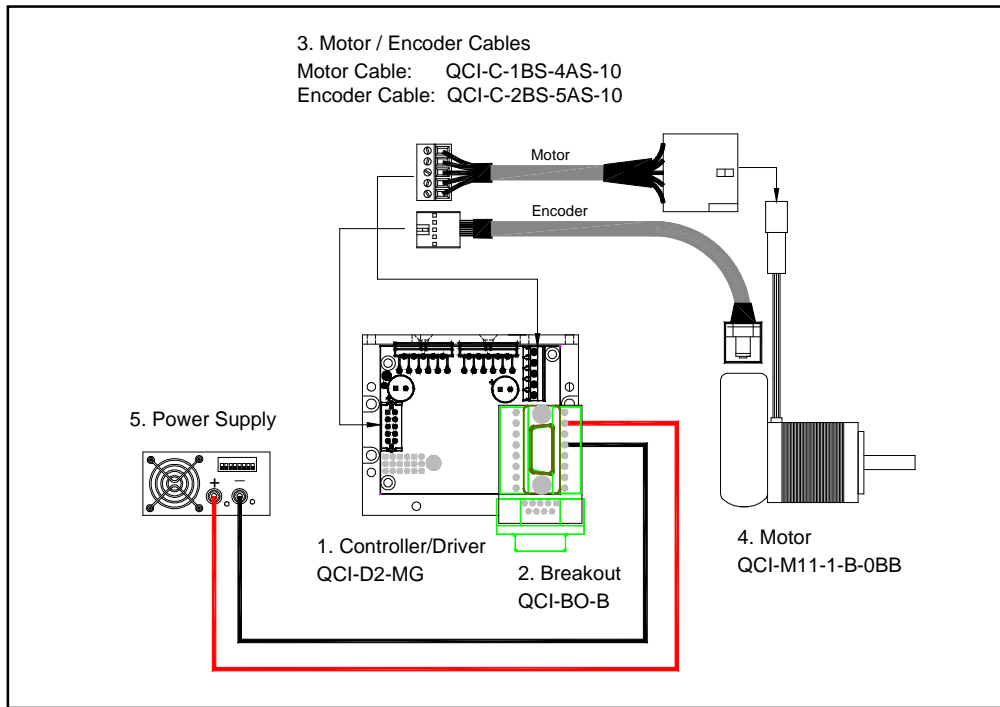
Continuous specification is 95% RH non-condensing

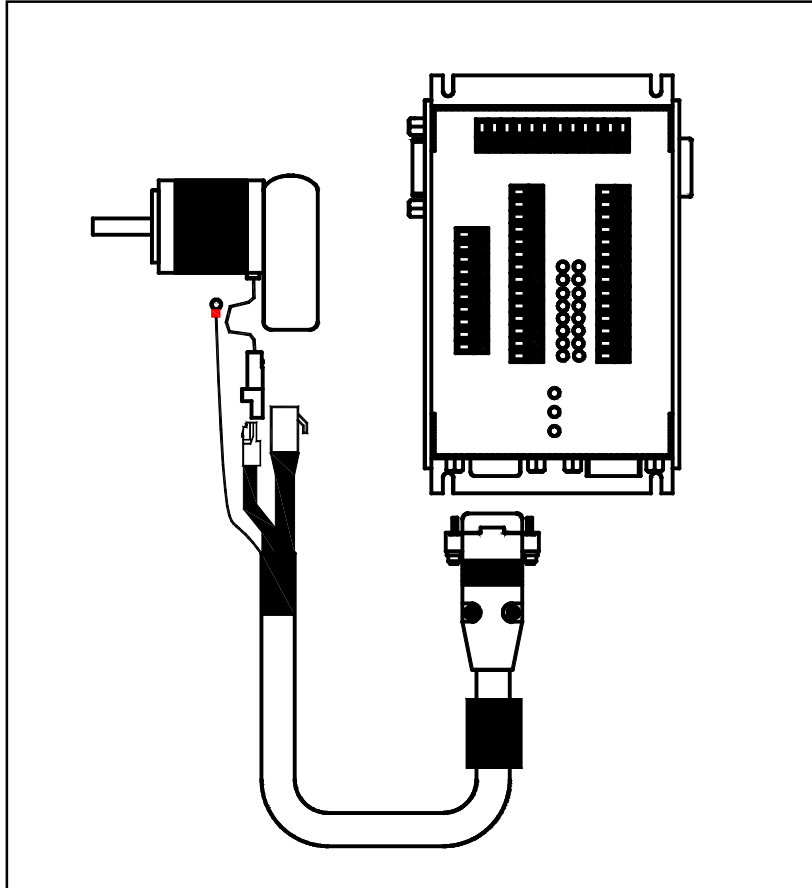
IP Rating

IP40

Recommended Setup

SilverDust MG Setup



SilverDust I-Grade Setup – M11-1-J Motor

The QCI-C2-D15P-X-S0040 cable is a special order which may be used to interface the M11-1-J motor directly to an I-Grade controller. Contact the factory for more details.

Recommended Components

SilverNugget N2 I-Grade Controller/Driver (i.e. QCI-N2-E3-04-EE)

SilverNugget N2 M-Grade Controller/Driver (i.e. QCI-N2-E1-01-BB04)

SilverDust D2 IG/IGB/IG8/IGF Controller/Drivers (i.e. QCI-D2-IG, QCI-D2-IGB, QCI-D2-IGF)

SilverDust D2 MG Controller Driver (i.e. QCI-D2-MG)

The motors will work with any of the following controller/drivers. See the indicated datasheets for details:

- SilverDust D2 IGB (QCI-DS003)
- SilverDust D2 MG (QCI-DS004)
- SilverNugget I-Grade N2 (QCI-DS005)
- SilverNugget M-Grade N2 (QCI-DS010)
- SilverDust D2 IG8 (QCI-DS018)
- SilverDust D2 IG (QCI-DS019)
- SilverDust D2 IGF (QCI-DS021)

SilverLode Manuals (QCI-SLM) QuickControl Software (QCI-QC)

The SilverLode User Manual, SilverLode Command Reference and QuickControl Software are also available on our website. We recommend first time users reading chapter 1 of the User Manual.

Motor Interface Cables (QCI-C-1BS-4AS-10, QCI-C-2BS-5AS-10)

For the QCI-D2-MG, only two cables are required.

QCI-C-1BS-4AS-10

QCI-C-2BS-5AS-10

For the I-Grade controllers, these cables are required along with a Motor I/F Breakout (QCI-BO-M1) to breakout the DB16HD Motor I/F port. Alternatively, the QCI-C2-D15P-X-S0040 cable may be used with the M11-1-J motor.

Motor I/F Breakout (QCI-BO-M1)

This breakouts the I-Grade controller's DB15HD Motor I/F port. See Technical Document "QCI-TD057 Motor I/F Breakout" for more details.

Basic Breakout (QCI-BO-B)

If the QCI-D2-MG or QCI-D2-IG is used, QCI recommends purchasing a breakout to simplify wiring power, communications and I/O. QuickSilver offers several breakouts (see our website), but the least expensive is the QCI-BO-B. See technical document QCI-TD036 for more details.

Power Supply (S-210-48)

A 12-48V power supply producing the amps specified above (see General Motor Specifications) is required. QuickSilver recommends:

- S-210-48 (48V, 4.4A)

NEMA II M-Grade Motors With Optional Encoders

MOTOR TYPE	MOTOR SIZE	MOTOR OPTION	ENCODER (Optional)
<ul style="list-style-type: none"> M11-Standard 	<ul style="list-style-type: none"> 1 	0B – Standard <ul style="list-style-type: none"> 5 Pin Flat Connector 	0BB – Standard <ul style="list-style-type: none"> US Digital 4000 CPR 10 Pin/Double Row NOTE: Omit field for no encoder
		J – 6 pin miniature JST connector, US digital 4000 CPR encoder with 10 Pin / Double row connector.	

Example part number: **QCI-M11-1-0B-0BB, QCI-M11-1-J**

Contact Information

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