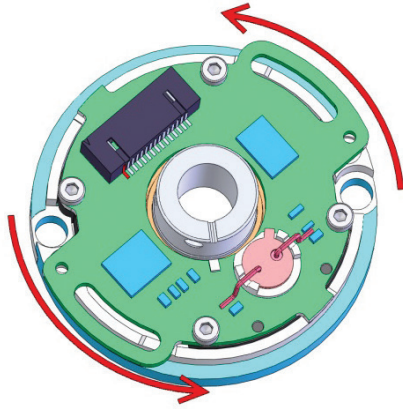


## INSTALLATION INSTRUCTIONS FOR 1.280" BOLT CIRCLE

QM35 Connector shown in illustrations

### STEP 1

Rotate printed circuit board (PCB) to expose the mounting holes. This is the Lock position. Mounting/motor surface must be clean and flat.

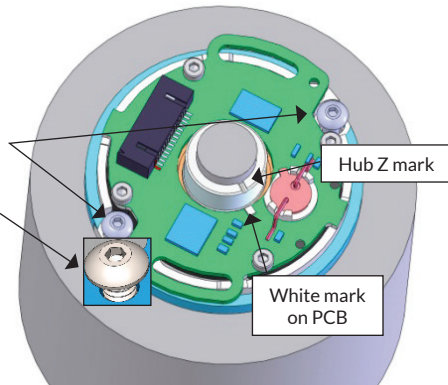


### STEP 2

A. Install mounting screws through encoder into mounting/motor surface. Insert 1-2 turns.

**DO NOT tighten screws.**

Note: Alignment of Z mark on hub to white mark on PCB is NOT required.

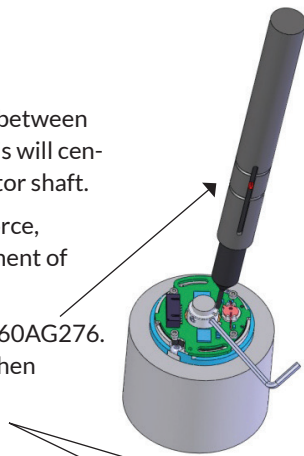


### STEP 3

A. Press down on the hub with a force between 150 g (0.33 lb) and 700 g (1.5 lb). This will center the encoder assembly to the motor shaft.

B. Using slight forefinger and thumb force, verify no radial (side-to-side) movement of the encoder occurs.

Illustrated is accessory Q-Scale p/n 2160AG276. Proper downward force is indicated when pin is between the force lines.



### STEP 4

A. Tighten hub set screws to motor shaft.

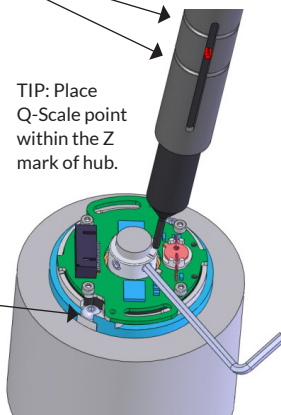
#3-48 x 1/16" screw = 18-22 oz-in

#3-48 x 3/32" screw = 28-32 oz-in

B. The downward force on the hub can be removed.

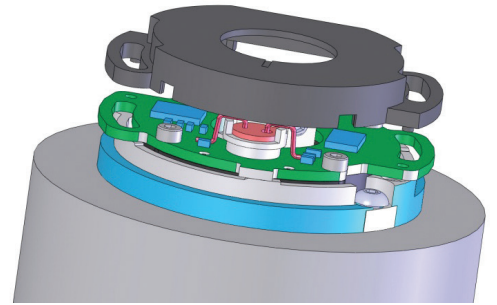
C. Tighten mounting screws to 45-51 oz-in

TIP: Place Q-Scale point within the Z mark of hub.



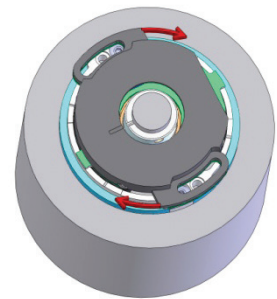
### STEP 5

Place cover on encoder. Observe the cover dowel pins positioned into mating PCB holes.

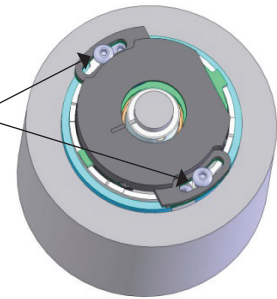


### STEP 6

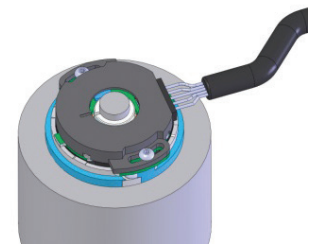
A. Twist cover/ PCB to expose screw holes for cover screws.



B. Install cover screws and tighten to 37-43 oz-in.



C. Install cable to complete installation.



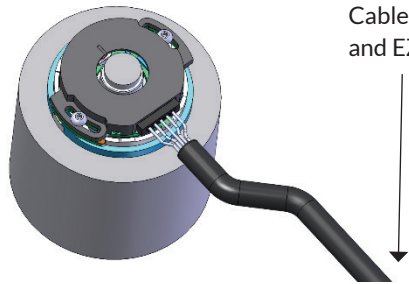
**Note:** Refer to Hardware Selection Breakout chart for driver sizes.

\*Quantum Devices, Inc. reserves the right to make changes in design, specifications and other information at any time without prior notice.

## QML35 EZ-COMM PROGRAMMING INSTRUCTIONS

QM35 Connector shown in illustrations

### QML35 EZ-COMM SET UP:



Connect Programmer Cable between encoder and EZ-Comm Programmer

### EZ-COMM PROGRAMMER INDICATORS

**LED1 Flashing:** Rotate Shaft to Align Commutation.

**LED1 Steady:** Commutation Alignment Complete.

**LED2 Flashing:** Rotate Shaft to Verify Installation.

**LED2 Steady:** Encoder Installation is Good.

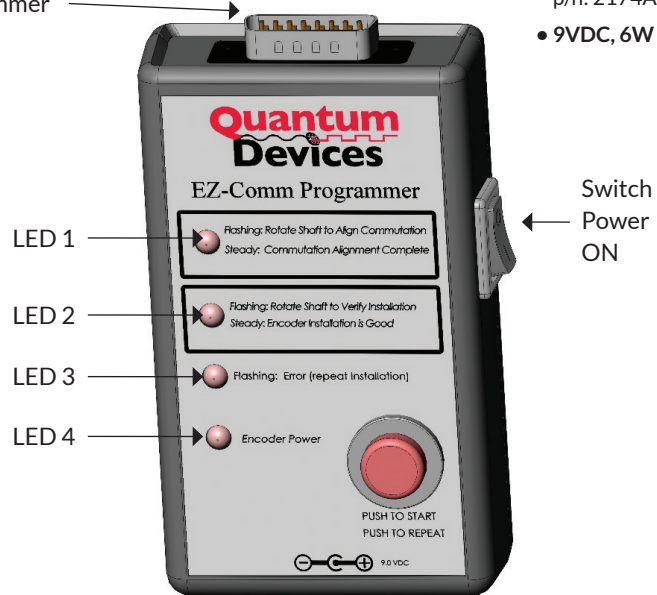
**LED3 Flashing:** Error (repeat installation).

**LED4 Steady:** Encoder has Power.

## QML35 EZ-COMM PROGRAMMING KIT, P/N: 2174AG003

Includes:

- EZ-Comm Programmer
- 19" Programmer Cable p/n: 2174AG004
- 9VDC, 6W Power Supply



Plug power supply cube into 110 VAC supply. Connect +9v DC power plug into socket.

### EZ-COMM ALIGNMENT PROCEDURE

- Energize appropriate motor windings to align shaft to U rise position.
- Press button to Start Alignment process.
  - LED 1 will flash.
  - LED 4 will illuminate, indicating power applied to encoder.
- Remove power from motor windings applied in step A.
- Rotate motor shaft (~one rotation) to align commutation.
  - LED 1 will light steady when align is complete.
  - LED 2 will flash.
- Rotate motor shaft (~one rotation) to verify installation.
  - LED 2 will light steady when installation verification is complete.
  - LED 4 will extinguish removing power from encoder.

For multiple alignments, the power switch on the box side can remain in the ON position.

Rotational speed limited to 350RPM.

### PROGRAMMER PINOUT

- Pin 1 = Encoder power
- Pin 2 = Ground
- Pin 3 = Chan U
- Pin 4 = Chan V
- Pin 5 = Chan W

### REMOTE/AUTOMATED CONNECTION

- Pin 7 = Input Open Collector – ground and release to Start Alignment process, alignment procedure step B.
- Pin 8 = Output TTL logic High during alignment procedure steps B, C and D.
- Pin 15 = Output TTL logic High during alignment procedure step E.
- Pin 14 = Output TTL logic High upon complete of step E to signal the installation was verified (passing).
- Pin 13 = Output TTL High if an installation error occurs.

**Repeat next assembly:** First ground and release of Pin 7 to clear Pass or Fail from the previous alignment.