



Applied Motion Products, Inc

Transition from M Series to J Series Servo Motor

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What You Need to Know

There are three main differences between J and M series servo motors:

- the connectors are different, so different extension cables are needed
- encoder resolution is higher on J series motor (J series have a 10,000 count/rev encoder; M series have an 8,000 count/rev encoder)
- the encoder and commutation timing are different

Metric mounting dimensions are the same, as are shaft diameters. Minor adjustments may need to be addressed in the servo tuning, but for many applications the tuning files that are included in the Quick Tuner software will suffice. Quick Tuner is available for free download from the Applied Motion website at: <https://www.applied-motion.com/products/software/quick-tuner>

For users of Applied Motion servo drives the transition is easy. Simply change the encoder count from 8,000 counts to 10,000 counts in Quick Tuner under the Motor-Encoder tab and verify the servo drive tuning by running sample moves.

Cables to connect a J series motor to a BLu, SV7 or SV200 drive are normally in stock and these cables accommodate the J series servo timing. Customers who want to build their own cables can find connector part numbers and pin-out designations on the cable drawings available on the website.

Recommended cables:

Part Number	Use	Motor	Drive
3004-301	Encoder	All 15 pin J Series	BLu, SV7
3004-304	Encoder	All 15 pin J Series	SV200
3004-305	Encoder, flex rated	All 15 pin J Series	SV200
3004-300	Motor Power	All J Series except J0400-304-4-000 J0400-354-4-000 J0750-304-5-000 J0750-354-5-000	SV200, SV7, BLu
3004-306	Motor Power, flex rated	All J Series except J0400-304-4-000 J0400-354-4-000 J0750-304-5-000 J0750-354-5-000	SV200, SV7, BLu
3004-355	Motor Power	J0400-304-4-000 J0400-354-4-000 J0750-304-5-000 J0750-354-5-000	SV200
3004-354	Motor Power, flex rated	J0400-304-4-000 J0400-354-4-000 J0750-304-5-000 J0750-354-5-000	SV200

If you are using a third party drive and want to use J series servo motors where you had been using the M series, in addition to setting the encoder resolution at 10,000 counts/turn, you will need to swap these encoder feedback signals:

- A+ and A- (this will make the J series encoder count in the same direction as the M series)
- U+ and U- (J series commutation signals are inverted relative to the motor windings they control)
- V+ and V-
- W+ and W-

For more details, visit <http://www.applied-motion.com/products/series/j-series-servo-motors>