

Electromechanical Automation Change Bulletin



Bulletin # TC426
Date: September 12, 2007
To: Distribution
Product: BE16, BE23, BE34 Servomotors
Subject: Encoder Change

Parker Electromechanical Automation makes every effort to ensure our products exceed our customers' expectations. We occasionally have to change/improve some aspect of the product. This technical bulletin describes the improvement and serves as Parker's product change notification. This information is provided so that you may take appropriate action with users of Electromechanical Automation product.

Product Improvement

Parker Hannifin is changing the encoder on all BE motors. The new encoder, called the R35i, is now the standard encoder for all (standard and custom) BE motors. Here are a few items to note:

- The R35i encoder is RoHS compliant.
- The R35i is slightly shorter than the now obsolete, RCM21
- The R35i has the same line count availability as the RCM21

Improvement Reason

Due to obsolescence of our current encoder, the RCM15, from our encoder vendor, Parker must change to the R35i encoder. This change will take affect October 1, 2007.

Improvement Impact

- The new R35i uses 26 gauge wire vs. the older encoder used 24 gauge wire. Due to this smaller wire gauge, two ground leads are required to handle the current requirement of the encoder.
- The new encoder does require new wire color changes on any flying lead motors. This color change only affects flying lead connector options on the BE motors. It does not affect connectorized (PS, MS, etc.) or cabled motors (10, 25, etc.).
- The R35i has a different connector on it compared to the RCM15. Please take note of this if any of your customers are making their own custom cables to connect directly to a BE servo motor with the FO option.
- This bulletin pertains to the BE motor family. The N0/J0 family of motors will be converting to the R35i at a later date. TC#415, which is already released, pertains to the R35i change to the SM motor family.
- All distributors must contact their customers to inform them of this change to all BE encoder motors, standard and custom.
- There may be instances, before the effective date of October 1, 2007, that Parker may contact you to convert encoder motors before that date, depending upon the order quantity.

The following table shows the new wire color changes for all flying lead (FL and FO) BE motors.

Old FL or FO wire colors		New FL or FO wire colors	
Enc +5	Red	Vcc +5	Red & Brown/white*
Enc Gnd	Black	Gnd	Black & Black/White**
A+	White	A+	Yellow
A-	Yellow	A-	Yellow/White
B+	Green	B+	Blue
B-	Blue	B-	Blue/White
Index+	Orange	Index+	Orange
Index-	Brown	Index-	Orange/White
Brake	Red/Blue	Brake	Red/Blue
Brake	Red/Blue	Brake	Red/Blue
Temp	Orange/Yellow	Temp	Yellow / Orange
Temp	Orange/Yellow	Temp	Yellow / Orange
Hall Gnd	White/Green	Hall Return	Green/White
Hall +5	White/Blue		
Hall 1	White/Brown	Hall 1	Brown
Hall 2	White/Orange	Hall 2	Green
Hall 3	White/Violet	Hall 3	Violet
Shield	Clear	Shield	Clear

* Both wires must be attached to +5 Volts

** Both wires must be attached to Gnd

- All motors being shipped with the FO option will have a small tag attached to the encoder leads informing the user the wiring is different on these R35i encoder motors.

The following table shows the new wire color changes for all cabled (10, 25) BE motors.

Old Cabled (10, 25, or xx)		New Cabled (10, 25, or xx)	
Enc +5	Red	Vcc +5	Red
Enc Gnd	Black	Gnd	Black & Gray**
A+	White	A+	White
A-	Yellow	A-	Yellow
B+	Green	B+	Green
B-	Blue	B-	Blue
Index+	Orange	Index+	Orange
Index-	Brown	Index-	Brown
Brake	Red/Blue	Brake	Red/Blue
Brake	Red/Blue	Brake	Red/Blue
Temp	Orange/Yellow	Temp	Orange/Yellow
Temp	Orange/Yellow	Temp	Orange/Yellow
Hall Return	White/Green	Hall Return	White/Green
Hall +5	White/Blue	Hall +5	White/Blue
Hall 1	White/Brown	Hall 1	White/Brown
Hall 2	White/Orange	Hall 2	White/Orange
Hall 3	White/Violet	Hall 3	White/Violet
Shield	Clear	Shield	Clear

** Both wires must be attached to Gnd

If you have any questions, please contact:

- Technical Assistance, Applications Engineering Department (e-mail: emn_support@parker.com or call 800-358-9070 North America, 707-584-7558 International)