

(54) Title of the invention : Power Factor Correction with Buck Converter for BLDC motor Drive

(51) International classification :H02M0001420000, H02M0003158000, H02P0006040000, H02P0006140000, H05B0041280000

(86) International Application No Filing Date :PCT// / :01/01/1900

(87) International Publication No : NA

(61) Patent of Addition to Application Number Filing Date :NA :NA

(62) Divisional to Application Number Filing Date :NA :NA

(71)Name of Applicant :

1)Dr.P.Sarala
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

2)Malla Reddy Engineering College
Name of Applicant : NA
Address of Applicant : NA

(72)Name of Inventor :

1)Dr.P.Sarala
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

2)Dr.M.Dilip Kumar
Address of Applicant :Electrical and Electronics Engineering Dept., St.Peters Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

3)Mrs.S.Lakshmi Devi
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

4)Mr.G.Venu
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

5)Mr.M.Kumudwathi
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

6)Mr.M.Madhusudhan Reddy
Address of Applicant :Electrical and Electronics Engineering Dept., Dr. K. V. Subba Reddy Institute of Technology,Kurnool. A.P. Kurnool -----

7)Mr.P.Satyendra
Address of Applicant :Electrical and Electronics Engineering Dept., Malla Reddy Engineering College, Maisammaguda (Post. Via. Kompally), Mechal-Malkajgiri-500100. Maisammaguda -----

(57) Abstract :
Brushless DC motor is a synchronous machine that makes use of electronic commutation instead of mechanical commutator. Brushless DC motors makes use of inverter encompassing static switches for its operation. A simple bridge converter when used for BLDC drive as front-end converter makes input source power factor to get reduced which is unacceptable in the power system. To avoid the distortions in the source voltage and source currents, Buck converter which was used as power factor correction (PFC) converter in this patent to improve the power factor. Presence of power electronic converters deteriorates system power factor effecting overall system performance. This paper presents buck converter for power factor correction in brushless DC motor drive system. Buck converter is operated with current control strategy rather to conventional voltage follower control. The brushless DC motor performance characteristics were shown for conditions with different DC link voltages and step variation in DC link voltage. Total harmonic distortion in source current was also presented.

No. of Pages : 8 No. of Claims : 2