Novel Single Current Sensor Topology for Venturini Controlled Direct Matrix Converters

Auteur: Metidji, Brahim; Taib, Nabil; Baghli, Lotfi; Rekioua, Toufik; Bacha, Seddik

Abstract/Résumé : This paper presents a new Venturini-based direct matrix converter (DMC) output phase current reconstruction method using a single current sensor. This method is proposed in order to reduce the cost and to improve the reliability of the drive with any control strategy. The proposed technique measures the phase currents using a new single Hall current sensor location in the DMC. To demonstrate the advantages of the proposed system, an experimental bench with a DMC, an induction motor, and a DSP board is carried out to confirm the validity and feasibility of the proposed current reconstruction approach.

Keywords/Mots cléfs :

Journal title / Revue : Novel Single Current Sensor Topology for Venturini Controlled Direct Matrix Converters, 0885-8993, "DOI" , 10.1109/TPEL.2012.2227341, "issue" ,7 , "volume" , 28 , "pp" 3509- 3516, 01/07/2013

Source: IEEE TRANSACTIONS ON POWER ELECTRONICS