

Author(s): Cordeiro, A (Cordeiro, Armando); Foito, D (Foito, Daniel); Guerreiro, M (Guerreiro, Manuel)

Book Group Author(s): IEEE

Title: Power Electronics Didactic Modules for Direct Current Machine Control

Source: 2009 International Conference on Power Engineering, Energy and Electrical Drives: 624-628 2009

Language: English

Document Type: Proceedings Paper

Conference Title: 2nd International Conference on Power Engineering, Energy and Electrical Drives

Conference Date: MAR 18-20, 2009

Conference Location: Lisbon, PORTUGAL

Conference Sponsors: IEEE Ind Elect Soc.; REN.; Almada City Hall.

Keywords: Power Electronics; Didactic Modules; Direct Current Machine Control; Control

Abstract: Several didactic modules for an electric machinery laboratory are presented. The modules are dedicated for DC machinery control and get their characteristic curves. The didactic modules have a front panel with power and signal connectors and can be configurable for any DC motor type. The three-phase bridge inverter proposed is one of the most popular topologies and is commercially available in power package modules. The control techniques and power drives were designed to satisfy static and dynamic performance of DC machines. Each power section is internally self-protected against misconnections and short-circuits. Isolated output signals of current and voltage measurements are also provided, adding versatility for use either in didactic or research applications. The implementation of such modules allowed experimental confirmation of the expected performance.

Addresses: [Cordeiro, Armando] Inst Politecn Lisboa, Inst Super Engn Lisboa, Lisbon, Portugal

Reprint Address: Cordeiro, A, Inst Politecn Lisboa, Inst Super Engn Lisboa, Lisbon, Portugal.

Publisher: IEEE

Publisher Address: 345 E 47TH ST, NEW YORK, NY 10017 USA

ISBN: 978-1-4244-4611-7

ISI Document Delivery No.: BMF86