通用型馬達動力計與測試程序建置

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摘 要

通用型馬達動力計測試平台，具有量測馬達的轉速、轉矩、電流、電壓、功率與效率的功能，以提供完整的馬達測試報表，並驗證馬達實際的性能。 本文主要使用磁滯煞車器(HD-800)、磁滯控制器(DSP 6000)、電力分析儀(WT210/WT230)、配電控制箱(接線端子與控制開關)，個人電腦(控制人機介面)、傳輸介面(GPIB IEEE 488.2)與冷卻系統(空氣壓縮機)，經由適當的搭配與組合，建置一套通用型馬達動力計測試平台。磁滯煞車器(HD800)適用於中低功率的測試範圍本身不以速度方式產生轉矩，因此可以完整提供馬達從無載至堵轉測試。磁滯控制器(DSP6000)屬於高速可編程的動力控制器，以先進的數字信號處理技術，提供卓越的電機測試能力。控制器本身除了顯示轉矩與速度外，並顯示其輸出功率。磁滯控制器、人機介面和磁滯煞車器的搭配，可以幫助我們測試馬達完整的性能。在所建置的馬達測試系統中，我們利用個人電腦，撰寫人機介面調整控制參數和使用資料擷取卡與傳輸線連結。 最後，使用所建置的通用型動力計，測量五種不同類型的馬達，並列印出特性報表數據，與廠商所提供之完整特性曲線比對，所建置之通用型動力計具有準確性高與快速量測的優點。

關鍵詞 : 動力計、測試程序

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