



An Investigation of Pv Powered Brushless DC Motors for Solar Pumping - An Autonomous and Elegant Integration of Electric Motor and Pump for Use with a Solar Domestic Hot Water System

By Lukas Swan

VDM Verlag. Paperback. Book Condition: New. Paperback. 144 pages. Dimensions: 8.6in. x 5.9in. x 0.6in. Typical solar domestic hot water systems use a liquid working fluid to transfer heat from the solar collectors to the hot water storage tank. This book presents the results of a detailed investigation of a unique design and integration of electric motor and pump to circulate the liquid working fluid. The motors energy source is electricity that is generated from the sun by a photovoltaic module, creating an autonomous heating system. The design under review is a brushless DC motor that utilizes the magnet of a mag-drive pump as its rotor. This motor and pump technology, and integrated design results in both increased component utilization and increased reliability. The power switching devices of the motor perform commutation and maintain the photovoltaic module at the maximum power point. The pump magnet acts as the magnetic coupling and the motor rotor. Increased reliability is achieved through the use of solid state power electronics for commutation and the replacement of a dynamic pump seal with a static O-ring seal. This investigation reviews each major components characteristics under a variety of conditions to identify appropriate design choices and areas for...

Reviews

This book is definitely worth acquiring. I have go through and so i am certain that i will likely to read through again again in the future. Its been printed in an exceptionally basic way in fact it is only after i finished reading this publication in which actually altered me, change the way in my opinion.

-- **Andres Bashirian**

Comprehensive guide for publication fanatics. This really is for all who statte there had not been a well worth reading through. I discovered this ebook from my dad and i encouraged this book to find out.

-- **Lacy Goldner**