

PROTOTYPE OF GENERIC SERVER FOR WIND POWER PLANTS USING IEC 61400-25 STANDARD

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ABSTRACT

The IEC 61400-25 international standard defines protocols for communication, control, and monitoring of wind power plants (WPP). The IEC61400-25 standard includes a wide range of mandatory and optional objects in the specified information and information exchange model, ranging from interfaces for control and monitoring to a standardized and secure way of handling communication for a WPP. An analysis focusing on isolating the necessary requirements has been carried out based on the IEC 61400-25 in order to create a generic prototype which can be used by WPP vendors. The main communications interface of the prototype utilizes web services and the prototype developed is comprised of several independent modules to allow for the possibility of choosing a fully customizable setup by the end user. Configuration of the system needs to be done in a simple way, ensuring a flexible and reusable system, where different choices for the system can be added or left out depending on user requirements. From the requirements a prototype with the purpose of examining the key aspects of these definitions has been elaborated.