

DFIG Power Flow Controlled Using Wind Energy

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Abstract In this DFIG there were mainly two parts, one is converter on rotor side (RSC) and other is converter on grid side (GSC). Using RSC reduces the amount of ohmic losses in windings of rotor and is used to share reactive power at less than wind speeds at rated value. Nevertheless, the power factor at unity is must maintained through this control. As a part of GSC system provides reactive power to DFIG as well as regulated power flow to the grid and load is connected at common coupling point. It is used to remunerate imbalance and harmonics on load side. We can use PMSG but in practical we can't use PMSG we use DFIG which is double fed Induction Generator it works on clockwise and the Anti clock wise direction according to the wind.

INTRODUCTION

Nowadays conventional energy sources are limited here the energy we use is Renewable energy source. Because the renewable energy source which meets our future requirements highly compared to Non-Renewable energy source. This energy sources are clean and free from pollution and doesn't emit the toxic gases. The Non-Renewable energy source is not flexible as compared to renewable it doesn't meet the future requirements. Here we use Wind Energy there is no pollution. Here in DFIG using two converters one is converter rotor side converter and other is grid side converter. When the wind hits the blades then the current produces by the RSC and GSC and passes to the grid through DFIG. The cost of DFIG is less and its performance is good for weak grid.

BLOCK DIAGRAM

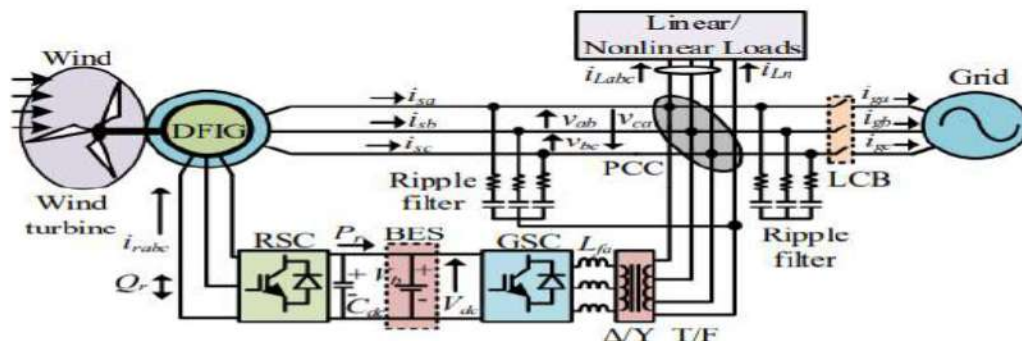


FIGURE 1. Grid interactive wind energy conversion system with BES