

Intelligent Gate Drives for Smart Converters: Technology, Integration & Benefits

Mr. Bryn Parry, Amantys Power Electronics Ltd, UK



Bryn Parry received his degree in Engineering Physics from Loughborough University in 1984. He has worked in the microelectronics and embedded software industry with design engineering and support roles at Mars Electronics, AMD and ARM Ltd in the United Kingdom. In 2010 he was a founder of Amantys Ltd which developed intelligent gate drives for high power applications. In 2015 the company was acquired by Maschinenfabrik Reinhausen GmbH and Mr. Parry was appointed as the General Manager of Amantys Power Electronics Ltd.

Abstract

Recent advances in power converter technology require the use of intelligent gate drives to deliver a “smart converter”, for example through increased rating, operating margins and condition monitoring. This course recaps the role of basic gate drives in converter design and operation, before presenting the technology delivered by – and benefits that can be obtained from – using truly intelligent gate drives in a converter. It also highlights some of the approaches possible for integrating intelligent gate drives in a converter, and gives examples of the potential economic and benefits and opportunities for the end user and operator.