



Article published on January 24th 2012 | [Technology](#)

Quantum Design, Inc. customer acceptance of applications using Siemens AC/DC MASTERDRIVE and SImoDrive Servo Drives have been received with great success. There are many reasons for this success – experience with identifying customer needs, proper documentation and sound programming practices help to insure that these high quality Siemens products will provide many years of service.

One customer Quantum Design worked with has combined AC and DC MASTERDRIVES to control a variety of equipment on their production floor. Some of their drives are stand alone, interfaced through digital and analog input terminals. Others are combined and interfaced using Profibus. –Profibus–, short for Process Field Bus, is an industrial control network used to facilitate communications for factory automation, motion control, process control and safety. We have found the Profibus interface to be the simplest and easiest to commission.

When speed control becomes critical an application, the integral free blocks feature in the MASTERDRIVES allow for the addition of logic and analog processing inside the drive as opposed to an outside controller, such as a PLC. Maintaining set-points such as line tension by holding a dancer position or maintaining a constant speed of payout based on changing spool diameter are examples of where using the drive’s internal PID or Technology controller to perform calculations speeds up processing and eliminates delays associated with external controller communication.

In another application, Quantum Design used an internal Characteristic Block to produce a speed command based on a pre-programmed set of X and Y parameters. The X and Y parameters are set by the operator through an operator interface and then downloaded to the drive via Profibus. The input to the Characteristic Block is the actual speed of the drive. The output of the Block is used as an analog output to another piece of equipment. The Characteristic Block allows the setting of X and Y parameters so that when the input to the block is within any X value the corresponding Y value is outputted from the block. This allows a non-linear speed ramp to be calculated in the drive and for the drive to function based on that calculation.

There are other freely programmable mathematical blocks that allow calculations to be performed that provide various logic functions within the drives and allow several inputs to be combined to control outputs directly. This adds to the versatility of the MASTERDRIVES capability, while providing a range of programming options for the engineer.

The AC and DC MASTERDRIVES are configured using software that runs on a standard Windows PC. The parameters can be viewed and modified as required through the Siemens Drive Monitor Software. The software provides built in Automatic Tuning routines to set up the drive and easily accessible parameters to set basic speed scaling. A front panel on the drive can also display the drive parameters and provide access for modification.

In conclusion, Quantum Design, Inc. has the expertise and experience to insure success in the application of Siemens AC and DC MASTERDRIVES for a variety of customer applications and network protocols.

Article Source:

<http://www.articleside.com/technology-articles/siemens-drives-applications-in-automation-controls.htm> - [Article Side](#)

[David Andrews](#) - About Author:

The author of this article has expertise in a [Factory Floor Automation](#). The articles on a [Siemens Masterdrives](#) reveals the author's knowledge on the same. The author has written many articles on a [Process control and safety](#) as well.

Article Keywords:

Siemens Masterdrives, Factory Floor Automation, Process control and safety

You can find more [free articles](#) on [Article Side](#). Sign up today and share your knowledge to the community! It is completely FREE!