



Since 1980, **Zeefax** has built an enviable reputation on its ability to provide excellent and reliable electrical and mechanical engineering services and solutions to the Drilling industry in many countries around the world. This experience, combined with a well-trained, highly skilled and motivated multi-disciplined workforce, based at our own fully equipped manufacturing facility in the South of England, means that we are the one-stop-shop in the UK for all electro-mechanical projects, targeted mainly at the Drilling and associated sectors.

### Introducing the all new Digital DC Control Module

**In response to customer requests, Zeefax has developed an updated version of the Hill Graham® multiprocessor digital electronic control module, for use with DC motors.**

The new module is identical in form, fit and function to the legacy Hill Graham DDC module, and importantly, the wiring harness connection points are also identical, making upgrading and replacement simple and quick. For new build systems, it provides complete control and protection for operation of a DC drive and the associated motor.



### Features

- ◆ **All new digital control for DC Motors** – The DDC module possesses an identical footprint to old style legacy DDC modules, making upgrading simple and quick.
- ◆ **Front Panel** – The Full Colour LCD touch screen provides a series of display formats which can be used to display all of the key motor parameters. It also includes parameter tuning, enabling the DDC to be matched to a wide range of drive / motor combinations.
- ◆ **Motor Speed Control** – Digital Speed regulator automatically adjusts the armature speed by comparing the measured speed feedback with the required speed reference. The output Torque command ensures that the speed is constant, even during load changes, and the control algorithms can accommodate both Field Weakening and Load Sharing situations.
- ◆ **Armature Current Control** – The armature current is regulated by the Armature Rectifier Board, which adjusts the armature firing reference angle (alpha angle) to maintain constant rotational speed.
- ◆ **Field Control** - The field current is controlled by the Field Rectifier Board. It is a pre-set reference value which is usually fixed. If required by the application, Field Weakening may be used in **Tandem** or **Load sharing** installations.
- ◆ **Reverse Rotation** – Automatic reversal using **4-Quadrant** control of the DC Motor.
- ◆ **Motor and Drive Protection features** – A comprehensive array of motor and drive protections, including Current Limiting, Over Current Trip, Over Speed trip, Input Supply Loss, Power Limit, Field Loss and other user defined protections, such as Cooling System Alerts, Lube Oil Temps and Motor Winding Temps etc. etc.

#### Zeefax inc.

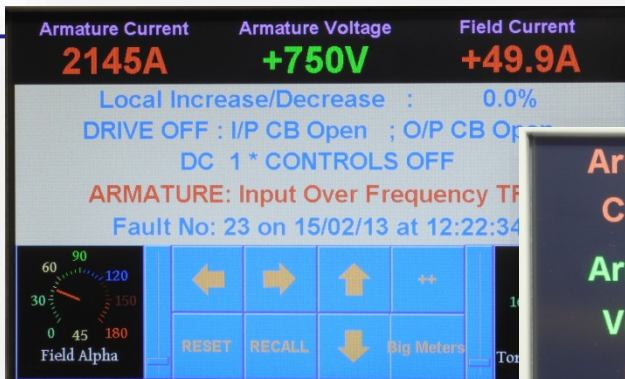
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## Specifications

Power Supply	+ 24 VDC / 5 A
Outputs	6 phase firing pulse.
Temperature Range	0°C to +50°C, IP20 (when installed in a control panel)
Protective Features	Current Limit, Over Current Trip, Over Speed, Input Supply Loss, Power Limit, Field Loss, User Defined
Front Panel	Full Colour, 7 inch high, Backlit TFT LCD Touch Screen. Display and Configuration.
Communications	Inter-module Communication using Bi-directional RS485 bus. Serial bus ports available using industry standard communication protocols, e.g. Profibus. USB on front panel for data dump and maintenance purposes.



## Contact us

For all Hill Graham services and manufactured parts, **Zeefax** is now the preferred supplier worldwide, as well as providing a host of other related Drilling services including

- ◆ Site Surveys and Field Service Support
- ◆ Coordination Studies
- ◆ GE752 Drive Motor Refurbishments
- ◆ SCR Refurbishments and Enhancements
- ◆ New design and build SCR systems – VFD and DC Systems
- ◆ SCR and PLC Training Courses

Please call us to find out more about how we can help to preserve your capital investment, through a program of works, carefully designed to optimise the utility and the performance of your Power System, whilst ensuring that it provides reliable and dependable operation for all your drilling applications.

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