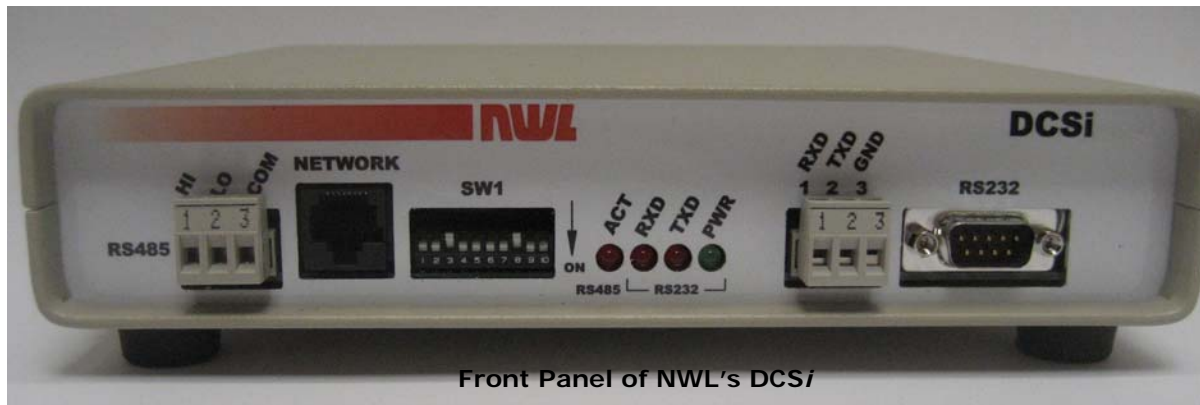


Distributed Control Systems Interface

Link NWL Power Supplies and Rapper Controls to your DCS

NWL's Distributed Control Systems interface (DCS*i*) provides a powerful, cost-effective modbus link between our ESP power supplies or rapper controllers and your power plant's DCS or PLC. DCS*i* permits two-way control and monitoring of up to 24 Graphic Voltage Controllers or 2 Graphic Rapper Controllers

(GVC/GRC) from a single location at a fraction of the cost of a separate computer system. For industrial plants that do not require the monitoring, control, and datalogging capability of PCAMS, the DCS*i* provides an easy to use, cost-effective communications interface to your voltage or rapper controllers.



Front Panel of NWL's DCS*i*

Distributed Control System Interface Hardware

Microcontroller Board

Processor	ST Micro UP3D3354, 40 MHz clock
Communication Ports	Input: RS485 from NWL power supplies/GRC to the DCS <i>i</i> Output: RS232 from DCS <i>i</i> to plant DCS or PLC
Memory	288K x 8 Flash 32 x 8 RAM

Power Supply/Terminal Module

Input	100-240 +10% -15% VAC, 50/60 Hz
Environment	0-70°C operating temp, 5-95% relative humidity, non-condensing
Switches	10 position DIP switch for configuration, rear power switch
LEDs	For indication of Power and Link activity



NWL Precipitator Product Offerings

- **PowerPlus™** – switchmode power supply system for enhanced particulate removal. The high frequency DC output produces higher average voltage which translates into more power to the fields. This is an integrated system which includes the high voltage tank, switchgear, and control electronics. Secondary voltages of 70 and 83 kVDC are available at currents up to 2000 mADC.
- **Linear Transformer/Rectifier (T/R) sets** – we can either provide a custom design or a standard package using our T/R Configurator™ for a cost-effective power supply solution. Secondary voltages of 50 to 110 KVDC are available at currents up to 2500 m ADC.
- **Graphic Voltage Controller** – controls the operation of our T/R sets. A complete system is comprised of the SCR cabinet and control electronics package and can be configured specifically to your application.
- **Digital Voltage Controller Retrofit Kits** – rather than replace an entire SCR cabinet, you can simply upgrade your old analog controls with one of our upgrade packages. NWL's Hand Held Programmer will allow you to monitor and control up to 90 T/R sets.
- **Graphic Rapper Controller** – our GRC is the most versatile rapper controller on the market. Loaded with a number of automatic and diagnostic features, it enables you to control up to 1024 individual rappers and up to 64 rapper groups. The system can run up to 5 different programs based on boiler load or time of day.
- **Precipitator Control and Management System** - PC-based monitoring system that integrates ESP power supply, rapper, and ash hopper operations. Serves as the ESP central control system but can interface with plant DCS or SCADA system. Remote access software enables control of your ESP from anywhere.

Product Support throughout Service Life

NWL has a complete package of Aftermarket Services to support all our ESP products throughout their operational life-cycle. Our capabilities include the following:

- **Repair and Refurbishment** – our in-house repair facility that can handle everything from emergency repairs to complete refurbishments.
- **Field Service** – our service technicians can inspect, troubleshoot, and repair NWL equipment onsite as well as conduct training for your personnel.
- **Equipment Upgrades** – we have upgraded hundreds of obsolete controllers with our digital GVCs and rapper controllers. Where needed, we have replaced linear T/R sets with our new switchmode power supply technology.

Unmatched Capability

NWL has been the undisputed leader in ESP power supplies and controls for over two generations through constant innovation and outstanding customer support. We stand ready to assist you any way we can.

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