



DRESSER-RAND

Bringing energy and the environment into harmony.*

DRESSER-RAND[®] CONTROL SYSTEMS

Easy to use, understand and operate.



DI-TRONICS® IV integrated turbine and compressor control.

NEW EQUIPMENT CONTROL SYSTEMS

Standard and custom applications are designed to meet client specifications. D-R Control Systems are supplied upon request for Dresser-Rand® gas turbine, steam turbine, motor, pump, expander, generator, centrifugal, and reciprocating compressor packages and are available for use on equipment manufactured by other OEMs.

RETROFIT CONTROL SYSTEMS

D-RCS will replace obsolete systems and components to increase the reliability and availability of critical equipment. Complete control system retrofit packages that include the control and monitoring system, instrumentation, installation, and commissioning services are also available.

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

SCADA is used in gas gathering, wellhead and general industrial control and monitoring applications using state-of-the-art programmable logic controllers (PLC), communication systems and human machine interface (HMI).

FULLY INTEGRATED TRAIN CONTROL

All control, monitoring and protection features are integrated into one, easy-to-maintain controller. Reducing the number of independent controllers increases the reliability and availability of the control system, because there are fewer components. Fewer controllers typically reduce the cost of the system, reduce the required size of the control panel and reduce the number of spare parts that must be maintained.

PLC INFORMATION

The PLC is the heart of the control system. It ensures proper sequencing and protection for the rotating machinery, lube and seal systems and related process equipment. The PLC can also interface with SCADA and distributed control systems (DCS).





Designing and building control systems around open industrial PLCs, D-RCS has evaluated and selected three primary platforms as the PLCs of choice because of their proven performance, worldwide acceptance, support, and adaptability to most control and client applications. The standard PLCs include Rockwell (Allen-Bradley), GE and Triconex®. PLC-based control systems are available in simplex, duplex and TMR configurations.

In keeping with Dresser-Rand's commitment to provide clients with control solutions that are best suited to each unique application, D-RCS also designs systems using other major PLCs and client-preferred equipment including Woodward, CCC, various specialty PLCs, DCS, and safety systems when required.

INTEGRATED FEATURES

- Gas turbine fuel control
- Steam turbine governor (condensing and extraction)
- Compressor surge, capacity and load sharing control
- Turbine and compressor performance monitoring
- Vibration and temperature monitoring

- All control, monitoring, sequencing, alarm, and shutdown functions.

DIAGNOSTIC FEATURES

PLC diagnostics provide clients with information to support troubleshooting hardware and system problems. Diagnostics significantly reduce system downtime because they help lead the operator or the maintenance technician straight to the problem.

The HMI system provides users with essential information such as "permissive to start" and "start sequence" screens, which serve as diagnostic tools if the unit is not ready to start or if it fails during start-up. In addition, Dresser-Rand offers a suite of condition monitoring applications with the Envision™ system. Envision provides

turbine and compressor performance calculations and trends and vibration analysis tools and trending.

REDUNDANT PLCS

Dual- and triple-redundant PLCs offer higher control system availability. All functions inherent within the PLC, such as gas turbine fuel control, steam turbine governor control, compressor surge control, etc. are redundant. This provides significant cost savings when compared to redundant, stand-alone controllers.

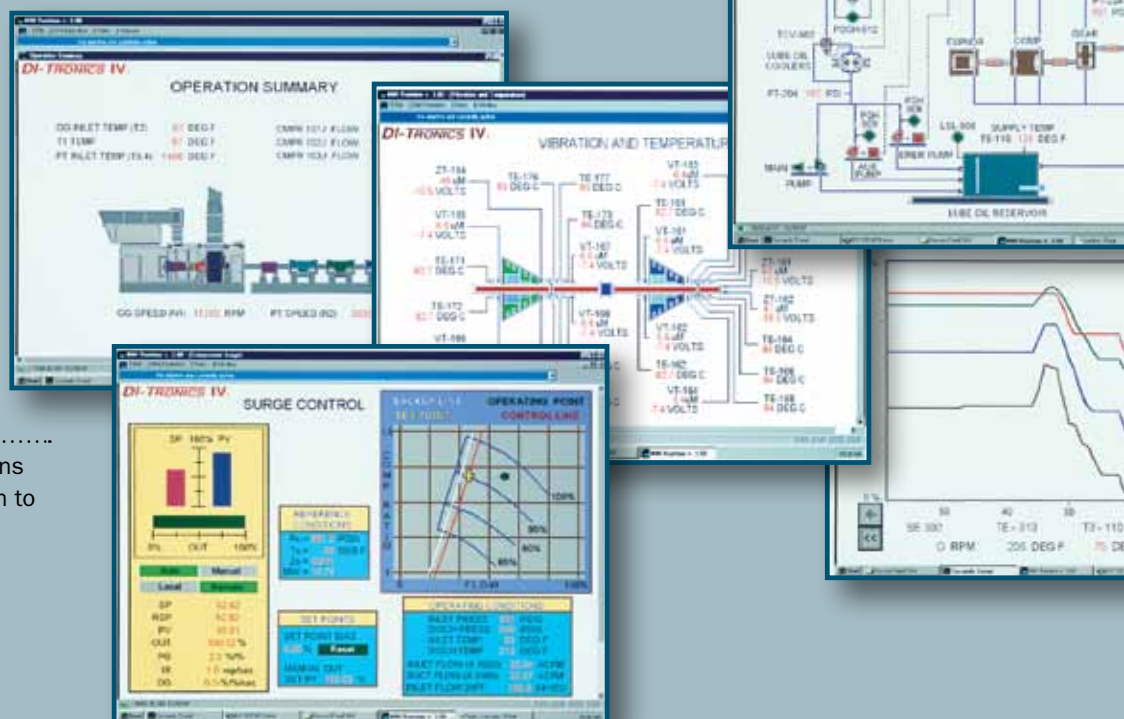
Multiple trains can also be controlled using one triple redundant system, whereby the process equipment shares a symbiotic relationship with each piece of rotating machinery.

STANDARD FEATURES

All Dresser-Rand control systems come with standard features that ensure reliable operation and a comprehensive and intuitive operator interface with remote access capability.

Standard screens

Standard screens provide all necessary control and monitoring data for the user. The HMI is easy to learn and understand. Screen modifications and new screen development are intuitive and can be carried out by operators and maintenance personnel as required.



Operator interface system screens provide the user with information to monitor system data.



Surge control

Our PLC-based surge control system has a universal performance curve and is patented by D-RCS. It is effective with variations in molecular weight, gas temperature and gas compression. Tuning adjustments are made from the HMI. The HMI also provides real-time, dynamic graphing of the operating point.

Turbine control

The turbine control system is PLC-based for use with gas turbine fuel control (industrial and aero-derivative) and steam turbine governors (condensing and extraction). Tuning adjustments are also made from the HMI.

OPTIONAL FEATURES

Custom screens can be developed to suit any application (and any language) required. Operator interface systems can be mounted remotely, from several feet to several miles away.

TRENDING, MONITORING AND REPORTS

- Real-time and historical trends
- Shutdown snapshot captures all analog trend data for off-line viewing at the user's convenience
- Analog and timer summaries
- Alarm and shutdown histories
- Analog, event, alarm and shutdown reports
- Remote data acquisition and wireless device support

CUSTOM PRODUCTS AND COMPLEX APPLICATIONS

- Custom communication drivers
- Machinery condition and performance monitoring (Envision)
- Fluid catalytic cracking (FCC) control systems—one equipment train may include an expander, steam turbine, compressor, and a motor-generator
- Surge control and load-sharing systems that involve several compressor trains with a variety of series, parallel and series/parallel load-sharing schemes
- Dry low emission (DLE) fuel control systems for gas turbines
- Integrated process control functions

EXTENDED SCOPE EQUIPMENT AND SERVICES

D-RCS provides hardware and services to complement client control systems.

- Commissioning and start-up services
- Training for operators and maintenance personnel
- Field devices, including instrumentation, valves and actuators

- Installation, commissioning and training
- Motor control centers
- Automatic transfer switches
- Low- and medium-voltage switch gear
- Uninterrupted power supplies, battery and charger systems
- Environmentally controlled buildings, complete with control system(s), MCC, battery and charger
- Fire and gas protection for plant and offshore applications

AUXILIARY CONTROL SYSTEMS

- Fire and gas systems
- Emergency shutdown systems
- Station and plant control—including station equipment and supervisory control and monitoring of the units
- SCADA
- Fugitive gas emissions panels
- Process control—typically related to mechanical equipment
- Remote monitoring



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Dresser-Rand Controls Systems

Decades of experience and OEM expertise make Dresser-Rand your partner of choice.

For more than 50 years, Dresser-Rand Control Systems (D-RCS) has been designing and manufacturing reliable, state-of-the-art control systems for gas and steam turbines; expander-driven compressors and generators; motor-driven compressors; reciprocating compressors; and plant, station, supervisory control and data acquisition (SCADA), and process applications.

The D-RCS product engineering team continually strives to provide the most advanced control technology in systems that are easy to use, understand and operate. Project engineers work closely with clients to design control systems that meet demanding operating requirements. All phases of design, manufacturing, installation, training, and documentation are coordinated to ensure the effective performance and reliability of these modern control systems.

D-RCS also provides upgrades and complete replacements of existing control systems.

THE DRESSER-RAND CONTROL SYSTEMS TEAM

The D-RCS team is composed of project managers, project engineers, custom product engineers, drafting personnel, manufacturers, test technicians, service representatives, training coordinators, and support staff that work together with clients to provide control systems and services that meet the needs of each individual application.

With more than 50 years in the controls business and thousands of installed systems of practically every type supplied on every continent, D-RCS has the experience, expertise and technology to provide its clients with the right control system for a variety of diverse applications.

SERVICE

Our factory-trained field service representatives are available to provide installation assistance, commissioning services, routine or emergency services, and contract maintenance 24 hours a day, seven days a week.

TRAINING

Client training can be provided either at one of Dresser-Rand's fully equipped training facilities, at the job site or another location specified by the client.

Complete offshore control enclosures for installation in Mexico.

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