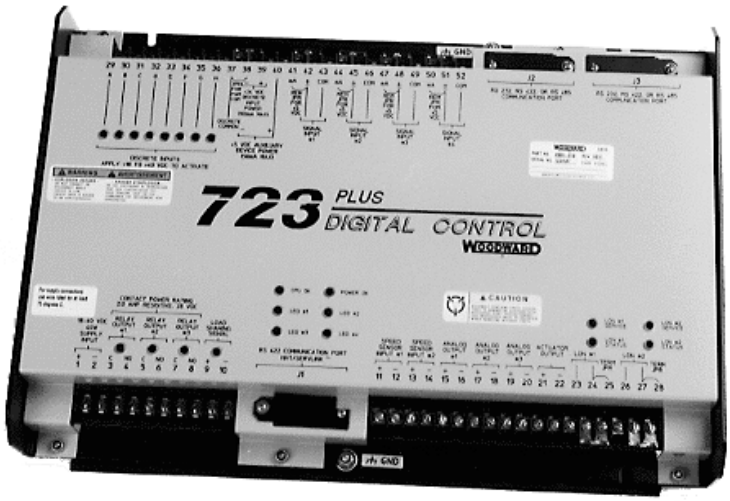
723PLUS Digital Control

Custom Control



- Configurable for Control and Monitoring in Engine, Plant, Process, and Marine Applications
- 32 Bit Microprocessor
- 3 User Configurable Communication Ports
- Modbus™* Protocol
- 2 Local Operating Network (LON™**) Channels
- Digital Reference and Ramps for Speed, Temperature, Pressure, etc.
- Configurable Update Time Groups - 10 to 80 Milliseconds
- UL and cUL Listed

APPLICATIONS

The Woodward 723PLUS Digital Control manages and controls reciprocating engines (gas, diesel, or dual fuel) used in power generation, marine propulsion, and gas compression/distribution. The control may also be used in cogeneration, power transmission/distribution, process management, pipeline pump stations, utility power generation, emergency standby power, and remote control station operation. The 723PLUS provides state-of-the-art control for new and retrofit situations.

PROGRAMMING

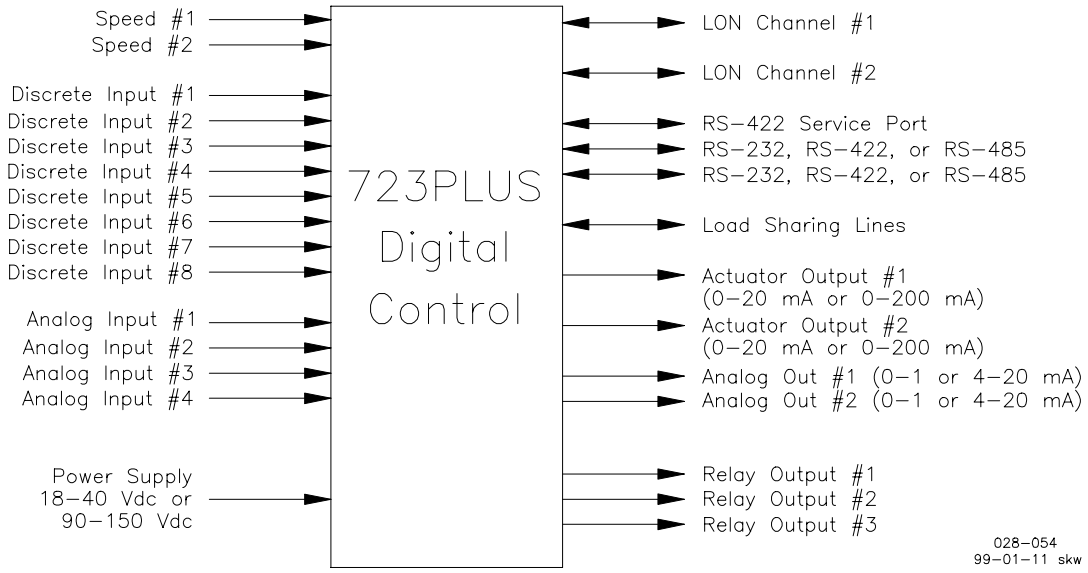
Woodward will provide custom programming for the 723PLUS Digital Control. Standard preprogrammed versions for power generation, marine, gas engine, mechanical drive, etc. are available.

The custom 723PLUS Digital Control can be programmed to meet specific needs for specialized functions in process, plant, engine and marine applications. The custom versions may be used as unit or engine level controls, or as supervisory controls for such things as sequencing, load shedding, heat recovery management, and system monitoring and alarming.

COMMUNICATIONS

The 723PLUS Digital Control provides two separate serial interfaces for RS-232, RS-422, or RS-485 communications. The ports feature standard ASCII character handling or an industry-standard Modbus™* protocol (ASCII or RTU). Baud rates are programmable to meet specific user requirements. Devices that may be connected include terminals, printers, data loggers, modems, and any other devices that use RS-232, RS-422, or RS-485. The 723PLUS control can also communicate using the Local Operating Network (LON™**) protocol for digital communications. The 723PLUS control's I/O ports may be expanded through LinkNet® nodes. Typical LinkNet nodes include thermocouple, RTD, analog, and discrete type I/O.

* Modbus is a trademark of Modicon, Inc.
** LON is a trademark of Echelon Corporation.



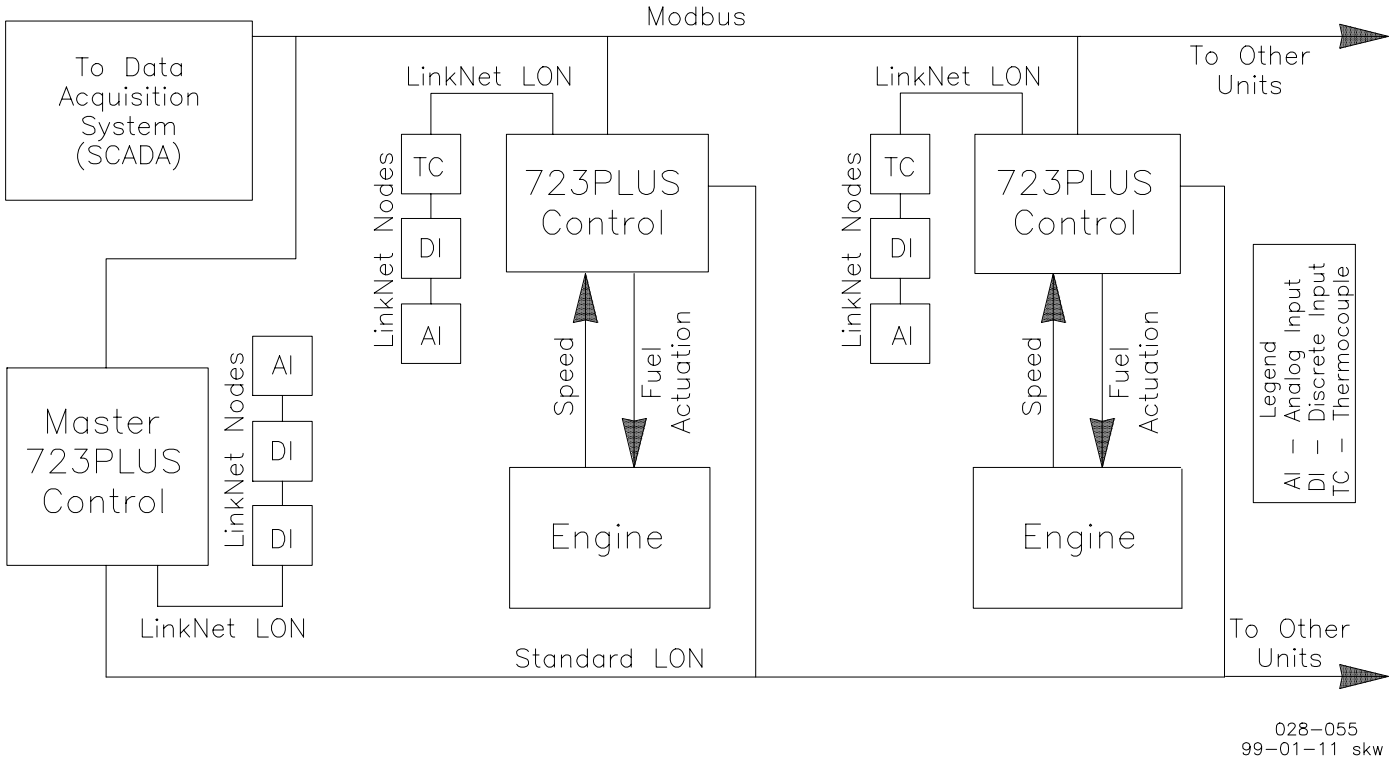
723PLUS Control Block Diagram

ADJUSTMENTS

Adjustments may be made quickly and easily through the 723PLUS control's standard PC Interface or optional hand held programmer. Both adjustment methods are menu-driven and record all set points.

SELF DIAGNOSTICS

The 723PLUS Digital Control has integrated diagnostics to determine the control integrity. Memories, processor, and baseline power supply monitoring are included in the diagnostic tests.



Typical 723PLUS System Diagram

SPECIFICATIONS

Input Power

Low Voltage Model ..... 18–40 Vdc (24 or 32 Vdc nominal)
High Voltage Model..... 90–150 Vdc (125 Vdc nominal)
Power Consumption ..... 40 W nominal
Inrush Current (low voltage model)..... 7 A for 0.1 ms
Inrush Current (high voltage model) ..... 22 A for 15 ms

Inputs

Speed Signal Inputs (2)

Speed Input Voltage ..... 1.0–50.0 Vrms
Speed Input Frequency..... Analog: 400 Hz to 15 kHz; Digital: 30 Hz to 15 kHz
Speed Input Impedance..... 10 kΩ ±15%

Note: EU Directive compliant applications are not currently able to use proximity switches due to the sensitivity of the switches.

Discrete Inputs (8)

Discrete Input..... 24 Vdc, 10 mA nominal,18–40 Vdc range
Response Time..... 10 ms ±15%
Impedance ..... 2.3 kΩ

Analog Inputs (4)

Analog Input..... ±5 Vdc or 0–20 mA, transducers externally powered
Common Mode Voltage ..... ±40 Vdc
Common Mode Rejection ..... 0.5% of full scale
Accuracy ..... 0.5% of full scale

Load Sharing Input

Analog Input..... 0–4.5 Vdc
Common Mode Voltage ..... ±40 Vdc
Common Mode Rejection ..... 1.0% of full scale
Accuracy ..... 1.0% of full scale

Outputs

Analog Outputs 0–1 or 4–20 mA (2)

Analog Output..... 0–1 mA or 4–20 mA (max. 600 Ω load)
Accuracy ..... 0.5% of full scale

Analog Outputs 0–20 or 0–200 mA (2)

Analog Output..... 0–20 mA (max. 600 Ω load) or 0–200 mA (max. 70 Ω load)
Accuracy ..... 0.5% of full scale

Relay Contact Outputs (3)

Contact Ratings ..... 2.0 A resistive @ 28 Vdc; 0.5 A resistive @ 125 Vdc

Environment

Operating Temperature ..... –40 to +70 °C (–40 to +158 °F)
Storage Temperature..... –55 to +105 °C (–67 to +221 °F)
Humidity..... 95% at +20 to +55 °C (+68 to +131 °F)
..... Lloyd's Register of Shipping Specification Humidity Test 1
Mechanical Vibration..... Lloyd's Register of Shipping Specification Vibration Test 2
Mechanical Shock..... US MIL-STD 801C Method 516.2, Proc. I, II, V
EMI/RFI Specification ..... Lloyd's Register of Shipping Specification
EN 50081-2 and EN 50082-2

Compliance

UL/cUL Listing..... Class 1, Division 2, Groups A, B, C, D
Lloyd's Register of Shipping ..... Low voltage models only
American Bureau of Shipping (ABS) ..... Low voltage models only
European Union (EU)..... Compliant with EMC Directive 89/336/EEC (low voltage model only)

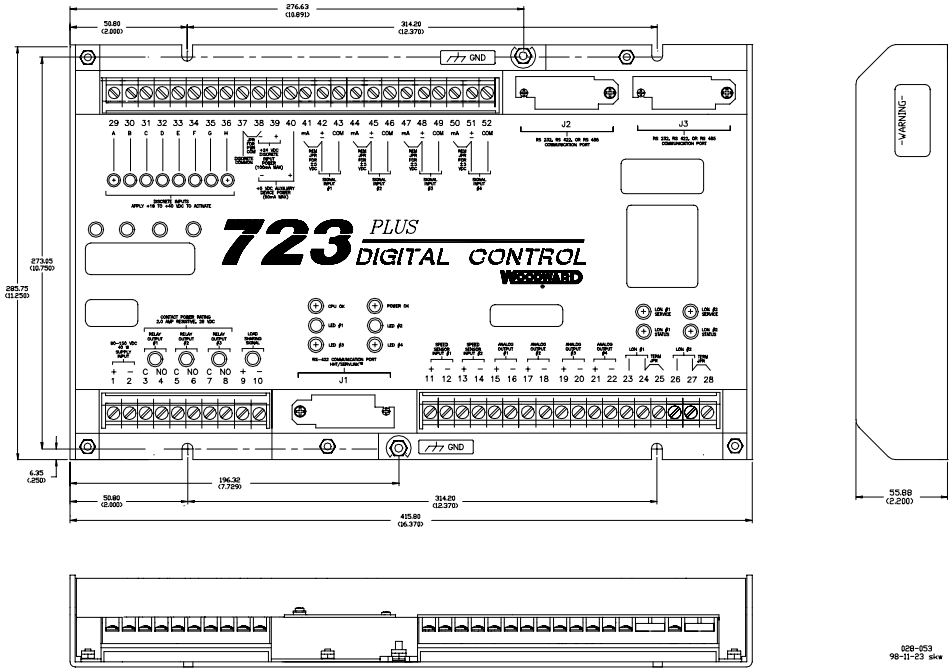
PO Box 1519
1000 East Drake Road
Fort Collins CO, USA
80522-1519
Ph: (1)(970) 482-5811
Fax: (1)(970) 498-3058
www.woodward.com

Plants & Subsidiaries
Australia (New South Wales)
Brazil (Campinas)
China (Tianjin)
Germany (Aken/Elbe)
India (Haryana)
Japan (Tomisato & Kobe)
Netherlands (Hoofddorp & Rotterdam)
Singapore
UK (Reading, England, & Prestwick, Scotland)
US (Colorado, Illinois, Michigan, New York, South Carolina, Tennessee)

Branch/Regional Offices
China (Beijing)
Czech Republic (Plzen)
Germany (Tettnang)
Korea (Pusan)
Mexico (Mexico City)
New Zealand (Christchurch)
Poland (Warsaw)
UAE (Abu Dhabi)
UK (Dundee, Scotland)
US (Alabama, California, Illinois, Pennsylvania, Texas, Washington)

Distributors & Service
Woodward has an international network of distributors and service facilities. For your nearest representative call (1)(800) 835-5182 or see the Worldwide Directory on our web site (www.woodward.com).

CORPORATE HEADQUARTERS
Rockford IL, USA
Ph: (1)(815) 877-7441



723PLUS Digital Control Outline Drawing

DECLARATION OF INCORPORATION

In accordance with the EMC Directive 89/336/EEC and its amendments, this controlling device, manufactured by Woodward Governor Company, is applied solely as a component to be incorporated into an engine prime mover system. Woodward Governor Company declares that this controlling device complies with requirements of EN50081-2 and EN50082-2 when put into service per the installation and operating instructions outlined in the product manual.

NOTICE: This controlling device is intended to be put into service only upon incorporation into an engine prime mover system that itself has met the requirements of the above Directive and bears the CE mark.

For more information contact: