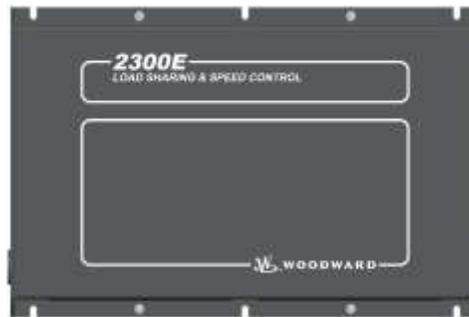


2300E

Digital Load Sharing and Speed Control Hardware



Description

The 2300 Digital Electronic Load Sharing & Speed Control is a microprocessor-based hardware platform that is custom programmable to the specific needs of the application. Typically the control is used to provide speed and load control functions for reciprocating engines, or steam or gas turbines. The control consists of a single printed circuit board that is housed in a sheet-metal enclosure. Both ordinary and hazardous location versions are available. The unit is intended for bulkhead mounting, and spring-loaded terminal blocks are provided for termination of field wiring. The 2300E is powered from 24 Vdc.

Integral load sensor and load sharing capabilities are available that allow the control to be programmed for a variety of power generation applications. Isochronous load sharing, kW droop, and base-load operation can be provided.

The 2300 input/output (I/O) list includes:

- 1 Generator Load Sensor
- 3 PT Inputs & 3 CT Inputs
- 1 Load Sharing Line
- 1 Actuator Driver Output
- 2 Magnetic Pickup (MPU) Inputs
- 1 Analog Output
- 2 Analog Inputs
- 8 Discrete Inputs
- 4 Discrete Relay Driver Outputs or PWM Outputs (on skid)
- 1 Serial COM Port (RS-232)
- 1 Serial COM Port (RS-422)
- 1 CAN Port

The operating temperature range is -40 to $+70$ °C (-40 to $+158$ °F), and the 2300 is CE Marked and UL/CSA Listed.

Programming

Woodward GAP™ Software is used to program the 2300E. Specialized functions are programmed to meet the specific needs for speed control, load management, process control, unit sequencing, and protective monitoring. If desired, the 2300E can be programmed to handle supervisory functions rather than individual unit control.

Communications

Two 9-pin sub D connectors are available to allow RS-232 and RS-422 serial communications with other systems at baud rates up to 115,200 BPS. The RS-422 port is used to interface with the plant DCS, an operator HMI, or printers and data loggers. The port's Modbus® * communications characteristics are defined in the customized application program.

In addition, the RS-232 port can be used to configure and service the controller by use of the Woodward Control Assistant software or Woodward ToolKit software. These software programs allow users to set and adjust all application-based parameters, plus upload and download configurations to and from the control.

*—Modbus is a trademark of Schneider Automation Inc.

- Versatile programming for reciprocating engine, steam, or gas turbine applications
- Digital load sharing and speed control
- Programmable using Woodward GAP™ software
- 2 serial ports, RS-232 and RS-422 serial communications
- Optional Modbus® serial communications
- ToolKit service tool software available for programming an HMI (human machine interface)

Regulatory Compliance

European Compliance for CE Mark:

EMC Directive Declared to 2014/30/EU

Low Voltage Directive Declared to 2014/35/EU

ATEX – Potentially Explosive Atmospheres Directive Declared to 2014/34/EU

Zone 2, Category 3, Group II G, Ex nA IIC T3 Gc X

Zone 2, Category 3, Group II G, Ex nA IIC T4 Gc X

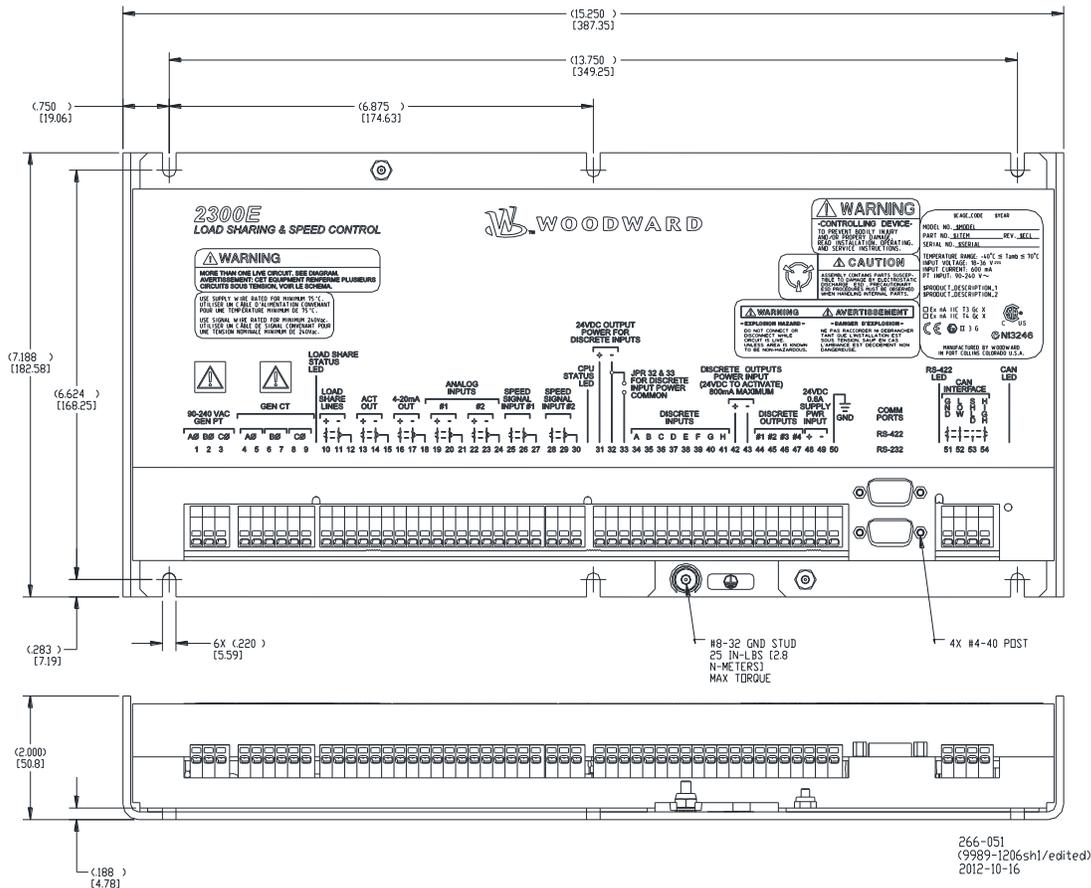
Marine Compliance Certificates:

American Bureau of Shipping, Bureau Veritas, China Classification Society, Det Norske Veritas, Lloyd's Register of Shipping, Nippon Kaiji Kyokai, Royal Institution of Naval Architects

North American Compliance:

CSA (CSA Certified for Class I, Division 2, Groups A, B, C, D, T3 or T4 Hazardous Locations and ordinary locations at 70 °C ambient; for use in Canada and the United States; NOTE—Wiring must be in accordance with applicable electric codes with the authority having jurisdiction. These listings are limited to those units bearing the UL or CSA agency identification.)

NOTE—Some certifications apply to specific models only. See technical manual 26691 for complete information. Note that the manual is also embedded in the control software service tool.



2300E Digital Control (ordinary locations version shown) (Do not use for construction)



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