

# 2301D Digital Load Sharing & Speed Control

## DESCRIPTION

The Woodward 2301D microprocessor-based control functions like the 2301A load sharing and speed control.

The control is housed in a sheet-metal chassis and consists of a single printed circuit board.

The 2301D is configured using a computer with Woodward Watch Window software. The configuration software is supplied with each control or may be downloaded from the Woodward web site. The computer connects to the 2301D through a 9-pin connector (RS 232 port).

The control operates from a 24 Vdc supply. The actuator output, one analog input, and one analog output are configurable.

The 2301D features dual dynamics and soft load transfer, to and from a bus.

The 2301D includes:

- 1 Load Sensor Circuit
- 1 Actuator Driver, 4–20 mA, 0–20 mA, or 0–200 mA
- 1 MPU Speed Sensor
- 1 Configurable Analog Output
- 1 Configurable Analog Input
- 1 Analog Synchronizer Input
- 8 Discrete (Switch) Inputs
- 4 Discrete (Relay Driver) Outputs

The 2301D operates within a range of –40 to +70 °C (–40 to +158 °F).

## APPLICATIONS

The Woodward 2301D provides load sharing and speed control of generators being driven by diesel or gaseous engines. The engines must operate within a 900–3600 rpm range.

With the flexible configuration software incorporated in the 2301D hardware, application variations can now be selected using an external computer (PC). Changing the application to accommodate engine speed range, gear teeth, and selection of forward or reverse acting is a matter of software setup.

The 2301D has four operating modes—speed control, isochronous load sharing, droop base load, and isochronous base load.

### Speed control:

Has multiple dynamics flexibility. Will work on pumps or compressors. Has capability for remote 4–20 mA speed reference through configurable analog input.

### Isochronous Load Sharing:

Is compatible with most existing load sharing speed control systems. Now with soft load and unload capability.

### Droop Base Load:

Adjustable load control using discrete raise and lower contacts, no potentiometers.

### Isochronous Base Load:

Provides constant load level operation against a bus. The load setting may be fixed, changed using discrete raise and lower inputs, or a remote 4–20 mA input.

- Digital speed control
- Multiple dynamics
- Compatible with existing load sharing systems
- Remote speed & load reference
- Analog and discrete outputs
- Soft load transfer
- PC configurable with Woodward Watch Window software
- Designed for 900–3600 rpm applications
- Actuator current range of 0–20 mA, 4–20 mA, & 0–200 mA

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**Regulatory Compliance**

European Compliance for CE Mark:  
EMC Directive

Low Voltage Directive

North American Compliance:

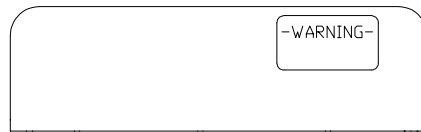
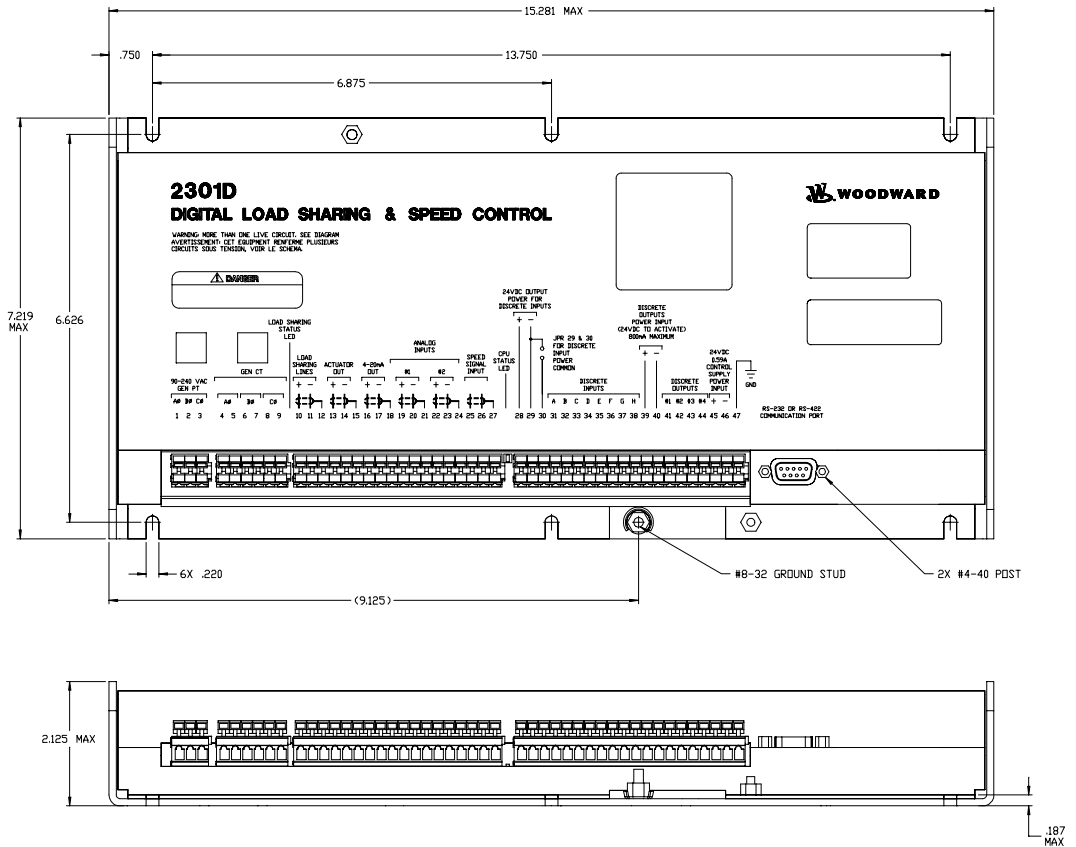
UL

CSA

NOTE

Certified to 89/336/EEC COUNCIL DIRECTIVE of 03 May 1989 on the approximation of the laws of the member states relating to electromagnetic compatibility.  
Certified to the 73/23/EEC COUNCIL DIRECTIVE of 19 February 1973 on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits.

UL Listed for Ordinary Locations for use in the United States (File #E97763)  
CSA Certified for Ordinary Locations for use in Canada (pending)  
Wiring must be in accordance with applicable electric codes with the authority having jurisdiction.



15.281	388.0
13.750	349.2
7.219	183.3
6.875	174.6
6.626	168.3
2.125	54.0
.750	19.0
.220	5.6
INCH	MM
INCH TO MM CONVERSION	

260-038  
00-08-04

**2301D Digital Control**

For more information contact: