Digital Valve Positioner (DVP)

Applications

The Woodward DVP is the state-of-the-art driver for electric actuation. It features a rugged and compact design. The DVP is designed for use with various Woodward valves and actuators. It provides positioning based on a demand signal from the control system. Multiple input type configurations allow the DVP to be used with many different turbine controllers. The driver supports redundant installations.

Description

The DVP is designed to control valves and actuators with either limited angle torque (LAT) or brushless DC (BLDC) motor types. The driver positions based on resolver feedback located on the valve or actuator. The DVP uses the latest in Woodward control architecture, the robust controller to provide high-speed precise valve control.

The DVP is designed for plug-and-play installations on many valve types. Woodward has integrated smart technology into the new generation of valves and actuators called an ID (identification) module. Upon connection to a valve or actuator equipped with an ID module, the DVP automatically reads critical valve-specific information to set up the driver. After this auto-detection and customer configuration, the DVP is ready for use. Both pre-manufactured connectorized cables and terminal connection models are available.

The DVP is available in multiple configurations:

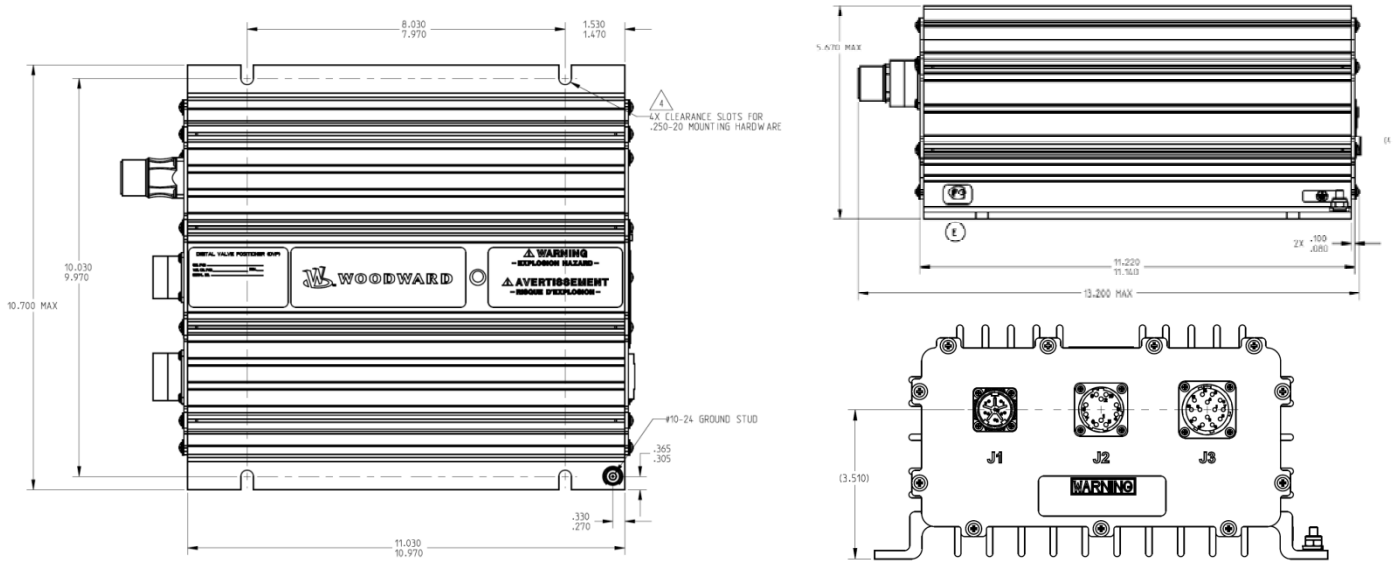
- Ingress Protected IP30 or IP56 models available
- Connector or terminal block outputs; conduit option available on IP56
- 125 Vdc or 24 Vdc power input options available
- EGD (Ethernet), CANopen, analog (4–20 mA or 0–5 Vdc), PWM configurable input options

The DVP is compatible with the following Woodward products:

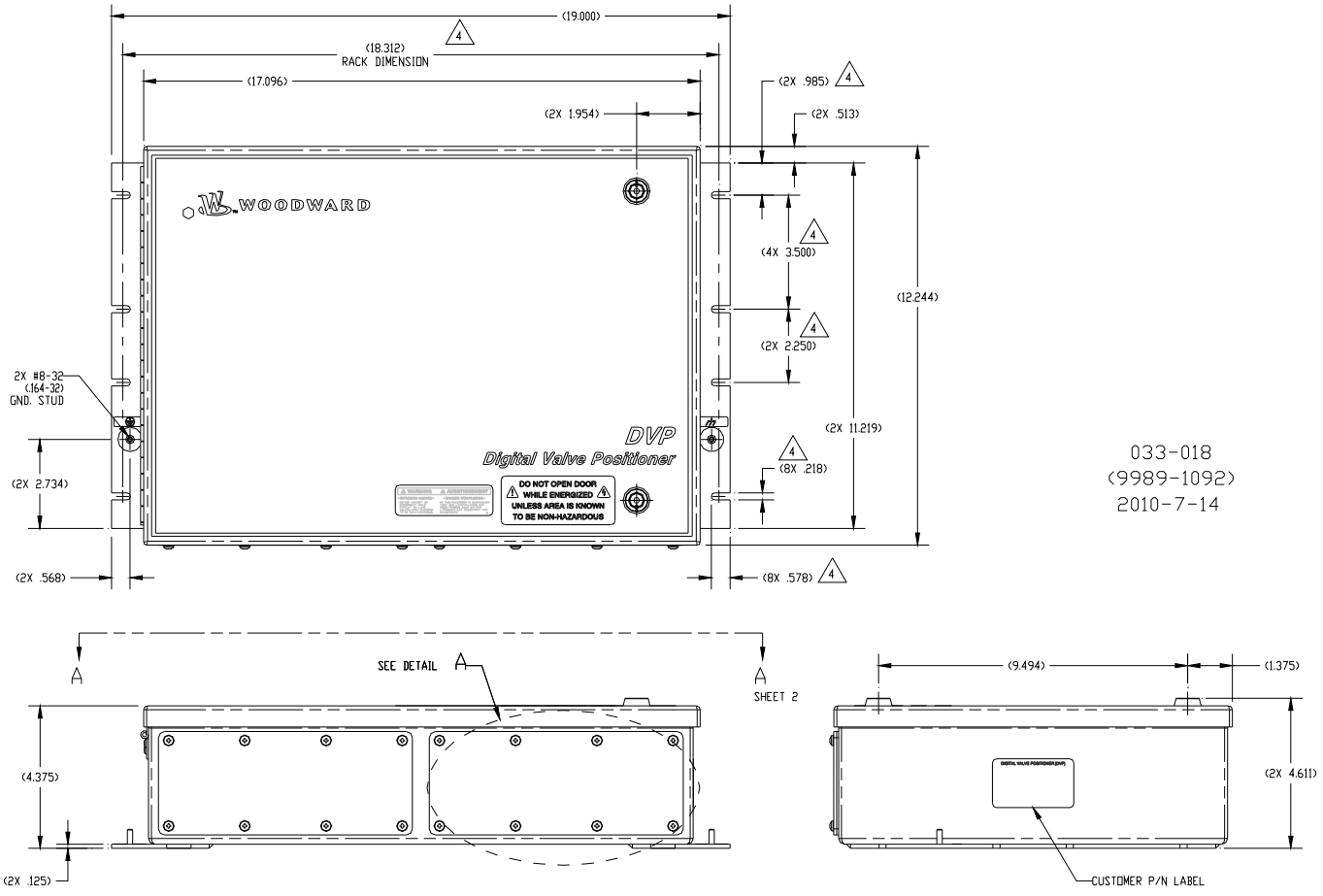
DVP Compatible Products	24 Vdc	125 Vdc	ID Module
EGMV – BLDC Type Electric Gas Metering Valve		X	X
ELMV – BLDC Type Electric Liquid Metering Valve		X	X
ELBV – BLDC Type Electric Liquid Bypass Valve		X	X
EWMV – BLDC Type Electric Water Metering Valve		X	X
LESV – BLDC Type Large Electric Sonic Valve		X	X
LQ25 – LAT Type Liquid Metering Valve	X	X	X
LQ50 – LAT Type Liquid Metering Valve		X	X
GS16DR – LAT Type Gas Metering Valve		X	X
EM35MR/3103 – BLDC Gas Metering Valve	X		
EML100/3151 – BLDC Type Water Metering Valve	X		

- Electric actuator driver
- Triple redundant EGD (Ethernet) or dual redundant CANopen digital communication options
- IP30 or IP56 enclosures
- ID module compatibility for plug-and-play operation
- Connector or terminal block options
- Certification for European and North American Hazardous Locations

Installation



IP 30 Model with 3 Connector Outputs and Terminal Block Inputs
(Do not use for construction)



IP 56 Model with Connector Outputs and Conduit Inputs
(Do not use for construction)

Specifications

Electrical Specifications

Power Supply Input:	125 Vdc +20%, –28% 24 Vdc +33%, –25%
Current Draw:	See Valve or Actuator manual for current draw information
Package Heat Dissipation:	With Ethernet Option: 40 W nominal, 70 W @ maximum heat-load Without Ethernet Option: 40 W nominal, 63 W @ maximum heat-load *The maximum heat-load occurs when the associated fuel valve is being positioned near the maximum stop of the valve.*

Mechanical Specifications

Dimensions:	IP30 Model – 279 x 272 x 145 mm (11.0 x 10.7 x 5.7 inches) IP56 Model – 483 x 311 x 111 mm (19.0 x 12.24 x 4.38 inches)
Weight:	IP30 Model – 7.9 kg (17.5 lb) IP56 Model – 6.95 kg (15.32 lb)

Environmental Specifications

Ambient Operating Temperature:	–40 to +55 °C (–40 to +131 °F) with Ethernet module –40 to +70 °C (–40 to +158 °F) without Ethernet module
Storage Temperature:	–40 to +105 °C (–40 to +221 °F)
Humidity:	0 to 100% non-condensing
Mechanical Vibration:	Woodward Specification RV5 (0.04 G²/Hz, 10–500 Hz, 2 hours/axis, 1.04 Grms)
Mechanical Shock:	Woodward Specification MS2 (30 G, 11 ms Half Sine Pulse)
EMI/RFI Specification:	EN61000-6-2: Immunity for Industrial Environments EN61000-6-4: Emissions for Industrial Environments Woodward-imposed requirements: Conducted Low Frequency Immunity, 50 Hz – 10 kHz
Impact Protection:	The IP56 was tested to IEC 60079-0, 26.4.2 Low Impact requirements. The IP56 control must be installed in an area that provides protection against high impact.
Environmental Protection:	IP30 per IEC 60529. Must be installed in enclosure or cabinet to provide a minimum IP54 level of protection against dust and moisture.

Regulatory Compliance

European Compliance for CE Marking:
These listings are limited only to those units bearing the CE Marking.

EMC Directive:	2004/108/EC COUNCIL DIRECTIVE of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and all applicable amendments.
ATEX – Potentially Explosive Atmospheres Directive:	Declared to 94/9/EEC COUNCIL DIRECTIVE of 23 March 1994 on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres. Zone 2, Category 3 G, Ex nA IIC T4 X

North American Compliance:
These listings are limited only those units bearing the CSA Identification

CSA:	CSA Certified for Class I, Division 2, Groups A, B, C, and D, T4 at 55 °C (3-Board Configuration) and 70 °C (2-Board Configuration) ambient for use in USA and Canada Certificate 160584-1682018

Other European and International Compliance:

GOST-R:	Certified for use in ordinary locations within the Russian Federation per GOST R certificate РОСС US.МЛ03.В00713 [for 125 Vdc version only]

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Distributors & Service

Woodward has an international network of distributors and service facilities. For your nearest representative, call the Fort Collins plant or see the Worldwide Directory on our website.

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