WOODWARD

Product Specification **03376**
(Revision D, 12/2019)

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:

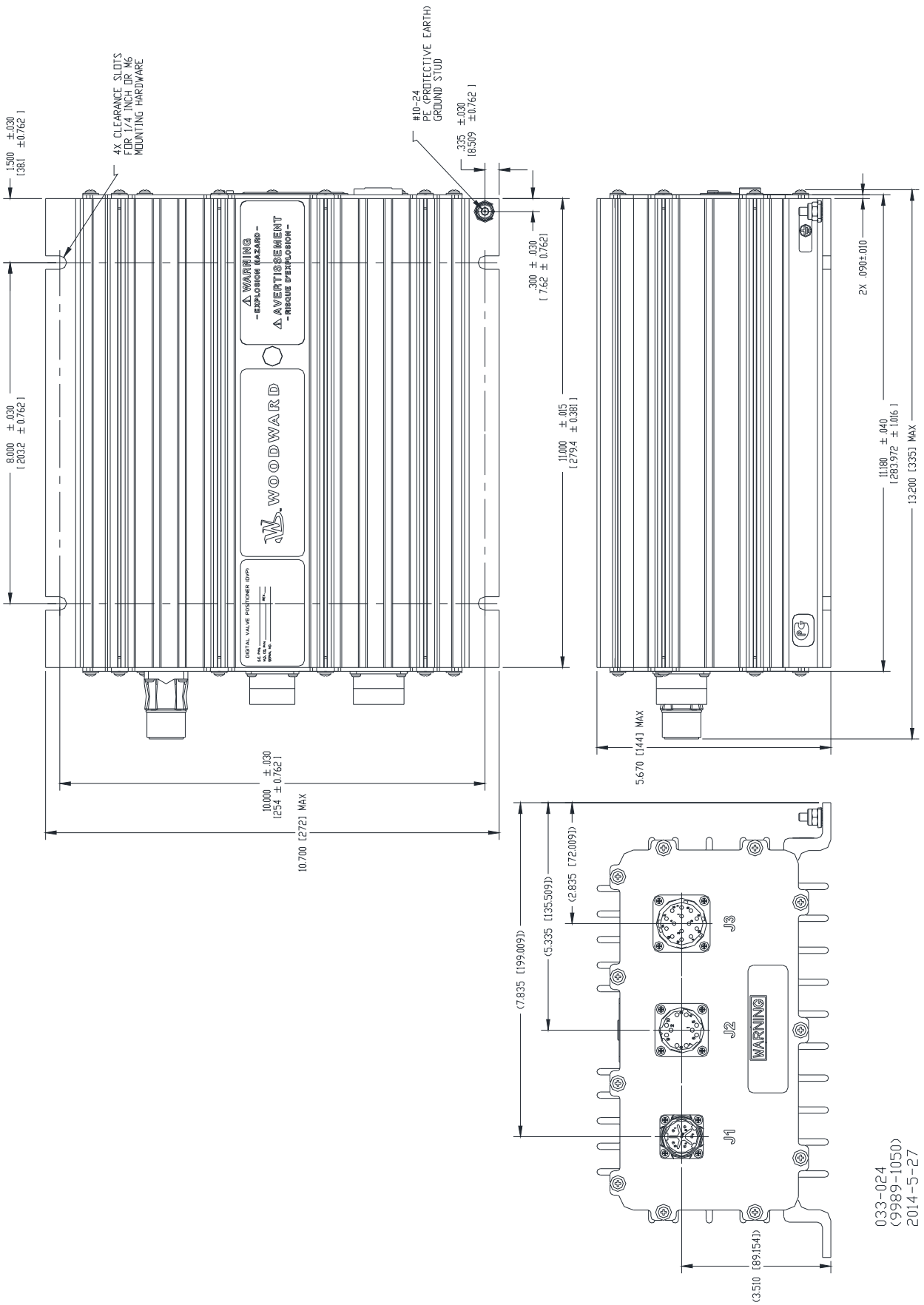
- Ingress Protected IP30 or IP66 models available
- Connector or terminal block outputs; conduit option available on IP66
- 125 Vdc or 24 Vdc power input options available
- EGD (Ethernet), CANopen, Analog (4–20 mA or 0–5 Vdc), PWM configurable input options

- Electric actuator driver
- Triple redundant EGD (Ethernet) or dual redundant CANopen digital communication options
- IP30 or IP66 enclosures
- ID module compatibility for plug-and-play operation
- Connector, terminal block, or conduit options
- Certified for International Hazardous Locations (CE Mark/ATEX, IECEx, CSA) and Marine

DVP Compatible Valve	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 Bypassing Valve		X	X
EWMV – BLDC Type Electric Water Metering Valve		X	X
LESV – BLDC Type Electric Sonic Gas Metering Valve		X	X
LESVDR – BLDC Type Electric Sonic Gas Metering Valve		X	X
LQ25 – LAT Type Liquid Metering Valve (3spd resolver)	X	X	
LQ25DR – LAT Type Liquid Metering Valve (3spd resolver)		X	X
LQ25T – LAT Type Liquid Throttling Valve (3spd resolver)	X	X	
LQ25BP – LAT Type Liquid Bypassing Valve (3spd resolver)	X	X	
LQ50 – LAT Type Liquid Metering Valve		X	X
GS16DR – LAT Type Gas Metering Valve		X	X
3103EM35MR – BLDC Type Gas Metering Valve	X		
3151EML100 – BLDC Type Water Metering Valve	X		
3171EM35MR – BLDC Type Gas Metering Valve	X		

Motor Descriptions: LAT—Limited Angle Torque; BLDC—Brushless DC Motor Type
Resolver Description: 3spd—One cycle every 120 mechanical degrees

Installation



IP 30 Model with 3 Connector Outputs and Terminal Block 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) IP66 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) IP66 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 G^2/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 IP66 DVP is suitable for areas where there is a low risk of mechanical impact (4J per IEC 60079-0 cl. 26.4.2); external connectors must be mechanically protected from impact.
Environmental Protection:	IP30 DVP: IP30 per IEC 60529. A suitable cabinet must be selected for Zone 2 hazardous locations. IP66 DVP: IP66 per IEC 60529 and IEC 60079 series for Zone 2 hazardous locations.

Regulatory Compliance

These listings and certifications are limited only to units with the appropriate marking. See Product Manual 26329 for more information and Special Conditions of Safe Use.

European Compliance for CE Marking:

EMC Directive:	2014/30/EU
ATEX Directive:	2014/34/EU, II 3 G Ex nA IIC T4 Gc (some models T3)

Other European Compliance (not qualified for CE marking):

RoHS Directive:	Excluded from the scope of 2011/65/EU for Large Scale Fixed Installations

North American Compliance:

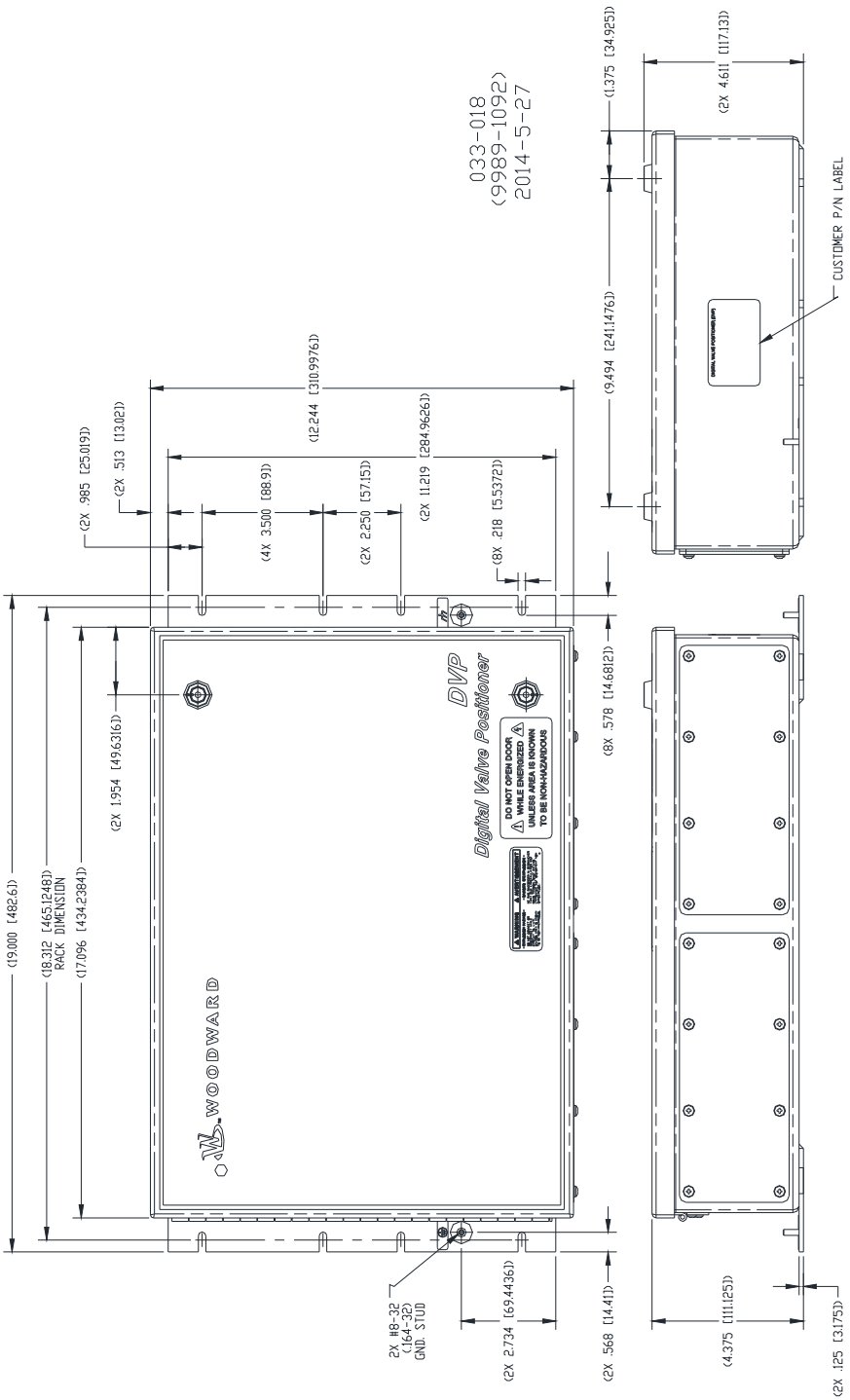
CSA:	Certified for use in USA and Canada. Class I, Div. 2 Groups A, B, C, and D T4 (some models T3)

International Compliance:

IECEx:	Zone 2, Ex nA IIC T4 Gc (some models T3)
EAC (Russia):	2Ex nA IIC T4 Gc

Marine Compliance (24V DVP, IP66, 2-board):

LR:	Lloyds Type Approval Certificate
DNV-GL:	Type Approval Certificate



IP 66 Model with Connector Outputs and Conduit Inputs
(Do not use for construction)

WOODWARD

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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.

For more information contact: