Installation Procedure Supplement

Manual 26889 (Revision NEW, 5/2015)
GS16 Gas Metering System

See manual 26514 for complete installation, operation, maintenance, and certification information. Publications can be found on our website at www.woodward.com/publications.

Important Definitions

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

- **DANGER**—Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING**—Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION**—Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE**—Indicates a hazard that could result in property damage only (including damage to the control).
- **IMPORTANT**—Designates an operating tip or maintenance suggestion.

WARNING

The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage.

The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate.

Read this entire manual and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment. Practice all plant and safety instructions and precautions. Failure to follow instructions can cause personal injury and/or property damage.

This publication may have been revised or updated since this copy was produced. To verify that you have the latest revision, check manual *26455*, *Customer Publication Cross Reference and Revision Status & Distribution Restrictions*, on the *publications page* of the Woodward website: www.woodward.com/publications

The latest version of most publications is available on the *publications page*. If your publication is not there, please contact your customer service representative to get the latest copy.

Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment. Any such unauthorized modifications: (i) constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage, and (ii) invalidate product certifications or listings.

NOTICE

To prevent damage to a control system that uses an alternator or battery-charging device, make sure the charging device is turned off before disconnecting the battery from the system.

NOTICE

To prevent damage to electronic components caused by improper handling, read and observe the precautions in Woodward manual *82715*, *Guide for Handling and Protection of Electronic Controls, Printed Circuit Boards, and Modules*.

Go to www.woodward.com/publications for complete instructions (manual 26514).

Replacement/Exchange: Replacement/Exchange is a premium program designed for the user who is in need of immediate service. It allows you to request and receive a like-new replacement unit in minimum time (usually within 24 hours of the request), providing a suitable unit is available at the time of the request, thereby minimizing costly downtime.

This option allows you to call your Full-Service Distributor in the event of an unexpected outage, or in advance of a scheduled outage, to request a replacement control unit. If the unit is available at the time of the call, it can usually be shipped out within 24 hours. You replace your field control unit with the like-new replacement and return the field unit to the Full-Service Distributor.

Flat Rate Repair: Flat Rate Repair is available for many of the standard mechanical products and some of the electronic products in the field. This program offers you repair service for your products with the advantage of knowing in advance what the cost will be.

Flat Rate Remanufacture: Flat Rate Remanufacture is very similar to the Flat Rate Repair option, with the exception that the unit will be returned to you in "like-new" condition. This option is applicable to mechanical products only.

Returning Equipment for Repair

If a control (or any part of an electronic control) is to be returned for repair, please contact your Full-Service Distributor in advance to obtain Return Authorization and shipping instructions.

When shipping the item(s), attach a tag with the following information:

- return number;
- name and phone number of contact person;
- description of the problem;
- name and location where the control is installed;
- complete Woodward part number(s) and serial number(s);
- instructions describing the desired type of repair.

Contacting Woodward's Support Organization

For the name of your nearest Woodward Full-Service Distributor or service facility, please consult our worldwide directory published at **www.woodward.com/directory**.

You can also contact the Woodward Customer Service Department at one of the following Woodward facilities to obtain the address and phone number of the nearest facility at which you can obtain information and service.

Products Used In Electrical Power Systems

Facility	Phone Number
Brazil	+55 (19) 3708 4800
China	+86 (512) 6762 6727
Germany:	
Kempen	+49 (0) 21 52 14 51
Stuttgart	+49 (711) 78954-510
India	+91 (129) 4097100
Japan	+81 (43) 213-2191
Korea	+82 (51) 636-7080
Poland	+48 12 295 13 00
United States	+1 (970) 482-5811

Products Used In Engine Systems

Facility	Phone Number
Brazil	+55 (19) 3708 4800
China	+86 (512) 6762 6727
Germany	+49 (711) 78954-510
India	+91 (129) 4097100
Japan	+81 (43) 213-2191
Korea	+82 (51) 636-7080
The Netherlands	+31 (23) 5661111
United States	+1 (970) 482-5811

Products Used In Industrial Turbomachinery Systems

Facility	Phone Number
Brazil	+55 (19) 3708 4800
China	+86 (512) 6762 6727
India	+91 (129) 4097100
Japan	+81 (43) 213-2191
Korea	+82 (51) 636-7080
The Netherlands	+31 (23) 5661111
Poland	+48 12 295 13 00
United States	+1 (970) 482-5811

WOODWARD

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1000 East Drake Road, Fort Collins CO 80525, USA
Phone +1 (970) 482-5811 • Fax +1 (970) 498-3058

Email and Website—www.woodward.com

Regulatory Compliance & Declarations

European Compliance for CE Marking:

EMC Directive: Declared to 2004/108/EC COUNCIL DIRECTIVE of 15 Dec 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and all applicable amendments.

Pressure Equipment Directive: Certified to Pressure Equipment Directive 97/23/EC of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment, Category II, TUV Rheinland Industrie Service GmbH (0035), Certificate 01 202 USA/Q11 6671

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 1, Category 2, Group II G, Ex d IIB T3 Gb
TUV 13 ATEX 7404 X
Zone 2, Category 3, Group II G, Ex nA IIC T3 Gc
TUV 13 ATEX 7409 X

Other European and International Compliance:

Compliance with the following European Directive does not qualify this product for application of the CE Marking:

Machinery Directive: Compliant as partly completed machinery with DIRECTIVE 2006/42/EC of the European Parliament and the Council of 17 May 2006 on machinery.

GOST R: Certified for use in explosive atmospheres within the Russian Federation per GOST R certificate РОСС US. ГБ04.В01303 as 1ExdIIBT3, 2ExnAIIT3

IECEx: Certified for use in Hazardous Locations
Ex d IIB T3 Gb or Ex nA IIC T3 Gc
IECEx TUR 11.0014X

North American Compliance:

CSA: CSA Certified for Class I, Division 1, Groups C and D, T3 and Class I, Division 2, Groups A, B, C, and D, T3 at 93 °C ambient for use in USA and Canada
Certificate 160584-1214202

Wiring must be in accordance with North American Class I, Division 1 or 2, or European Zone 1 or 2, Category 2 or 3 wiring methods as applicable, and in accordance with the authority having jurisdiction.

Special Conditions for Safe Use

Field wiring for the GS16 valve power input must be suitable for at least 103 °C.

A conduit seal must be installed within 457 mm (18 inches) of the conduit entry when the valve is used in Class I, Division 1 hazardous locations.

Connect the ground terminal of the GS16 valve to earth ground for proper safety and EMC performance.

The RS-232/-485 interface must not be used in hazardous locations unless the area is known to be non-hazardous.

Compliance with the Machinery Directive 2006/42/EC noise measurement and mitigation requirements is the responsibility of the manufacturer of the machinery into which this product is incorporated.

⚠WARNING

Explosion Hazard—Do not connect or disconnect while circuit is live unless area is known to be non-hazardous.

Substitution of components may impair suitability for Class I, Division 2 or Zone 2 applications.

⚠AVERTISSEMENT

Risque d'explosion—Ne pas raccorder ni débrancher tant que l'installation est sous tension, sauf en cas l'ambiance est décidément non dangereuse.

La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Classe I, applications Division 2 ou Zone 2.

⚠WARNING

Due to typical noise levels in turbine environments, hearing protection should be worn when working on or around the GS16 Valve.

⚠WARNING

The surface of this product can become hot enough or cold enough to be a hazard. Use protective gear for product handling in these circumstances . Temperature ratings are included in the specification section of this manual.

NOTICE

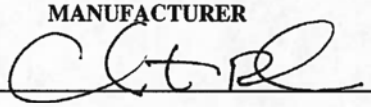
External fire protection is not provided in the scope of this product. It is the responsibility of the user to satisfy any applicable requirements for their system.

DECLARATION OF CONFORMITY

Manufacturer's Name:	WOODWARD, INC
Manufacturer's Address:	1000 E. Drake Rd. Fort Collins, CO, USA, 80525
Model Name:	GS16 Gas Fuel Metering Valves
Conformance to Directive(s):	97/23/EC COUNCIL DIRECTIVE of 29 May 1997 on the approximation of the laws of the Member States concerning Pressure Equipment 94/9/EC 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 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
Marking(s):	Ⓔx Category 2, Group II G, Ex d IIB T3 Gb, IP56 **or** Category 3 Group II G, Ex nA IIC T3 Gc, IP56
Applicable Standards:	ASME B31.3 Process Piping, 2008 ASME Boiler and Pressure Vessel Code VIII, Div. 1, 2010 ASME Boiler and Pressure Vessel Code II, Part D, 2010 EN 1503-2 : 2000 Valves – Materials for bodies, bonnets, and covers – Part 2 : Steels other than those specified in European Standards EN 60079-0, 2012: Electrical apparatus for explosive gas atmospheres – Part 0: General Requirements EN 60079-1, 2007: Electrical apparatus for explosive gas atmospheres – Part 15: Type of protection 'd' EN 60079-15, 2005: Electrical apparatus for explosive gas atmospheres – Part 15: Type of protection 'n' EN 13463-1:2006; Non-electrical equipment for potentially explosive atmospheres, Part 1: Basic method and requirements EN 61000-6-4, 2007: EMC Part 6-4: Generic Standards - Emissions for Industrial Environments EN 61000-6-2, 2005: EMC Part 6-2: Generic Standards - Immunity for Industrial Environments
Third Party Certification:	TUV 13 ATEX 7404X (Zone 1 d) TUV 13 ATEX 7409X (Zone 2 nA)
Conformity Assessments:	PED Module H – Full Quality Assurance, Certificate 01 202 USA/Q-11 6617 ATEX Production Quality Assessment Certificate 01 220 113542
Notified Body For ATEX and PED:	TUV Rheinland Industrie Service GmbH (0035) Am Grauen Stein, D-51105 Köln

We, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s).

MANUFACTURER



Signature

Christopher Perkins

Full Name

Engineering Support Manager

Position

Woodward, Inc., Fort Collins, CO, USA

Place

6/13/13

Date

5-09-1183 Rev 17, 25-Oct-2011

00274-04-EU-02-02

DECLARATION OF INCORPORATION
Of Partly Completed Machinery
2006/42/EC

Manufacturer's Name:	WOODWARD GOVERNOR COMPANY (WGC)
Manufacturer's Address:	1000 E. Drake Rd. Fort Collins, CO, USA, 80525 3800 N. Wilson Ave. Loveland, CO, USA 80538
Model Names:	GS16 Gas Fuel Metering Valves
This product complies, where applicable, with the following Essential Requirements of Annex I:	1.1, 1.2, 1.3, 1.5, 1.6, 1.7

The relevant technical documentation is compiled in accordance with part B of Annex VII. Woodward shall transmit relevant information if required by a reasoned request by the national authorities. The method of transmittal shall be agreed upon by the applicable parties.

This product must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate.

The undersigned hereby declares, on behalf of Woodward Governor Company of Loveland and Fort Collins, Colorado that the above referenced product is in conformity with Directive 2006/42/EC as partly completed machinery:

MANUFACTURER

Signature

Suhail Horan
Full Name

Quality Manager
Position

WGC, Fort Collins, CO, USA
Place

12-JAN-2010
Date

00274-04-EU-02-01

5-09-1182 (REV. 9)