

**Manual 26888 (Revision NEW, 5/2015)  
Hydraulic Amplifier**

See manual 89015 for complete installation, operation, maintenance, and certification information. Publications can be found on our website at [www.woodward.com/publications](http://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](http://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](http://www.woodward.com/publications) for complete instructions (manual 89015).

**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](http://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

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Phone +1 (970) 482-5811 • Fax +1 (970) 498-3058

Email and Website—[www.woodward.com](http://www.woodward.com)

# Regulatory Compliance & Declarations

## European Compliance for CE Marking:

These listings are limited only to those units bearing the CE Marking.

### **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.  
LCIE 06 ATEX 6109 X  
Zone 1, Category 2, Group IIG Ex e II T6

Or

Zone 2, Category 3, Group IIG EEx nC IIC T3

## Other European Compliance:

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

### **Machinery Directive:**

Compliance as a component with 98/37/EC COUNCIL DIRECTIVE of 23 July 1998 on the approximation of the laws of the Member States relating to machinery.

### **Pressure Equipment Directive:**

Compliant as “SEP” per Article 3.3 to Pressure Equipment Directive 97/23/EC of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment.

## North American Compliance:

**UL:** UL Listed for Class I, Division 2, Groups B, C, D, T3. For use in the United States.  
UL File E158654

## Special Conditions for Safe Use



### **WARNING**

The risk of electrostatic discharge is reduced by permanent installation of the valve, proper connection of the equipotential ground lugs, and care when cleaning. The valve should not be cleaned unless the area is known to be non-hazardous.

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

Field Wiring must be suitable for at least 90 °C.

Connect ground terminal to earth ground.



### **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.**

## DECLARATION OF CONFORMITY

**Manufacturer's Name:** WOODWARD GOVERNOR COMPANY (WGC)  
Industrial Controls Group

**Manufacturer's Address:** 1000 E. Drake Rd.  
Fort Collins, CO, USA, 80525

**Model Name(s)/Number(s):** 5.25 inch Hydraulic Amplifiers / 9907-580 and similar

**Conformance to Directive(s):** 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

**Marking(s):** Category 2, Group II G, Ex e II T6

**Applicable Standards:** EN 60079-0: 2004 Electrical Apparatus for Explosive Gas Atmospheres Part 0 : General Requirements  
EN 60079-7: 2003 Electrical Apparatus for Explosive Gas Atmospheres Part 7 : Increased Safety "E"

**Third Party Certification Information** LCIE 06 ATEX 6109 X  
LCIE - Siège Social : 33, Avenue du Général Leclerc  
F92260 Fontenay-aux-Roses, France

**Conformity Assessment:** ATEX Production Quality Assessment, ITS05ATEXQ4211

**Notified Body** Intertek (0359)  
**For ATEX:** Intertek House, Cleeve Road  
Leatherhead, Surrey,  
KT22 7SB UK

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

### MANUFACTURER

  
\_\_\_\_\_  
**Signature**

Joseph Driscoll

\_\_\_\_\_  
**Full Name**

Engineering Manager

\_\_\_\_\_  
**Position**

WGC, Fort Collins, CO, USA

\_\_\_\_\_  
**Place**

  
\_\_\_\_\_  
**Date**

## DECLARATION OF CONFORMITY

According to EN 45014

**Manufacturer's Name:** WOODWARD GOVERNOR COMPANY (WGC)  
Industrial Controls Group

**Manufacturer's Address:** 1000 E. Drake Rd.  
Fort Collins, CO, USA, 80525

**Model Name(s)/Number(s):** 5.25 inch Hydraulic Amplifiers / 9907-414 and similar  
7.25 inch Hydraulic Amplifiers/ 9907-410 and similar

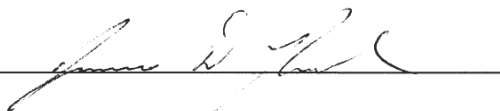
**Conformance to Directive(s):** 94/9/EC COUNCIL DIRECTIVE of 23 March 1994 on the  
approximation of the laws of the Member States concerning  
equipment and protective systems intended for use in  
potentially explosive atmospheres

**Applicable Standards:** EN50021, 1999: Electrical apparatus for potentially  
explosive atmospheres - Type of protection 'n'  
EN60529, 1991: Degrees of protection provided by  
enclosures (IP code)

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

### MANUFACTURER

Signature



James D. Rudolph

Full Name

Engineering Manager

Position

WGC, Fort Collins, CO, USA

Place

Date

8/5/04

# Declaration of Incorporation

Woodward Governor Company  
1000 E. Drake Road  
Fort Collins, Colorado 80525  
United States of America

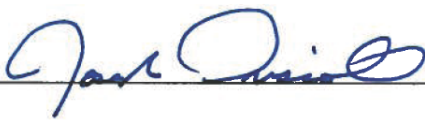
**Product: 5.25" and 7.25" Hydraulic Amplifiers**  
**Part Numbers: 9907-410, 9907-414, 9907-580, and similar**

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 the following EU Directives as they apply to a component:

**98/37/EC (Machinery)**

This product is intended to be put into service only upon incorporation into an apparatus/system that itself will meet the requirements of the above Directives and bears the CE mark.

## MANUFACTURER

Signature	
Full Name	Joseph Driscoll
Position	Engineering Manager
Place	WGC, Fort Collins, CO, USA
Date	8/30/07