WOODWARD

Installation Procedure Supplement

Manual 26901 (Revision NEW, 5/2015)
Atlas-II™ Digital Control

See manual 26415 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 26415).

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

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Regulatory Compliance & Declarations

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

EMC Directive:	Declared to 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/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. Zone 2, Category 3, Group II G, Ex nA IIC T3 X

North American Compliance:
These listings are limited only to those units bearing the UL identification.

UL:	UL Listed for Class I, Division 2, Groups A, B, C, & D, T3C at 70°C surrounding air temperature. For use in Canada and the United States. UL File E156028 The 16-channel relay interface modules are suitable for ordinary or non-hazardous locations only.

Marine Compliance

American Bureau of Shipping	ABS Rules 2006 SVR 4-2-1/7.3, 7.5.1, 7.9.3/17, 4-9-4/23, 4-9-7/Table 9
Det Norske Veritas	Standard for Certification No. 2.4, 2006: Temperature Class B, Humidity Class B, Vibration Class A, and EMC Class A
Lloyd's Register of Shipping	LR Type Approval Test Specification No. 1, 2002 for Environmental Categories ENV1, ENV2, and ENV3

Special Conditions For Safe Use:
This Equipment is Suitable For Use in Class I, Division 2, Groups A, B, C, D or Non-Hazardous Locations Only.

This equipment is suitable for use in European Zone 2, Group IIC environments.

This equipment is intended to be installed in a metal cabinet or enclosure to provide protection against the entry of dust or water and to protect against mechanical impact. For ATEX compliance, a minimum ingress protection rating of IP54 is required for the enclosure.

For ATEX compliance, this equipment must be protected externally against transient disturbances. Provisions shall be made to prevent the power input from being exceeded by transient disturbances of more than 40% of the rated voltage

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

A fixed wiring installation is required and a switch or circuit breaker shall be included in the building installation that is in close proximity to the equipment and within easy reach of the operator and that is clearly marked as the disconnecting device for the equipment. The switch or circuit breaker shall not interrupt the protective earth conductor.

Do not connect more than one main power supply to any one fuse or circuit breaker.

Protective Earth Grounding is required by the input PE terminal (see Chapter 2, Installation).

Ground leakage current exceeds 3.5 mA.

For Communications wires, use wires with a temperature rating of at least 5 °C above surrounding ambient. All others use wires with a temperature rating of at least 10 °C above surrounding ambient.

The Atlas-II A5200 board contains a single cell primary battery. This battery is not to be charged and is not customer replaceable.

Control is suitable for installation in pollution degree 2 environments.

Unmarked inputs are classified as permanently connected IEC measurement Category I. To avoid the danger of electric shock, do not use inputs to make measurements within measurement categories II, III, or IV. See individual inputs for additional information on transient overvoltage input ratings.

⚠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 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.

IMPORTANT

The Atlas-II is designed for installation in a standard metal cabinet. If the cabinet door is open or Atlas-II is not installed in a metal cabinet, some degraded performance can occur on RTD and thermocouple inputs in the presence of radio wave energy. Radio wave energy may be from transmitters such as cell phones or push to talk radios.

This degraded performance is in the form of a slight change in the accuracy of the RTD and thermocouple input measured temperature. It is recommended that operation of such radio wave devices be kept more than 3 m (10 ft) from the Atlas-II control. This will prevent performance degradation. Installation of the Atlas-II control in a metal enclosure, as intended, will also prevent performance degradation.

IMPORTANT

The Atlas-II Actuator and Analog outputs are intended to drive loads that are isolated from protective earth, like actuators and meters.

NOTICE

The Atlas-II is protected from indirect lighting strikes. However, during a lighting strike to protective earth (PE), or similar transient events, if the Actuator or Analog outputs are connected to earth-referenced devices, the device may significantly reduce performance of the Atlas-II.

Protective earth connections separated by a significant distance (>30 m) can see a large voltage difference due to transient surge events. The non-isolated device may cause a ground fault with significant current flow through the analog signal lines, causing signal input measurement errors beyond Analog I/O to occur.

Adding an isolator between the Atlas-II and its analog loads will solve this issue. Alternatively adding clamping circuitry, like Metal Oxide Varistors (MOV) or Transient Voltage Suppression (TVS) diodes, from chassis to signal lines at both ends will also solve this issue. (See the appropriate sections for more details.)

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):	Atlas II
Conformance to Directive(s):	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.
	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 3, Group II G, Ex nA II T3 X
Applicable Standards:	EN 61000-6-2, 2005: EMC Part 6-2: Generic Standards - Immunity for Industrial Environments
	EN 61000-6-4, 2007: EMC Part 6-4: Generic Standards - Emissions for Industrial Environments
	EN60079-15, 2005: Electrical apparatus for explosive gas atmospheres – Part 15: Type of protection 'n'
	EN61010-1, 2001: Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1:General Requirements

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

MANUFACTURER

Wayne Penfold

Signature

Wayne Penfold

Full Name

Engineering Manager

Position

WGC, Fort Collins, CO, USA

Place

25-JAN-2008

Date

This Declaration of Conformity is in accordance with the European Standard EN45014. "General criteria for supplier's declaration of conformity" The basis for the criteria has been found in international documentation, particularly in ISO/IEC Guide 22, 1982, "Informations on manufacturer's declaration of conformity with standards or other technical specifications".

Document No. 020815/1-03

Declaration of Conformity

We **Phoenix Contact Inc.**
(Supplier's Name)

586 Fulling Mill Road
Middletown, PA 17057-2966

(Address)

declare under our sole responsibility that the product

RELAY Module

(Name, type or model, batch or serial number, possibly sources and number of item

WOODWARD 12CH RELAY P/N 5603266

to which this declaration relates is in conformity with the following standard(s)

or other normative document(s).

IEC 60664-1: 2002
EN 60999:1993
BS EN 50178:1998
Additional documentation (i.e. test reports) which were used as the basis for this Declaration of Conformity: WOODWARD Test Report #00104-04-EMC-EMC-03-10
EN50021: 1999
This product has been evaluated to EN50021:1999 under DEMKO Certificate No. 03 ATEX 0328750U. The device is marked EEx nC IIC and is suitable for use in Zone 2 explosive atmospheres.

Title and/or number and date of issue of the standard(s) or other normative document(s)

Following the provisions of Directive(s) (if applicable)

Low Voltage Directive (73/23/EEC)
EMC Directive (89/336/EEC)
ATEX Directive (94/9/EC)

Middletown September 24, 2003
(Place and Date of issue)

(Signature)

James J. Gehenio
(Name or equivalent marking of authorized person)

Engineering Manager
(Title)

(Signature)

Kurt B. Boegli
(Name or equivalent marking of authorized person)

Chief Standards Engineer
(Title)