

Installation Procedure Supplement

Manual 26897 (Revision NEW, 5/2015) IC-920/-922 Ignition Controller



See manual 26263 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.



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.



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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 26263).

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	Products Used In Engine Systems	Products Used In Industrial Turbomachinery Systems
FacilityPhone Number	FacilityPhone Number	FacilityPhone Number
Brazil+55 (19) 3708 4800	Brazil+55 (19) 3708 4800	Brazil+55 (19) 3708 4800
China+86 (512) 6762 6727	China +86 (512) 6762 6727	China +86 (512) 6762 6727
Germany:	Germany +49 (711) 78954-510	India+91 (129) 4097100
Kempen +49 (0) 21 52 14 51	India+91 (129) 4097100	Japan+81 (43) 213-2191
Stuttgart - +49 (711) 78954-510	Japan+81 (43) 213-2191	Korea+82 (51) 636-7080
India+91 (129) 4097100	Korea+82 (51) 636-7080	The Netherlands+31 (23) 5661111
Japan+81 (43) 213-2191	The Netherlands+31 (23) 5661111	Poland+48 12 295 13 00
Korea+82 (51) 636-7080	United States+1 (970) 482-5811	United States+1 (970) 482-5811
Poland+48 12 295 13 00		
United States+1 (970) 482-5811		

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Email and Website—www.woodward.com

Regulatory Compliance & Declarations

European Compliance for CE Mark:

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.

Low Voltage Directive: 2006/95/EC Council Directive of 12 December 2006 on the

harmonization of the laws of Member States relating to electrical

equipment designed for use within certain voltage limits.

ATEX Potentially Explosive: 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 T4 Gc IP54

North American Compliance:

CSA: CSA Certified for Class I, Division 2, Groups A, B, C, & D, T4 at 70

°C Ambient for use in Canada.

Certificate 1486084

This product is certified as a component for use in other equipment. The final combination is subject to acceptance by CSA International or local inspection.

Special Conditions for Safe Use:

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 70 °C.

A fixed wiring installation is required.

Grounding is required by the power input PE terminal.

Connect EMC ground to earth ground using low impedance connection.

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

Cabling for all I/O except CAN communications is limited to 30 meters.

The use of cable with individually-shielded twisted pairs is recommended. All signal lines should be shielded to prevent picking up stray signals from nearby equipment. Installations with severe electromagnetic interference (EMI) may require shielded cable run in conduit, double-shielded wire, or other precautions. Connect the shields at the control system side or as indicated by the control system wiring practices, but never at both ends of the shield such that a ground loop is created. Wires exposed beyond the shield must be less than 2 inches

(51 mm). The wiring should provide signal attenuation to greater than 60 dB.



EXPLOSION HAZARD—Do not remove covers or connect/disconnect electrical connectors unless power has been switched off or the area is known to be non-hazardous.

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

AVERTISSEMENT

RISQUE D'EXPLOSION—Ne pas enlever les couvercles, ni raccorder / débrancher les prises électriques, sans vous en assurez auparavant que le système a bien été mis hors tension; ou que vous vous situez bien dans une zone non explosive.

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

∴WARNING

The permissive start output should only be used in combination with other permissive start devices. The fuel relay shutoff should not rely solely on the permissive start output of the IC-920/-922.

Do NOT use the speed switch (Trip 1 output) as the sole means of any critical control function, such as overspeed trip. Be sure to have a separate and independent shutdown device.

Do NOT use the Auxiliary Shutdown (Contact A) input as a primary shutdown device. Be sure to have a separate and independent shutdown device.



Due to the hazardous location listings associated with this product, proper wire type and wiring practices are critical to operation.



Detonation (knock) is an abnormal combustion condition that can cause personal injury and/or property damage. Improper air/fuel ratio and improper ignition timing are major causes of detonation. Improper ignition system setups, improper variable timing signals applied by an external control or faults in the ignition system can all be a source of detonation. A detonation (knock) detection or other combustion fault shutdown device should be used.

NOTICE

When using Contact B to toggle between two timing schedules (Schedule A and Schedule B), the most advanced schedule should be associated with Schedule B (switch closure). Contact B functionality needs to be verified before starting engine.

NOTICE

Do not connect any cable grounds to "instrument ground", "control ground", or any non-earth ground system. Make all required electrical connections based on the wiring diagrams (Figures 1-3, 1-4, and 1-5).

DECLARATION OF CONFORMITY

DoC No.: 00303-04-EU-02-01.DOCX WOODWARD INC

Manufacturer's Name:

Manufacturer's Address: 1000 E. Drake Rd.

Fort Collins, CO, USA, 80525

Model Name(s)/Number(s): IC/TIS -92X

2004/108/EC COUNCIL DIRECTIVE of 15 December 2004 on the approximation of the Conformance to Directive(s): laws of the Member States relating to electromagnetic compatibility and all applicable

The object of the declaration described above is in conformity with the following Directives of the European Parliament and of the Council:

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

2006/95/EC COUNCIL DIRECTIVE of 12 December 2006 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain

voltage limits.

Markings in addition to CE mark:

(£x) Category 3 Group II G, Ex nA IIC, T4 IP54

Applicable Standards:

EN61000-6-4, 2007: EMC Part 6-4: Generic Standards - Emissions for Industrial

Environments

EN61000-6-2, 2005: EMC Part 6-2: Generic Standards - Immunity for Industrial Environments

EN60079-0: 2012: Explosive Atmospheres - Part 0: Equipment - General requirements EN60079-15: 2010: Explosive Atmospheres - Part 15: Equipment protection by type of protection "n"

EN61010-1, 2010: Safety requirements for electrical equipment for measurement, control,

and laboratory use - Part 1:General Requirements

Last two digits of the year in which the CE 03 marking was affixed for the first time

This declaration of conformity is issued under the sole responsibility of the manufacturer We, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s).

MANUFACTURER

Dava Benyak

Full Name

Quality Manager

Position

Woodward, Fort Collins, CO, USA

Place

4/10/2013

Date

5-09-1183 Rev 18, 3-Feb-2012