

INSTALLATION INSTRUCTIONS FOR THE **WING UNION PRESSURE SENSORS** MODEL 434, 435 AND 437

008-0691-00

Issue D



⚠ WARNING **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

⚠ WARNING

The operator of this instrument is advised that if the equipment is used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

Failure to comply with these instructions could result in death or serious injury.

CAUTION

Only qualified, service-trained personnel who are aware of the hazards involved should connect external wiring to these products.

CAUTION

Use supply wires suitable for 5 °C above surrounding ambient.

⚠ WARNING

Explosion Hazard - Do not disconnect equipment unless power has been switched off or the area is known as non-hazardous.

WARNING

Explosion Hazard - Substitution of components may impair suitability for Class I, Division 1.

⚠ AVERTISSEMENT RELATIF AUX RISQUES DE BLESSURE CORPORELLE

NE PAS UTILISER ces produits comme des dispositifs de sécurité ou d'arrêt d'urgence, ni dans toute autre circonstance où une défaillance du produit pourrait provoquer des blessures corporelles.

Le non-respect de ces instructions pourrait entraîner la mort ou des blessures graves.

⚠ AVERTISSEMENT

Les opérateurs en charge de cet instrument sont informés que la protection fournie par l'équipement peut devenir inopérante si ce dernier est utilisé d'une manière différente de celle décrite dans la notice d'utilisation.

Le non-respect de ces instructions pourrait entraîner la mort ou des blessures graves.

ATTENTION

Le raccordement de câbles externes à ces produits doit être effectué par du personnel qualifié, expérimenté et conscient des risques que cela comporte.

ATTENTION

Utilisez des câbles d'alimentation adaptés à une température supérieure de 5 °C à la température ambiante.

⚠ AVERTISSEMENT

Risque d'explosion : Ne pas débrancher l'équipement, à moins que l'alimentation n'ait été coupée au préalable ou que la zone soit reconnue comme non dangereuse.

AVERTISSEMENT

Risque d'explosion : Le remplacement de composants pourrait invalider la classification de l'équipement dans la Classe I, Division 1.

DESCRIPTION

Honeywell Model 434, 435 and 437 Wing Union/Hammer Union Pressure Sensors are rugged devices designed for use with Weeco® 1502 (Model 435 and 437) and Weeco® 2002/2202 (Model 434) fittings for potential use in both offshore and land-based oil and gas applications.

GENERAL REQUIREMENTS & CAUTIONS

1. All electrical and pressure connections should be compatible with the model specifications.
2. Installation should occur only when input electrical power is off and line pressure is at zero.
3. A grounding pin is provided on the external connector. This connector ground is connected to the inside of the sensor housing. Transmitter case must be connected to supply source ground with either of the following methods:
 - A separate conductor connecting the transmitter connector shell to supply source ground.
 - Pressure transmitter mounted directly on a conductive structure which is connected to supply source ground.
4. All products should be protected from direct or continued exposure to fluids at the electrical connection in order to eliminate possible deterioration of the product's electrical connection and corrosion that will impede product performance.
5. At no time should an object be inserted into the pressure port or pressed against the sensing area to deflect the sensor (to test or simulate pressure), as this may result in permanent damage to the sensing diaphragm.
6. Do not remove the transmitter when it is under pressure, if it is hot, or if it exposes harmful gases.

NORMAL USE

Although there are variations within the series of sensors, the nominal weight of the assembly is about with 4.85 lb [2.2 kg]. This is of significant size, and a handle is available to facilitate handling. High surface temperatures can remain in place and the unit should be checked before removing the unit from service if it was operated at high temperatures. Suitable gloves are recommended for handling the unit under those conditions. There are no sharp edges associated with the instrument.

INSTALLATION REQUIREMENTS AND CAUTIONS

1. It is recommended that the connector cover be placed on the product's connector after each use. Simple cleaning and removal of foreign material in the connector will increase the life and operation of the product.
2. The carrying handle and connector cover should be used when the product is being handled or transported between locations.
3. Installation of the unit is accomplished by placing the pressure transmitter into the Hammer Union pressure fitting and securing the unit by tightening the Hammer Union Nut over both the unit and pressure fitting. Once installed, check for leaks and adjust as necessary.
4. When installing the unit to the pressure connection, care should be taken to avoid direct hits to the unit. A direct hit from a sledgehammer to the product itself could cause latent failure to the product. Direct hits can result in the failure of the electrical connector. This would be determined as a non-warranty related product failure and repair.
5. This product includes transient protection components which get activated at >60 V. Therefore, this product will not pass the 500 VRMS dielectric strength test and this must be taken into account during installation.
6. No connections shall be made to the communications "COM" port in explosive atmospheres.

INTRINSICALLY SAFE INSTALLATION

These products have been certified "Intrinsically Safe". This insures that a circuit operated under normal and specified fault conditions is not capable of causing ignition of the prescribed explosive atmosphere. The certification is valid when the sensor has been installed according to the installation drawings referenced in this section.

Figure 1. Wiring: Two-Wire Amp, One-Wire Shunt Cal, Intrinsically Safe

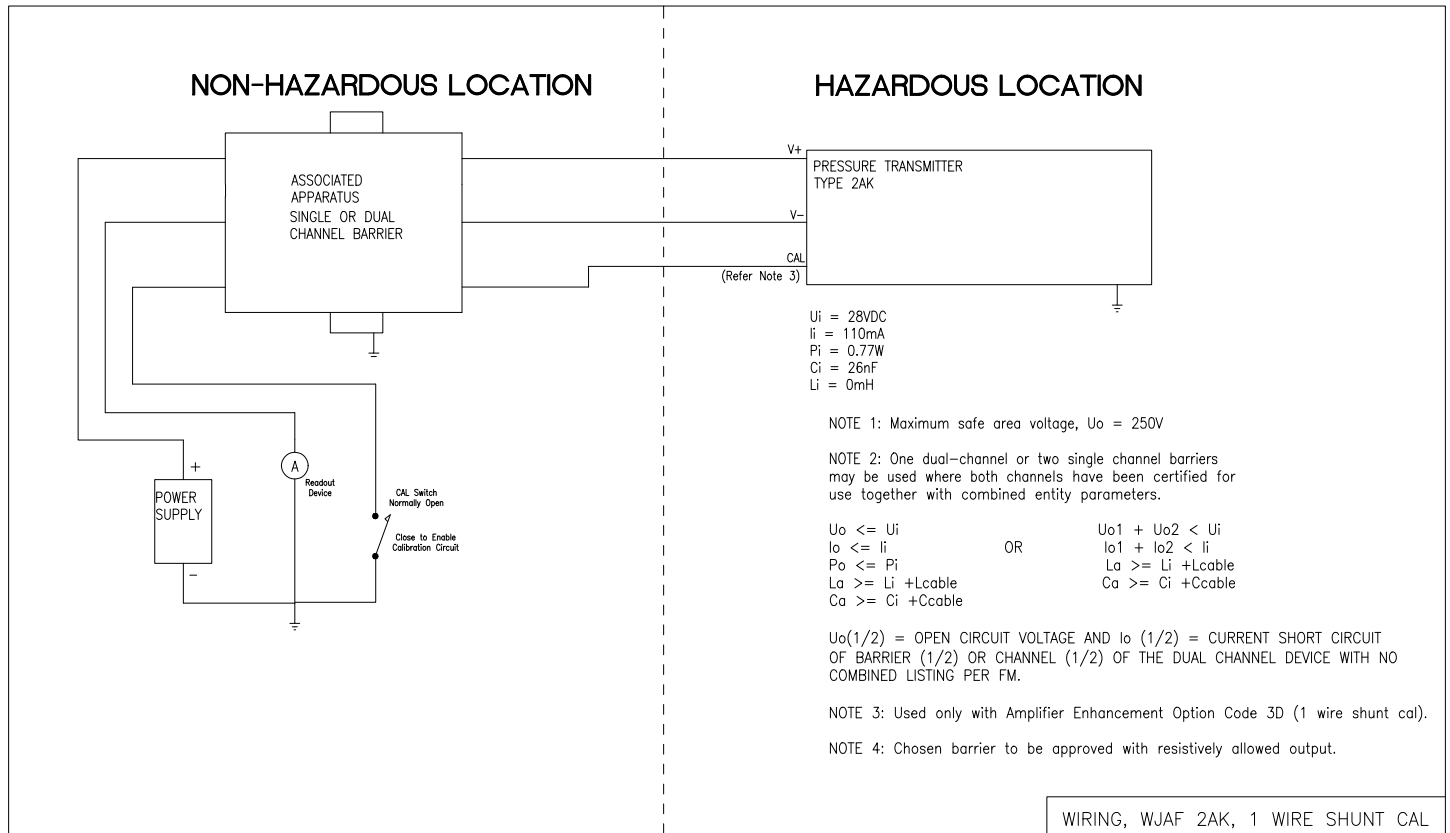


Figure 2. Wiring: Two-Wire Amp, Two-Wire Shunt Cal, Intrinsically Safe

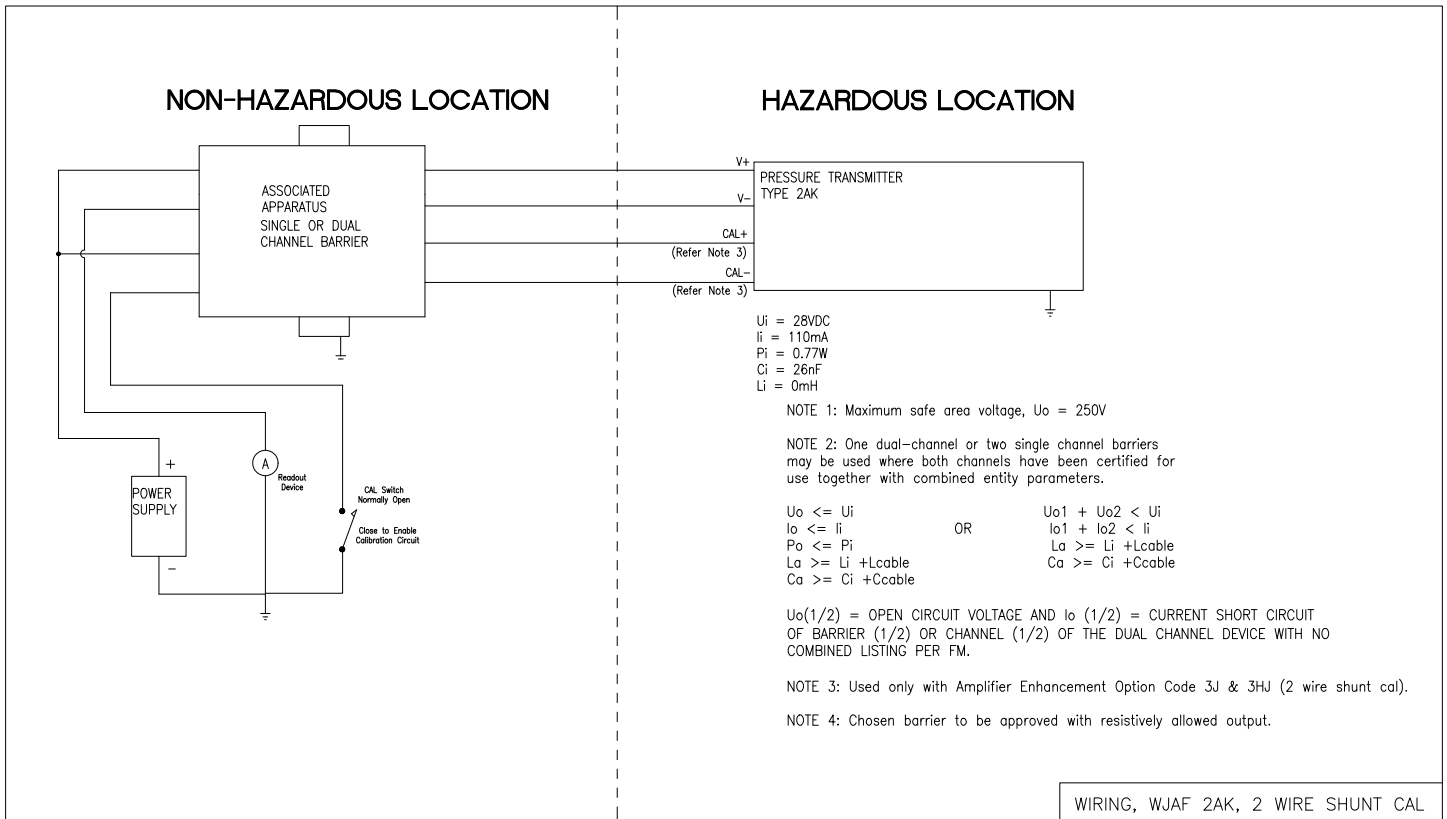


Figure 3. Wiring: Two-Wire Amp, No Shunt Cal, Intrinsically Safe

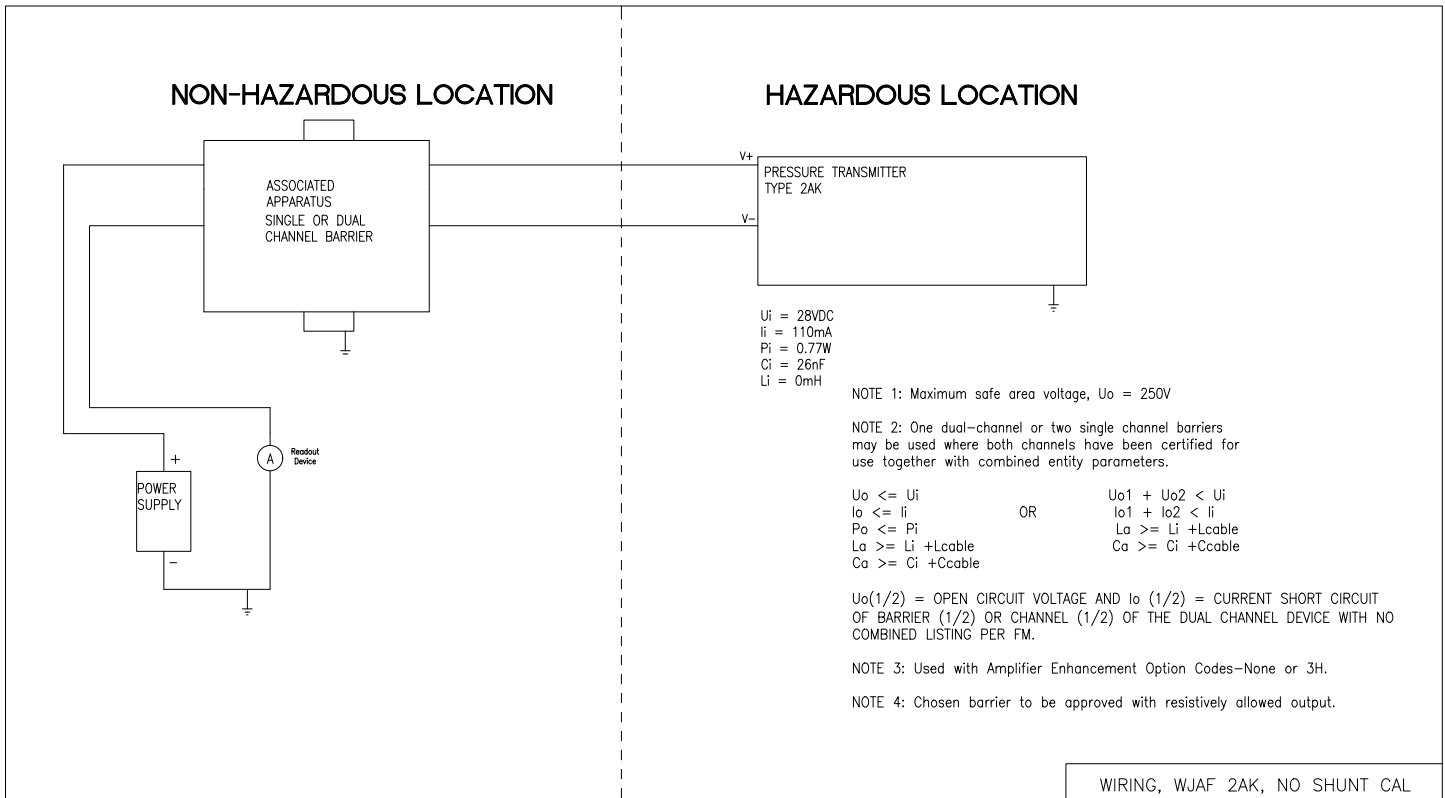
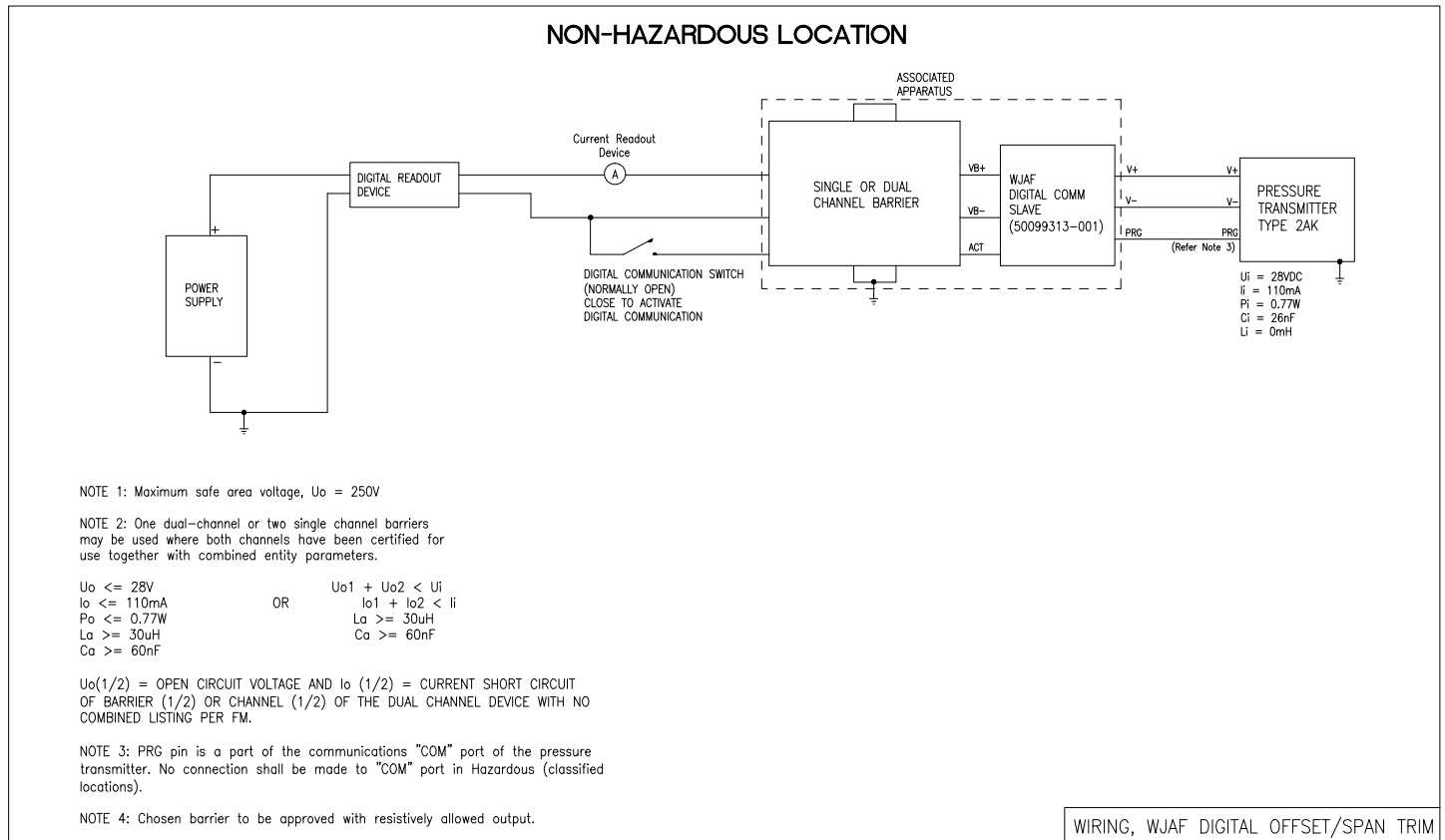


Figure 4. Wiring: WJAF Digital Offset/Span Trim



LABEL MARKING

The standard product label includes the following, along with wiring details:



www.sps.honeywell.com/ast
 2080 ARLINGATE LANE
 COLUMBUS, OH 43228-4112

MODEL: 4XX
 P/N: 060-XXXX-XX
 S/N: XXXXXX

O/C CODE: BP4XXXX
 RANGE: XXXXX
 PROOF PRES: XXXXX
 EXC/SUPPLY: 9-28 VDC
 OUTPUT: 4-20 mA
 MFGD: XX-XXXX
 ASSEMBLED IN USA

Ex II 1 G **CE**
 0344
 FM14ATEX0019X Ex ia IIC T4/T5 Ga
 IECEX FMG 14.0008X Ex ia IIC T4/T5 Ga
 FM21UKEX0061X Ex ia IIC T4/T5 Ga
 Ta=-40°C to +85°C (T4)
 Ta=-40°C to +40°C (T5)
UK CA 8505
 INSTALL PER 008-0691-00
 017-0413-02

FM Intrinsicly Safe
 c APPROVED us Sécurité Intrinsèque
 Ta=-40°C to +85°C (T4)
 Ta=-40°C to +40°C (T5)
 CLASS I, DIV 1, GROUPS A, B, C, D
 ZONE 0 AEx / Ex ia IIC T4/T5 Ga
 FM21CA0054X
 FM21US0080X
 INSTALL PER 008-0691-00
 017-0413-01

TABLE 1. MODEL SPECIFICATIONS

Characteristic	Parameter
Input	9 Vdc to 28 Vdc
Output	4 mA to 20 mA
Calibration Input	9 Vdc to 28 Vdc
Electrical Connector	This product is available in multiple electrical connector configurations. Refer to the product datasheet for information regarding the options available
Pressure Connection	Model 434: Weco® 2002 or Weco® 2202 wing union, 51 mm [2 in] pipe, male sub end Models 435 and 437: Weco® 1502 wing union, 51 mm [2 in] pipe, male sub end
Pressure Ranges	5000 psi to 20000 psi; 350 bar to 1350 bar Note for Models 435 and 437: Approval limited working pressure ranges for Models 435 and 437: 5,000 psi to 15,000 psi; 350 bar to 1,000 bar. Option codes EL and NU will allow overpressure readings to 20,000 psi or 1350 bar
Maximum Surface Temperature	The product can reach maximum surface temperature of 135 °C [275 °F] under fault conditions at ambient temperature of 85 °C [185 °F]

FIELD CALIBRATION

The Model 434, 435, and 437 Wing Union/Hammer Union Pressure Sensors are provided with optional one-wire or two-wire field calibration feature. Powering the calibration terminals produces a signal output equivalent to a known fraction of full scale pressure (usually 100%). The factory set calibration signal is located on the calibration certificate that is shipped with each unit. This can be used to adjust the gain on the user's meter or data acquisition equipment. The calibration signal is also an indication that the unit is working properly.

INTENDED USE AND MISUSE

Only fluids compatible with Inconel® X-750 or 718 are recommended for use with this sensor. Exposure to other corrosive fluids may result in premature failure of the diaphragm.

MAINTENANCE AND REPAIR

These sensors do not need any special scheduled maintenance. It is recommended that pressure port and electrical connector be cleaned from time to time to provide long life. Protecting the product from continued exposure to moisture or fluids at the electrical connection will eliminate premature internal failure of the product. The connector and pressure port should be cleaned and the pressure cavity flushed with an Inconel® X-750- or 718-compatible cleaner to prevent media buildup. During the cleaning process, only a soft, lint-free cloth is recommended. Never use a coarse or stiff bristle brush to clean media from the diaphragm surface.

APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS

Electromagnetic Compatibility

- EN 61326-1
- EN 61326-2-3

Hazardous Locations

Standards used for US Approval

- FM Class 3600; FM Class 3610; FM Class 3810
- ANSI/UL 60079-0; ANSI/UL 60079-11; UL 61010-1

Standards used for Canada Approval

- C22.2 No. 1010.1
- CAN/CSA-60079-0; CAN/CSA-60079-11

Standards used for ATEX Certification

- EN IEC 60079-0; EN 60079-11

Standards used for IEC-Ex Certification

- IEC 60079-0; IEC 60079-11

Honeywell

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Registered No 217808 (England)

EU Declaration of Conformity

Honeywell Control Systems Ltd. hereby declare that the products identified below conform to the essential requirements of the EU Directive(s) listed below and that the products supplied are in conformity with the type described in any EU Type Examination Certificate (EU TEC) identified below.

Manufacturer: Honeywell Safety and Productivity Solutions
2080 Arlingate
Columbus
OH 43228-4112 USA

Product: Pressure Sensor
Wing Union - Models 434, 435 & 437

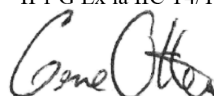
Directive (Amendments)

Conformity Details

EMC 2014/30/EU Standards applied: EN 61326-1:2013
EN 61326-2-3:2013

ATEX 2014/34/EU Standards applied: EN IEC 60079-0:2018
EN 60079-11:2012
EN 60079-26: 2015
EU TEC No: FM14ATEX0019X
Notified Body: Notified Body ID 2809
FM Approvals Europe Limited, One Georges Quay Plaza
Dublin, Ireland, D02 E440
ATEX Markings II 1 G Ex ia IIC T4/T5 Ga

Signed on behalf of Honeywell Control Systems Ltd. :


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Gene Ottes, Quality Manager

DoC No: A486

DoC Issue: 6

DoC Date: 19/05/2021

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Honeywell

UK Declaration of Conformity

Honeywell Control Systems Ltd. hereby declare that the products identified below conform to the essential requirements of the UK Directive(s) listed below and that the products supplied are in conformity with the type described in any UK Type Examination Certificate (UK TEC) identified below. This declaration is issued under the sole responsibility of the manufacturer.

Manufacturer: Honeywell Safety and Productivity Solutions
2080 Arlingate
Columbus, OH 43228-4112
USA

Product: Pressure Sensor
Wing Union - Models 434, 435 & 437

Directive (Amendments)

Conformity Details

Electromagnetic Compatibility Regulations 2016

Standards applied:

EN 61326-1:2013
EN 61326-2-3:2013

Equipment and Protective Systems Intended for use
in Potentially Explosive Atmospheres Regulations

Standards applied:

EN IEC 60079-0:2018
EN 60079-11:2012
EN 60079-26: 2015

UK TEC No:

FM21UKEX0061X

Notified Body:

Notified Body ID 1725
FM Approvals Ltd, 1 Windsor Dials
Berkshire, UK, SL4 1RS

ATEX Markings

II 1 G Ex ia IIC T4/T5 Ga

Signed on behalf of Honeywell International Inc. :



Gene Ottes, Quality Manager

DoC No: B486

DoC Issue: 1

DoC Date: 19-May-2021

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Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell website, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

FOR MORE INFORMATION

Honeywell Advanced Sensing Technologies services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing, or the nearest Authorized Distributor, visit sps.honeywell.com/ast or call:

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* Inconel is a registered trademark of Inco Alloys International, Inc.
* Weco is registered trademark of Fmc Corporation; * Glenair is a registered trademark of Glenair, Inc.

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