WOODWARD

Product Manual 26080
(Revision R, 2/2024)
Original Instructions

DLE Smart Pressure Transducer Manifold Assemblies

9907-961, -962, -963, -964
9907-1124, 9907-1981, 9907-2203 and 9904-3179

Installation and Operation Manual

General Precautions

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.

Revisions

This publication may have been revised or updated since this copy was produced. The latest version of most publications is available on the Woodward website.

http://www.woodward.com

If your publication is not there, please contact your customer service representative to get the latest copy.

Proper Use

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.

Translated Publications

If the cover of this publication states "Translation of the Original Instructions" please note:

The original source of this publication may have been updated since this translation was made. The latest version of most publications is available on the Woodward website.

www.woodward.com/publications

Always compare with the original for technical specifications and for proper and safe installation and operation procedures.

If your publication is not on the Woodward website, please contact your customer service representative to get the latest copy.

Revisions— A bold, black line alongside the text identifies changes in this publication since the last revision.

Manual 26080

Contents

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Important Definitions

This is the safety alert symbol 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

Overspeed / Overtemperature / Overpressure

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.

⚠WARNING

Personal Protective Equipment

The products described in this publication may present risks that could lead to personal injury, loss of life, or property damage. Always wear the appropriate personal protective equipment (PPE) for the job at hand. Equipment that should be considered includes but is not limited to:

- **Eye Protection**
- **Hearing Protection**
- **Hard Hat**
- **Gloves**
- **Safety Boots**
- **Respirator**

Always read the proper Material Safety Data Sheet (MSDS) for any working fluid(s) and comply with recommended safety equipment.

⚠WARNING

Start-up

Be prepared to make an emergency shutdown when starting the engine, turbine, or other type of prime mover, to protect against runaway or overspeed with possible personal injury, loss of life, or property damage.

Electrostatic Discharge Awareness

NOTICE

Electrostatic Precautions

Electronic controls contain static-sensitive parts. Observe the following precautions to prevent damage to these parts:

- **Discharge body static before handling the control (with power to the control turned off, contact a grounded surface and maintain contact while handling the control).**
- **Avoid all plastic, vinyl, and Styrofoam (except antistatic versions) around printed circuit boards.**
- **Do not touch the components or conductors on a printed circuit board with your hands or with conductive devices.**

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*.

Follow these precautions when working with or near the control.

1. Avoid the build-up of static electricity on your body by not wearing clothing made of synthetic materials. Wear cotton or cotton-blend materials as much as possible because these do not store static electric charges as much as synthetics.
2. Do not remove the printed circuit board (PCB) from the control cabinet unless absolutely necessary. If you must remove the PCB from the control cabinet, follow these precautions:
   - Do not touch any part of the PCB except the edges.
   - Do not touch the electrical conductors, the connectors, or the components with conductive devices or with your hands.
   - When replacing a PCB, keep the new PCB in the plastic antistatic protective bag it comes in until you are ready to install it. Immediately after removing the old PCB from the control cabinet, place it in the antistatic protective bag.

Regulatory Compliance

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

Model Numbers Aluminum:	9907-961, 962, 963, 964, 9907-1124, 9907-1981, 9907-2203
Stainless Steel:	9904-3179
EMC Directive:	Declared to Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC).
ATEX – Potentially Explosive Atmospheres Directive:	2014/34/EU on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres.
Aluminum & SST:	Category 2, Group IIG, Ex db IIB T4 Gb TÜV 12 ATEX 7245 X
Stainless Steel:	Category 3, Group IIG, Ex ec IIC T4 IP55

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

Machinery Directive:	Compliant as partly completed machinery with Directive 2006/42/EU of the European Parliament and the Council of 17 May 2006 on machinery.
Pressure Equipment Directive:	Compliant as “SEP” per Article 3.3 to Pressure Equipment Directive 2014/68/EU on the harmonization of the laws of the Member States concerning pressure equipment.

United Kingdom Compliance for UKCA Marking:
These listings are limited only to those units bearing the UKCA Marking.

Units bearing the UKCA Mark in addition to the marking indicating Zone 2 are acceptable for use in UKEX Hazardous Locations.

EMC:	S.I. 2016 No. 1091: Electromagnetic Compatibility Regulations 2016
UKEX:	S.I. 2016 No. 1107: Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulation 2016. Certificate TÜV 22UKEX7110X

Other UKCA Compliance:
Compliance with the following UKCA regulations or standards does not qualify this product for application of the UKCA Marking:

Machinery:	S.I. 2016 No. 1105: Compliant to sound engineering practice per Regulation 8.

Other International Compliance

IECEx:	Certified for use in hazardous locations IECEx TUR 11.0012X Ex db IIB T4 Gb
Single Sealing:	This design has been successfully tested per ANSI/ISA 12.27.01 Single Sealing requirements. This test was witnessed by CSA Group and filed under DSA custom test report 16584-701103164.

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

CSA: CSA Certified for Class I, Division 1, Groups C & D, and Class I, Division 2, Groups B, C, & D, T4 at 125 °C Ambient for use in Canada and the United States. Certificate 1006295 (LR79726-5).

Special Conditions for Safe Use

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

Input power must be supplied from an NEC or CEC class 2-power source.

Operating Ambient Temperature:
- from –40 to +125 °C (–40 to 257 °F) at absolute pressure from 0.34 to 51.7 bar (5 to 750 psia)
- from –35 to +125 °C (–31 to 257 °F) at absolute pressure from 0.34 to 69.0 bar (5 to 1000 psia)

Field wiring must be suitable for a maximum ambient temperature of at least 125 °C.

For Class I, Division 1 or Class I, Zone 1 North American Applications: A conduit seal must be installed within 457 mm (18 inches) of the conduit entry when the Smart Pressure Transducer is used in a Class I, Division 1, or Class I, Zone 1 hazardous atmosphere.

For 9904-3179, in order to meet the IP55 rating, the Smart Pressure Transducer assembly must be mounted as follows:
- The seam of the between the mounting plate and the cover is horizontal to the ground.
- The cover is above the seam.

Refer to Figure R-1

For all others in ATEX applications: A conduit seal must be installed within 50 mm (2 inches) of the conduit entry when the Smart Pressure Transducer is used in a Zone 1 or Zone 2 classified ATEX explosive atmosphere. This is a Category 2, type `d' flameproof product.

⚠WARNING

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 1 or 2 or Zone 1 or 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 1 ou 2 ou Zone 1 ou 2.

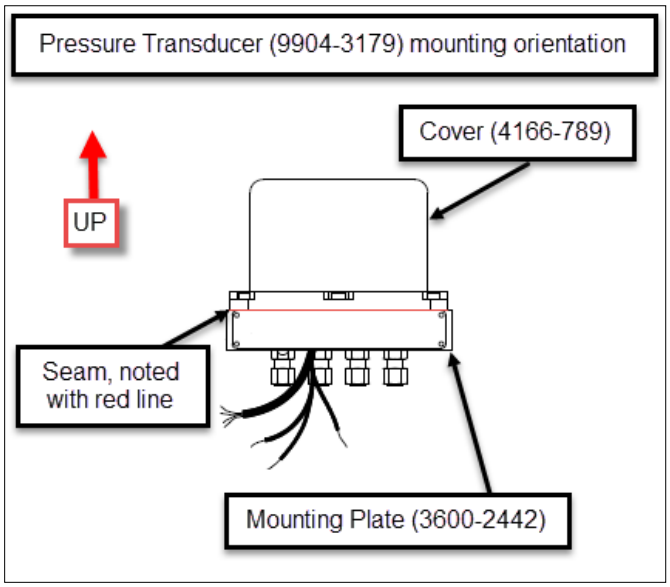


Figure R-1. Pressure Transducer Assembly Mounting Orientation

Chapter 1.
General Information

General

This manual covers the pressure transducers themselves, the assembly in which they are housed, and the wiring to connect them to the electronic control.

Two, three, or four pressure transducers are mounted on the pressure transducer motherboard, which is housed in a manifold assembly. The module also comes with flying lead wires hard-wired to the motherboard for power and communication. Communication takes place through two shielded, low-capacitance, twisted-pair wires, and 15-volt power to the module is transmitted through two wires. There is also a ground wire that acts as a chassis ground. Each flying lead passes through a capacitive feed-through filter assembly before connecting to the motherboard inside the module. The purpose of the filter assembly is to filter out any noise picked up on the field wiring external to the transducer module before it reaches the transducer motherboard. The flying leads at the module are wired directly to an electronic control field termination module used with MicroNet™/NetCon® modules or directly, which is then connected by cable to the pressure transducer interface module in the electronic control. This manual references connections to the FTM, however the Smart Pressure Transducer may also be connected directly to an Atlas-based module as detailed in the Atlas manuals.

The transducer assembly is hard-wired to the field termination module using two shielded, low-capacitance, twisted-pair wires for communication and up to four discrete wires for 15-volt power. The pressure transducers can be wired up to 300 m (1000 ft) away from the field termination module. The pressure transducer interface module (FTM) in the electronic control is a two-channel device, so a total of up to eight pressure transducers may be employed by using two 4-transducer assemblies. Atlas has up to 6 communication channels wired in a similar manner.

The pressure transducers communicate with the pressure transducer interface module using the standard universal asynchronous receiver transmitter (UART) protocol operating at 375 Kbaud. Communication errors are detected via parity checking and status information. The pressure data is shared with the main CPU.

Table 1-1. Specifications

Accuracy:	±.047% of full scale (0 to 1000 psia/0 to 69.0 bar), over operating temperature range (includes errors due to hysteresis, non-linearity, temperature, and non-repeatability)
Power:	2.25 W maximum per transducer
Resolution:	16 bits (0.015 psi/0.103 kPa)
Communications:	RS-422, @ 375 Kbaud
Response:	20 Hz frequency response with 6 ms latency
Overpressure:	1500 psia/103 bar (1.5 times rated pressure)
Communication Wiring:	Controlled impedance, low capacitance shielded wire similar to Belden P/N 89207, or Level 4 cabling
Power Wiring (use one of the following):	(1 pair) 20 AWG/0.5 mm² min if < 500 feet/150 m (2 pair) 20 AWG/0.5 mm² min if < 1000 feet/300 m (1 pair) 16 AWG/1.0 mm² min if < 1000 feet/300 m
Manifold Size and Weight:	135.79 x 155.55 x 121.69 mm (5.346 x 6.124 x 4.791 in.) 3.9 kg (8.5 lb)
Pressure Fittings:	Flareless compression fittings for 1/4 inch stainless tubing
Max Storage Temperature:	150 °C (302 °F)
Operating Temperature Range:	–40 to +125 °C (–40 to 257 °F) at 750 psia/51.7 bar max –35 to +125 °C (–31 to 257 °F) at 1000 psia/69.0 bar max

Operating Temperature Range:	–40 to +125 °C (–40 to 257 °F) at 750 psia/51.7 bar max –35 to +125 °C (–31 to 257 °F) at 1000 psia/69.0 bar max
Hazardous Location Rating:	CSA with North American Certification to: Class I, Division 1, Groups C & D Class I, Division 2, Groups B, C, & D ATEX 2014/34/EU as Category 2, Group IIG per TÜV 12 ATEX 7245 X, Ex db IIB T4 Gb Or ATEX 2014/34/EU as Category 3, Group IIG, Ex ec IIC T3 X. In order to meet ATEX Zone 2 installation requirements, the transducer must be installed inside an IP54 enclosure. The transducer itself does not meet IP54.
Shock:	US MIL-STD-810C, Figure 515.2-1 procedure 1 (20 g, 11 ms sawtooth)
Vibration:	US MIL-STD-810C, Figure 514.2-2 Curve J (5 g, 2 kHz) with at least a four-point mount

Electromagnetic Compatibility

The pressure transducer manifold assembly meets the following EMC standards:

EN61000-6-4 Generic Industrial Emissions

EN 61000-6-2 Generic Industrial Immunity

- ESD immunity
- EN 61000-4-2, 8 kV air and 6 kV contact, HCP and VCP tests
- Radiated RF immunity
- EN 61000-4-3, 10 V/m + 80% 1 kHz AM, 80–1000 MHz
- ENV 50204, pulse electromagnetic field, 900 MHz, 10 V/m
- Fast/Slow transient immunity
- EN 61000-4-4, 2 kV, for power and communication lines
- EN 61000-4-5, Surge, 1 kV, 1.2/50
- Conducted RF immunity:
  - EN 61000-4-6, 10 V emf + 80% 1 kHz AM, 0.15–100 MHz, on power and communication lines

Chapter 2.
Installation

Mounting

⚠WARNING

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 1 or 2 or Zone 1 or 2 applications.

⚠WARNING

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.

⚠CAUTION

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

⚠CAUTION

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.

IMPORTANT

For Zone 1 / Division 1 products: Proper torque is very important to ensure that the unit is sealed properly. Cover bolt torque is 9.2 N·m (81 lb-in).

The pressure transducer module should be mounted such that any condensation will drain away from the inlet pressure ports of the transducer module. Tubing that leads from the pressure source to the transducer module should be configured so that there are no low points where condensation and contaminants can build up, which can then be forced into the transducers when pressure is applied. Condensation and contaminants that enter the transducer can cause pressure reading errors. Part 9904-3179 must be mounted such that, the seam between the mounting plate and the cover is horizontal to the ground and the cover is at the top (see Figure R-1).

For DLE systems, the pressure transducer module should be mounted close enough to the pressure source so that there is no more than 2.4 m (8 ft) of tubing between the pressure source and the transducer.

The pressure transducer comes with ¼” (6.35 mm) Swagelok fittings for each of the utilized ports. When stainless steel tubing is first installed into the Swagelok fitting, the nut on the fitting should be tightened by hand until snug. To compress the ferrule onto the tubing, the nut should be tightened an additional 1 to 1-¼ turn with a wrench.

Wiring

⚠WARNING

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

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 2-2 and 2-3).

The power input leads to the transducer must be from an EMC-compliant source, such as the MicroNet FTM; however, the customer may provide this separately in some cases. The customer must provide an isolated power source or use voltage-limiting suppression devices.

If an external power source is required to energize the pressure transducer, it must comply with NEC or CEC class 2 circuit requirements, and adequate suppression must be provided.

This power source must exhibit less than 5000 pF of capacitance from output to earth/chassis (2500 pF from each line to earth). The supply must also either contain adequate suppression to sufficiently restrain a ±1 kV potential interference pulse from exceeding ±40 V on the power input of the Smart Transducer, or external suppression devices need to be located adjacent to the transducer (line to line & line to earth).

This means the unit must be powered from an isolated power supply, and the power feed can have no more than 5000 pF of capacitance to earth, total. The supply should also have surge pulse suppression to limit the voltage deviation to less than ±40 V (input to the transducer).

Connect the field termination module to the flying leads of the pressure transducer as shown in the wiring schematic in Figures 2-2 and 2-3. Each of the flying leads for the transducer module is labeled with its description. Wiring should be done in accordance with the local electrical codes and standards.

If the labels on the wires become unreadable, the XMIT and REC circuits can be determined with an ohmmeter by checking the dc resistance across each set of leads with all wires disconnected from the field termination module. The dc resistance across the XMIT leads (white+ black–) is approximately 47 kΩ, across the REC leads (white+ black–) the dc resistance is approximately 95 Ω.

⚠WARNING

To protect against a runaway condition resulting from a communications failure, Woodward recommends that the prime mover be equipped with a separate overspeed (overtemperature, or overpressure, where applicable) shutdown device(s), to protect against runaway or damage to the prime mover with possible personal injury or loss of life.

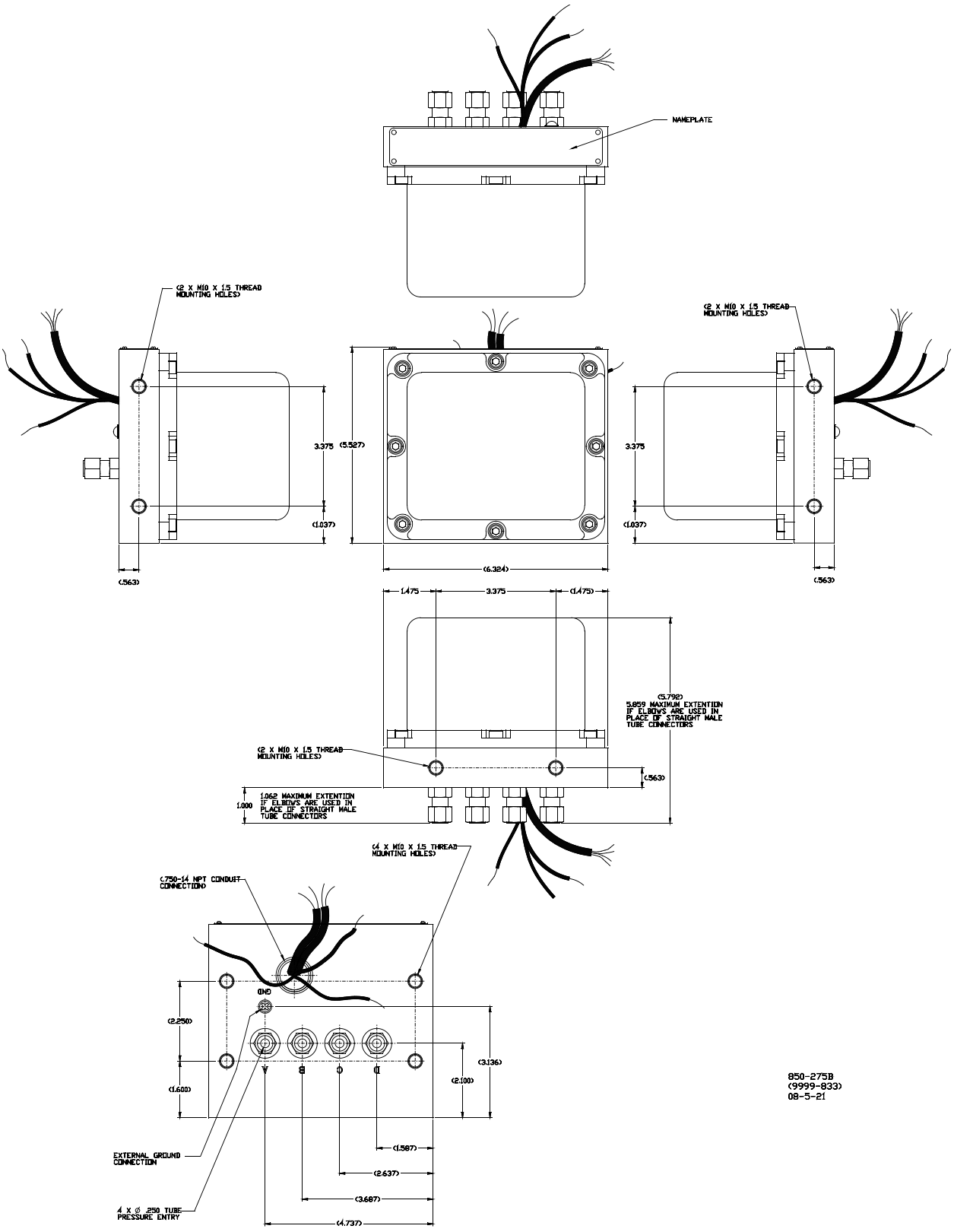


Figure 2-1. Outline Drawing of Pressure Transducer Manifold

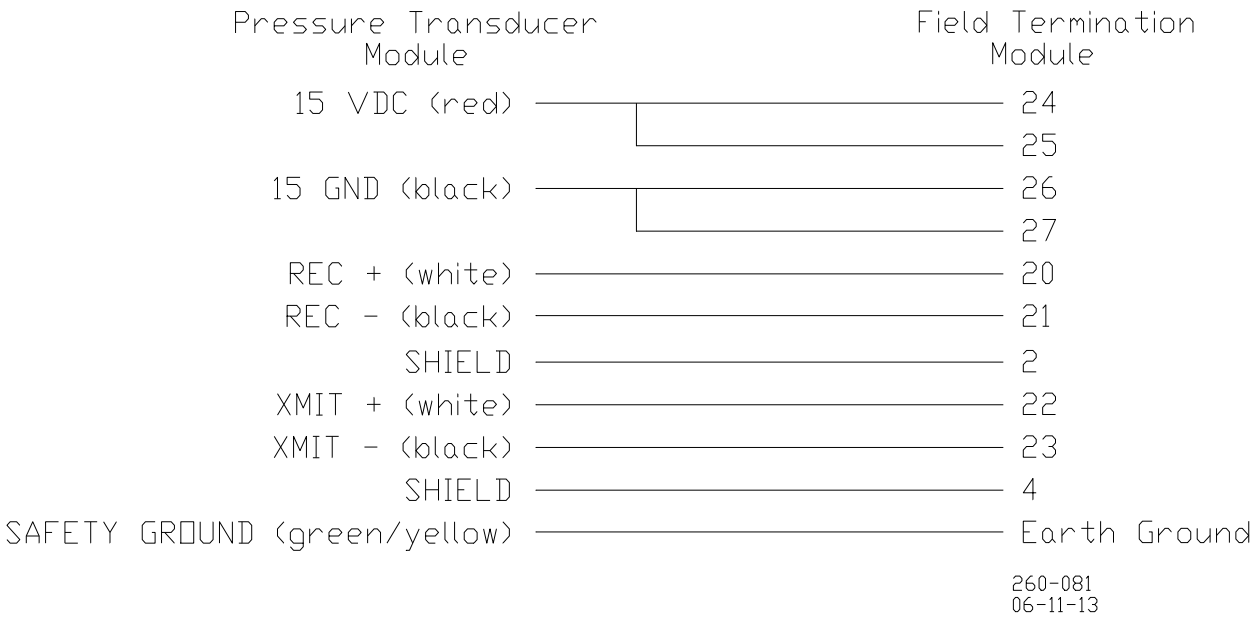


Figure 2-2. Wiring Schematic for Interface Module Port #1

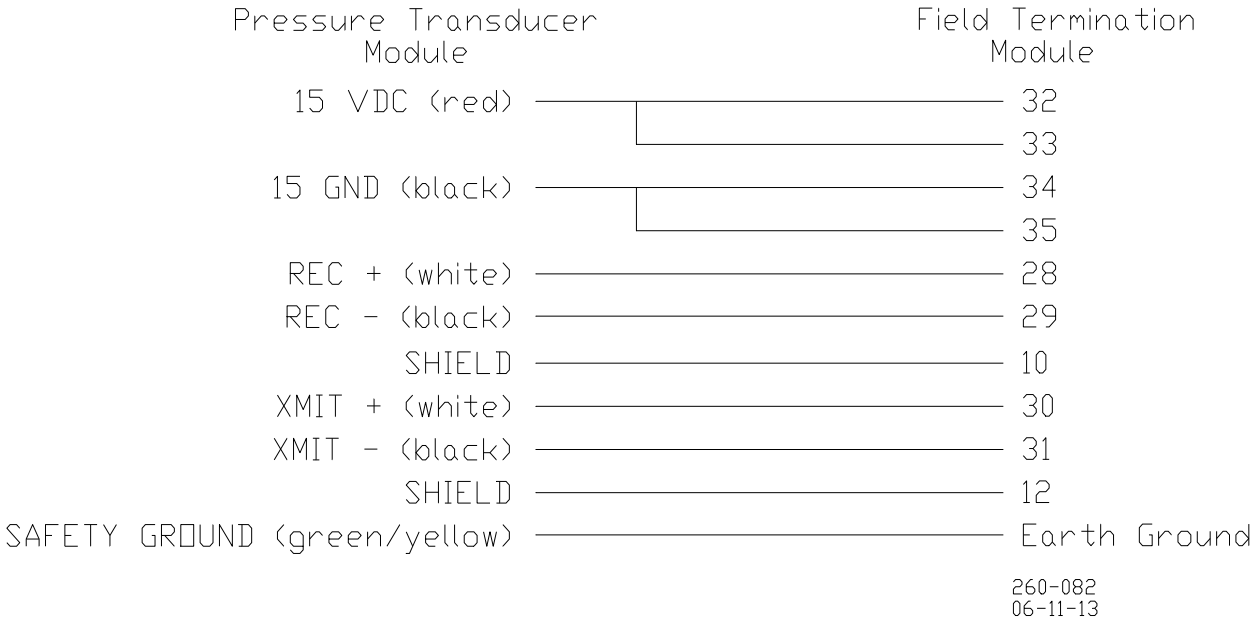


Figure 2-3. Wiring Schematic for Interface Module Port #2

Chapter 3.
Product Support and Service Options

Product Support Options

If you are experiencing problems with the installation, or unsatisfactory performance of a Woodward product, the following options are available:

- Consult the troubleshooting guide in the manual.
- Contact the manufacturer or packager of your system.
- Contact the Woodward Full Service Distributor serving your area.
- Contact Woodward technical assistance (see “How to Contact Woodward” later in this chapter) and discuss your problem. In many cases, your problem can be resolved over the phone. If not, you can select which course of action to pursue based on the available services listed in this chapter.

OEM or Packager Support: Many Woodward controls and control devices are installed into the equipment system and programmed by an Original Equipment Manufacturer (OEM) or Equipment Packager at their factory. In some cases, the programming is password-protected by the OEM or packager, and they are the best source for product service and support. Warranty service for Woodward products shipped with an equipment system should also be handled through the OEM or Packager. Please review your equipment system documentation for details.

Woodward Business Partner Support: Woodward works with and supports a global network of independent business partners whose mission is to serve the users of Woodward controls, as described here:

- A **Full Service Distributor** has the primary responsibility for sales, service, system integration solutions, technical desk support, and aftermarket marketing of standard Woodward products within a specific geographic area and market segment.
- An **Authorized Independent Service Facility (AISF)** provides authorized service that includes repairs, repair parts, and warranty service on Woodward's behalf. Service (not new unit sales) is an AISF's primary mission.

A current list of Woodward Business Partners is available at:
https://www.woodward.com/en/support/industrial/service-and-spare-parts/find-a-local-partner

Product Service Options

The following factory options for servicing Woodward products are available through your local Full-Service Distributor or the OEM or Packager of the equipment system, based on the standard Woodward Product and Service Warranty (5-09-0690) that is in effect at the time the product is originally shipped from Woodward or a service is performed:

- Replacement/Exchange (24-hour service)
- Flat Rate Repair
- Flat Rate Remanufacture

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 is a flat-rate program and includes the full standard Woodward product warranty (Woodward Product and Service Warranty 5-09-0690).

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.

Charges for the Replacement/Exchange service are based on a flat rate plus shipping expenses. You are invoiced the flat rate replacement/exchange charge plus a core charge at the time the replacement unit is shipped. If the core (field unit) is returned within 60 days, a credit for the core charge will be issued.

Flat Rate Repair: Flat Rate Repair is available for the majority of standard 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. All repair work carries the standard Woodward service warranty (Woodward Product and Service Warranty 5-09-0690) on replaced parts and labor.

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 and carry with it the full standard Woodward product warranty (Woodward Product and Service Warranty 5-09-0690). 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 authorization number
- Name and location where the control is installed
- Name and phone number of contact person
- Complete Woodward part number(s) and serial number(s)
- Description of the problem
- Instructions describing the desired type of repair

Packing a Control

Use the following materials when returning a complete control:

- Protective caps on any connectors
- Antistatic protective bags on all electronic modules
- Packing materials that will not damage the surface of the unit
- At least 100 mm (4 inches) of tightly packed, industry-approved packing material
- A packing carton with double walls
- A strong tape around the outside of the carton for increased strength

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*.

Replacement Parts

When ordering replacement parts for controls, include the following information:

- The part number(s) (XXXX-XXXX) that is on the enclosure nameplate
- The unit serial number, which is also on the nameplate

Engineering Services

Woodward offers various Engineering Services for our products. For these services, you can contact us by telephone, by email, or through the Woodward website.

- Technical Support
- Product Training
- Field Service

Technical Support is available from your equipment system supplier, your local Full-Service Distributor, or from many of Woodward's worldwide locations, depending upon the product and application. This service can assist you with technical questions or problem solving during the normal business hours of the Woodward location you contact. Emergency assistance is also available during non-business hours by phoning Woodward and stating the urgency of your problem.

Product Training is available as standard classes at many of our worldwide locations. We also offer customized classes, which can be tailored to your needs and can be held at one of our locations or at your site. This training, conducted by experienced personnel, will assure that you will be able to maintain system reliability and availability.

Field Service engineering on-site support is available, depending on the product and location, from many of our worldwide locations or from one of our Full-Service Distributors. The field engineers are experienced both on Woodward products as well as on much of the non-Woodward equipment with which our products interface.

For information on these services, please contact one of the Full-Service Distributors listed at **www.woodward.com/local-partner.**

Contacting Woodward's Support Organization

For the name of your nearest Woodward Full-Service Distributor or service facility, please consult our worldwide directory at **https://www.woodward.com/support**, which also contains the most current product support and contact information.

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) 8818 5515
Germany	+49 (711) 78954-510
India	+91 (124) 4399500
Japan	+81 (43) 213-2191
Korea	+82 (32) 422-5551
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) 8818 5515
Germany	+49 (711) 78954-510
India	+91 (124) 4399500
Japan	+81 (43) 213-2191
Korea	+ 82 (32) 422-5551
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) 8818 5515
India	+91 (124) 4399500
Japan	+81 (43) 213-2191
Korea	+ 82 (32) 422-5551
The Netherlands	+31 (23) 5661111
Poland	+48 (12) 295 13 00
United States	+1 (970) 482-5811

Technical Assistance

If you need to contact technical assistance, you will need to provide the following information. Please write it down here before contacting the Engine OEM, the Packager, a Woodward Business Partner, or the Woodward factory:

General

Your Name _____

Site Location _____

Phone Number _____

Fax Number

Prime Mover Information

Manufacturer _____

Turbine Model Number _____

Type of Fuel (gas, steam, etc.) _____

Power Output Rating _____

Application (power generation, marine, etc.)

Control/Governor Information

Control/Governor #1

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number

Control/Governor #2

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number

Control/Governor #3

Woodward Part Number & Rev. Letter _____

Control Description or Governor Type _____

Serial Number

Symptoms

Description _____

_____

If you have an electronic or programmable control, please have the adjustment setting positions or the menu settings written down and with you at the time of the call.

Revision History

Changes in Revision R—
- Corrected Table 1-1 accuracy specifications

Changes in Revision P—
- Added UKCA Certification
- Updated ATEX/IECEx Certification and markings
- Updated EU DoC and DoI
- Added UKCA DoC and DoI
- Updated product name to reflect the name listed on ATEX/IECEx/UKCA certificates
- Updated manual formatting and details to the latest manual publication standards

Changes in Revision N—
- Added Part Number 9907-1981 to Manual

Changes in Revision M—
- Updated certifications in the Compliance Section
- New DOC
- Removed DOI

Changes in Revision L—
- New Top Level 9904-3179
- Updated Regulatory Compliance for 9904-3179
- Added notes for special mounting instructions for part 9904-3179 to sections special conditions for safe use and installation
- Added updated Declaration of Incorporation and Declaration of Conformity

Changes in Revision K—
- Removed Chapter 3, Replacing a Transducer in the Field

Changes in Revision J—
- Updated ATEX registration information

Changes in Revision H—
- Added IECEx compliance

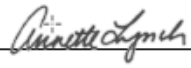
Declarations

EU DECLARATION OF CONFORMITY

EU DoC No.:	00108-04-CE-02-01
Manufacturer's Name:	WOODWARD INC.
Manufacturer's Contact Address:	1041 Woodward Way Fort Collins, CO 80524 USA
Model Name(s)/Number(s):	DLE Smart Pressure Transducer Manifold Assemblies Aluminum: 9907-961, 9907-962, 9907-963, 9907-964, 9907-1124, 9907-1981, 9907-2203 SST: 9904-3179
The object of the declaration described above is in conformity with the following relevant Union harmonization legislation:	Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC)
Markings in addition to CE marking:	Aluminum & SST: Ⓔx II 2 G Ex db IIB T4 Gb SST: Ⓔx II 3 G Ex ec IIC T4 Gc
Applicable Standards **ATEX:**	EN IEC 60079-0: 2018: Explosive atmospheres – Part 0: Equipment – General requirements EN 60079-1: 2014: Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures 'd' EN 60079-7: 2015, EN IEC 60079-7: 2015/A1: 2018: Explosive atmospheres – Part 7: Equipment protection by increased safety 'e'
EMC:	EN 61000-6-2: 2005, EN 61000-6-2: 2005/AC: 2005: Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments EN 61000-6-4: 2007, EN 61000-6-4: 2007/A1: 2011: Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emissions for industrial environments
Third Party Certification:	TÜV 12 ATEX 7245 X TUV Rheinland Industrie Service GmbH (0035) Am Grauen Stein 51105 Köln
Conformity Assessment:	ATEX Annex IV - Production Quality Assessment, 01 220 113542 TUV Rheinland Industrie Service GmbH (0035) Am Grauen Stein, D-51105 Cologne

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



Signature

Annette Lynch

Full Name

Engineering Manager

Position

Woodward, Fort Collins, CO, USA

Place

28 September 2022

Date

5-09-1183 Rev 38

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

File name: 00108-04-CE-02-03
Manufacturer's Name: WOODWARD INC.

Manufacturer's Address: 1041 Woodward Way
Fort Collins, CO 80524 USA

Model Names: DLE Smart Pressure Transducer Manifold Assemblies
Aluminum: 9907-961, 9907-962, 9907-963, 9907-964, 9907-1124, 9907-1981, 9907-2203
SST: 9904-3179

This product complies, where applicable, with the following Essential Requirements of Annex I: 1.1, 1.2, 1.3, 1.4, 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.

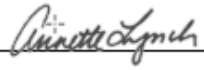
The person authorized to compile the technical documentation:

Name: Dominik Kania, Managing Director
Address: Woodward Poland Sp. z o.o., ul. Skarbowa 32, 32-005 Niepolomice, Poland

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 Inc. 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

Annette Lynch
Full Name

Engineering Manager
Position

Woodward Inc., Fort Collins, CO, USA
Place

28 September 2022
Date

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UKCA DECLARATION OF CONFORMITY

UKCA DoC No.: 00108-04-CE-UKCA-02-01
Manufacturer's Name: WOODWARD INC.

Manufacturer's Contact Address: 1041 Woodward Way
Fort Collins, CO 80524 USA

Model Name(s)/Number(s): DLE Smart Pressure Transducer Manifold Assemblies
Aluminum: 9907-961, 9907-962, 9907-963, 9907-964, 9907-1124, 9907-1981, 9907-2203
SST: 9904-3179

Markings in addition to UKCA markings: Aluminum & SST: Ⓔx II 2 G Ex db IIB T4 Gb
SST: Ⓔx II 3 G Ex ec IIC T4 Gc

The object of this Declaration is in full conformity with the following UK Statutory Instruments (and their amendments):

S.I. 2016 No. 1107	Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016
S.I. 2016 No. 1091	Electromagnetic Compatibility Regulations 2016

The Object of this Declaration is in conformity with the applicable requirements of the following designated standards and technical specifications.

EN IEC 60079-0: 2018	Explosive atmospheres – Part 0: Equipment General requirements
EN 60079-1: 2014	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures 'd'
EN 60079-7: 2015, EN IEC 60079-7: 2015/A1: 2018	Explosive atmospheres – Part 7: Equipment protection by increased safety 'e'
EN 61000-6-2: 2005, EN 61000-6-2: 2005/AC: 2005	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN 61000-6-4: 2007, EN 61000-6-4: 2007/A1: 2011	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emissions for industrial environments

Third Party Certification: TÜV 22 UKEX 7110 X
TUV Rheinland UK Ltd Friars Gate (Third Floor)
1011 Stratford Road, Shirley, Solihull, B90 4BN
Approved Body # 2571

Conformity Assessment: ATEX Annex IV - Production Quality Assessment, 01 220 113542
TUV Rheinland UK Ltd Friars Gate (Third Floor)
1011 Stratford Road, Shirley, Solihull, B90 4BN
Approved Body # 2571

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 Regulation(s).
MANUFACTURER

Signature

Annette Lynch
Full Name

Engineering Manager
Position

Woodward, Fort Collins, CO, USA
Place

28 September 2022
Date

5-09-1183 Rev 38

DECLARATION OF INCORPORATION
Of Partly Completed Machinery
S.I. 2008 No. 1597

File name: 00108-04-CE-UKCA-02-02
Manufacturer's Name: WOODWARD INC.

Manufacturer's Address: 1041 Woodward Way
Fort Collins, CO 80524 USA

Model Names: DLE Smart Pressure Transducer Manifold Assemblies
Aluminum: 9907-961, 9907-962, 9907-963, 9907-964, 9907-1124, 9907-1981, 9907-2203
SST: 9904-3179

This product complies, where applicable, with the following Essential Requirements of Annex I: 1.1, 1.2, 1.3, 1.4, 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.

The person authorized to compile the technical documentation:

Name: Andy Marshall, General Manager at Woodward Prestwick
Address: 5 Shawfarm Road, Prestwick, Ayrshire, Scotland, United Kingdom KA9 2TR

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 Inc. of Loveland and Fort Collins, Colorado that the above referenced product is in conformity with Regulation S.I. 2008 No. 1597 as partly completed machinery:

MANUFACTURER

Signature

Annette Lynch
Full Name

Engineering Manager
Position

Woodward Inc., Fort Collins, CO, USA
Place

28 September 2022
Date

Document: 5-09-1182 (rev. 21) **PAGE** 1 of 1

Released

We appreciate your comments about the content of our publications.

Send comments to: industrial.support@woodward.com

Please reference publication 26080.

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1041 Woodward Way, Fort Collins CO 80524, USA
Phone +1 (970) 482-5811

Email and Website—www.woodward.com

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