

ATEX / UKEX / IECEx / CANADA Guide and Declaration of Conformity

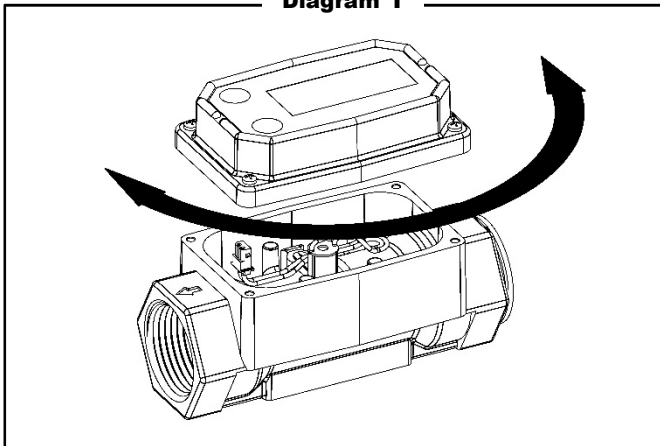
Consignes de Sécurité

Read Me! For your safety, review the Safety Precautions section of this manual before installing or operating your equipment. This product requires no assembly or dismantling, return to factory for repair.

METER INSTALLATION

All FLOMEC® meters are designed to measure flow in only one direction. The direction is indicated by the arrow cast or molded in the turbine outlet. If the computer display is upside down for your application, remove the four screws, turn the display 180° and reinstall the screws (see Diagram 1).

Diagram 1



When Choosing a Location to Plumb the Meter:

⚠ CAUTION
Location that provides enough space for periodic inspections.
Location free from excessive vibration, dust and moisture.
Location not subjected to excess heat.

When Installing the Meter:

- Verify the meter's threads or flanges are compatible with the process pipe.
- Make sure the meter's flow arrow is pointed in the direction of fluid flow.
- If connecting to new male pipe threads, burrs and curls can adversely affect accuracy.
- To protect against fluid leakage, seal all pipe threads with an appropriate sealing compound. Make sure the sealing compound does not intrude into the flow path.

- Make sure flow and pressure have been eliminated from process pipe.
- When tightening the meter onto the process pipe, place wrench on wrench flats only.
- Do not over tighten flange bolts. This may cause the gasket to be compressed into the flow path and may affect accuracy.
- Product should never be operated outside its published specifications for temperature and pressure.

OPERATION

It is strongly recommended that accuracy be verified prior to use. To do this, remove all air from system, measure an exact known volume into an accurate container, and verify the volume against the readout. If necessary, use a correction factor to figure final volume.

All operations are reflected on the LCD readout. Larger digits indicate amounts and smaller icons indicate specific information regarding totals, calibration and units of measure.

The computer is on continuously and powered by field replaceable batteries. If ever LOWBAT is displayed, go to the Maintenance Section of this manual for battery replacement details.

This meter is programmed with two totals: BATCH and ACCUMULATIVE (both resettable) and flowrate.

Depressing the TOTAL button momentarily will toggle between BATCH and ACCUMULATIVE amounts. To zero the BATCH amount, depress and hold the TOTAL button for >3 seconds.

Depressing the RATE button momentarily will change the display to show flow rate if fluid is flowing through the meter. To change back to a total display, depress the TOTAL button momentarily; the total displayed will be the last shown total (either BATCH or ACCUMULATIVE).

To change the volume units of measure, depress the TOTAL then RATE buttons (in that sequence) and hold both for >3 seconds (this enters Configuration mode).

There is a 90 second timeout in Configuration mode. If no button has been pushed within the allotted time, the system automatically exits back to normal operating mode and no settings are saved.

The PIN number menu will display a default PIN number. Depress the TOTAL button momentarily as needed to toggle through this menu and its questions until the Volume Unit menu “VolUnt” is displayed.

To select the volume unit of measure, depress the RATE button momentarily as needed to toggle through the available volume units until the desired volume unit is displayed. (GAL=gallon, L=litre, plus other selections).

To exit the configuration mode, save all previous settings, and go back to normal operation mode, depress the TOTAL then RATE buttons (in that sequence) and hold both for >3 seconds. This exit procedure can be used at any time in any menu.

When fluid is flowing through the meter, a small propeller icon is visible.

CALIBRATION

If accuracy verification shows that the factory calibration is not accurate enough (due to different fluid viscosities, plumbing configurations, etc.), a field calibration can be performed.

Field Calibration Procedures Percent Adjust (Correction Factor) Method

1. Correction factor method is a field calibration method to adjust the displayed flow values to a known value using +/- percentage adjustments.
2. To calibrate, depress the TOTAL then RATE buttons (in that sequence) and hold both for >3 seconds (this enters Configuration mode).
3. The PIN number menu will display a default PIN number. Depress the TOTAL button momentarily as needed to toggle through this menu and on through the volume unit menu and other menus (including advanced options) until the field calibration menu “FLdCAL” is displayed.
4. To select +/- percent adjustment, depress the RATE button momentarily to toggle through the “types” until “PctAdj” is shown.
5. Then depress the TOTAL button momentarily to save the selection.
6. Momentarily press the RATE button to toggle between (dash “-”) and (underscore “_”). A dash indicates a negative value. An underscore indicates a positive value. Press the TOTAL button to edit the adjustment value. The range for the values are: -99.999% to +99.999%.
7. When all digits are entered correctly, exit by holding the TOTAL button and pressing the RATE button. The software will store the adjusted percentage correction, then display the “Save” screen. Select “yes” or “no”.
8. To exit the configuration mode and go back to normal operations mode, depress the TOTAL then RATE buttons (in that sequence) and hold both for >3 seconds. The unit will return to normal operation, less the FAC (factory calibration) icon. NOTE: This exit procedure can be used at any time in any menu.

CALIBRATION

Batteries should only be replaced with:

- **Alkaline (AAA size, 1.5-volts each)**
Energizer, Alkaline, E92 or En92
Duracell, Alkaline, Mn2400

To Replace Batteries

1. Remove the corner screws from the meter face and lift the computer electronics from the turbine.
2. Remove the batteries.
3. Check the battery terminals and remove any corrosion.
4. Install the new batteries and make sure the positive posts are positioned correctly. When the batteries are installed correctly, the computer powers on automatically and the readout displays information.
5. Make sure the seal is fully seated before placing the computer electronics on the turbine. Tighten the four screws.
6. Do not clean the exterior of computer assembly with Isopropyl Alcohol.

⚠ CAUTION

Open battery cells should be disposed of in accordance with local regulations.

Make sure flow and pressure have been eliminated from process pipe before meter removal.

Never allow liquids to dry inside of meter and never blow compressed air into meter for cleaning or drying.

PARTS

The factory, when provided with model number and serial number, can replace your entire Computer Electronics Assembly.

Part No.	Description
901002-52	Seal

SERVICE

For warranty consideration, parts, or other service information, please contact your local distributor. If you need further assistance, call the GPI Customer Service Department in Wichita, Kansas, during normal business hours.

1-888-996-3837

REMOTE KIT INSTALLATION

You will need the following tools for installation:

- Small Phillips screwdriver.
- Drill with a drill bit for bolt or screw size intended to be used for mounting the dust cover (see below).
- Wire stripper.
- Wire cutter.
- Wire crimper.
- Saw.
- Electrical tape.

Mounting Preparation

Before installing the Remote Kit, consider the mounting of the meter's computer and dust cover carefully. Select the location for mounting the computer. Using the provided template, make sure the dust cover will fit in the desired location.

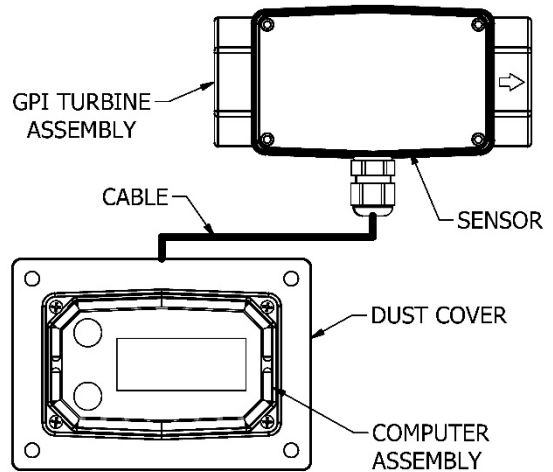
Check the route of the cable from the sensor to the computer. Ten feet (3 m) of cable is provided with the kit. If a longer cable is required, make sure it does not exceed the maximum recommended length of 100 feet (30.5 m).

NOTE: To retain Factory Mutual Approval of this kit, use only Belden Cable #9501.

If more than 10 feet of cable is needed, remove the old cable by loosening the strain relief and terminal block connections on the sensor. Connect the new cable in similar manner.

A template is supplied with the remote kit to aid in installing the dust cover. Position the template in the desired location and cut the hole. Drill the screw holes at each corner using a drill bit sized for the bolt or screw you intend to use. The dust cover holes will accommodate a #10 (3/16 in.) bolt or screw.

Prepare the meter for installation of the Remote Kit by removing the four screws from the corners of the computer's face. Gently separate the computer from the turbine. Disconnect the 2-position terminal housing connector from the turbine to the computer back. Your sensor will connect to the turbine, and the computer will connect to the dust cover in the same manner.



Mounting the Sensor and Turbine

1. Using the four screws provided, mount the sensor to the turbine. Use the long, coarse thread screws, identified as Item 6B on the Illustrated Parts List, to mount the sensor to a plastic turbine housing. Use the fine thread metal screws to mount the sensor to a metal turbine housing.

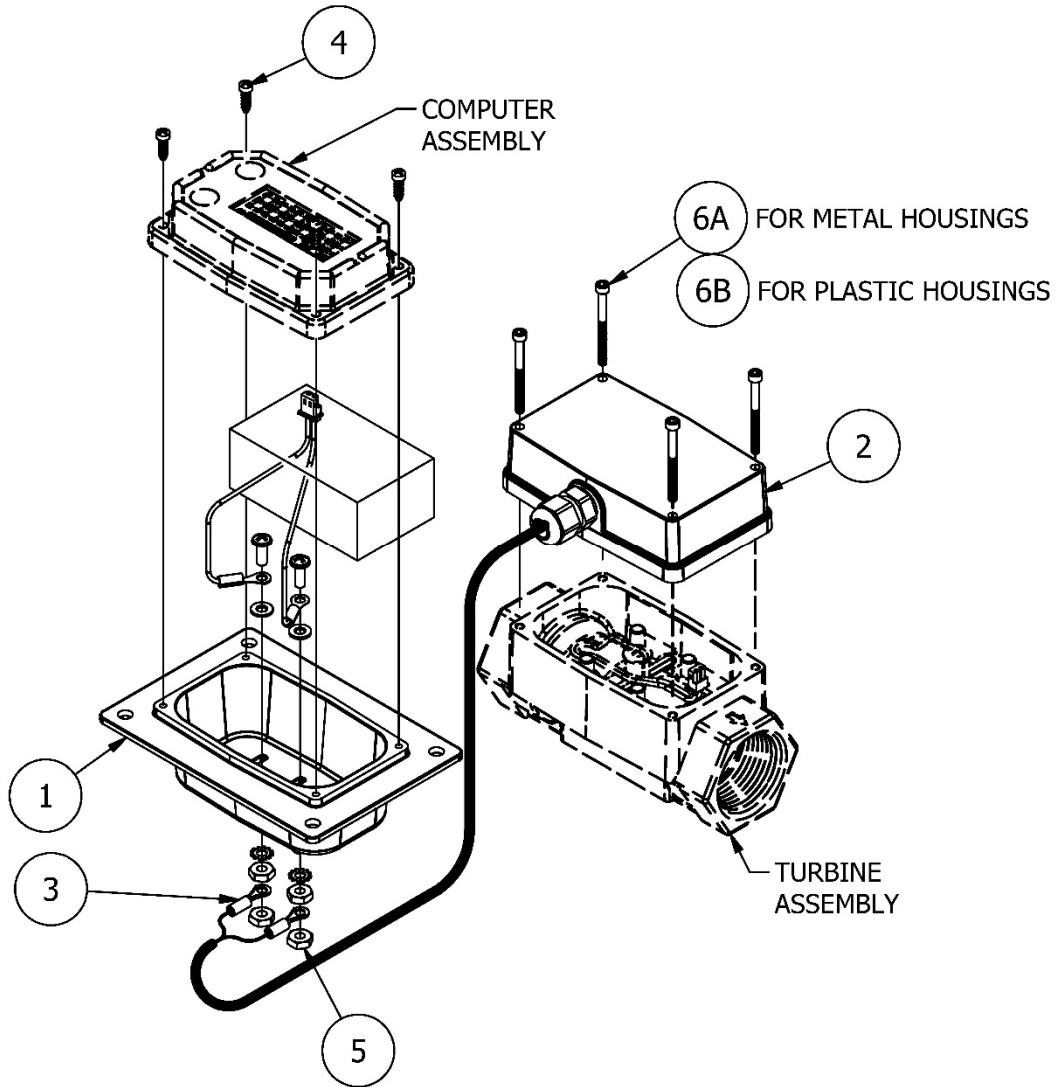
NOTE: To retain Factory Mutual Approval, a Factory Mutual Approved turbine must be used.

2. Install the turbine in the flow path. Wrap all threads with 3 to 4 turns of thread tape. Make sure the tape does not impair the flow path. Hand tighten the turbine to the fittings. Use of a wrench could damage the turbine.
3. Route the cable from the sensor to the dust cover location and, allowing an extra 5 to 8 inches (12 to 20 cm), cut it to length.
4. Prepare the end of the cable for connection to the dust cover by stripping 1-1/2 inches (4 cm) of outer insulation. Strip an additional 1/4 inch (0.5 cm) of inner insulation from each wire. Crimp the solderless connectors, identified as Item 3 in the Illustrated Parts List, to the ends.

Mounting the Computer and Dust Cover

1. Connect the cable to the dust cover by loosening the lower nuts, identified as Item 5 on the Illustrated Parts List, and slipping on the connectors. Tighten the nuts.
2. Insert the dust cover into the cutout and attach with the intended bolts or screws provided by user.
3. Insert the 2-position terminal housing connector from the dust cover into the mating socket on the back of the computer.
4. Make sure the foam pad is positioned correctly and that the batteries and 2-position terminal housing connector are securely connected.
5. Attach the computer assembly onto the dust cover using the short, coarse thread screws, identified as Item 4 on the Illustrated Parts List.

ILLUSTRATED PARTS LIST



Item No.	Part No.	Description	No. Reqd.
1	113264-20	ASSEMBLY, DUST COVER (GEN 2)	1
2	113273-10	ASSEMBLY, SENSOR MODULE (GEN 2) W/10 FT. CABLE	1
3	902004-51	TERMINAL, RING	2
4	904003-21	TAPPING SCREW, 4-20 X 3/8", CR FILL HD, SS	4
5	904004-50	HEX NUT (#6)	2
6A	904009-64	SCREW, SHCS, 4-40 X 1.250, SS	4
6B	904009-65	SCREW (3 X 35MM) PAN HD, SS	4

SAFETY PRECAUTIONS

Consignes de Sécurité

Product Installation Safety

WARNING / ADVERTISSEMENT

The apparatus enclosure may contain aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.

Le boîtier de l'appareil peut contenir de l'aluminium et est considéré comme constituant un risque potentiel d'inflammation par impact ou de friction. Des précautions doivent être prises en compte lors de l'installation et de l'utiliser pour éviter les chocs ou au frottement.

Compatibility of this product's housing material and the process fluid and/or environment should be considered prior to putting into service.

Compatibilité des Matériaux du corps de ce produit et le fluide de traitement et / ou l'environnement doit être pris en compte avant la mise en service.

Make sure flow and pressure have been eliminated from process pipe prior to installing or removing product.

Assurez-vous de débit et de pression ont été éliminés du processus de conduite avant d'installer ou enlever le produit.

Part of the enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.

Une partie de l'enceinte est réalisée en matière plastique. Pour éviter le risque de formation d'étincelles électrostatiques de la surface en plastique ne doivent être nettoyés avec un chiffon humide.

This product should never be electrically connected to any other device while in the hazardous location. Consult manufacture for exceptions.

Ce produit ne doit jamais être relié électriquement à un autre appareil alors que dans la zone dangereuse. Consultez la fabrication des exceptions.

When handling hazardous liquids, always follow the liquid manufacturer's safety precautions.

Lors de la manipulation de liquides dangereux, respectez toujours les consignes de sécurité du fabricant du liquide.

Product should never be operated outside its published specifications for temperature or pressure. See specifications for your model.

Produit ne doit jamais être utilisé en dehors de ses spécifications publiées pour la température ou de pression. Voir les spécifications de votre modèle.

When working in hazardous environments, always exercise appropriate safety precautions.

Lorsque vous travaillez dans des environnements dangereux, toujours prendre les précautions de sécurité appropriées.

When measuring flammable liquids, observe precautions against fire or explosion.

Lors de la mesure de liquides inflammables, observer les précautions contre l'incendie ou d'explosion.

Location not subject to high electromagnetic fields, high current fields or induction noise (motors, transformers, etc.).

L'emplacement n'est pas soumis à des champs électromagnétiques élevés, élevés champs de courants d'induction ou de bruit (moteurs, transformateurs, etc.).

Location not subject to corrosive atmosphere.

L'emplacement n'est pas soumis à une atmosphère corrosive.

Location not to be submerged.

Localisation de ne pas être submergé.

Location not subjected to excessive fluid pulsation.

L'emplacement n'est pas soumis à la pulsation excessive de liquide.

Location that provides adequate straight pipe length.

Situation qui fournit suffisamment de longueur de tuyau droite.

Product Removal Safety

WARNING / ADVERTISSEMENT

Make sure flow and pressure have been eliminated from process pipe prior to installing or removing product.

Assurez-vous de débit et de pression ont été éliminés du processus de conduite avant d'installer ou enlever le produit.

Always dispose of used cleaning solvents in a safe manner according to the solvent manufacturer's instructions.

Toujours éliminer les solvants de nettoyage utilisés de façon sécuritaire selon les instructions du fabricant de solvant.

During turbine removal, liquid may spill. Follow the liquid manufacturer's safety precautions for clean up of minor spills.

Lors de la dépose de la turbine, liquide pourrait couler. Suivez les consignes de sécurité du fabricant de liquide pour nettoyage des déversements mineurs.

Batteries Safety

WARNING / ADVERTISSEMENT

Avoid mechanical or electrical abuse. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or temperatures in excess of 212° F (100° C). Do not short circuit or install with incorrect polarity. **DO NOT INCINERATE.**

Éviter les abus mécaniques ou électriques. Les piles peuvent exploser ou causer des brûlures, s'il est démonté, broyé ou exposés au feu ou à des températures supérieures à 212 ° F (100 ° C). Ne pas court-circuiter ou d'installer en respectant la polarité. **NE PAS INCINÉRER.**

Batteries should only be replaced with:

Alkaline (AAA size, 1.5-volts each)

Energizer, Alkaline, E92 or En92

Duracell, Alkaline, Mn2400

Do not mix old with new.

Do not use other brands or technologies.

Les piles ne doivent être remplacées que par:

Alcaline (taille AAA, 1,5 volts chacune)

Energizer, alcaline, E92 ou En92

Duracell, alcaline, Mn2400

Ne mélangez pas l'ancien avec le nouveau.

N'utilisez pas d'autres marques ou technologies.

PRODUCT LISTINGS

US:

Intrinsically Safe for Class I,II,III, Division 1, Groups ABCDEFG, T4 Ta=54°C

Canada:

Intrinsically Safe for Class I,II, Division 1, Groups ABCDEFG, T4 at Ta=54°C

Intrinsically Safe for Class I Zone 0, Group IIC, T4 Ta=54°C

IEC / European / Canadian:

Ex ia IIC T4 Ga,

(Ta = -40 to 54° C),

(Equipment Protection Level, EPL: Ga)

ATEX (Directive Marking) / UKEX:  II 1 G

(Equipment Group II, Category 1, Gases/Vapors)

IP65 Rated.

RoHS Compliant (2011/65/EU)

This product is in compliance with the RoHS Directive of the European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.


Serial Number Label:







Specific Conditions of Use

1. All computer assemblies are to be used with Energizer E92 / EN92, or Duracell MN2400 Alkaline batteries.
2. GPI Remote Kit Assembly 113275-10 may be used with the meter when installed in accordance with GPI Manual No. 920507-02.
3. The apparatus enclosure may contain aluminum which is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.
4. Part of the enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.




INTRINSICALLY SAFE FOR CLASS I, II, III, DIV. 1, GROUPS ABCDEFG, T4 Ta= -40° to +54°C NONINCENDIVE FOR CLASS I, II, III, DIV. 2, GROUPS ABCDFG, T4 Ta= -40° to +54°C	 APPROVED IP65 Rated	 WARNING: See Owner's Manual for Warnings and Cautions Before Installation.
GREAT PLAINS INDUSTRIES, INC., 5252 E. 36TH ST. NORTH,	WICHITA, KANSAS 67220 U.S.A	


 CAUTION
Use Only These Batteries: Energizer® E92 / EN92 Alkaline Duracell® MN2400 Alkaline Size: AAA Voltage: 1.5V
Warning: Wipe only with damp cloth.

ELECTRONIC DIGITAL METER GREAT PLAINS INDUSTRIES, INC. 5252 E. 36TH ST. NORTH WICHITA, KANSAS 67220 U.S.A	 APPROVED	FM16CA0148X IS SI CL I, II DIV. 1 GP ABCDEFG, -40°C ≤ Ta ≤ +54°C Ex ia IIC T4 Ga Ta= -40° to +54°C
IP65 Rated  1725  2809	FM22UKEX0117X FM13ATEX0016X IECEX FMG 13.0005X	
SERIAL NUMBER AND DATE CODE ON PRODUCT	 II 1 G Ex ia IIC T4 Ga Ta= -40° to +54°C	

WARNING: TO PREVENT IGNITION OF HAZARDOUS ATMOSPHERE, BATTERIES MUST ONLY BE CHANGED IN NONHAZARDOUS LOCATION.
AVERTISSEMENT: AFIN DE PRÉVENIR L' INFLAMMATION D' ATMOSPHÈRES DANGEREUSES, NE CHANGER LES BATTERIES QUE DANS DES EMBLEMES DÉSIGNÉS NON DANGEREUX.

REMOTE KIT ASSEMBLY (113275-10)

ELECTRONIC DIGITAL METER FM13ATEX0016X IECEX FMG 13.0005X FM22UKEX0117X	GREAT PLAINS INDUSTRIES, INC. WICHITA, KANSAS USA	FM16CA0148X IS SI CL I, II DIV. 1 GP ABCDEFG, -40°C ≤ Ta ≤ +54°C Ex ia IIC T4 Ga Ta= -40° to +54°C
IP65 Rated	 1725  2809	
 II 1 G Ex ia IIC T4 Ga Ta= -40° to +54°C	SERIAL NUMBER INSIDE PRODUCT	

INTRINSICALLY SAFE FOR CLASS I, II, III, DIV. 1, GROUPS ABCDEFG, T4 Ta=54°C NONINCENDIVE FOR CLASS I, II, III, DIV. 2, GROUPS ABCDFG, T4 Ta=54°C When Installed in Accordance with Manual 920695-03	 APPROVED IP65 Rated
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Statement of Compliance with Applicable European Directives

We: Great Plains Industries, Inc.
5252 East 36th Street North
Wichita, KS USA 67220-3205

As the manufacturer of the equipment listed below:

Product Name: Electronic Digital Meter
Model Numbers: 03*****
A1*****
G2*****

Model numbers include all combinations of an alpha-numeric series as illustrated above.

confirm, in accordance with the requirements of clause 1.2.7 of the Essential Health and Safety Requirements of Community Directive 94/9/EC (until April 19th, 2016) and Directive 2014/34/EU (from April 20th, 2016) on equipment and protective systems intended for use in potentially explosive atmospheres that the above equipment has been designed and manufactured so as to:

- (a) avoid physical injury or other harm which might be caused by direct or indirect contact;
- (b) assure that surface temperatures of accessible parts or radiation which would cause a danger, are not produced;
- (c) eliminate non-electrical dangers which are revealed by experience;
- (d) assure that foreseeable conditions of overload shall not give rise to dangerous situations.

And where these risks are wholly or partly covered by other Community Directives, the equipment satisfies the requirements of those specific Directives.

And that literature describing the equipment will not contradict the instructions with regard to safety aspects.

Authorized by:
Signature:



Full Name:
Position:

Victor Lukic
President
Great Plains Industries, Inc.

Place:

Wichita, KS USA
January 2024

Statement of Compliance with Applicable UK Regulations

We: Great Plains Industries, Inc.
5252 East 36th Street North
Wichita, KS USA 67220-3205

As the manufacturer of the equipment listed below:

Product Name: Electronic Digital Meter
Model Numbers: 03*****
A1*****
G2*****

Model numbers include all combinations of an alpha-numeric series as illustrated above.

confirm, in accordance with the requirements of the Essential Health and Safety Requirements (Schedule I, Part 13 (1)) of UKSI 2016:1107 (as amended) on equipment intended for use in potentially explosive atmospheres that the above equipment has been designed and manufactured so as to:

- (a) avoid physical injury or other harm which might be caused by direct or indirect contact;
- (b) assure that surface temperatures of accessible parts or radiation which would cause a danger, are not produced;
- (c) eliminate non-electrical dangers which are revealed by experience;
- (d) assure that foreseeable conditions of overload shall not give rise to dangerous situations.

And where these risks are wholly or partly covered by any other enactment, the equipment satisfies the requirements of those specific enactments.

And that literature describing the equipment will not contradict the instructions with regard to safety aspects.

Authorized by:
Signature:



Full Name: Victor Lukic
Position: President
Great Plains Industries, Inc.
Place: Wichita, KS USA
January 2024

Declaration of Conformity

We declare, that the product:

Product Name:	Electronic Digital Meter
Model Numbers:	03***** A1***** G2*****Q*** G2****Q1***

Model numbers include all combinations of an alpha-numeric series as illustrated above.

Conforms with the requirements of the Directives/Regulations below by compliance with the Standards subsequently listed:

1. Council Directive 2014/30/EU and UK Regulation 2016 relating to Electro-Magnetic Compatibility.
EN 61000-6-2:2005 S.I. 2016:1091
EN 61000-6-3:2007/A1:2011
2. Council Directive 2014/34/EU and UK Regulation 2016 relating to equipment or protective systems intended for use in potentially explosive atmospheres.
EN 60079-0:2018 S.I. 2016:1107
EN 60079-11:2012
EN 60529+A1:2000
3. Council Directive 2011/65/EU and 2015/863 as amended (RoHS Directive), EN IEC 63000:2018 and UK Regulation 2012 relating to the restriction of certain hazardous substances in electrical and electronic equipment.

Supplementary Information:

- This product meets an (Ingress Protection) IP65 rating.
- This product has insufficient internal volume size or pressure ratings to meet a pressure directive.
- This product is not recommended for custody transfer or application where levying by consumption takes place.

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

Signature:



Full Name:

Victor Lukic

Position:

President

Great Plains Industries, Inc.

Place:

Wichita, KS USA

January 2024

Notified Body: FM Approvals Europe Ltd.
One Georges Quay Plaza
Dublin, Ireland D02 E440

Identification No: 2809

EC-Type Examination Certificate No: FM13ATEX0016X

UK-Type Examination Certificate No: FM22UKEX0117X



Wichita · Sydney

GREAT PLAINS INDUSTRIES **GPI**

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