

## Remote Kit Assembly

### Owner's Manual



*Remote Kit installed with GPI Electronic Digital Meter.*

#### GENERAL INFORMATION

The GPI Remote Kit Assembly is designed for use with GPI turbine meters: A2, G2, and A1 Low Flow and 1-inch Models. The user has the flexibility of isolating the flow sensor from a panel-mounted digital indicator or a control device as well as safely and successfully measuring high- and low-temperature fluids. The Remote Kit Assembly can be added to an existing GPI meter or may be used with a GPI turbine to provide signal output to a non-GPI indicator or control system.

#### Purpose of this Manual

This manual is designed to assist you in installing, operating, and maintaining your GPI Remote Kit Assembly. It furnishes information which will help you achieve years of dependable performance and trouble-free operation. This manual provides support for the GPI Remote Kit Assembly only. Please refer to the appropriate owner's manuals for instructions on the use and maintenance of turbine meters or other equipment.

Please take a few moments to read through this manual before installing and operating your kit. If you have problems with this equipment, refer to the Troubleshooting section.

If you need further assistance, contact the dealer from whom you received your kit or the GPI Customer Service Department at the phone number provided in the Parts and Service section.

#### Read Me!

Use caution when handling hazardous substances or working in potentially dangerous environments and follow appropriate safety practices and manufacturer's recommendations.

Specific part names used in this manual are shown in the Illustrated Parts Drawing.

#### Damage Inspection

Upon receipt of your kit, refer to the Illustrated Parts Drawing to ensure all parts are enclosed and no visible signs of damage are evident. Note that this kit is a turbine meter accessory and does not include the turbine meter itself. If any items are damaged or missing, please contact your distributor or the GPI Customer Service Department.

#### INSTALLATION

Use the following procedures to install the Remote Kit Assembly using either a GPI turbine meter or a GPI turbine with a non-GPI output device.

##### Tools Needed for Kit Installation:

- Small Phillips screwdriver
- Drill with #18 drill bit
- Wire stripper
- Wire cutter
- Wire crimper

#### Installation with a GPI Turbine Meter

##### Mounting Preparation:

1. Select a remote location for mounting the computer assembly.
2. Check for clearance of the dustcover in the mounting location.
3. Determine the path for routing cable from the turbine location.
4. Make sure the connecting cable length is sufficient to reach between the turbine and the computer assembly.

NOTE: Ten feet of cable is provided with the kit. If extra cable is required, refer to Step 4 in Mounting the Turbine instructions below.

5. Use the supplied template to mark the mounting location for the dustcover and computer assembly. Cut a hole in the mounting surface and drill screw holes using a #18 drill bit.
6. Separate the computer assembly and turbine by removing the four mounting screws on the face of the meter. Retain these screws for mounting the coverplate to the turbine.

**Mounting the Turbine:**

1. Install the coverplate onto the top of the turbine housing, using the four screws removed in Step 6 above.
2. Install the turbine in the flow path, as follows:
  - a. Wrap the male threads of the hose or pipe fittings with 3 to 4 wraps of Teflon® tape. Make sure the tape does not intrude into the flow path to avoid meter inaccuracies or damage to the turbine.
  - b. **For plastic turbine housings only:** Hand-tighten when installing the turbine into the flow path. Ensure a snug fit to avoid leaks but DO NOT use a wrench; this could damage the turbine housing.
3. Install the magnetic pickoff into the center hole of the coverplate on the turbine. Hand-tighten until the pickoff is snug against the turbine.
4. Route the cable from the pickoff to the computer mounting area and cut the cable to length. Allow an extra 5 to 8 inches for installation.

NOTE: The magnetic pickoff is supplied with 10 feet of cable. To lengthen, splice in additional cable, not to exceed 100 feet total length. Refer to the Technical Specifications for cable type.

5. If the cable is cut or spliced, strip 1-1/2 inches of outer insulation from the cable end using a wire stripper. Also strip 1/4-inch of insulation from the red and black 22 gauge conductor wires.
6. Using a wire crimper, crimp the solderless connectors onto the two stripped wire ends.

**Mounting the Computer Assembly:**

1. Pull the cable end through the back of the cut-out area. Remove the lower nut and place the connector against the upper nut. Replace the lower nut and tighten. Repeat for the second connector.
2. Insert the dustcover into the cut-out opening in the display location.

3. Fasten the dustcover to the mounting surface using the four tapping screws provided.
4. Remove the coil from the back of the computer assembly. When the coil is removed, two sockets are exposed for installation to the jumper pin connectors.

NOTE: Some coils may be pulled from their plug-in sockets. Others will require clipping the wire on the side of the coil.

5. Insert the two jumper pin connectors extending from the housing of the dustcover into the sockets on the back of the computer assembly.
6. Ensure the foam is in the dustcover housing to secure the placement of the batteries and jumper connections.
7. Place the computer assembly in position on the dustcover. Make sure jumper connections and batteries are secure.
8. Fasten the computer assembly to the dustcover, using the four fillister head screws provided.

When the above steps are successfully completed, the meter is ready for use.

**Installation with a GPI Turbine Only**

A GPI Turbine Kit Assembly may be used to provide a sine wave output to a non-GPI control or display device. Please refer to Technical Specifications for specific signal information.

1. Install the coverplate onto the top of the turbine housing, using the four screws provided in the Turbine Kit.
2. Perform Steps 2 through 6 in Mounting the Turbine instructions above.
3. Make connections to the chosen control or display device according to manufacturer's instructions. The turbine and Remote Kit Assembly are now ready for use.

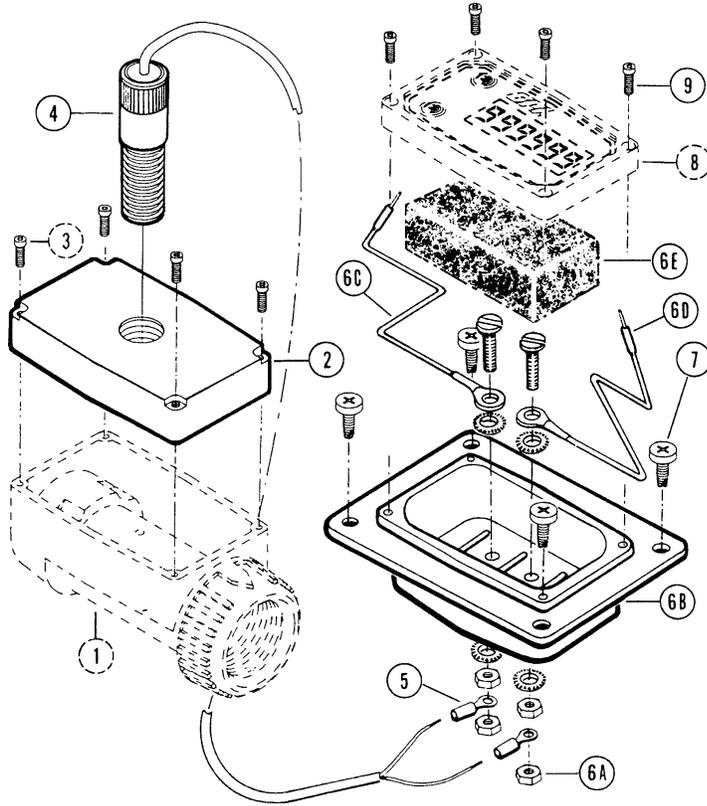
**Operation and Maintenance**

During daily use, GPI meters and the Remote Kit Assembly are virtually maintenance-free. It is important, however, that the turbine rotor moves freely. Refer to the meter owner's manual or other support documentation for instructions on meter use, maintenance, and calibration. Remote Kit Assembly installation should not affect meter calibration.

**TROUBLESHOOTING**

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
DISPLAY LIT BUT NOT COUNTING	1. Cable too long 2. Wiring broken or unconnected 3. Magnetic pickoff not connected	Shorten cable to 100 feet or less.  Inspect all wires and connections. Repair or connect, as necessary.  Hand-tighten the pickoff in the coverplate by turning in a clockwise direction until it is snug against the turbine.

## ILLUSTRATED PARTS DRAWING



Item No.	Part No.	Description	No. Req'd.
1*		Turbine .....	1
2	113409-4	Coverplate .....	1
3*		Screw .....	4
4	113261-1	Magnetic pickoff with 10 ft. 2-conductor cable .....	1
5	902004-51	Solderless connectors .....	2
6	113264-1	Dustcover assembly .....	1
6-A	904004-50	Nut, hex (#6) .....	4
	904004-51	Washer, lock .....	2
6-B	113260-1	Dustcover housing .....	1
	904004-52	Washer, flat (#6) .....	2
	902004-51	Ring terminals .....	2
6-C	113262-1	Jumper wires (22 AWG-7/30) .....	2
6-D	902004-27	Pin terminals .....	2
	904004-49	Screw, machine (6/32 x .375) .....	2
6-E	113259-2	Pad, foam .....	1
7	904001-82	Screw, self-tapping (10-24x1/2) .....	4
8*		Computer assembly .....	1
9	904003-88	Screw, fillister hd. (4-20x7/8) .....	4

\* These components are associated with the GPI Turbine Meter or Turbine Kit and are not part of the Remote Kit Assembly.

### SPECIFICATIONS

<b>Dustcover</b>	Molded plastic with terminal block connection
<b>Coverplate</b>	Cast aluminum / burnished finish
<b>Magnetic Pickoff</b>	1.5 k Ohm, 700 mH, 5/8-18 thread
<b>Cable</b>	10 ft., 2-conductor shielded, Belden #1266A or 8451
<b>Transmission Distance</b>	Up to 100 ft. (30.5m)
<b>Signal Type</b>	Sine wave
<b>Fluid Temperature Range</b>	-40° F to +250° F -40° C to +121° C
<b>Computer Operational Range</b>	+14° F to +140° F -10° C to +60° C

### PARTS AND SERVICE

For warranty consideration, parts or other service information, please contact your local distributor or the GPI Customer Service Department at.

**1-888-996-3837**

Part descriptions and numbers can be obtained from the Illustrated Parts Drawing.

For warranty service, always be prepared with your original sales slip or other evidence of purchase date.

## Limited Warranty Policy

Great Plains Industries, Inc. 5252 E. 36<sup>th</sup> Street North, Wichita, KS USA 67220-3205, hereby provides a limited warranty against defects in material and workmanship on all products manufactured by Great Plains Industries, Inc. This product includes a 1 year warranty. Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturer's option, replacing or repairing defective Goods (subject to limitations hereinafter provided) or refunding the purchase price for such Goods theretofore paid by the Buyer, and Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. The warranty shall extend to the purchaser of this product and to any person to whom such product is transferred during the warranty period.

The warranty period shall begin on the date of manufacture or on the date of purchase with an original sales receipt. This warranty shall not apply if:

- A. the product has been altered or modified outside the warrantor's duly appointed representative;
- B. the product has been subjected to neglect, misuse, abuse or damage or has been installed or operated other than in accordance with the manufacturer's operating instructions.

To make a claim against this warranty, contact the GPI Customer Service Department at 316-686-7361 or 888-996-3837. Or by mail at:  
Great Plains Industries, Inc.  
5252 E. 36<sup>th</sup> St. North  
Wichita, KS, USA 67220-3205

The company shall, notify the customer to either send the product, transportation prepaid, to the company at its office in Wichita, Kansas, or to a duly authorized service center. The company shall perform all obligations imposed on it by the terms of this warranty within 60 days of receipt of the defective product.

GREAT PLAINS INDUSTRIES, INC., EXCLUDES LIABILITY UNDER THIS WARRANTY FOR DIRECT, INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED IN THE USE OR LOSS OF USE OF THE PRODUCT WARRANTED HEREUNDER.

The company herewith expressly disclaims any warranty of merchantability or fitness for any particular purpose other than for which it was designed.

This warranty gives you specific rights and you may also have other rights which vary from U.S. state to U.S. state.

Note: In compliance with MAGNUSON MOSS CONSUMER WARRANTY ACT – Part 702 (governs the resale availability of the warranty terms).

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