



GREAT PLAINS INDUSTRIES, INC.

Standard Liquid Crystal Display instruction manual

To the owner

Thank you for purchasing a GPI Standard Liquid Crystal Display. Please take a few minutes to read through this manual before installing and operating your display. If you have any problems with the display, refer to the maintenance and trouble shooting sections of this manual. This manual contains connection and operating instructions for the GPI

standard liquid crystal display.

This standard liquid crystal display offers resettable "batch" total, an accumulating total, a flow rate mode and has remote mounting capabilities. If you need further assistance, contact your local GPI representative or contact GPI by telephone or fax .



Operation

This instruction manual assists you in operating the GPI Standard Liquid Crystal Display. Please take a few moments to acquaint yourself with the information below.

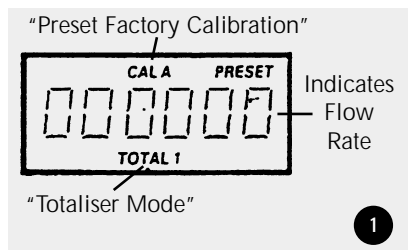
Connect Battery:

To save power, this meter is shipped with the battery disconnected. Before using, connect the battery using the instructions detailed below;

- A] Remove the two large and two small screws from the battery cover plate located on the lower portion of the meter face.
- B] Remove the battery and plug into battery connections. When connected properly, numbers will appear in the meter readout.
- C] Replace the gasket and battery cover and tighten all four screws.

Display:

All meter operations are reflected in the readout on the face of the meter. The readout contains three lines of information; refer to Fig 1 below.



Note: The calibration is preset and is permanently stored in the meter's computer.

Operation

The meter will turn on automatically when liquid flows through the meter. The meter can also be turned on manually by pressing and releasing the display button.

Turn Off:

The meter turns off automatically approximately two minutes after the flow stops. When the meter is off, the readout is blank.

Batch Total:

The resettable batch total indicates flow during a single use. This total can be reset by holding down the display button for three seconds until zeros appear. The batch total can be found by pressing and releasing the display button until the bottom line displays "Total 2".

Cumulative Total:

The cumulative total is the total of all the liquid measured since the meters power supply was connected. This total cannot be manually zeroed but will zero when the battery has been removed, goes dead, or when it reaches the maximum value of 999,999. The cumulative total can be found by pressing and releasing the display button until the bottom line displays "Total 1 Locked".

Flow Rate:

The flow rate is the rate the fluid is flowing through the meter. The flow

rate setting can be found by pressing and releasing the display button until the bottom line displays "flow rate".

Propeller:

Any time liquid flows through the meter, a small propeller displays.

Battery Replacement:

Your meter is powered by a 9 volt lithium battery. (Replacement batteries; Lithium U9VL, Alkaline 522 or MN1604). If the meter's readout should become dim or blank, the battery should be replaced.

When the battery either fails or is disconnected the batch and cumulative totals return to zero. The factory calibration is retained in the meter's computer permanently and will not be affected by battery failure.

To Replace Battery:

- A] Remove the two large screws (Item 8) [Refer Fig 3] and the two small screws (Item 9) from the battery cover plate (Item 7).
- B] Remove the battery cover plate (Item 7) and gasket (Item 6).
- C] Remove the battery, and clean any corrosions from the battery terminals (to protect terminals from corrosion or condensation coat the terminals with petroleum jelly).
- D] Install the new battery.

- E] Check gasket (Item 6) for damage (Replace if necessary). Position gasket and cover plate (Item 7) correctly, insert screws and tighten.

Auxiliary Facilities:

Connection of external 12 volt DC power supply facility;

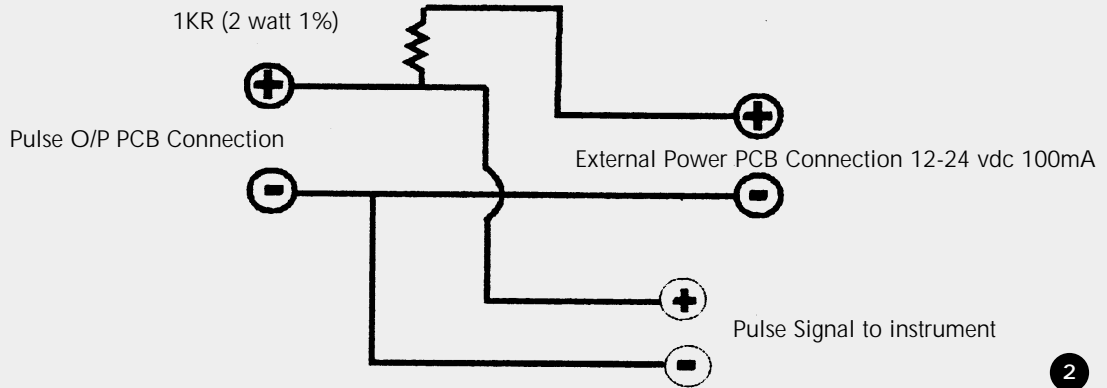
- A] Remove the four large screws (Item 8) and remove the register from the cover plate.
- B] Disconnect the battery.
- C] Solder the external power leads to the terminal marked "Ext 12V" [Refer Fig 2] on the registers printed circuit board. Making note of the voltage polarity "+" and "-".
- D] Reassemble register onto the cover plate, replace the 4 screws (Item 8) and screw firmly together.
- E] When using external 12 volt DC supply, battery must be removed.

Connection of Standard Liquid Crystal Display:

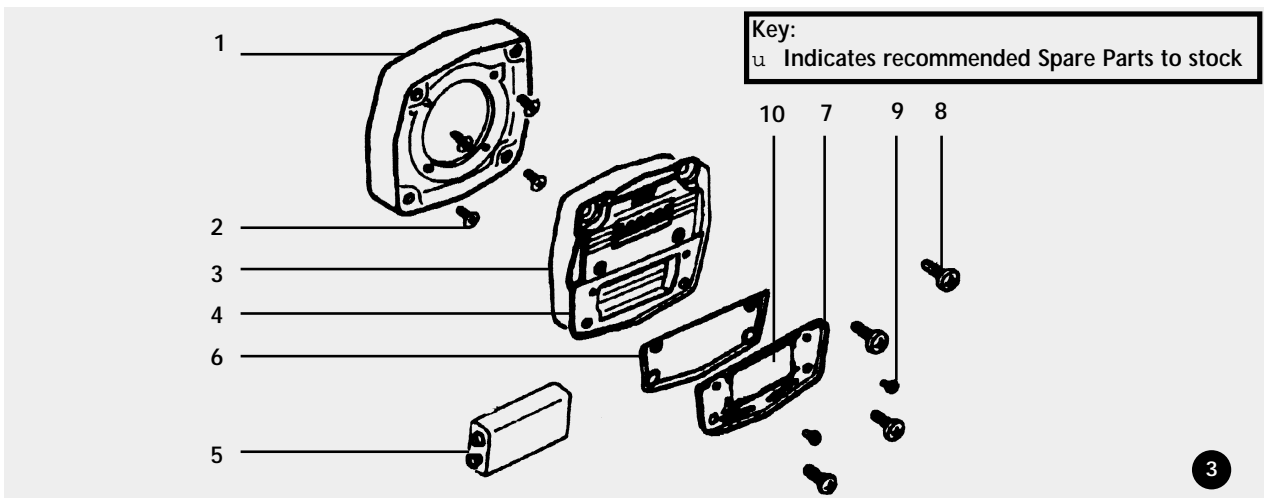
Pulse output and external power are the connections located on the interface PCB, to use this output a 1K resistor will be need to be soldered between the "+" voltage of the external power input and the "+" of the pulse output. Pulse signal represents the output cabling to the receiving instrument. (Refer to Fig 4 opposite).

Note: Internal 9 volt battery must be disconnected when using the display pulse output.

Operation



Display parts listing



Item No.	No. Off.	Rec. Parts	Part or Set (Order from this column only)	Part Description
1	1		MS275S	Standard LC Display (Complete)
2	4	*	MS238	Mounting Adaptor Plate
3	1	*	MS203S	Adaptor Screws
4	1	*	BS045	"O" Ring
5	1	*	MS205	LC Display
6	1	*	MS274	9 Volt Battery
7	1	*	MS184S (Inc. MS184B)	Battery Gasket
8	4	*	MS184S (Inc. MS184A)	Battery Cover
9	4	*	MS206S	Register Screws
10	1		MS182S	Battery Cover Plate Screws
			Customer to Specify	Battery Cover Label

Trouble shooting

TROUBLE SHOOTING GUIDE		
TROUBLE	CAUSE	REMEDY
LCD Register not working	A] Battery not connected properly B] Battery flat C] Faulty wiring connections D] Faulty LCD E] Faulty connection from LCD to Pulse PCB	A] Check battery connections B] Replace battery C] Check wiring for loose or faulty connections D] Replace LCD E] Check wiring connections

Warranty

Great Plains Industries, Inc. Limited Warranty Policy

Great Plains Industries, Inc., 5252 East 36th Street North, Wichita, Kansas USA 67220-3205, hereby provides a limited one year warranty against defects in material and workmanship on all products manufactured by Great Plains Industries, Inc. This 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 the original new equipment purchase. Warrantor's obligation hereunder shall be limited to repairing defective workmanship or replacing or repairing any defective part or parts. 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, notice of claim must be given in writing to the company at its address below no later than 30 days after the expiration of the warranty period. Such notice shall identify the defect in the product. The company shall, within 14 days of receipt of such notice, 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 IF 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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