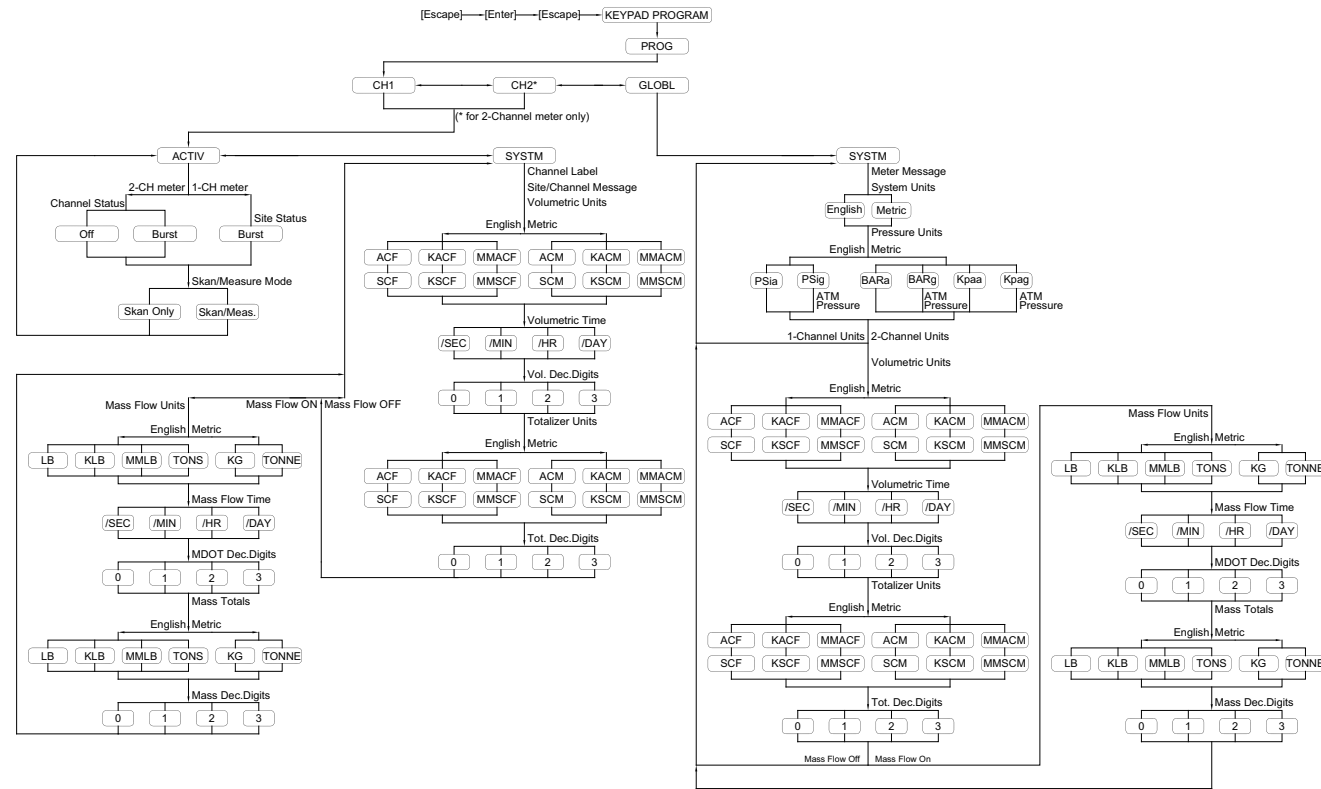


## Menu Map for Initial Setup (Step 7)



GE  
Measurement & Control

Flow

## PanaFlow™ Z1G Gas Ultrasonic Volumetric Flowmeter

### Quick-Start Guide



## Customer Support Centers

**U.S.A.**  
The Boston Center  
1100 Technology Park Drive  
Billerica, MA 01821  
U.S.A.  
Tel: 800 833 9438 (toll-free)  
978 437 1000  
E-mail: sensing@ge.com

**Ireland**  
Sensing House  
Shannon Free Zone East  
Shannon, County Clare  
Ireland  
Tel: +353 (0)61 470200  
E-mail: gesensingsnnservices@ge.com

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[www.ge-mcs.com](http://www.ge-mcs.com)

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**WARNING!** The PanaFlow Z1G flowmeter can measure the flow rate of many fluids, some potentially hazardous. Be sure to follow all local safety codes and regulations for installing electrical equipment and for working with hazardous fluids or flow conditions.



**1. Thank you.** Thank you for purchasing the PanaFlow Z1G *Ultrasonic Flowmeter*. If you have any questions, see *Step 8* for our contact information and page 4 for our *Customer Support Centers* locations.

Before removing the PanaFlow Z1G system from the shipping crate, inspect the flowmeter carefully. Each instrument manufactured by *GE Measurement & Control* is warranted to be free from defects in material and workmanship. Before discarding any of the packing materials, account for all components and documentation listed on the packing slip.



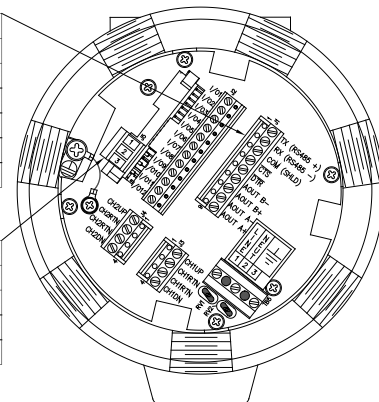
**5. Communications Wiring.** The standard built-in Z1G serial port is an RS232 port. If desired, this port may be factory-configured as an RS485 port instead. Wire the built-in serial port at **J1**, as shown below.

If the built-in serial port is an RS232 port, a *Modbus option card* may be used to provide an additional serial port for RS485 operation. Wire this port for Modbus communications at **J5**, as shown below.

The Z1G can be fitted with a *data logging option card* in Slot 2. This option card, which requires no external wiring, increases the Z1G memory by up to 2 MB.

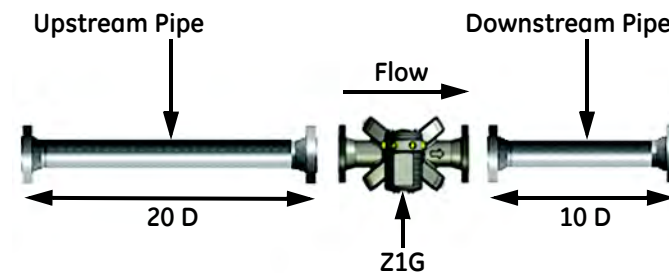
J1 - RS232/RS485 OUTPUT		
Pin #	Designation	Description
1	TX(RS485+)	Transmit / +
2	RX(RS485-)	Receive / -
3	COM (SHLD)	Ground
4	CTS	Clear To Send
5	DTR	Data Terminal Ready

J5 - MODBUS CONNECTION		
Pin #	Designation	Description
1	+	MODBUS +
2	-	MODBUS -
3	N/C	N/C



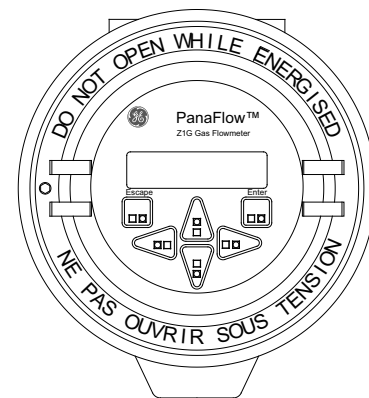
**2. Meter Installation.** The ideal site is a straight section of process pipe meeting the following criteria:

- The pipe section is horizontal and above ground.
- The pipe section can accommodate the overall length of the flowcell.
- The flowcell can be installed with the Z1G flow transmitter located on the top of the pipe.
- There are at least 20 pipe diameters upstream of the Z1G and 10 pipe diameters downstream of the Z1G with straight, undisturbed flow.
- There is sufficient clearance around the pipe to permit easy access for operation and maintenance of the Z1G flow transmitter.



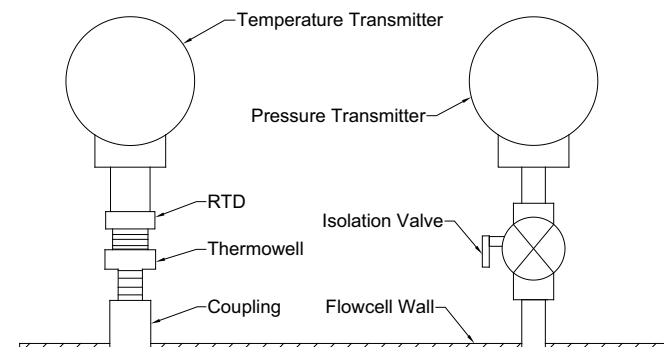
**6. Programming Methods.** The Z1G may be programmed either locally with the *magnetic keypad* or remotely via an RS232 serial port link to a PC that is running GE's *PanaView™* software.

The *magnetic keypad* permits programming of the Z1G through its glass faceplate without removing the cover. Thus, all programming may be performed while the unit is installed and operating in a hazardous area. Use the [ENTER] and [ESCAPE] keys along with the four [ARROW] keys on the *magnetic keypad* to program the Z1G flowmeter with its *magnetic wand*.



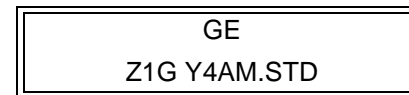
**3. Temperature and Pressure Transmitters.** If used, temperature and pressure transmitters should be installed in the process pipe at least 2 pipe diameters, but no more than 20 pipe diameters, downstream from the Z1G flow transmitter. The temperature sensor should protrude 1/4 to 1/2 way into the process pipe. *Resistive Thermal Devices (RTDs)* are typically a good choice for the temperature sensor.

The transmitters should output a 0/4-20 mA signal, and the Z1G must have a suitable option card to process the signals and to provide the required 24 VDC power to the transmitters. The transmitters must have an accuracy of ±0.5% of the reading or better.



**7. Initial Setup.** Before the Z1G can begin taking measurements and displaying valid data, the *site data* (i.e., the system and pipe parameters) must be programmed into the meter. For a 2-Channel meter, both channels must be activated prior to use.

Upon power up, the Z1G displays the model name and the software version:



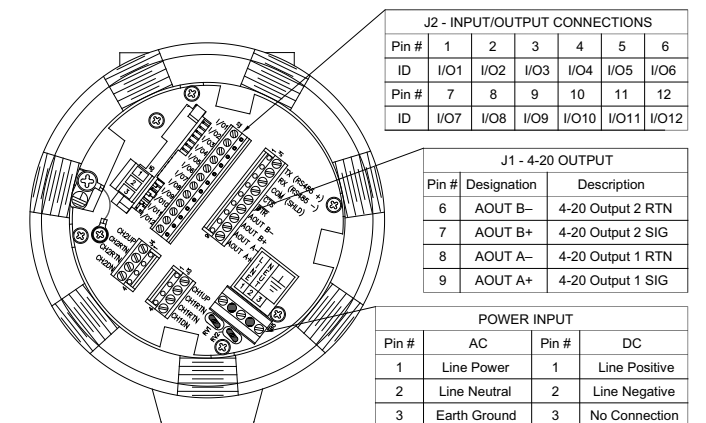
The meter then starts to display flow measurements.



To enter the *Keypad Program*, press the [Escape] key, [Enter] key, and [Escape] key again, with no more than 10 seconds between key presses. Refer to the *Menu Map* on the next page, and use the *magnetic wand* and *keypad* to program the **CH1/CH2** and **GLOBL** data into the Z1G.

**4. Power and Option Card Wiring.** Remove the Z1G rear cover. Follow the label inside the rear cover to connect your *option cards* at terminal block **J2**. Wire the built-in Z1G *analog outputs* at **J1**, as shown below.

Connect the Z1G *power input* terminals to a power source matching the specifications for your meter. Then, reinstall the rear cover and o-ring.



**WARNING!** Make sure that the Z1G is properly grounded and that both covers are installed before applying power in a hazardous environment.

**8. Contact Us.** If you have any questions about your equipment, please contact us at:

Phone: +1 978 437 1000  
 E-mail: [custcareboston@ge.com](mailto:custcareboston@ge.com)  
 Address: 1100 Technology Drive  
 Billerica, MA 01821-4111  
 Web: <http://www.ge-mcs.com/en/contact-us.html>

