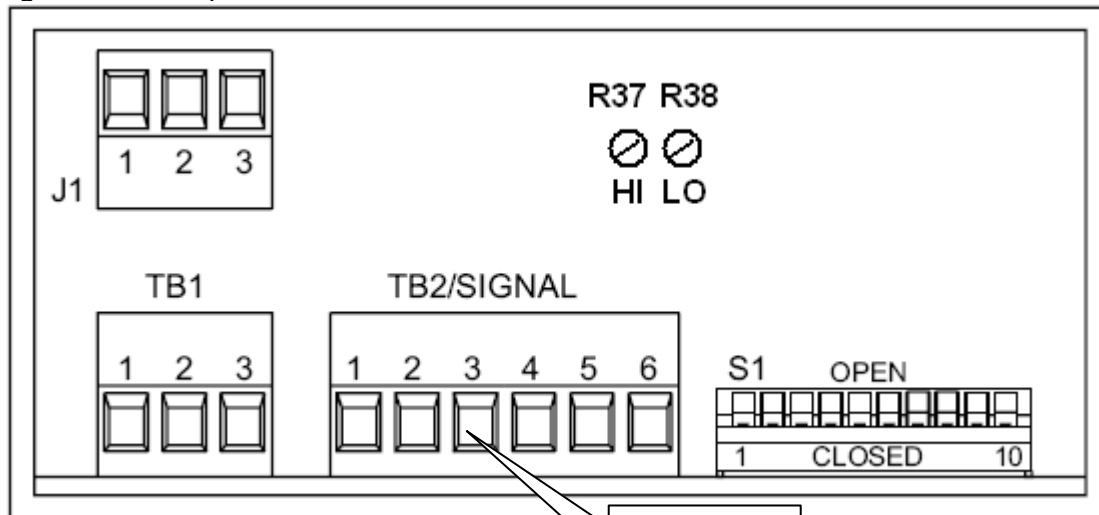


OMEGA DPF700 flow meter settings and installation guide for IGA Shawinigan for MTA V5.0.6  
 MT Item no 23-0215 to be installed with a FTB6110-PS (60 pulses/gal) (MT 23-0214)  
 by Roger Legault



For the following setting  
 Power : 115V  
 Mode : Rate (flow)  
 Analogue 4-20mA output for a 0.00-50.00 gpm range  
 If the number of decimal digit needs to be change you must reprogram An LO and An HI setting  
 Front-panel buttons enabled.  
 All programming enabled  
**RECALL** button enabled

Figure 2 – Back panel of the controller



Signal power : TB2-1 (12.4VDC)  
 Pulse input +: TB2-2  
 Pulse input -: TB2-3 (GND)  
 Output 4-20mA +: J1-2  
 Output 4-20mA -: J1-1

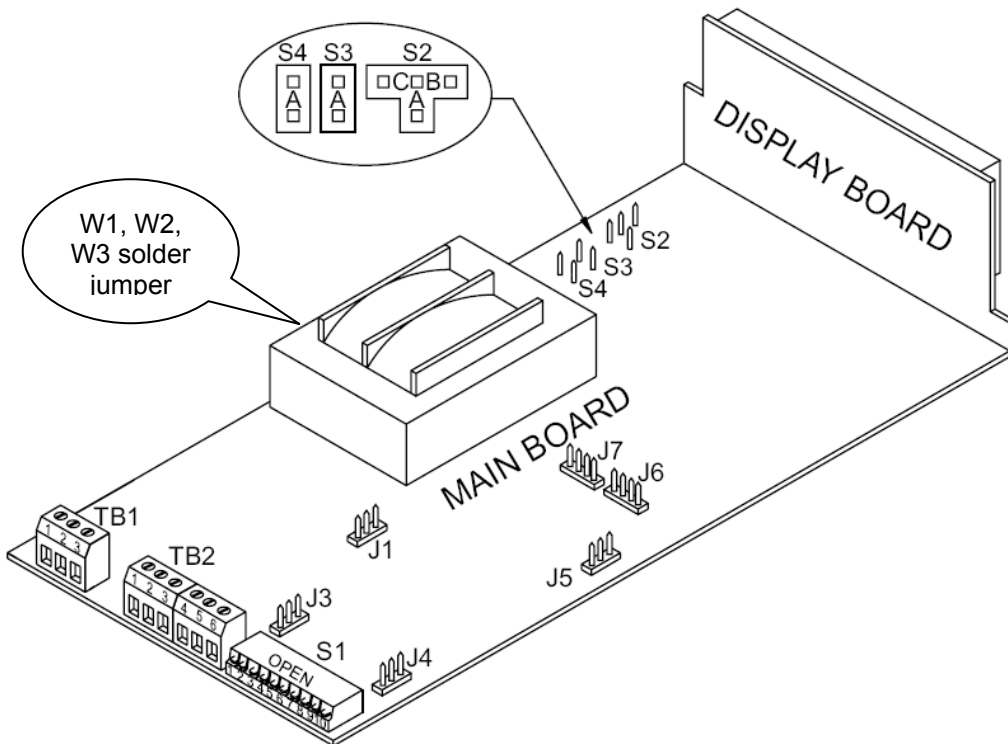
1- RED  
 2- WHITE  
 3- BLACK

A 255 ohms 1% resistor must be used to close the 4-20mA current loop. To do so place such a resistor between GND and U input of the sensor node.

Table 1

Switch/Jumper	Status	Description
S1-1	Open	Excitation output is set to 12.4 V.
S1-2	Open	
S1-3	Open	High hysteresis = 1.5 V.
S1-4	<b>Close</b>	Threshold is shifted to positive.
S1-5	Open	No 12 Hz low pass filter. For reading >12 gpm
S1-6	Open	No pull-down 1k resistor.
S1-7	<b>Close</b>	3K pull-up resistor to excitation.
S1-8	Open	Trigger edge = Negative (high to low transition).
S1-9	Open	No 120Hz signals internally connects to the input.
S1-10	Open	Don't maintain digital display during a dc power operation.
S2	Position B	All program unlocked
S3	Position A	Enables front-panel buttons.
S4	Position A	Enables RECALL button.

Main board



**Figure 2-1. Main Board**

If your power requirement is 115 Vac, install solder jumpers W1 and W2, but do not install jumper W3.



## Programming

If at power-up the display doesn't show **rAtE** or the flow is not shown with the 0.00 format or 4-20mA output don't work in the proper range you must redo this programming.

1. Press the MENU button. The meter shows "Func".
2. Press the >ADV button. The meter shows actual mode. If the mode is not "rAtE" press ^SET button to change it to "rAtE"
3. Press the MENU button. The meter shows "SCALE".
4. Press the ^SET button. The meter shows "In .SC" or "In/SC", with the multiply (.) or divide by (/) symbol flashing. Press the ^SET button until the meter shows "IN .SC".
5. Press the >ADV button. The meter shows actual scale value, with left-most digit flashing. The flashing display indicates the position or function may be modified.
6. Set the value at "1.00000". Press the >ADV button to move through the display. Press the ^SET button to change the flashing digit's value or flashing decimal point position.
7. Once the meter shows the correct scale value, press the MENU button to store to volatile memory. The meter shows "OFFSEt".
8. Press the >ADV button. The meter shows actual offset value. Set the value at "000000".
9. Press the MENU button again to show "dEC Pt".
10. Press the >ADV button. The meter shows current measurement decimal point position
11. Press the >ADV button (if required) to change from "AUto" to "F.FFFFF".
12. Press the ^SET button until the meter shows "FFFF.FF".
13. Press the MENU button to save this decimal point to volatile memory. The meter shows "COnFIG".
14. Press the >ADV button. The meter shows current analog configuration. Set the left digit in configuration to 0 for 4-20 mA (0XXXXX).
15. Press the MENU button again to show "An LO". This is a write only parameter. Skip the next step if you don't want to change this value.
16. Press the >ADV\* button. "0000.00" is shown. The previously entered value is never shown. Set the flow value which will output 4 milliamps (leave it to 0000.00 for 0gpm).
17. Press the MENU button again to show "An HI". This is a write only parameter. Skip the next step if you don't want to change this value.
18. Press the >ADV\* button. "0000.00" is shown. The previously entered value is never shown. Set the flow value which will output 20 milliamps (i.e 0050.00 for 50gpm).
19. Press the MENU button. The meter shows "noStor".
20. Press the ^SET button to save the changes in nonvolatile memory. The meter shows "StorE".
21. Press the MENU button to confirm saves. If signal were connected to the input, the meter would begin counting input pulses.

Press the **RESET** button at any time to cause the meter to start counting with the latest changes in effect, but these changes will not be stored in the nonvolatile memory.

Once you have performed coarse adjustment (step 16 and 18), proceed to fine adjustment as follows (you must be connected to the sensor node to make a good fine adjustment):

1. Adjust the input to show a value equal to "An LO" (0 gpm). Adjust R38 potentiometer at the back of the board (refer to Figure 2) for 4 milliamp output (1.0 volts).
2. Adjust the input to show a value equal to "An HI" (50 gpm). Adjust R37 potentiometer at the back of the board for 20 milliamp output (5.0 volts).
3. Repeat fine adjustment as necessary.

An easy way to set the display to 50 gpm is to set the offset temporarily to "000050." in nonvolatile memory while there is no input signal.

### In MT Alliance

You must create this sensor model

The Flow type don't work properly for this range of flow in Alliance V5.0.6

You won't see the gpm unit on the view. % must be interpreted as gpm even when the default flow unit is set to L/s

The 255 ohms shunt resistor is mandatory

The screenshot shows a configuration window for a sensor model. The title is "Sensor Model - 'Omega Engineering 023-0215 DPF700 50 gpm (%4-20mA)". The window is divided into several sections:

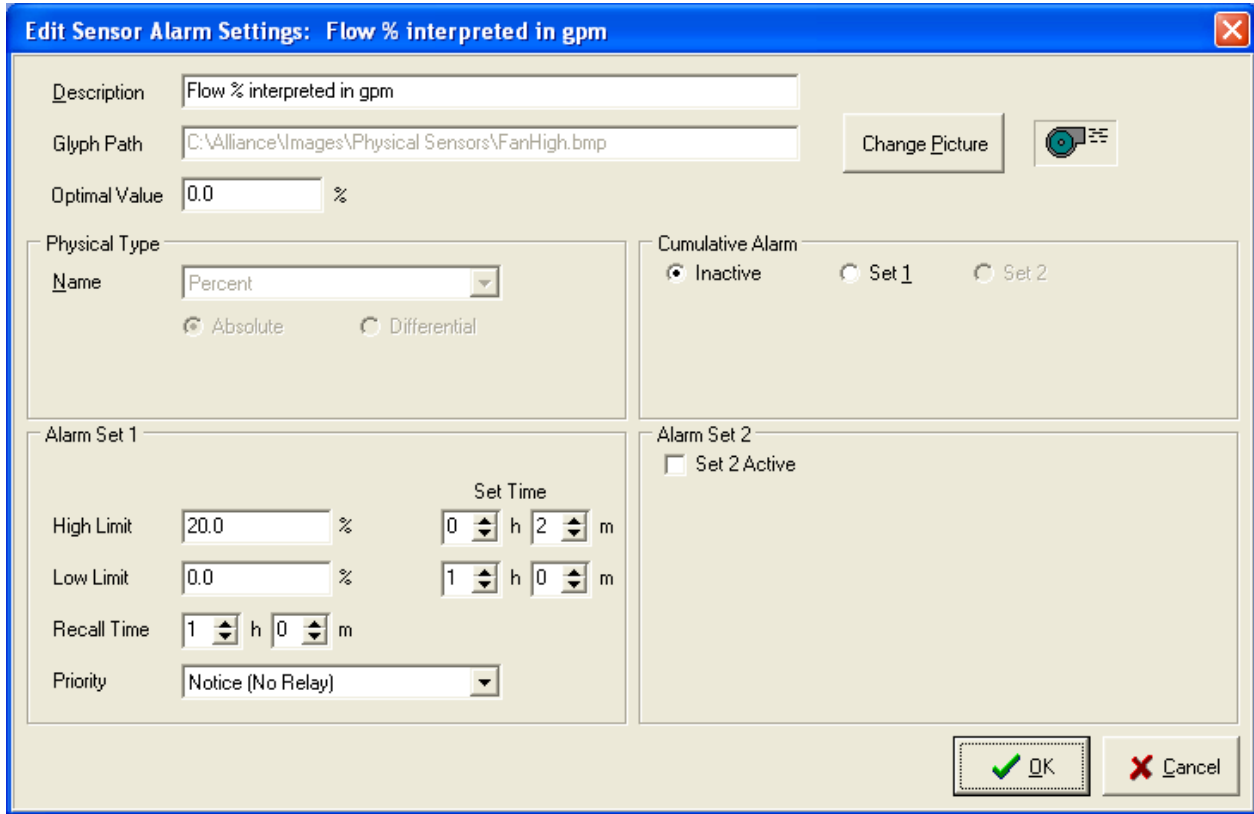
- Manufacturers:** A dropdown menu showing "Omega Engineering".
- Model:** A text field containing "023-0215 DPF700 50 gpm (%4-20mA)".
- Diagram:** A button with a diagram icon.
- Wireless:** A checkbox labeled "Can be Wireless" which is currently unchecked.
- Type:** A section with dropdowns for "Physical" (set to "Percent") and "Electrical" (set to "4-20mA"). It also has radio buttons for "Absolute" (selected) and "Differential", and a "Time Constant" field set to "0 s".
- Properties:** A section with input fields for "Max Range" (50.0 %), "Min Range" (0.0 %), and "Max Offset" (± 1.0 %). A yellow tooltip points to the Max Offset field with the text "0 to 20% of total range (Default: 2%)". Below this are "Electrical" and "Physical" columns for "Point 1 (Ref)" and "Point 2".
- Network:** A section with time-based settings: "Max Send Time" (00:00:30), "Min Send Time" (00:00:03), and "Send On Delta" (0.0 %).
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

### Suggested alarm limit configuration

The screenshot shows the "Sensor Information - sen19" configuration window, specifically the "Alarm Settings" tab. The window has a status bar at the top showing "Status Normal" and "Value 18.0 %". The main area is divided into several sections:

- Global Alarm Activation:** A section with a "Status" dropdown set to "Alarms enabled". It has radio buttons for "Enable Alarm" (selected), "Disable Alarm Permanently", and "Disable Alarm Temporarily".
- Cumulative Alarm:** A section with radio buttons for "Inactive" (selected), "Set 1", and "Set 2".
- Alarm Set 1 & 2 Settings:** A section with a "Pick Defined Alarm Settings" button (with a gear icon) and a "Description" field containing "Flow % interpreted in gpm". It has an "Optimal Value" field set to "0.0 %".
- Set Time:** A section with input fields for "High Limit" (20.0 %) and "Low Limit" (0.0 %), each with "Set Time" fields for hours and minutes. "Recall Time" is set to 1 h 0 m. "Priority Level" is set to "Notice (No Relay)" and "Relay" is set to "None".
- Set 2 Active:** A checkbox labeled "Set 2 Active" which is currently unchecked.
- Buttons:** "OK", "Cancel", and "Delete" buttons at the bottom right.

Click on Pick defined Alarm Setting and create this default setting for this custom application.



**Edit Sensor Alarm Settings: Flow % interpreted in gpm**

Description: Flow % interpreted in gpm

Glyph Path: C:\Alliance\Images\Physical Sensors\FanHigh.bmp Change Picture

Optimal Value: 0.0 %

Physical Type  
 Name: Percent  
 Absolute  Differential

Cumulative Alarm  
 Inactive  Set 1  Set 2

Alarm Set 1  
 High Limit: 20.0 % Set Time: 0 h 2 m  
 Low Limit: 0.0 % Set Time: 1 h 0 m  
 Recall Time: 1 h 0 m  
 Priority: Notice (No Relay)

Alarm Set 2  
 Set 2 Active

OK Cancel

## Revision history

REV	Description	Revised by	Date
0.1	Document creation 72-GEN-1001	RL	12 apr 2006
1.0	English translation for consistency	RL	17 apr 2006
1.1	MT Alliance installation detail added PUID ch to 72-PHW-1001	RL	20 apr 2006
1.2	Cover page and formatting	ER	13-Apr-2015