

# Signet 2580 FlowtraMag™ Meter



3-2580.090 Rev 1 08/19

## Operating Instructions



• [English](#)



### Description

The Signet 2580 FlowtraMag is a full-bore plastic PVC in line style magnetic flowmeter. The PVC body with titanium electrodes has no moving parts, and is two to three times lighter in weight compared to traditional metal magmeters on the market. It is designed for high accuracy flow measurement in short pipe runs, making it an ideal solution for industrial applications where performance and ease of use are important.

The FlowtraMag is available in pipe sizes of 1", 2" and 4", optimized for performance in short pipe runs often associated with final effluent lines, well heads and water treatment skids.

Features include:

- No moving parts
- No pressure drop
- Lighter in weight compared to traditional metal magmeters
- Reduced straight run requirements, ideal for final effluent lines, well heads and skids
- Factory calibrated with certificate ( $\pm 1\%$  of reading accuracy)
- Partially filled pipe detection status indicator
- Visual LED indicators make sensor status clear and easy to read
- Reverse flow direction configurable with 0252 Configuration Tool or GF Config Tool Bluetooth® App
- Capable of temperature readings of the media using the 0252 Configuration Tool or GF Config Tool Bluetooth® App
- One device with three different outputs: field selectable Frequency or Digital (S<sup>3</sup>L), and analog 4 to 20 mA
- On-the-fly configuration with GF Config Tool Bluetooth® App
- Bluetooth® 4.2 capable, support iOS and Android for simple user configuration

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## Warranty Information

Refer to your local Georg Fischer Sales office for the most current warranty statement.

All warranty and non-warranty repairs being returned must include a fully completed Service Form and goods must be returned to your local GF Sales office or distributor. Product returned without a Service Form may not be warranty replaced or repaired.

Signet products with limited shelf-life (e.g. pH, ORP, chlorine electrodes, calibration solutions; e.g. pH buffers, turbidity standards or other solutions) are warranted out of box but not warranted against any damage, due to process or application failures (e.g. high temperature, chemical poisoning, dry-out) or mishandling (e.g. broken glass, damaged membrane, freezing and/or extreme temperatures).

## Product Registration








Thank you for purchasing the Signet line of Georg Fischer measurement products.

If you would like to register your product(s), you can now register online in one of the following ways:

- Visit our website [www.gfsignet.com](http://www.gfsignet.com). Under **Service and Support** click on **Product Registration Form**
- If this is a pdf manual (digital copy), [click here](#)

## Safety Information

1. Depressurize and vent system prior to installation or removal.
2. Confirm chemical compatibility before use.
3. DO NOT exceed maximum temperature or pressure specs.
4. ALWAYS wear safety goggles or face shield during installation and/or service.
5. DO NOT alter product construction.
6. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired
7. **This device is not approved for use or installation in hazardous locations.**

	<b>Caution / Warning / Danger</b> Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, injury, or death
	<b>Electrostatic Discharge (ESD) / Electrocutation Danger</b> Alerts user to risk of potential damage to product by ESD, and/or risk of potential of injury or death via electrocution.
	<b>Personal Protective Equipment (PPE)</b> Always utilize the most appropriate PPE during installation and service of Signet products.
	<b>Pressurized System Warning</b> Sensor may be under pressure, take caution to vent system prior to installation or removal. Failure to do so may result in equipment damage and/or serious injury.
	<b>Hand Tighten Only</b> Overtightening may permanently damage product threads and lead to failure. (union nut only)
	<b>Do Not Use Tools</b> Use of tool(s) may damage product beyond repair and potentially void product warranty. (union nut only)
	<b>Note / Technical Notes</b> Highlights additional information or detailed procedure.

## Chemical Compatibility

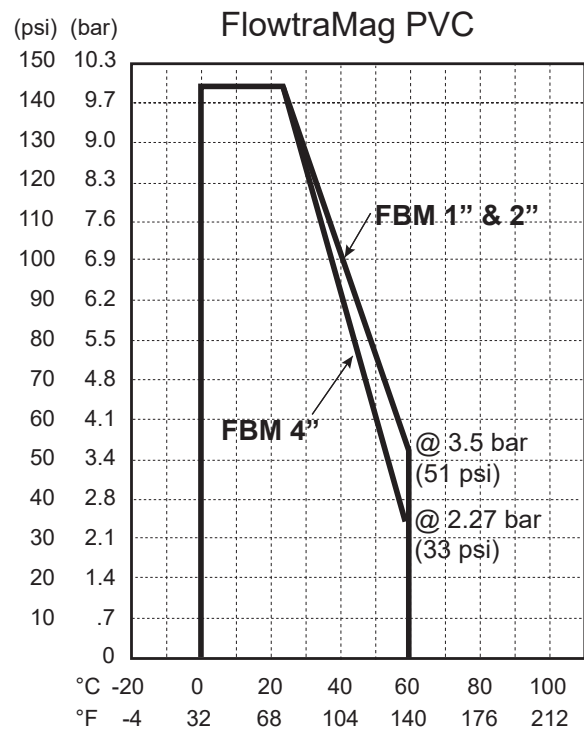
Georg Fischer Signet products are manufactured in a variety of wetted materials to suit various liquids and chemicals.

All plastic materials including typical piping types (PVC) are more or less permeable to contained media, such as water or volatile substances, including some acids. This effect is not related to porosity, but purely a matter of gas diffusion through the plastic.

If the plastic material is compatible with the medium according to the application guidelines, the permeation will not damage the plastic itself. However, if the plastic encloses other sensitive components, as is the case with GF Signet FlowtraMag meter, these may be affected or damaged by the media diffusing through the plastic body.

**Unit is factory shipped configured to measure water.**

Operating Pressure/Temperature Graph



## Specifications

### General

Pipe Size Range .....	1", 2" and 4" (ASTM only)
Flow Range	
Minimum .....	0.02 m/s (0.07 ft/s)
Maximum .....	10 m/s (33 ft/s)
3-2580-P-T-010 .....	0.53 to 266.35 L/min (0.14 to 70.36 gal/min)
3-2580-P-T-020 .....	2.23 to 1112.60 L/min (0.59 to 293.92 gal/min)
3-2580-P-T-040 .....	8.72 to 4357.83 L/min (2.30 to 1151.22 gal/min)
Repeatability .....	± 0.5% of reading @ 25 °C (77 °F)
Accuracy .....	± 1% + 0.01 m/s (0.033 ft/s) (reference condition 50 µS/cm and water based)
Minimum Conductivity .....	20 µS/cm - water based
Suspended Solids .....	5%
Power Cable Wire .....	7.6 m (25 ft) 2-conductor shielded
Output Cable Wire .....	7.6 m (25 ft) 5-conductor shielded
• May be extended up to 305 m (1000 ft), special order only	

### Wetted Materials

Flow Tube Body .....	PVC
Electrode .....	Titanium, grade 2
O-rings .....	FKM

### Electrical

Power Requirements	
DC Power	
(Functional Rating) .....	24 VDC, max 24W (12 to 32 VDC)
Reverse Polarity Protected .....	Up to 35 VDC
Over-Voltage	
Maximum Rating	35 VDC
Please use a power supply that has been IEC 60950/61010/60601 Certified and will not be used outside of its electrical ratings and matches the environmental conditions of the flow meter.	

### Current Output

Passive (low power) 4 to 20 mA per ANSI-ISA 50.00.01 class H	
Active Output .....	4 to 20 mA
Passive Loop Voltage .....	12 to 32 VDC
Loop Accuracy .....	± 32 µA (25 °C @ 24 VDC)
Loop Resolution .....	5 µA
Loop Span .....	3.8 mA to 21 mA
Error condition .....	None, 3.6 mA or 22 mA
Max. Cable .....	300 m (1000 ft)
Max. Loop Resistance .....	600 Ω @ 24 VDC
Compatible with PLC, PC or similar equipment	


### Frequency Output

Frequency .....	5 to 24 VDC, 50 mA max.
Frequency Range .....	0 to 1500 Hz
Max. Pull-up Voltage .....	30 VDC, 10k pull-up recommended
Compatible with Signet 8900, 9900, 9950, and 0486 Profibus Concentrator	

### Digital (S<sup>3</sup>L) Output

Digital (S <sup>3</sup> L) .....	4.5 to 5.5 VDC
Serial ASCII, TTL level 9600 bps	
Compatible with Signet 8900, 9900, 9950 and 0486 Profibus Concentrator	
Max. Cable Length .....	Application dependent

### Sensor Configuration

GF Config Tool Bluetooth™ App	 <b>Bluetooth®</b>
2.4 GHz RF Transceiver Compatible with Bluetooth®	
Low Energy (BLE) 4.2 Specification	
GF Config Tool App available in iOS and Android App Stores	

0252 Configuration Tool

### Environmental Requirements

Enclosure .....	NEMA 4X / IP65
Relative Humidity .....	0 to 95% (non-condensing)
Altitude .....	4,000 m (13,123 ft)
Storage Temperature .....	-10 °C to 60 °C (14 °F to 140 °F)
Operating Temperature	
Ambient .....	-10 °C to 60 °C (14 °F to 140 °F)
Media .....	0 °C to 60 °C (32 °F to 140 °F)
UL environmental Rating .....	UL 50, Type 6P Storage
Maximum Operating	
Pressure .....	10 bar @ 23 °C (145 psi @ 73 °F)
1" and 2" .....	3.5 bar @ 60 °C (51 psi @ 140 °F)
4" .....	2.27 bar @ 60 °C (33 psi @ 140 °F)


### Shipping Weights

3-2580-P-T-010 .....	3.4 kg (7.5 lbs)
3-2580-P-T-020 .....	4.46 kg (9.83 lbs)
3-2580-P-T-040 .....	8.3 kg (18.28 lbs)

### Sensor Weights

3-2580-P-T-010 .....	2.65 kg (5.84 lbs)
3-2580-P-T-020 .....	3.71 kg (8.16 lbs)
3-2580-P-T-040 .....	6.26 kg (13.79 lbs) - (excludes mounting hardware)

### Standards and Approvals

CE
UL, CUL Recognized Component
NSF (Pending)
RoHS compliant
Manufactured under ISO 9001 for Quality, ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety.
 China RoHS (visit gfsignet.com for details)

### FC Declaration of Conformity according to FCC Part 15

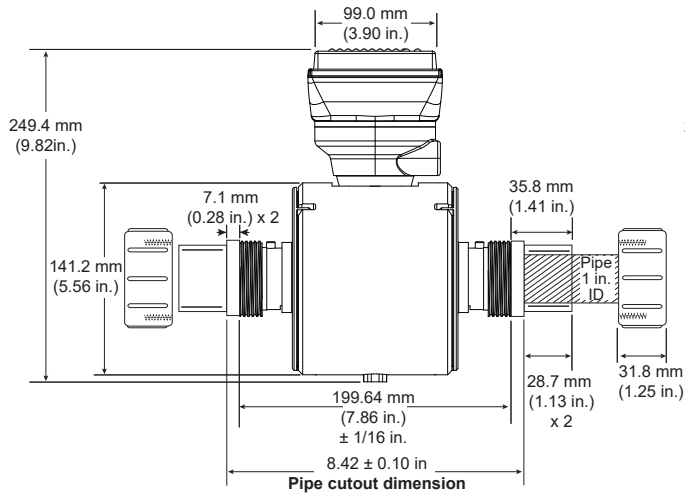
This device complies with Part 15 of the FCC rules.  
Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and,  
(2) This device must accept any interference received, including  
interference that may cause undesired operation.



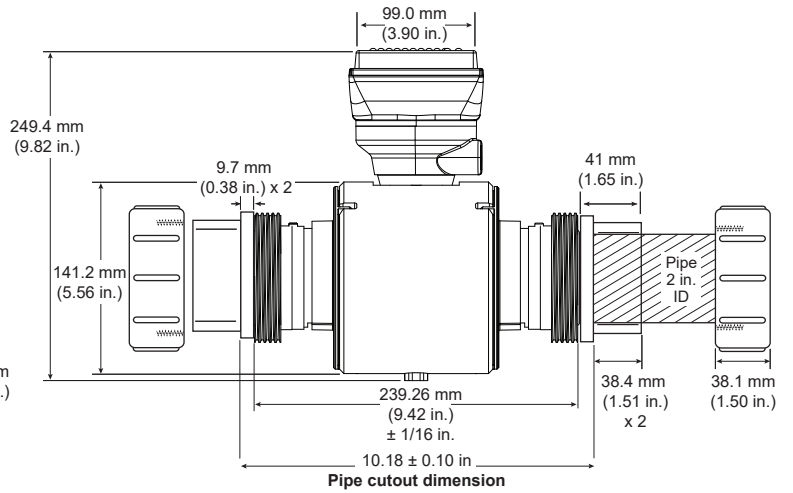
The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Georg Fischer is under license. Other trademarks and trade names are those of their respective owners.

## Sensor Dimensions

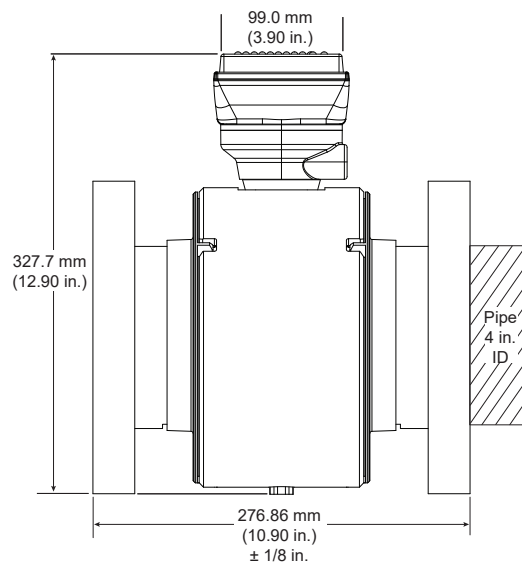
**1 in.**  
Union ends and union nuts shown



**2 in.**  
Union ends and union nuts shown

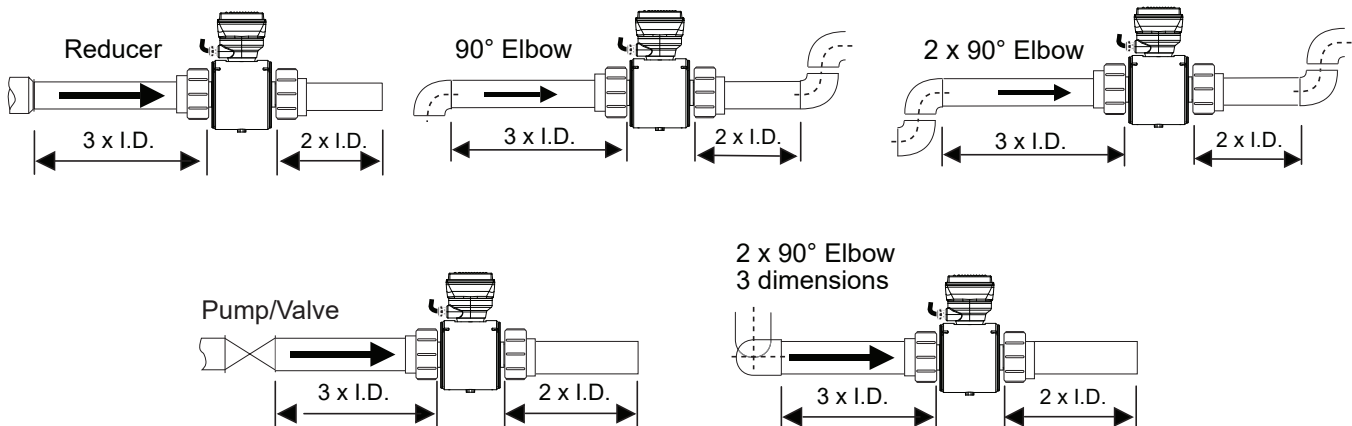


**4 in.**  
Flange bolt kits and gaskets not shown  
(Sold separately)



## Sensor Location

The 2580 requires a minimum of 3x ID upstream and 2 x ID downstream of the sensor for best performance.



## Sensor Mounting Angle

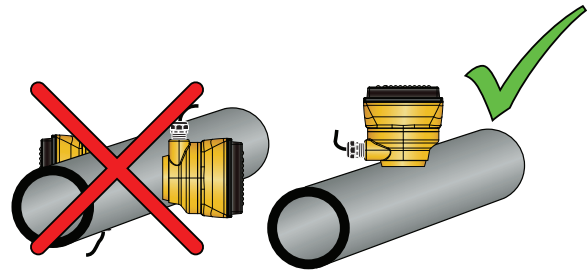
### Horizontal Pipe Runs

To minimize adverse effects of air pockets and sediment, avoid mounting the 2580 horizontally ( $\pm 90^\circ$  from vertical).



#### **DO NOT HANDLE BY THE SENSOR!**

Always handle FlowtraMag Meters by the union nuts or flanges, **NOT** the sensor head.

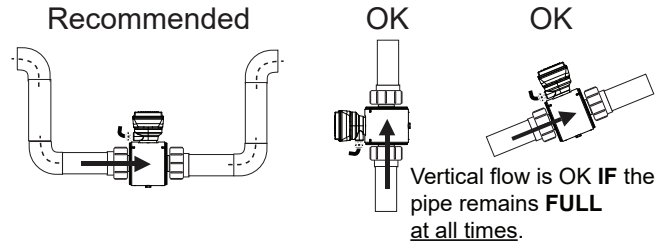


### Vertical Pipe Runs

To ensure pipe is flowing full with some back pressure, it is highly recommended that the fluid flows upward.

### Gravity and Discharge Lines

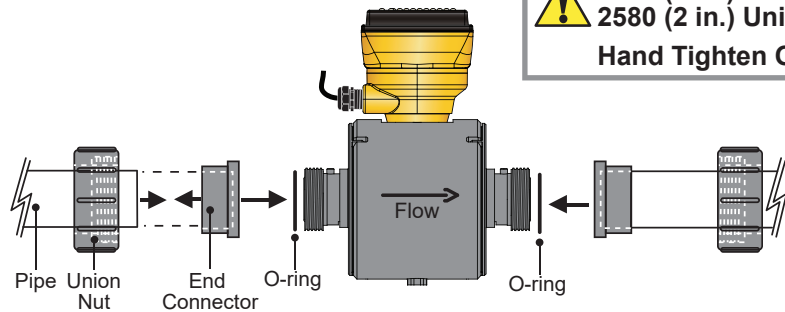
It is recommended to install a u-trap to ensure the pipe remains full at all times, and to minimize air bubbles. A vacuum breaker may be required downstream of the FlowtraMag to ensure pipe doesn't drain and fill with air.



## Sensor Pipe Installation

1. Choose a mounting location that satisfies the requirements.
2. Install sensor with flow arrow pointing in the direction of flow.

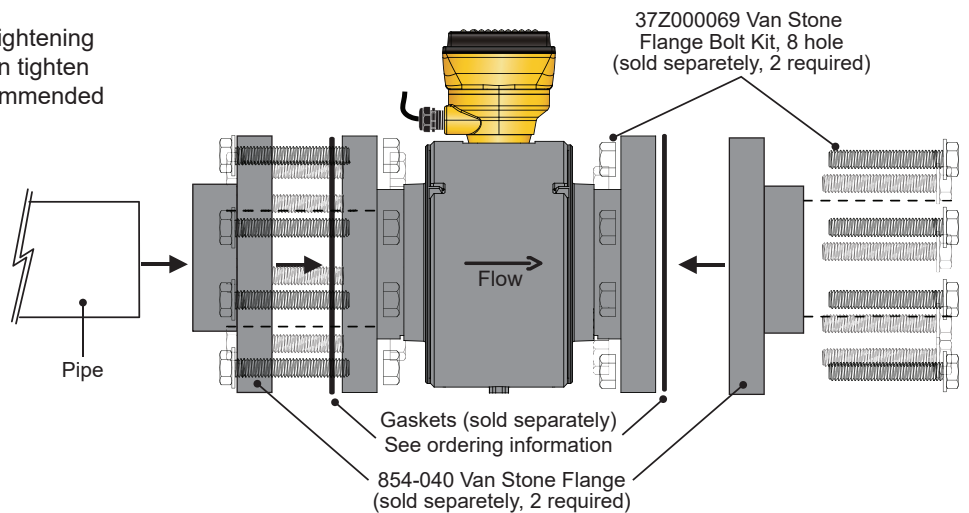
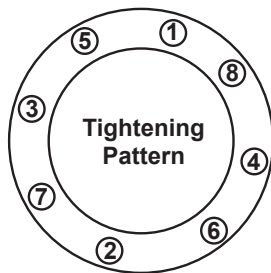
**Note:** Gland fittings should point upstream of flow.



#### **2580 (4 in.) Bolts DO NOT OVER TORQUE!**

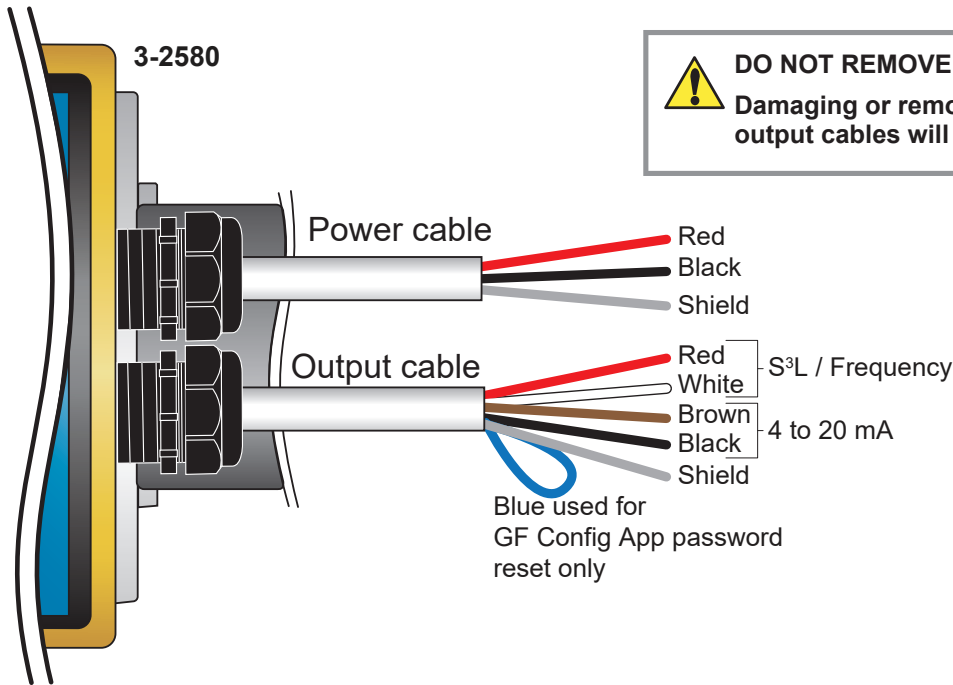
Recommended bolt torque for the 4" flange of 20 to 30 ft-lbs (27-41 Nm)

Tighten bolts by first assembling and hand tightening the nuts to position the gasket in place. Then tighten the bolts in a diagonal pattern 50% the recommended torque, then 100% of recommended torque.



## Wiring Configuration

When using the 2580 with frequency or Digital (S<sup>3</sup>L), all of the connections from the Magmeter to external equipment (PLC, Datalogger, Chart Recorder, Flow meter, etc.) are made using the red and white wires. See wiring diagrams for further details.




**DO NOT REMOVE WIRING!**  
Damaging or removing the power or output cables will void warranty.



### Recommended:

The directional arrow should be pointed **DOWNSTREAM** for correct operation. Use a cable gland or a liquid tight connector to seal the cable ports from water intrusion. If the 2580 is installed on a vertical pipe, the cable ports should be turned to point downward. This will prevent condensation from being channeled into the enclosure.

### Application Tip:

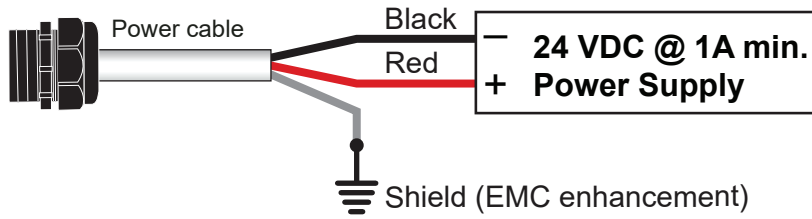
If your flow is in the reverse direction, it is possible to set up reverse flow via the Signet 0252 Configuration Tool or GF Config Tool  Bluetooth® App.



## Default Configurations

	1"	2"	4"
<b>Units</b>	GPM	GPM	GPM
<b>Totalizer Units</b>	Gallons	Gallons	Gallons
<b>Temperature Units</b>	°C	°C	°C
<b>K-Factor Values</b>	852.716 pulse/gal	204.139 pulse/gal	52.1188 pulse/gal
<b>Averaging</b>	Low	Low	Low
<b>Sensitivity</b>	3.5182	14.696	57.561
<b>Low Flow Cutoff</b>	0.1407	0.5878	2.3024
<b>4 mA Setpoint</b>	0	0	0
<b>20 mA Setpoint</b>	70.363	293.92	1151.2
<b>Error Current</b>	22	22	22
<b>Passive/Active</b>	Passive	Passive	Passive
<b>S3L/Freq</b>	Freq	Freq	Freq

## Wiring

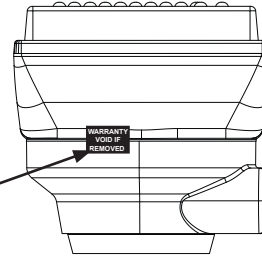


**CAUTION!**  
Turn off Power before Wiring.

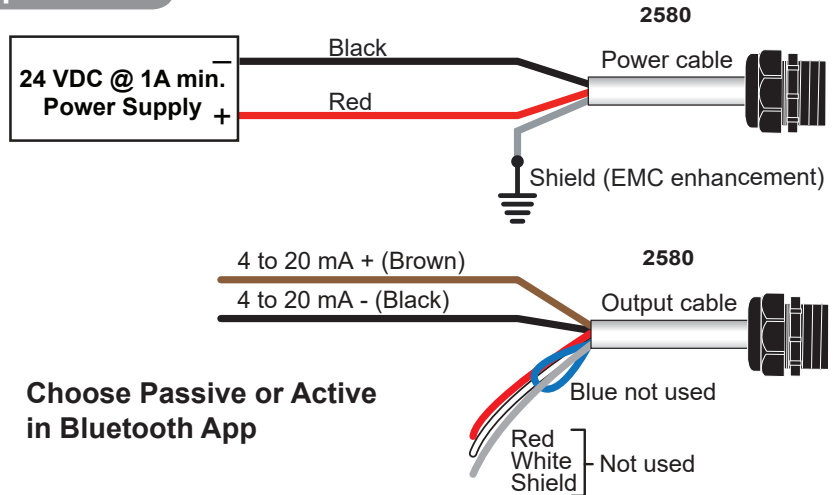


**DO NOT REMOVE Seal!**  
Warranty void if seal is broken or removed.

**WARRANTY VOID IF REMOVED**



## Wiring with 4 to 20 mA Loop Output

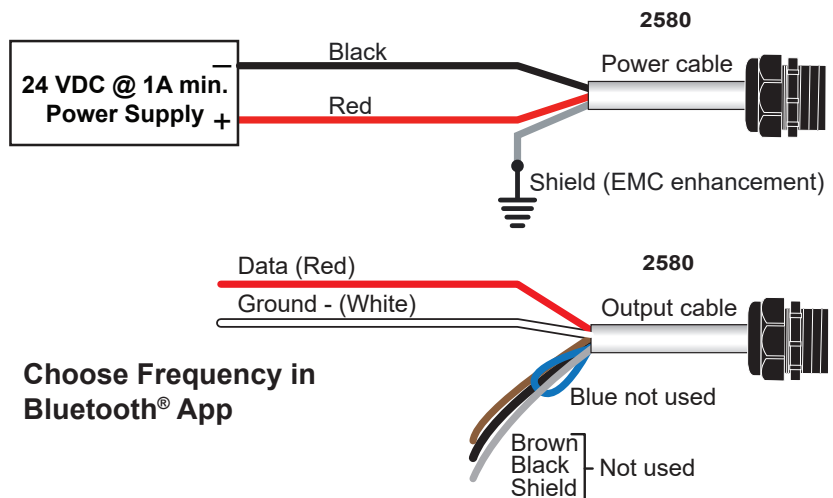


## Wiring with Frequency Output

Compatible with all POWERED Signet Flow Instruments

- When choosing **Frequency** in the Bluetooth® App, the 2580 outputs an open collector frequency signal that can be connected to any powered Signet flow meter (models 8900, 9900, 9900-1BC, 9950).
- 24 VDC power at 1 amp should always be connected.

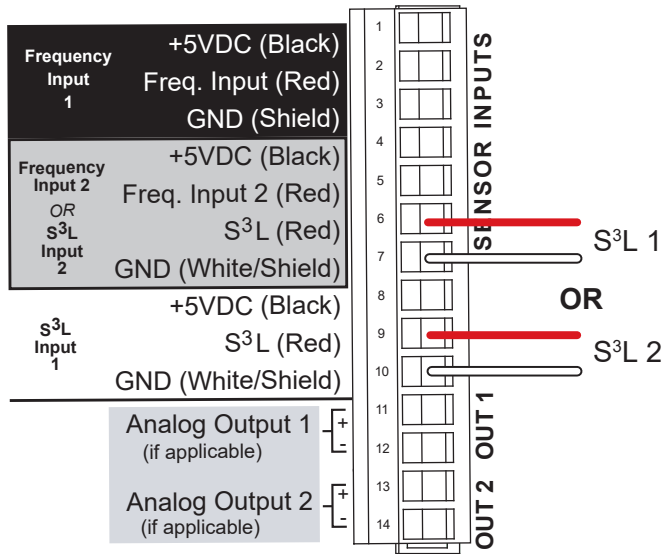
**NOTE: The frequency output will be displayed as positive flow regardless of the flow direction.**



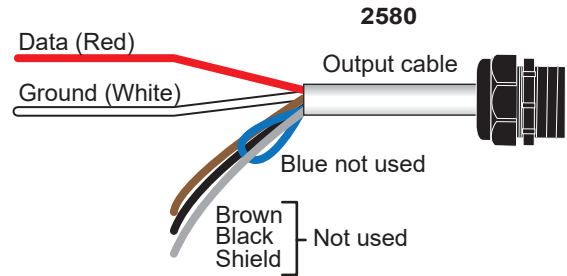
## Wiring with Digital (S<sup>3</sup>L) Output

### 2580 Wiring to Signet 8900 - Two digital (S<sup>3</sup>L) inputs

8900

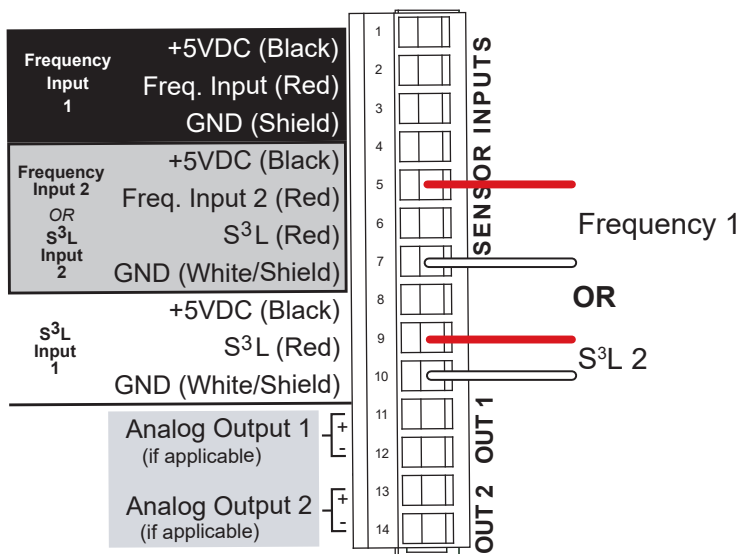


### GF Config Tool App set to S<sup>3</sup>L

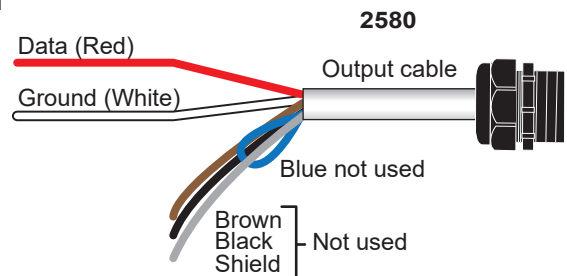


### 2580 Wiring to Signet 8900 - One digital (S<sup>3</sup>L) input and one Frequency input

8900



### GF Config Tool App set to S<sup>3</sup>L on Channel 2



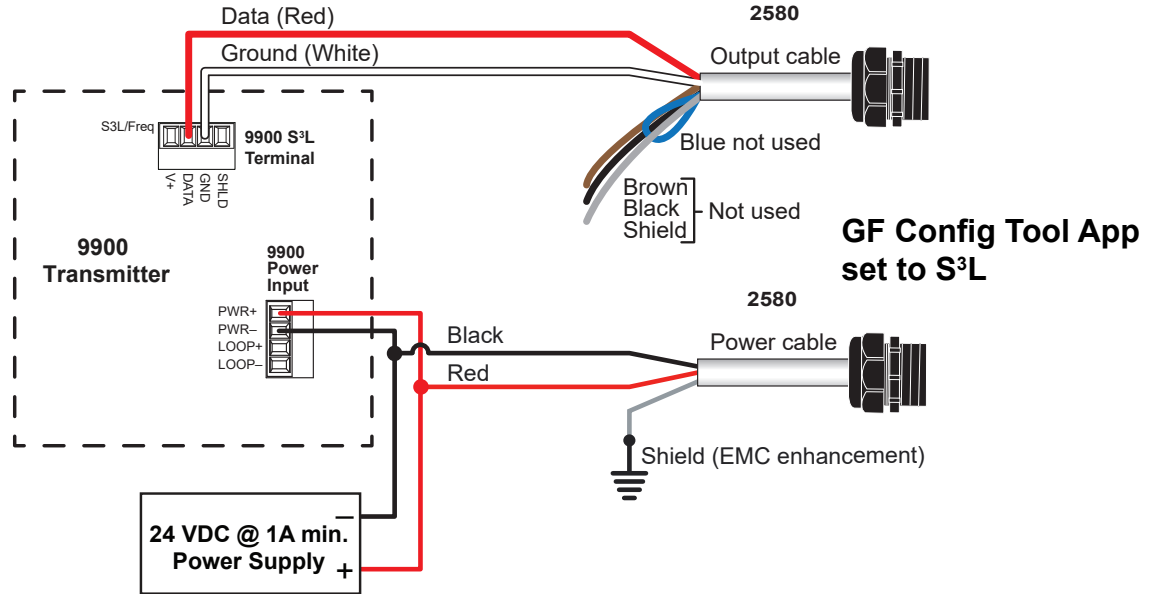


## Wiring with Digital (S<sup>3</sup>L) Output

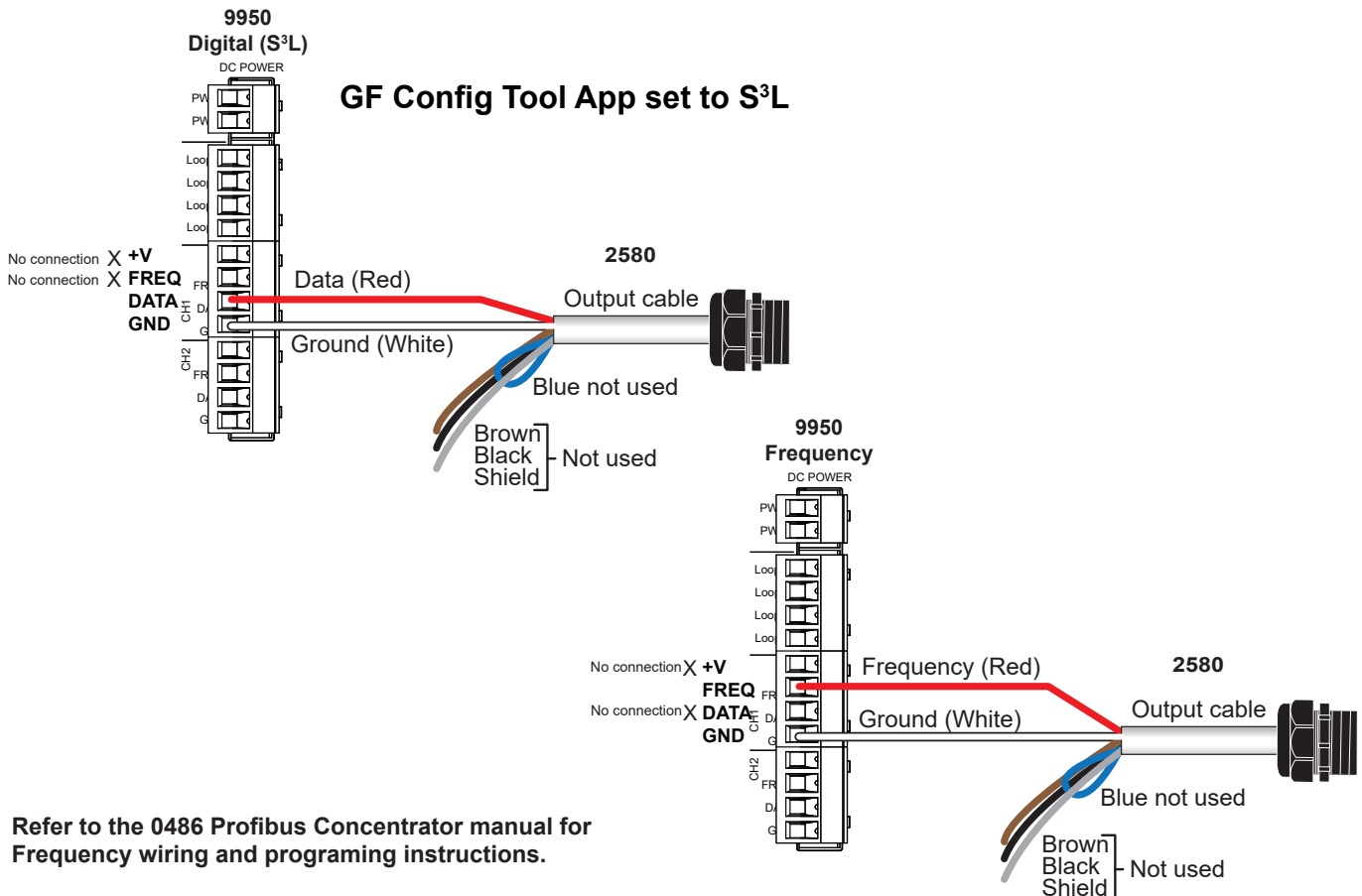
### Digital (S<sup>3</sup>L) Output (Compatible with 8900 Multi-Parameter Controller, 9900 and 9950 Transmitter)

- To select S<sup>3</sup>L, use Bluetooth® App.
- 24 VDC power at a minimum of 1 amp is always be connected to the 2580.
- The 8900 will display 0 (Zero) flow rate during periods of reverse flow**  
**The 9900 and 9950 will display negative numbers to indicate reverse flow**
- The maximum cable length from the 2580 to the 8900 or 9900 depends on the 8900 or 9900 configuration. Refer to the 8900, 9900 or 9950 manual for complete information.

#### 2580 Wiring to Signet 9900



#### 2580 Wiring to Signet 9950



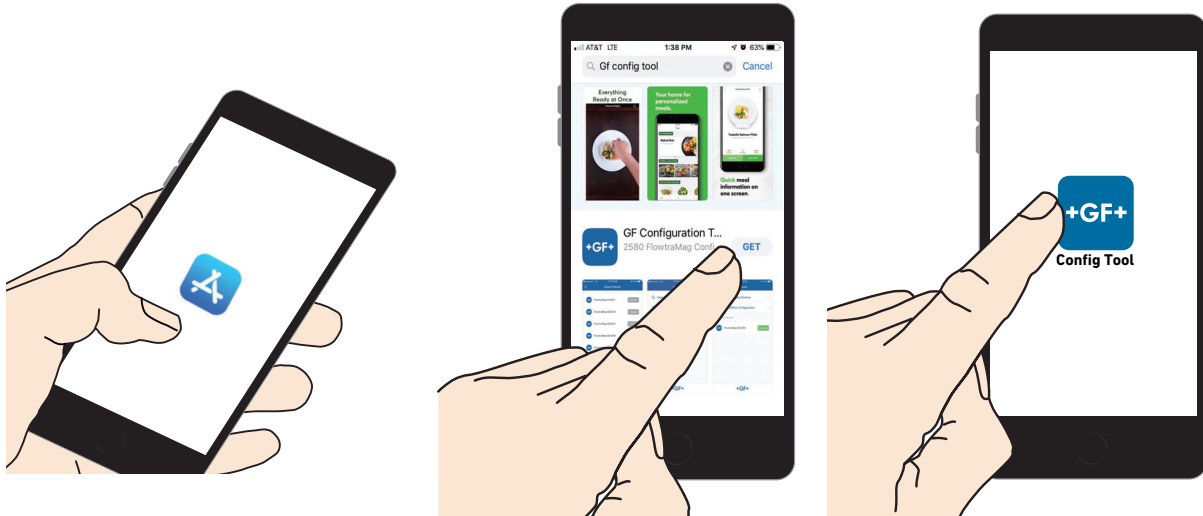
Refer to the 0486 Profibus Concentrator manual for Frequency wiring and programming instructions.

## App Configuration - App Set Up

### Bluetooth® App Setup Steps - iOS version

Search for **GF Configuration Tool** in the App store. Download the **GF Config Tool**.

1. Press **GET**. App will install on phone or other wireless device.
2. Return to home screen and look for App icon, click the blue **GF Config Tool** icon
3. Continue to Sensor Setup Section (next page)



### Bluetooth® App Setup Steps - Android version

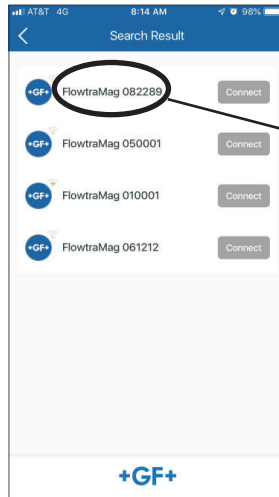
Download the **GF Configuration Tool** App by scanning the QR code or searching in Google Play directly.

1. When prompted press **Install**
2. Return to home screen and look for App icon, click the blue **GF Config Tool** icon
3. Continue to Sensor Setup section (next page.)

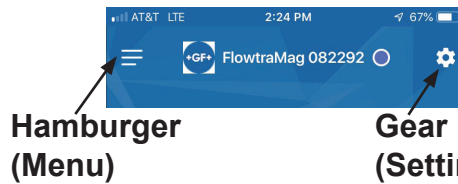


## App Configuration - Sensor Setup

When the FlowtraMag Meter is in operation, when in close proximity to the FlowtraMag (less than 20 ft), open the **GF Config Tool App** to begin a search nearby devices and go thru the pairing process. Click on connect next to device you are pairing to.



1. Pair the device by entering the device Code/Pin.  
The default Passkey is the last 6 digits of the product serial number.
2. Click **Pair/OK**
3. Make any adjustments to the FlowtraMag, if necessary, by tapping the Hamburger Menu (menu list) or Gear (edit settings).



**Hamburger (Menu)**

**Gear (Settings)**



### Note:

If the GF Config Tool password has been lost or forgotten, connect blue wire to white wire while unit is powered (for 2 to 5 seconds.) Password will reset to factory original (last 6 digits of serial number.)



(example shows Menu)

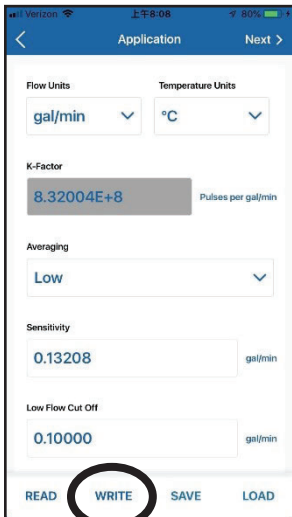
**READ**    **WRITE**    **SAVE**    **LOAD**

- Read** Loads the data from the connected device (sensor or transmitter) and updates the software's display.  
**NOTE:** This will overwrite any changes made in the GF Config Tool App since the last **Write**.
- Write** Applies the data entered in the GF Config Tool App to the connected device. Once you have entered the desired setting changes in the software screens, press **Write** to load your new settings onto the connected device.
- Save** Stores the entire GF Config Tool App settings configuration, as currently displayed in the application, to your mobile device. (You will be asked to provide a configuration file name)
- Load** Loads a default configuration file from the factory.  
Opens a previously saved settings configuration file. See **Save** function above.  
**NOTE:** The file must be a GF Config Tool App settings configuration file.  
The software will verify whether the user-selected file is the correct type.  
There are configuration files available for specific body sizes containing default values from the factory. Carefully review the **Device Tag** and **Passkey** configuration in the Information screen.  
**Device Tag** identifies the sensor you are connecting to. Device Tag maximum length 20 characters.  
**Device Passkey** is needed for connecting to the sensor. Device Passkey is a 6 digit number.

## App Configuration - Sensor Setup

### Application Setup

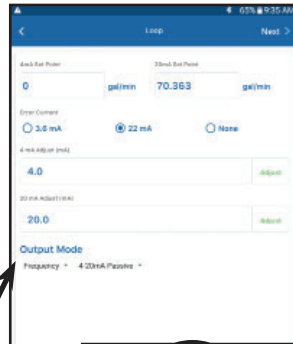
To set Averaging, Sensitivity, Low Flow Cut Off, Position of Flow, Flow Units, and Totalizer Unit,



### Loop

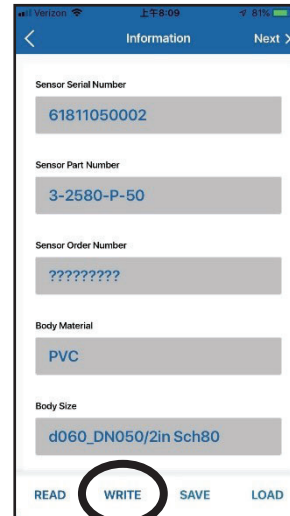
Set 4 mA, 20 mA, Error condition of the current output alarm (3.6 or 22 mA), adjust your 4 to 20 mA setting and select output mode.

Loop adjustment is a live update.



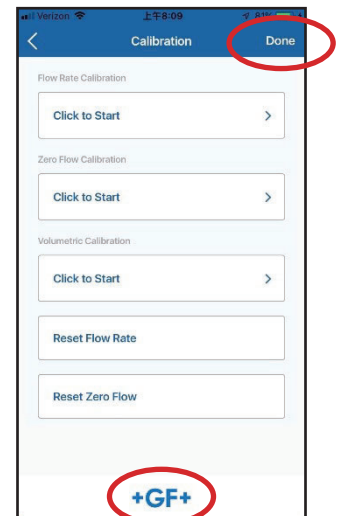
### Information

Sensor information, Permanent Totalizer, and Resettable Totalizer.



### Calibration

Custom Calibration of Rate, Volumetric, Zero Flow Calibration.



**You must press WRITE to save your changes to the sensor.**

Otherwise it saves to your phone only.

Then press **DONE** or press on **GF** logo to get back to re-connect screen.

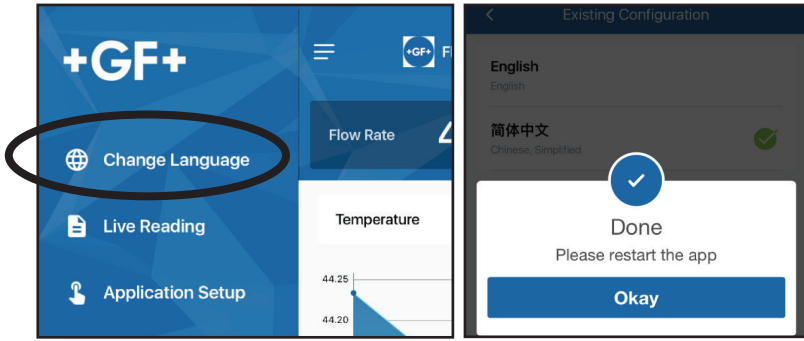
To switch between S<sup>3</sup>L and Frequency and/or 4 to 20 Active or Passive, use the GF Config Tool App. On the loop screen, use the drop down to select S<sup>3</sup>L or Freq and/or Active or Passive 4 to 20 mA. Press WRITE after making selection.

If the GF Config Tool password has been lost or forgotten, connect blue wire to white wire of the sensor output cable while unit is powered (for 2 to 5 seconds.) Disconnect blue wire from white wire after 5 seconds. Password will reset to factory original (last 6 digits of serial number.)

To Delete a device in iOS: Swipe right and select the trash can icon. To delete a device in Android: Swipe right, "Are you sure you want to delete this device?", choose Yes or No.

## Change Language

Currently English and Chinese are available in the App.



### iOS device with home button

Double click the home button. Find the minimized app and swipe up to close the app to clear the App Cache.

### iOS device without home button

Swipe up from the bottom. Find the minimized App and swipe up to close the app to clear the App Cache.

### Android

When you select your language of choice, it automatically changes. No other steps are needed.

## Calibration

No calibration is necessary to begin using the 2580. The application and performance settings are pre-set to meet the requirements of most applications. The FlowtraMag is shipped from the factory with the following calibration:

FlowtraMag Model Number	K-Factor pulse/L	K-Factor pulse/Gal	Flow Rate @20 mA L/min	Flow Rate @20 mA Gal/min
3-2580-P-T-010	225.264	852.716	266.35	70.363
3-2580-P-T-020	53.9278	204.139	1112.6	293.92
3-2580-P-T-040	13.7683	52.1188	4357.8	1151.2

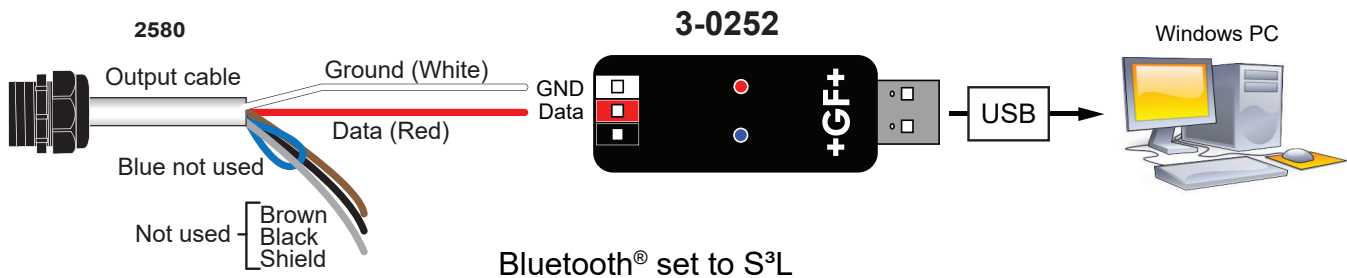
### Application Note:

The unit is factory calibrated for recommended setup. See calibration certificate for complete details. User has the option to custom calibrate based on their application.

## Customization and Performance Settings

For customization and performance settings, use the GF Config Tool App or the Signet 0252 Configuration Tool and software. Refer to the Signet 0252 Configuration Tool manual for details to adjust the following parameters:

- 4 to 20 mA span:** Factory setting is 4 mA = 0, and 20 mA = 10 m/s (32.8 ft/sec) equivalent flow rate, refer to the calibration table, and can also be customized to any range. The 4 to 20 mA span sets the LED bar graph span.
- Low Flow Cutoff:** Factory setting is 0.02 m/s (0.07 ft/s) equivalent flow rate, and can be customized to any user preferences.
- Averaging Time:** Factory setting is Low. Can be customized: Off, Low, Med, High.
- Sensitivity:** Factory setting is 0.5 m/s (1.64 ft/s) equivalent flow rate, and can be customized to user preferences.



## Averaging and Sensitivity Settings

- Because ideal flow conditions are often impossible to achieve, the fluids flow is often erratic, which causes erratic readings in control features (e.g., relays, 4 to 20 mA loops, etc.) that are associated with the flow rate.
- The best solution to these problems is to correct any piping deficiency that causes the instability. This may involve longer straight runs upstream, taking steps to ensure pipe remains full during flow conditions, and other installation changes. In many situations, however, these measures are simply not possible.
- The 2580 provides two tools that are designed to "work around" these deficiencies. The Averaging and the Sensitivity features should be studied before making adjustments.

### Averaging Time in Seconds (Factory set: Low)

- Set the time the meter will use as the averaging period. The ranges are Off, Low (10 s), Med (40 s) and High (120 s). Use higher averaging times to smooth the display and current output where the flow in the pipe is erratic.

### Quick Response Sensitivity (Factory Set: 0.5 m/s (1.64 ft/s) equivalent)

- Sets an amount of flow rate change at a given reference flow rate required to momentarily allow the 2580 to change from the selected averaging time to a faster response. The reference flow rate should be near the range of normal operation. Turn the averaging setting to off and observe the flow rate variation, enter a sensitivity amount that is two times larger than the amount of flow variation.

#### ■ ■ ■ ■ ■ No AVERAGING, no SENSITIVITY

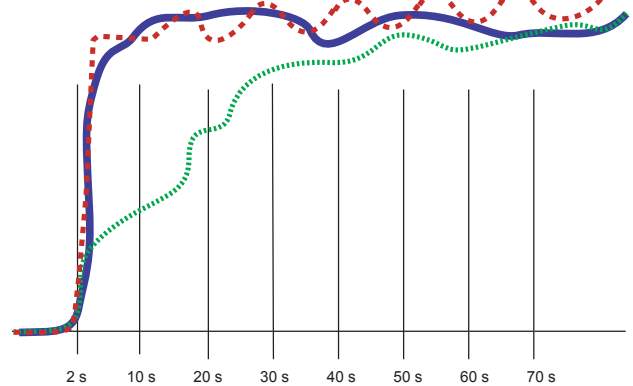
With AVERAGING set to Off and with SENSITIVITY set to zero, the 2580 responds to every unstable shift in the flow. The dashed red line represents the actual output of the flow sensor in unstable flow conditions.

#### ● ● ● ● ● AVERAGING only

With AVERAGING set to Medium and SENSITIVITY still set to zero the flow rate is stabilized, but a sharp change in flow rate is not represented for 50 seconds or longer (dotted green line).

#### — AVERAGING and SENSITIVITY

With AVERAGING at Medium and SENSITIVITY set to a moderate amount, the flow rate is stabilized, while the sudden shift in flow is reflected very quickly (solid blue line).



**NOTE:** The SENSITIVITY function is ineffective if the AVERAGING function is set to off (seconds).

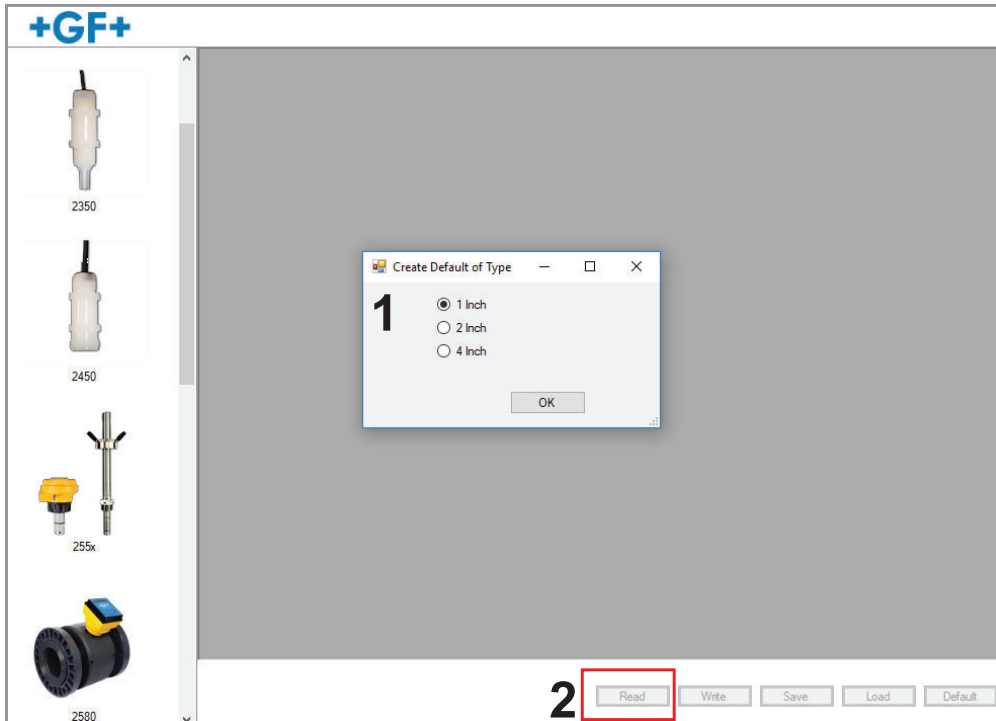
## LED Status Indicators

LEDs on the 2580 circuit board are useful to identify problems with the meter and the flow conditions.

LED Condition	Indication
All Off	The power is off or the sensor is not connected
Solid Blue	Normal operation, full pipe, no flow
Blinking Blue	Normal operation, blink rate is proportional to flow rate
Solid Purple	Partially filled pipe, flow rate is zero
Blinking Purple	Partially filled pipe, blink rate is proportional to flow rate
Blinking Red	Measurement out of range. If condition persists, will turn to solid red after 1 minute
Solid Red	Instrument error, defective electronic component. Contact Technical Support
📶 Green	📶 - Connected device
📶 White	📶 - No connections

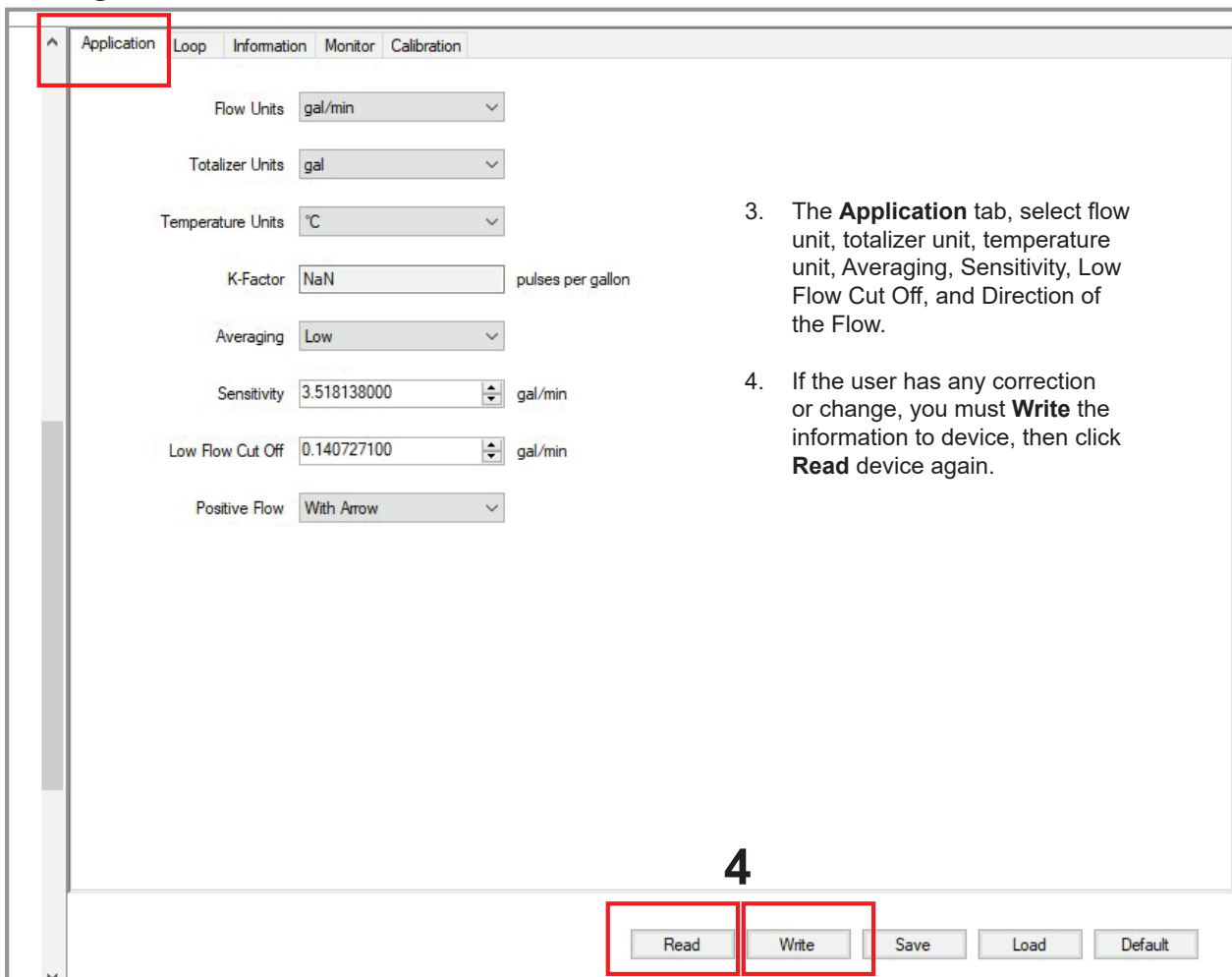
## Configuration - 0252 Tool

This is an outline. For complete instructions, please refer to the 0252 Configuration Tool manual.



1. Select default unit by type.
2. Then click on **Read** from the device.

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3. The **Application** tab, select flow unit, totalizer unit, temperature unit, Averaging, Sensitivity, Low Flow Cut Off, and Direction of the Flow.
4. If the user has any correction or change, you must **Write** the information to device, then click **Read** device again.

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- The **Loop** tab, select or confirm your 4 to 20 mA set point, set your current alarm condition, and type of output mode.



**Note:**  
The 0252 Configuration Tool will be unable to connect to sensor when set to frequency.

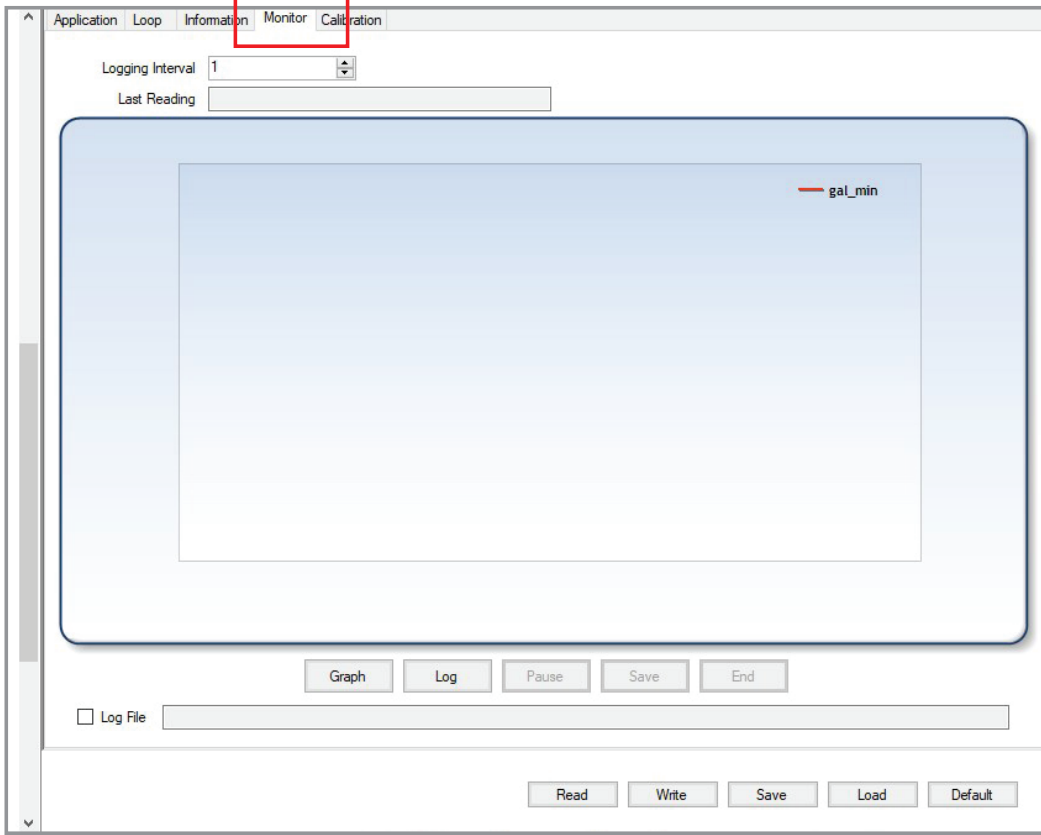
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- The **Information** tab, displays product information, totalizer information, and Bluetooth® data.



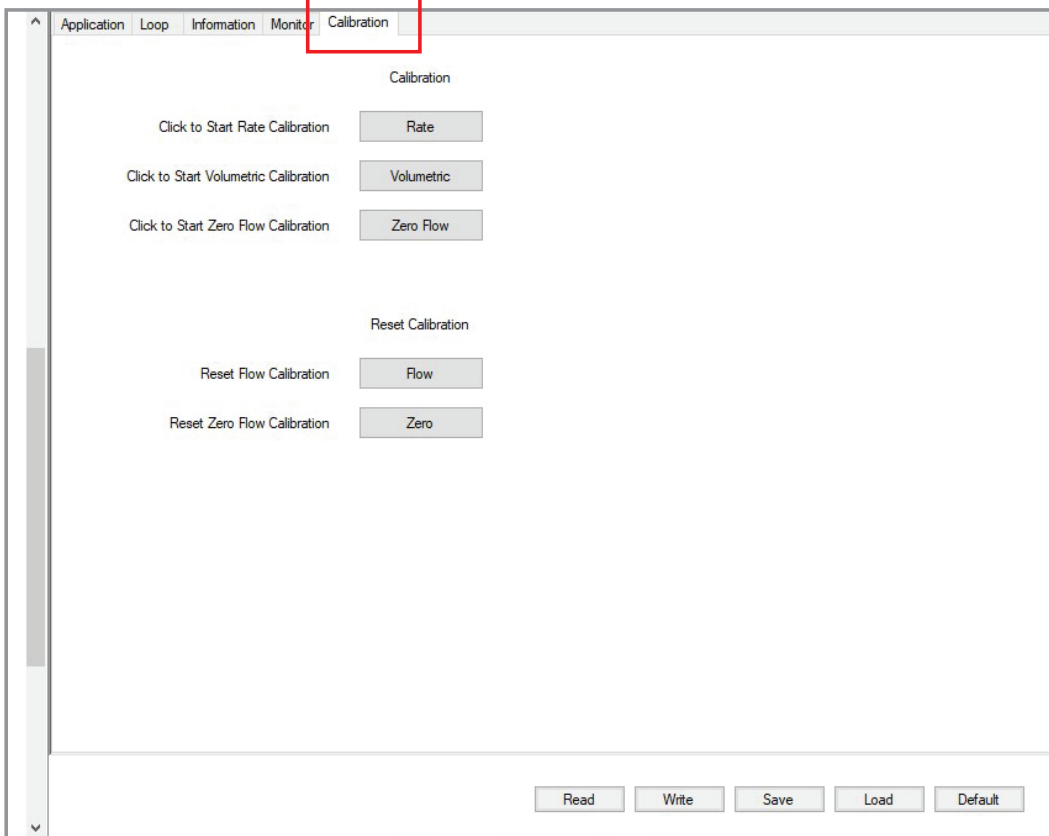
7

- 7. The **Monitor** tab can graph or log the information to your local drive via file type with the extension .CSV



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- 8. The **Calibration** tab, allows custom calibration via method of rate, volumetric, and zero flow calibration.



## Troubleshooting

Symptom	Possible Cause	Solution
No LED Lights	Unit is not powered, or the power wiring is reversed.	Check power wiring, voltage should be 12 to 32 VDC at 24W.
Solid Blue	There is no flow. If user expects to see flow, the Low Flow Cutoff value may be set too high.	Change the Low Flow Cutoff value in user menu using GF Configuration Bluetooth® Tool or 0252 Configuration Tool.
Solid Purple	Partially filled pipe. Flow rate is zero.	User should be aware that the pipe could be filled > 50% and water in the pipe is stagnant, or the water is below 50% and water could be stagnant or moving.
Blinking Red	Flow measurement is out of range. If error persists, the LED will become solid RED after one minute.	The spiking of the flow outside the normal range could be caused by excessive EMI, or water splattering through a partially filled pipe and creating flow spikes. The spiking will end once the disturbance is not present anymore.
Frequency output does not work	<ol style="list-style-type: none"> <li>Bluetooth selection is S<sup>3</sup>L.</li> <li>Improper wiring.</li> </ol>	<ol style="list-style-type: none"> <li>Select frequency from GF Config Tool or 0252 Configuration Tool.</li> <li>Check wiring. Use the wiring diagram picture in the manual.</li> </ol>
Frequency, Digital or Current Output is Erratic	<ol style="list-style-type: none"> <li>Electrical Noise interference with the flow measurement.</li> <li>Possible air pockets traveling through the piping system.</li> <li>Pipe is not full and water flow creates splashing of the electrodes.</li> <li>Excess turbulence in fluid flow profile.</li> </ol>	<ol style="list-style-type: none"> <li>Verify the grounding of the FlowtraMag and of the nearby VFDs and Pumps. If possible, use grounding rings or connect metal portions of the piping to closest ground.</li> <li>Check the piping and use vents if possible, otherwise wait for the air pockets to be eliminated through the system.</li> <li>Try to keep the pipe full, by installing vertical.</li> <li>Follow product manual recommended xD installation distances.</li> </ol>
Output is not Zero when flow is stopped	<ol style="list-style-type: none"> <li>Low Flow Cutoff flow value is lower than the zero flow noise level.</li> <li>Electrical noise is interfering with the measurement.</li> <li>Defective FlowtraMag.</li> </ol>	<ol style="list-style-type: none"> <li>Adjust the Low Flow Cutoff value to be above the noise level.</li> <li>Verify/Modify Grounding.</li> <li>Contact Technical Support.</li> </ol>
Forgotten password	Forgotten/lost password	Connect blue wire to white wire while unit is powered (for 2 to 5 seconds.) Password will reset to factory original (last 6 digits of serial number.)

## Troubleshooting

Symptom	Possible Cause	Solution
Measurement inaccurate	<ol style="list-style-type: none"> <li>1. Improper calibration.</li> <li>2. Sensor fault as indicated by the Red LED.</li> <li>3. Media conductivity is lower than 20 <math>\mu\text{S/cm}</math>.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use the GF Config Tool App or 0252 Configuration Tool to reset flow and/or zero calibration. If user intends to calibrate using installed reference, proceed with zero and/or one point flow calibration.</li> <li>2. Cycle power, make sure there is no excessive electrical noise interference. If Red LED stays on, contact Technical Support.</li> <li>3. Check application and make sure the conductivity is above the specified 20 <math>\mu\text{S/cm}</math>.</li> </ol>
User cannot communicate using the 0252 Tool	<ol style="list-style-type: none"> <li>1. There is no digital (S<sup>3</sup>L) communication.</li> <li>2. The digital (S<sup>3</sup>L) wiring is improper.</li> </ol>	<ol style="list-style-type: none"> <li>1. Select S<sup>3</sup>L from GF Config Tool or 0252 Configuration Tool.</li> <li>2. Check wiring as per manual.</li> </ol>
User cannot communicate using the Bluetooth <sup>®</sup>	<ol style="list-style-type: none"> <li>1. The GF Config Tool App is not installed properly.</li> <li>2. The GF Config Tool App has not been identified properly.</li> <li>3. The GF Config Tool App does not connect.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the Bluetooth<sup>®</sup> white light to be on.</li> <li>2. Use the GF Config Tool App to identify the FlowtraMag to connect to (use elimination method if more Bluetooth<sup>®</sup> units present.) Record the FlowtraMag's IDs, or delete unused sensors.</li> <li>3. Restart GF Config Tool App.</li> </ol>
4 to 20 mA output is incorrect	<ol style="list-style-type: none"> <li>1. The 4 to 20 mA in the FlowtraMag is not scaled properly.</li> <li>2. The Instrument used with the FlowtraMag has the 4 to 20 mA input not matching the FlowtraMag.</li> <li>3. The setting and/or wiring for active / passive 4 to 20 mA is done incorrectly.</li> <li>4. Defective hardware.</li> </ol>	<ol style="list-style-type: none"> <li>1. Scale the current output in the FlowtraMag correctly using the GF Config Tool App or the 0252 Configuration Tool.</li> <li>2. Change the Instrument scaling to match the FlowtraMag.</li> <li>3. For active AO, select ACTIVE from the GF Config Tool or 0252 Configuration Tool. In this case, current output connects directly to AO 4 to 20 mA connector with correct polarity, see wiring in the manual. For passive AO, select PASSIVE from the GF config Tool or 0252 Configuration Tool. Wiring is done from AO 4 to 20 mA connector using the loop power, as indicated in the manual wiring diagram.</li> <li>4. If the Green LED bar, % output indicates correctly the % flow and the current output is not working properly, first check AO selection in GF Config Tool or 0252 Configuration Tool. If AO selection is correct, call Technical Support.</li> </ol>
Current Output at 3.6 mA or 22 mA	There is an error condition in the FBM.	Check status LED and follow existing guideline for troubleshooting.

## Ordering Information

<b>Mfr. Part No.</b>	<b>Code</b>	<b>Description</b>
3-2580-P-T-010	159 001 874	FlowtraMag Blind, PVC Union, FKM (1 in.)
3-2580-P-T-020	159 001 875	FlowtraMag Blind, PVC Union, FKM (2 in.)
3-2580-P-T-040	159 001 876	FlowtraMag Blind, PVC Flange, FKM (4 in.)
<b>Accessories</b>		
3-0252	159 001 808	0252 Configuration Tool
854-040	-	4 inch SCH 80 Van Stone Flange
37X002009	-	4 inch EPDM Full Face Flange Gasket - 150# ANSI bolt pattern
37X002118	-	4 inch FKM Full Face Flange Gasket - 150# ANSI bolt pattern
37Z000069	-	4 inch Van Stone Flange bolt kit 316 SS - 150# (UNC bolts, SAE washers and nuts)



Georg Fischer Signet LLC, 3401 Aero Jet Avenue, El Monte, CA 91731-2882 U.S.A. • Tel. (626) 571-2770 • Fax (626) 573-2057  
For Worldwide Sales and Service, visit our website: [www.gfsignet.com](http://www.gfsignet.com) • Or call (in the U.S.): (800) 854-4090  
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