+GF+

GF 2581 FlowtraMag® Meter

3-2581.090 Rev 7 09/23

Operating Instructions

DN25 (1 in.)

DN40 (1.5 in.)

DN50 (2 in.)

DN 80 (3 in.)

DN100 (4 in.)
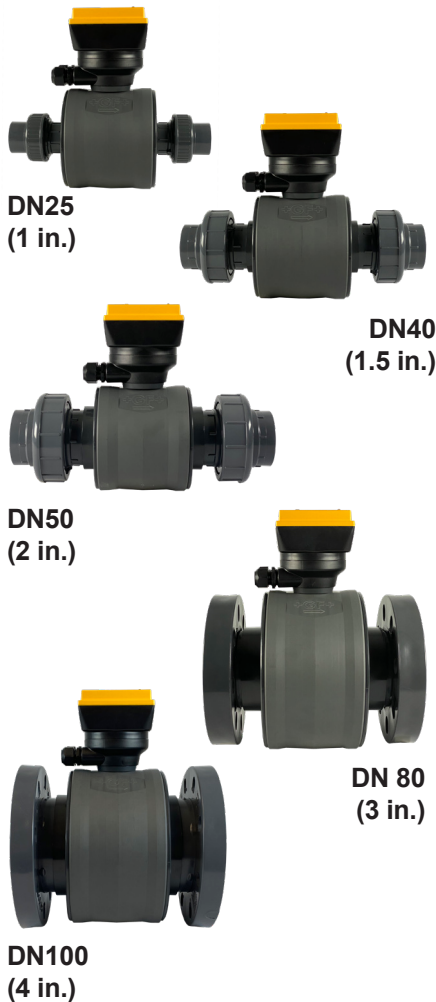
- **English**
- **Deutsch**
- **Français**
- **Español**
- **中文**

Bluetooth®

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ANDROID APP ON Google play

Description

The GF 2581 FlowtraMag is a full-bore plastic PVC in-line style magnetic flowmeter. The PVC body with Titanium or *Hastelloy® C* 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 DN25 (1 in.), DN40 (1.5 in.), DN50 (2 in.), DN80 (3 in.) and DN100 (4 in.), 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 (±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
- One device with three different outputs: field selectable Frequency or Digital (S³L), and analog 4 to 20 mA, in both passive and active configuration
- On-the-fly configuration with GF Config Tool Bluetooth® App
- Bluetooth® 4.2 capable, support iOS and Android for simple user configuration with instantaneous flow reading

Table of Contents

Patent #: US 10,712,184 B1
Other U.S. and International Patents Pending

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.

GF 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).

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.**

|	
⚠️	**Caution / Warning / Danger** Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, injury, or death
⚡	**Electrocution Danger** Alerts user to risk of potential of injury or death via electrocution.
	Electrostatic Discharge (ESD) Alerts user to risk of potential damage to product by ESD..
	Personal Protective Equipment (PPE) Always utilize the most appropriate PPE during installation and service of GF products.
	Pressurized System Warning 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.
	Hand Tighten Only Overtightening may permanently damage product threads and lead to failure. (union nut only)
🚫	**Do Not Use Tools** Use of tool(s) may damage product beyond repair and potentially void product warranty. (union nut only)
	Note / Technical Notes Highlights additional information or detailed procedure.

Chemical Compatibility

Georg Fischer 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 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
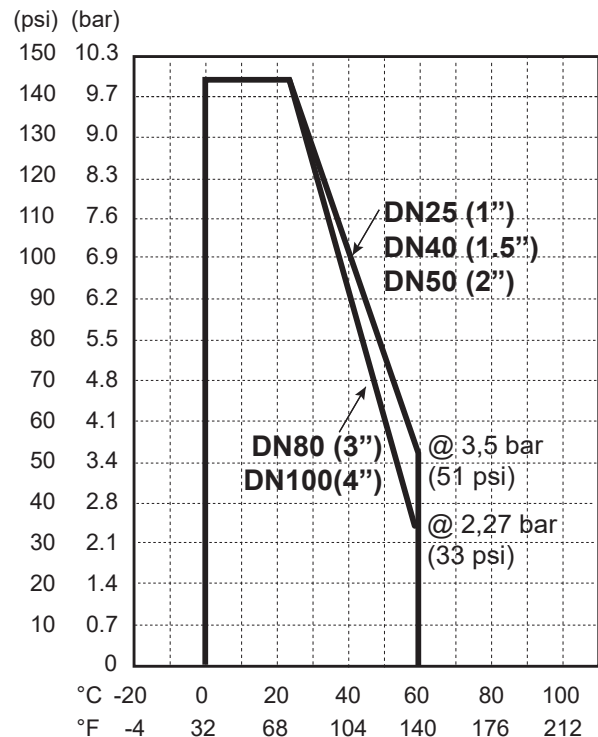
Hastelloy® is a registered trademark of Haynes International.

Specifications

General

Pipe Size Range	DN25 (1 in.), DN40 (1.5 in.), DN50 (2 in.), DN80 (3 in.), DN100 (4 in.)

Flow Range - Titanium or *Hastelloy C*

Minimum	0.02 m/s (0.07 ft/s)
Maximum	10 m/s (33 ft/s)
DN25 (1 in.)	0.53 to 266.35 LPM (0.14 to 70.36 GPM)
DN40 (1.5 in.)	1.36 to 662.34 LPM (0.36 to 174.97 GPM)
DN50 (2 in.)	2.23 to 1112.60 LPM (0.59 to 293.92 GPM)
DN80 (3 in.)	5.11 to 2493.75 LPM (1.35 to 658.78 GPM)
DN100 (4 in.)	8.72 to 4357.83 LPM (2.30 to 1151.22 GPM)
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 (1,000 ft), field splice or special order.

Wetted Materials

Flow Tube Body	PVC
Electrode	Titanium, grade 2 or *Hastelloy C-276*
O-rings	FKM or EPDM

Electrical

Power Requirements
DC Power (Functional Rating) 24 VDC, max 24W (12 to 32 VDC)

Reverse Polarity Protected	Up to 35 VDC
Over-Voltage Max. 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 / Active	User selectable
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	305 m (1,000 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
Max. Cable	305 m (1,000 ft)

Compatible with GF 9900, 9950, and 0486 Profibus Concentrator

Digital (S³L) Output

Digital (S³L)	4.5 to 5.5 VDC

Serial ASCII, TTL level 9600 bps

Digital (S³L) Output continued

Compatible with GF 9900, 9950 and 0486 Profibus Concentrator

Max. Cable Length	Application dependent

Sensor Configuration

GF Config Tool Bluetooth® App
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)
DN25 (1 in.), DN40 (1.5 in.) and DN50 (2 in.)	3.5 bar @ 60 °C (51 psi @ 140 °F)
DN80 (3 in.) and DN100 (4 in.)	2.27 bar @ 60 °C (33 psi @ 140 °F)

Shipping Weights - Titanium or *Hastelloy C,* EPDM or FKM

DN25 (1 in.)	3.4 kg (7.5 lbs)
DN40 (1.5 in.)	4.1 kg (9.0 lbs)
DN50 (2 in.)	4.5 kg (9.9 lbs)
DN80 (3 in.)	7.5 kg (16.5 lbs)
DN100 (4 in.)	8.3 kg (18.3 lbs)

Sensor Weights - Titanium or *Hastelloy C*

DN25 (1 in.)	2.7 kg (5.9 lbs)
DN40 (1.5 in.)	2.9 kg (6.3 lbs)
DN50 (2 in.)	3.7 kg (8.1 lbs)
DN80 (3 in.)	5.8 kg (12.7 lbs)*
DN100 (4 in.)	6.26 kg (13.9 lbs)*

*excludes mounting hardware

Standards and Approvals

UKCA, CE, UL, CUL Recognized Component
NSF (Titanium only, does not include Flange gaskets)
RoHS compliant
Manufactured under ISO 9001, ISO 14001 and ISO 45001
China RoHS (visit gfps.com for details)

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.

Bluetooth®

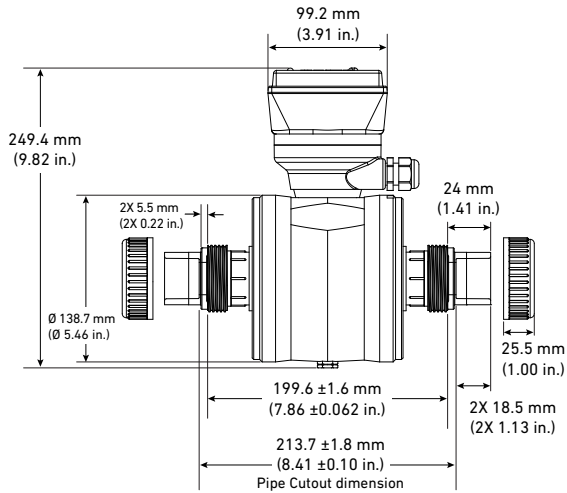Download on the App Store   ANDROID APP ON Google play

Sensor Dimensions

⚠️ **WARNING:** ASTM and Metric pipe cutout dimensions are different.

DN25, 1 in.
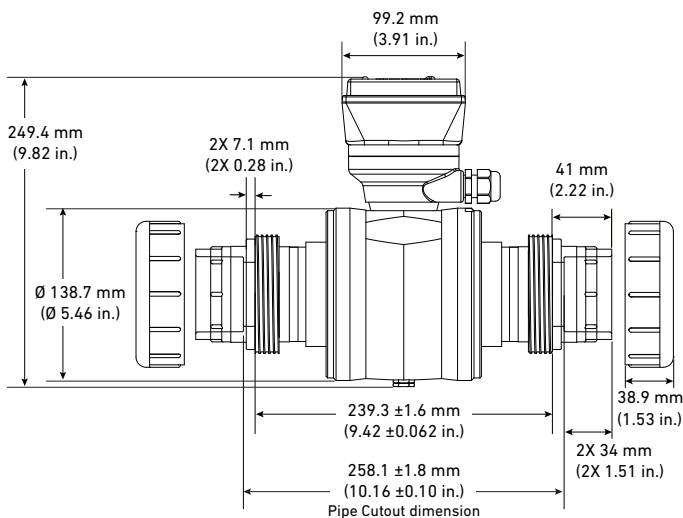Metric and ASTM union ends and union nuts shown.

99.2 mm
(3.91 in.)

249.4 mm
(9.82 in.)

2X 5.5 mm
(2X 0.22 in.)

24 mm
(1.41 in.)

Ø 138.7 mm
(Ø 5.46 in.)

25.5 mm
(1.00 in.)

199.6 ±1.6 mm
(7.86 ±0.062 in.)

2X 18.5 mm
(2X 1.13 in.)

213.7 ±1.8 mm
(8.41 ±0.10 in.)
Pipe Cutout dimension

DN40,1.5 in.
Metric and ASTM union ends and union nuts shown.

99.2 mm
(3.91 in.)

249.4 mm
(9.82 in.)

2X 6.6 mm
(2X 0.26 in.)

34 mm
(1.99 in.)

Ø 138.7 mm
(Ø 5.46 in.)

33.3 mm
(1.31 in.)

226.6 ±1.6 mm
(8.92 ±0.062 in.)

2X 27.5 mm
(2X 1.38 in.)

232.6 ±1.8 mm
(9.53 ±0.10 in.)
Pipe Cutout dimension

DN50, **2 in.**
Metric and ASTM Union ends and union nuts shown.

99.2 mm
(3.91 in.)

249.4 mm
(9.82 in.)

2X 7.1 mm
(2X 0.28 in.)

41 mm
(2.22 in.)

Ø 138.7 mm
(Ø 5.46 in.)

38.9 mm
(1.53 in.)

239.3 ±1.6 mm
(9.42 ±0.062 in.)

2X 34 mm
(2X 1.51 in.)
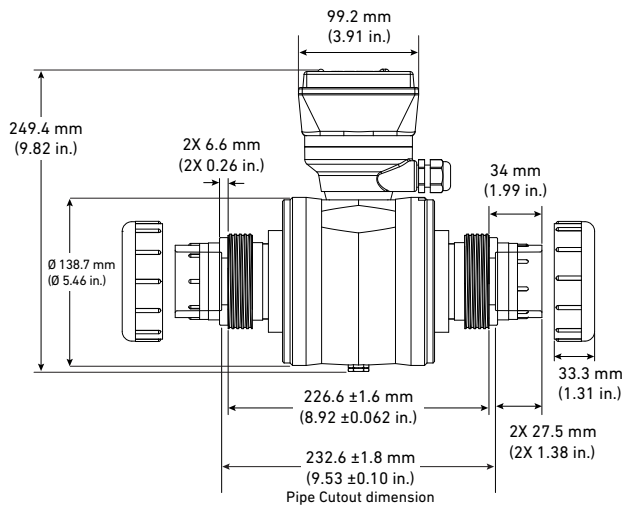
258.1 ±1.8 mm
(10.16 ±0.10 in.)
Pipe Cutout dimension

DN80, 3 in.
Flange bolt kits and gaskets not shown (Sold separately).

99.2 mm
(3.91 in.)

327.6 mm
(12.90 in.)

Ø 217.5 mm
(Ø 8.56 in.)

Ø 203.2 mm
(Ø 8.00 in.)

273.06 ± 3.2 mm
(10.75 ±0.125 in.)
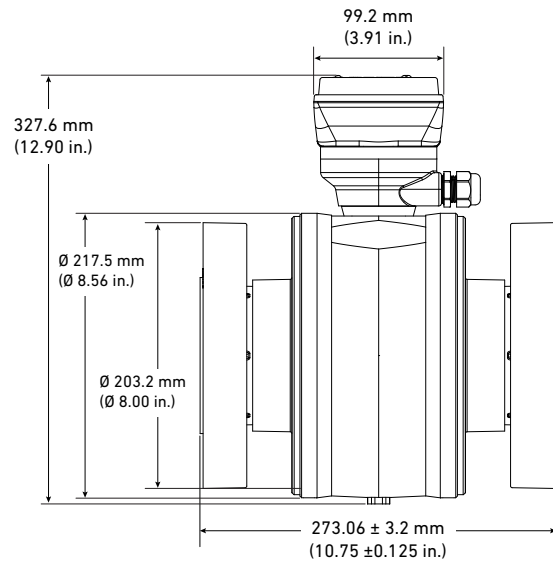
DN100, 4 in.
Flange bolt kits and gaskets not shown (Sold separately).

99.2 mm
(3.91 in.)

328.5 mm
(12.93 in.)

Ø 228.6 mm
(Ø 9.00 in.)

Ø 216.7 mm
(Ø 8.53 in.)

276.86 ±3.2 mm
(10.90 ±0.125 in.)
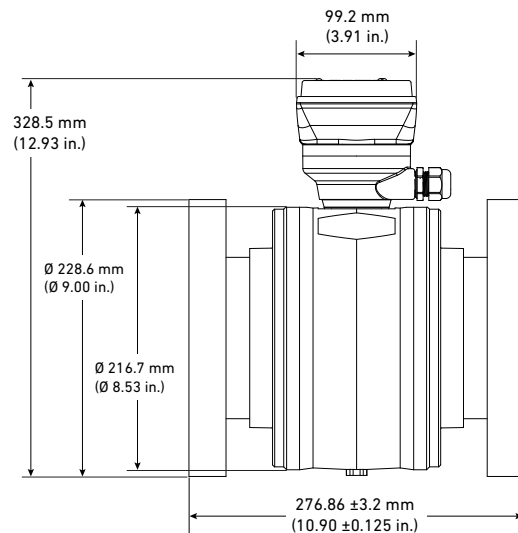
## Sensor Location

The 2581 FlowtraMag requires a minimum of 3x ID upstream and 2 x ID downstream of the sensor for best performance.

Reducer

3 x I.D.   2 x I.D.

90° Elbow

3 x I.D.   2 x I.D.

2 x 90° Elbow

3 x I.D.   2 x I.D.

Pump/Valve

3 x I.D.   2 x I.D.

2 x 90° Elbow 3 dimensions

3 x I.D.   2 x I.D.
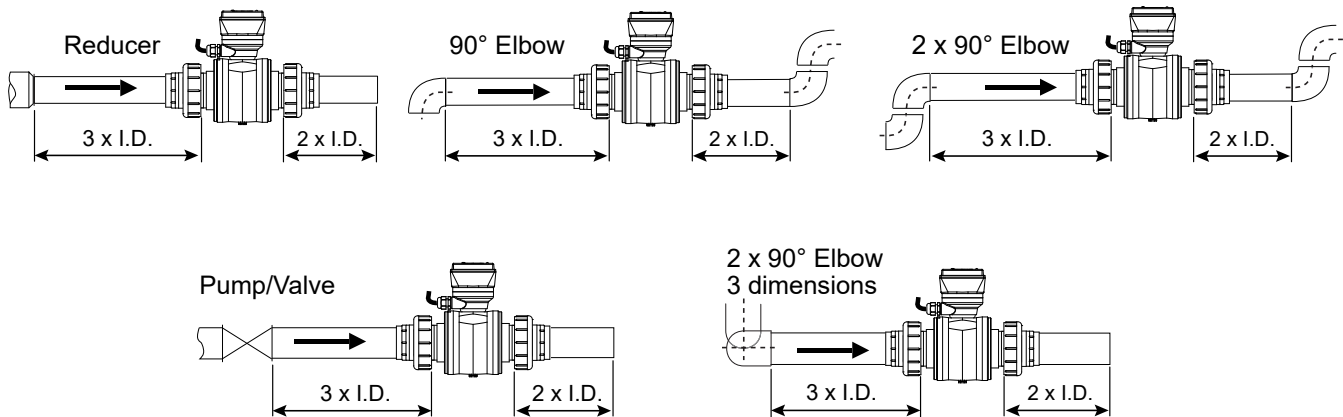
Selecting a Location

- The 2581 requires a full pipe for accurate measurement.
- In vertical installations, assemble the 2581 so the conduit ports are facing downward. This prevents condensation inside the conduit from being directed into the 2581 electronics housing.
- Chemical injection systems can temporarily alter the fluid conductivity and cause anomalies in the magmeter measurement.
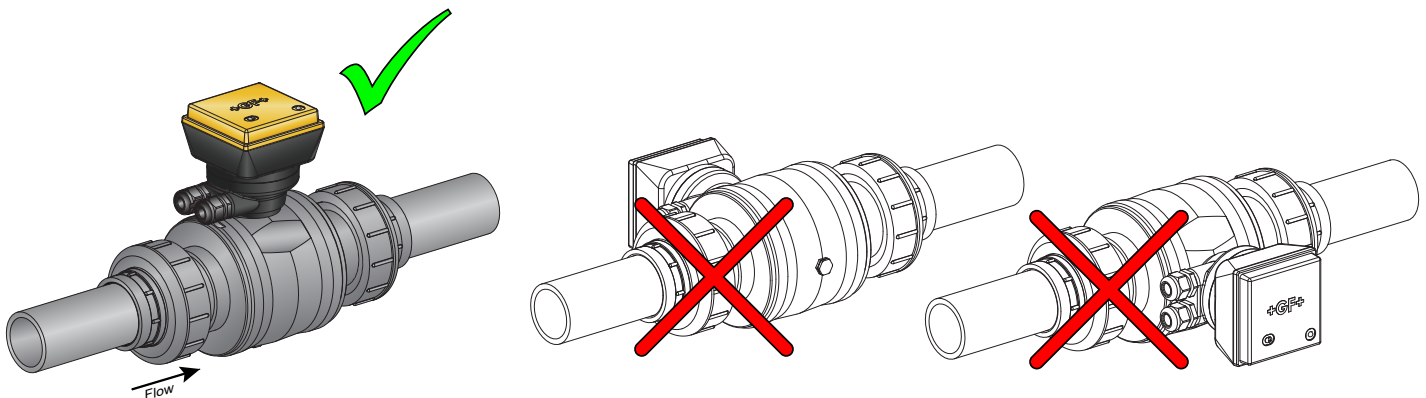- To avoid this problem, install the magmeter UPSTREAM of the injection point.

Injection Point   9900   2581

9900   2581   Injection Point
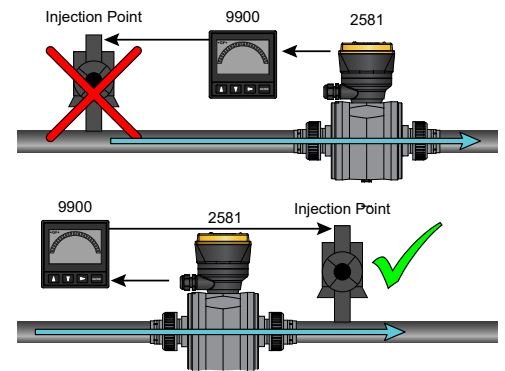
Sensor Mounting Angle

Horizontal Pipe Runs
GF recommends installing the sensor electronics at the 12 o'clock position.

> ⚠️ **DO NOT HANDLE BY THE SENSOR HEAD!**
> Always handle FlowtraMag Meters by the union nuts or flanges, **NOT** the sensor head.
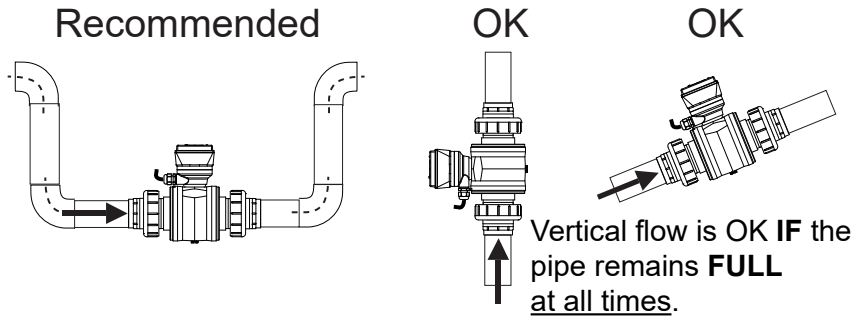
Flow

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.

Recommended   OK   OK

Vertical flow is OK **IF** the pipe remains **FULL** at all times.

Sensor Pipe Installation

⚡ **2581 FlowtraMag DN25 (1 in.)**
2581 FlowtraMag DN40 (1.5 in.)
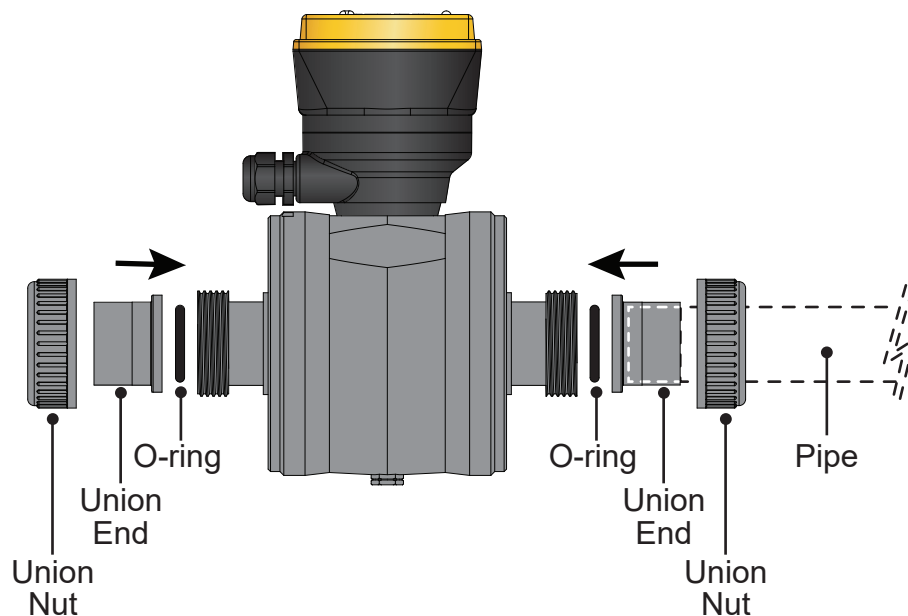**2581 FlowtraMag DN50 (2 in.)**

Union Ends Hand Tighten Only!

Application Tip: For Metric pipe installation, change Union End to Metric.

1. Choose a mounting location that satisfies the requirements.

2. Select appropriate (Metric or ASTM) union end for installation.

3. Install sensor with flow arrow pointing in the direction of flow.

Note: Gland fittings should point upstream of flow.

O-ring   O-ring   Pipe

Union End   Union End
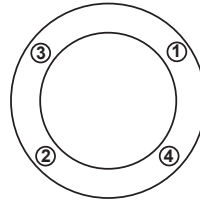
Union Nut   Union Nut

⚠️ **2581 FlowtraMag DN80 (3 in.)**
**2581 FlowtraMag DN100 (4 in.)**
DO NOT OVER TORQUE BOLTS!
Recommended bolt torque for the DN80 (3 in.) and DN100 (4 in.) flange of 27-41 Nm (20 to 30 ft-lbs)

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.
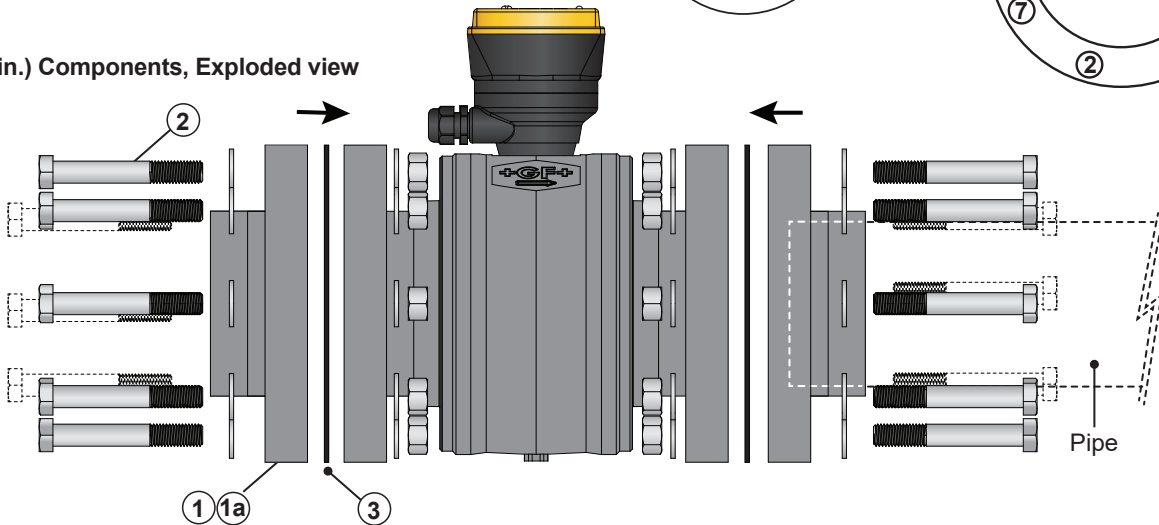
Tightening Pattern, 4 bolt   **Tightening Pattern, 8 bolt**
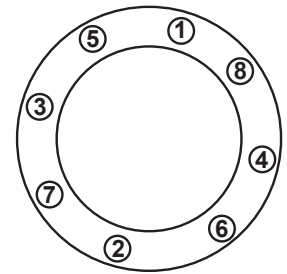
DN100 (4 in.) Components, Exploded view

Pipe

DN80 Metric Bolt Pattern Components (Note: Use M16 bolts - Sold Separately)

	Part Number	Description	Qty Req'd
1a	721 790 113	DN80 Flange Adapter, PVC-U, Metric (Use backing flange 721 700 013)	2
	721 700 013	DN80 Backing Flange, PVC-U, Metric	2
3	748 440 713	EPDM Profile Flange Gasket, Metric	2
	749 440 713	FKM Profile Flange Gasket, Metric	2

DN100 Metric Bolt Pattern Components (Note: Use M16 bolts - Sold Separately)

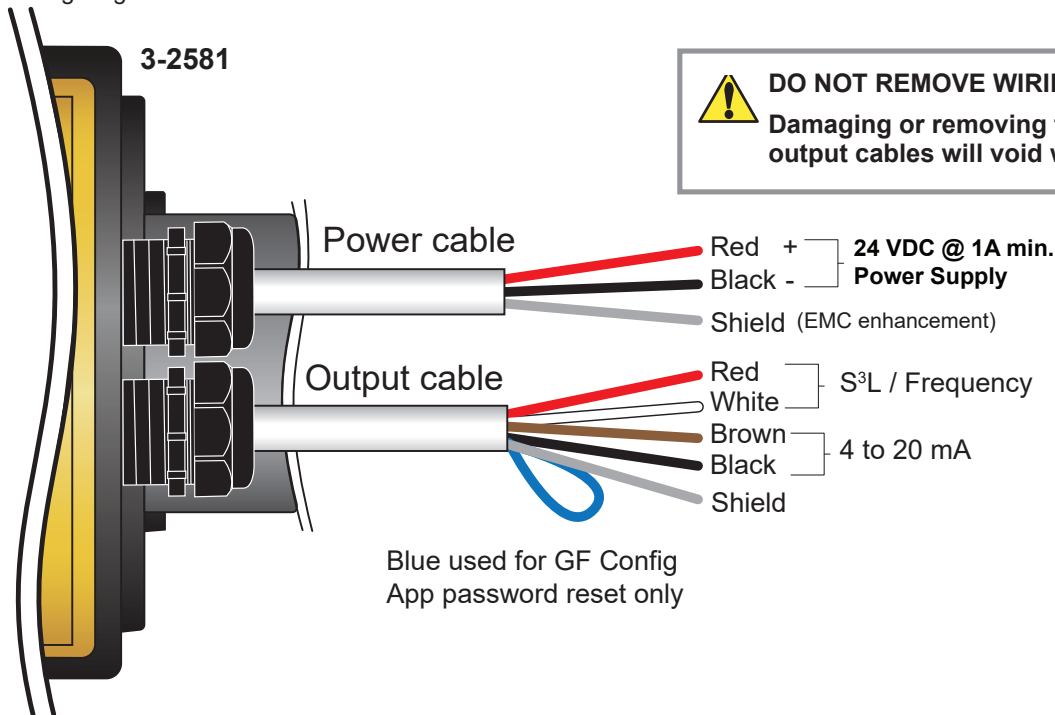|	Part Number	Description	Qty Req'd
1a	721 790 114	DN100 Flange Adapter, PVC-U, Metric (Use backing flange 721 700 014)	2
	721 700 014	DN100 Backing Flange, PVC-U, Metric	2
3	748 440 714	EPDM Profile Flange Gasket, Metric	2
	749 440 714	FKM Profile Flange Gasket, Metric	2

3 Inch ANSI Bolt Pattern Components

	Part Number	Description	Qty Req'd
1	854-030	3 in. PVC Schedule 80 Van-Stone Flange (S)	2
2	37Z 000 068	Van Stone Flange 316SS Bolt Kit, 4-hole, 3 in. ASTM	2
3	37X 002 008	EPDM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 3 in.	2
	37X 002 117	FKM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 3 in.	2

4 Inch ANSI Bolt Pattern Components

	Part Number	Description	Qty Req'd
1	854-040	4 in. PVC Schedule 80 Van-Stone Flange (S)	2
2	37Z 000 069	Van Stone Flange 316SS Bolt Kit, 8-hole, 4 in. ASTM	2
3	37X 002 009	EPDM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 4 in.	2
	37X 002 118	FKM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 4 in.	2

Wiring Configuration

When using the 2581 FlowtraMag with frequency or Digital (S³L), all of the connections from the 2581 FlowtraMag to external equipment (PLC, Datalogger, Chart Recorder, Flow meter, etc.) are made using the red and white wires. See wiring diagrams for further details.

3-2581

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

Power cable

Red   + ⎤ **24 VDC @ 1A min.**
Black - ⎦ **Power Supply**
Shield (EMC enhancement)

Output cable

Red   ⎤ S³L / Frequency
White ⎦
Brown ⎤ 4 to 20 mA
Black ⎦
Shield

Blue used for GF Config
App password reset only

Electromagnetic Compatibility (EMC) Recommendations
Complex instrumentation systems such as the 2581 FlowtraMag and the associated devices may face challenges involving Electromagnetic Interference (EMI) that present as erratic readings.

EMI Interference may be coupled to the system via cables (conducted interference) or broadcast via electrical radiation (radiated interference). Radiated interference may be mitigated by relocating the source or increasing the distance from the source and using metal shielding. Conducted interference can be mitigated by careful wiring practices. Because EMI may follow multiple paths, it will be necessary to observe the effectiveness of various grounding options.

2581 FlowtraMag Power Cable
• In electrically noisy environments, connect the power cable shield (drain) wire to a clean low impedance earth ground.
• If there is a single power supply for all 2581 FlowtraMag system components (Instruments, PLCs and VFDs), route signal wiring directly to the instruments. Do not use ground points common to other wiring. Avoid creating ground loops which occur when the potential across wires that connect to ground differ from each other.
• If separate power supplies are used, connect all power grounds to a common low impedance ground.

2581 FlowtraMag Output Cable
• In electrically noisy environments, connecting the Signal Output cable shield (drain) wire to a clean low impedance earth ground may help reduce signal noise and preserve communication. Observe the difference between connecting or not connecting the shield. Avoid creating ground loops which occur when the potential across wires that connect to ground differ from each other.
   #### Frequency/S³L Output
   - The S³L/Frequency cable shares the ground with the 2581 FlowtraMag Power Supply. Use a common DC power supply for the 2581 FlowtraMag and the monitoring flow instrument.
   #### 4 to 20 mA Output
   - If the 4 to 20 mA is used to control a highly inductive load such as a Variable Freq Drive or a DC motor, use separate DC power supplies for the 2581 FlowtraMag and the 4 to 20 mA device, active mode should be used.
   - In Passive mode the 2581 FlowtraMag loop output cable shares the ground with the 2581 FlowtraMag Power Supply. Use the same DC power supply for the 2581 FlowtraMag and the 4 to 20 mA device.
   - In Active mode the 2581 FlowtraMag loop output cable is isolated from the 2581 FlowtraMag Power Supply. The 4 to 20 mA receiving device can use a different Power Supply.

NOTE: If interference persists, an EMI filter (see EMI Filter Wiring section) or proper grounding of the fluid (see Grounding section) may be necessary.

⚠️ **Recommended:**

The directional arrow should be pointed **DOWNSTREAM** for correct operation. If the 2581 FlowtraMag 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 GF 0252 Configuration Tool or GF Config Tool App. Bluetooth®

Default Configurations

	DN25 (1 in.)	DN40 (1.5 in.)	DN50 (2 in.)	DN80 (3 in.)	DN100 (4 in.)
Units	GPM	GPM	GPM	GPM	GPM
Totalizer Units	Gallons	Gallons	Gallons	Gallons	Gallons
K-Factor Values	852.716 pulse/gal	342.9120 pulse/gal	204.139 pulse/gal	91.0772 pulse/gal	52.1188 pulse/gal
Averaging	Low	Low	Low	Low	Low
Sensitivity	3.5182	8.7486	14.696	32.9390	57.561
Low Flow Cutoff	0.1407	0.3499	0.5878	1.3176	2.3024
4 mA Setpoint	0	0	0	0	0
20 mA Setpoint	70.3630	174.9718	293.9200	658.7815	1151.2153
Error Current	22	22	22	22	22
Passive/Active	Passive	Passive	Passive	Passive	Passive
S3L/Freq	Freq	Freq	Freq	Freq	Freq

Wiring

Power cable

Black

Red

24 VDC @ 1A min. Power Supply
−
+
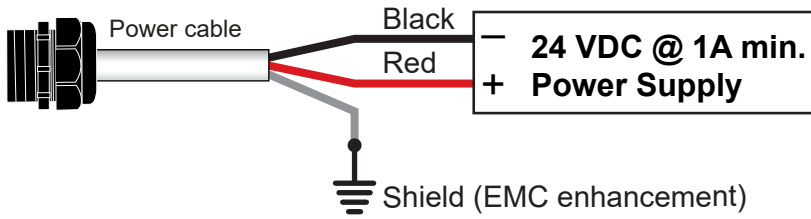
CAUTION!

Turn off Power before Wiring.

Shield (EMC enhancement)

DO NOT REMOVE Seal!

Warranty void if seal is broken or removed.

WARRANTY VOID IF REMOVED

WARRANTY VOID IF REMOVED
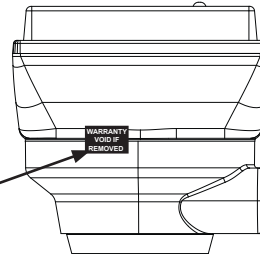
Wiring with 4 to 20 mA Loop Output

24 VDC @ 1A min. Power Supply
−
+

Black

Red

2581

Power cable

Shield (EMC enhancement)

4 to 20 mA + (Brown)

4 to 20 mA - (Black)

2581

Output cable

Blue not used

Choose Passive or Active in Bluetooth App

Red
White
Shield } Not used
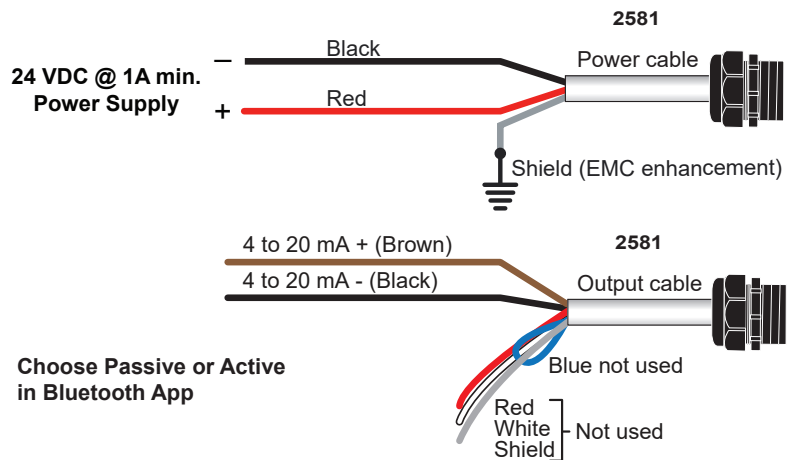
Wiring with Frequency Output

**Compatible with all POWERED GF Flow Instruments**

- When choosing **Frequency** in the Bluetooth® App, the 2581 FlowtraMag outputs an open collector frequency signal that can be connected to any powered GF flow meter (models 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.

24 VDC @ 1A min. Power Supply
−
+

Black

Red

2581

Power cable

Shield (EMC enhancement)

Data (Red)

Ground - (White)

2581

Output cable

Blue not used

Choose Frequency in Bluetooth App

Brown
Black
Shield } Not used
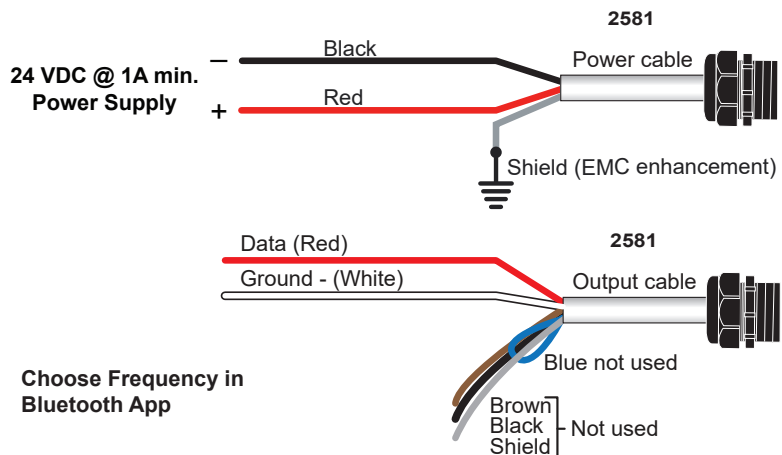
Wiring with Frequency Other Manufacturer's Equipment

When using the 2581 FlowtraMag in a system with other manufacturer's equipment, a 10 KΩ pull-up resistor (not supplied) may be required to power the open collector output.
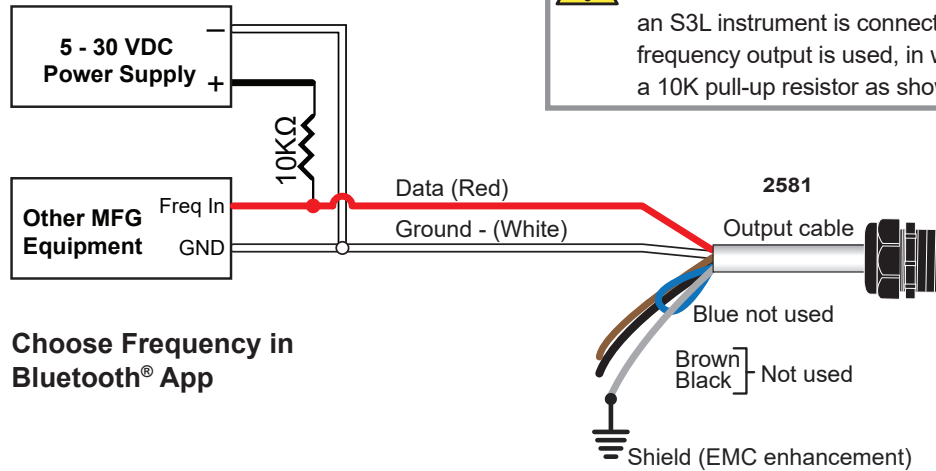
⚠️ **WARNING**
Connect the Red and White wires only when an S3L instrument is connected or when frequency output is used, in which case use a 10K pull-up resistor as shown.
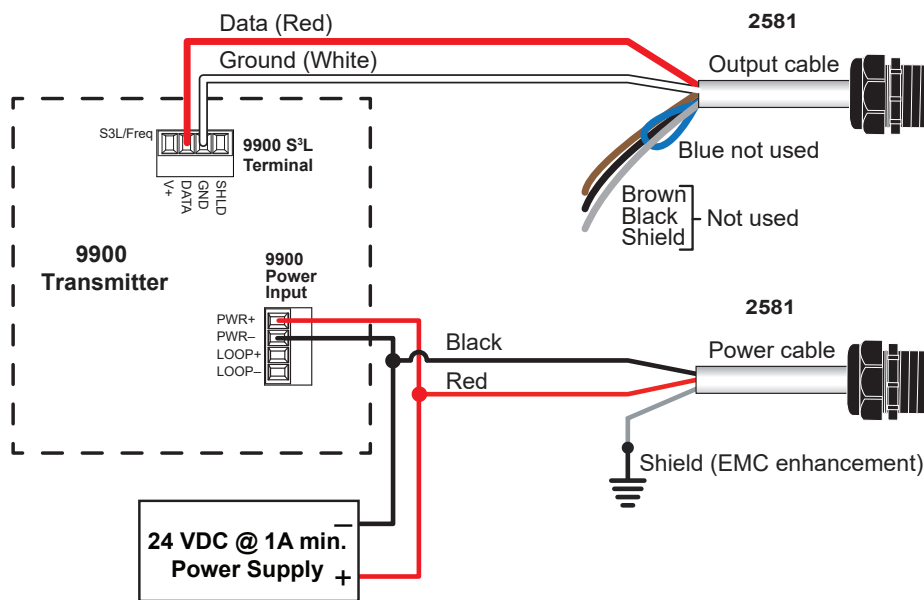
5 - 30 VDC Power Supply − +

10KΩ

Other MFG Equipment — Freq In — Data (Red)
GND — Ground - (White)

2581
Output cable

Blue not used

Brown
Black — Not used

Shield (EMC enhancement)

Choose Frequency in Bluetooth® App

Wiring with Digital (S³L) Output

Digital (S³L) Output (Compatible with 9900 and 9950 Transmitter)

- To select S³L, use Bluetooth® App.
- 24 VDC power at a minimum of 1 amp is always be connected to the 2581 FlowtraMag.
  The 9900 and 9950 will display negative numbers to indicate reverse flow.
- The maximum cable length from the 2581 FlowtraMag to the 9900 depends on the 9900 configuration.
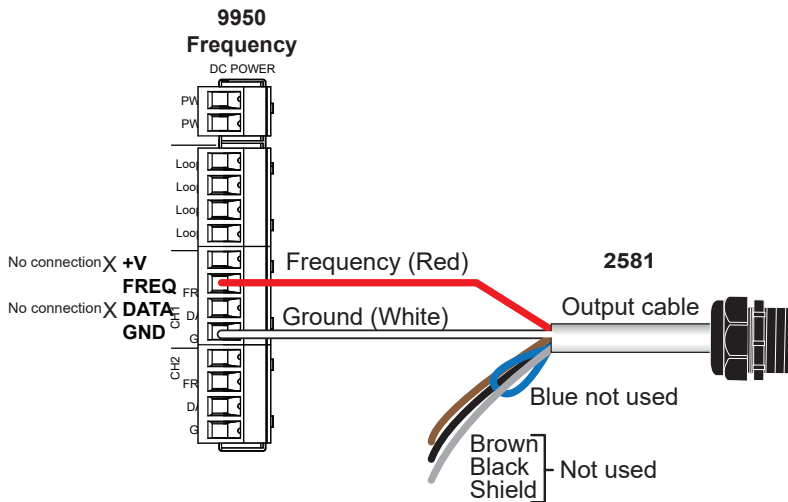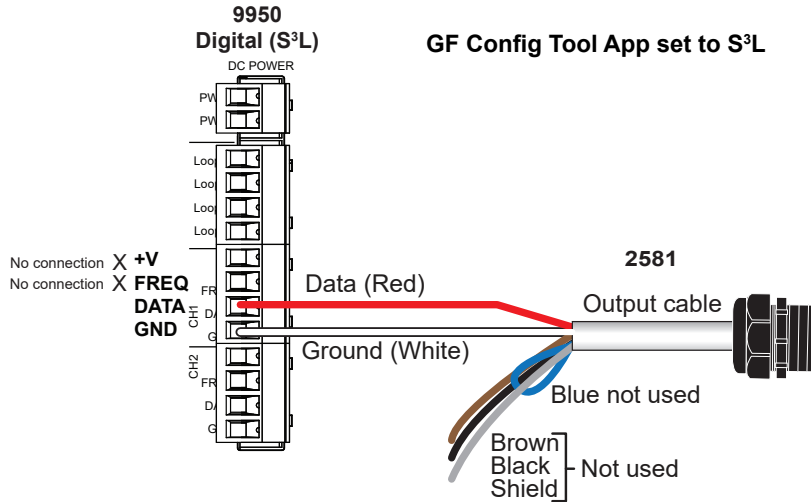- Refer to the 9900 or 9950 manual for complete information.

2581 FlowtraMag Wiring to GF 9900

Data (Red)
Ground (White)

2581
Output cable

Blue not used

Brown
Black — Not used
Shield

S3L/Freq
9900 S³L Terminal
V+ DATA GND SHLD

9900 Transmitter

9900 Power Input
PWR+
PWR−
LOOP+
LOOP−

2581
Power cable

Black
Red

Shield (EMC enhancement)

24 VDC @ 1A min. Power Supply − +

GF Config Tool App set to S³L

Wiring with Digital (S³L) Output Continued

2581 FlowtraMag Wiring to GF 9950

9950
Digital (S³L)

GF Config Tool App set to S³L

DC POWER

PW
PW

Loo
Loo
Loo
Loo

No connection X **+V**
No connection X **FREQ**   **2581**
DATA   Data (Red)
GND   Output cable

Ground (White)

Blue not used

Brown
Black — Not used
Shield

9950
Frequency

DC POWER

PW
PW

Loo
Loo
Loo
Loo

No connection X **+V**   Frequency (Red)
FREQ   **2581**
No connection X **DATA**   Ground (White)   Output cable
GND

Blue not used

Brown
Black — Not used
Shield

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

EMI Filter Wiring

EMI Filter Wiring for 2581 FlowtraMag via 4 to 20 mA

Install one EMI Filter Kit per 2581 FlowtraMag unit in-line with the DC power input and 4-20 mA current loop output, as shown in the diagram below.

Input from PLC   **Output to 2581**

EMI Filter

24 VDC   **+**   1   1   **+** Red
Power Supply   **−**   2   2   **−** Black   Power cable

Shield
(EMC enhancement)

4 to 20 mA   **+**   3   3   **+** Brown
−   4   4   **−** Black   Output cable

Not Used:
Red, white, shield, blue
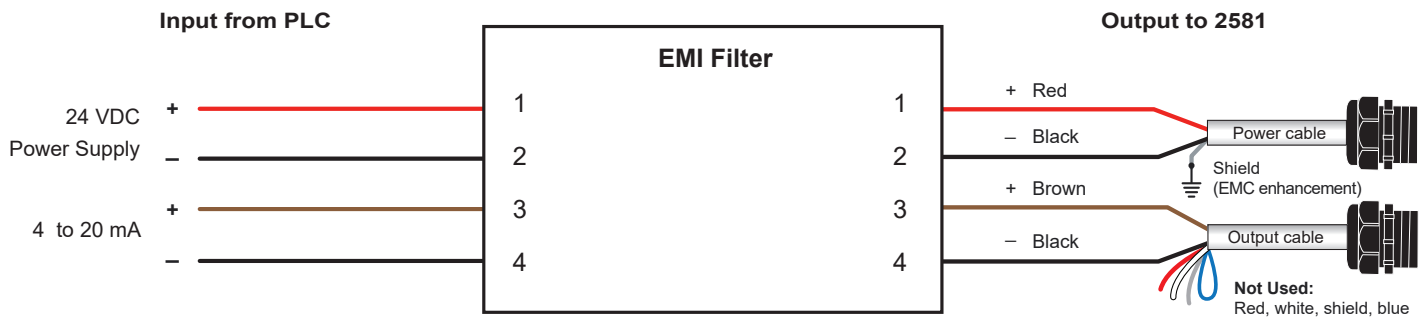
NOTE: For proper functionality, install the EMI Filter Kit closer to the 2581 FlowtraMag rather than the VFD.

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
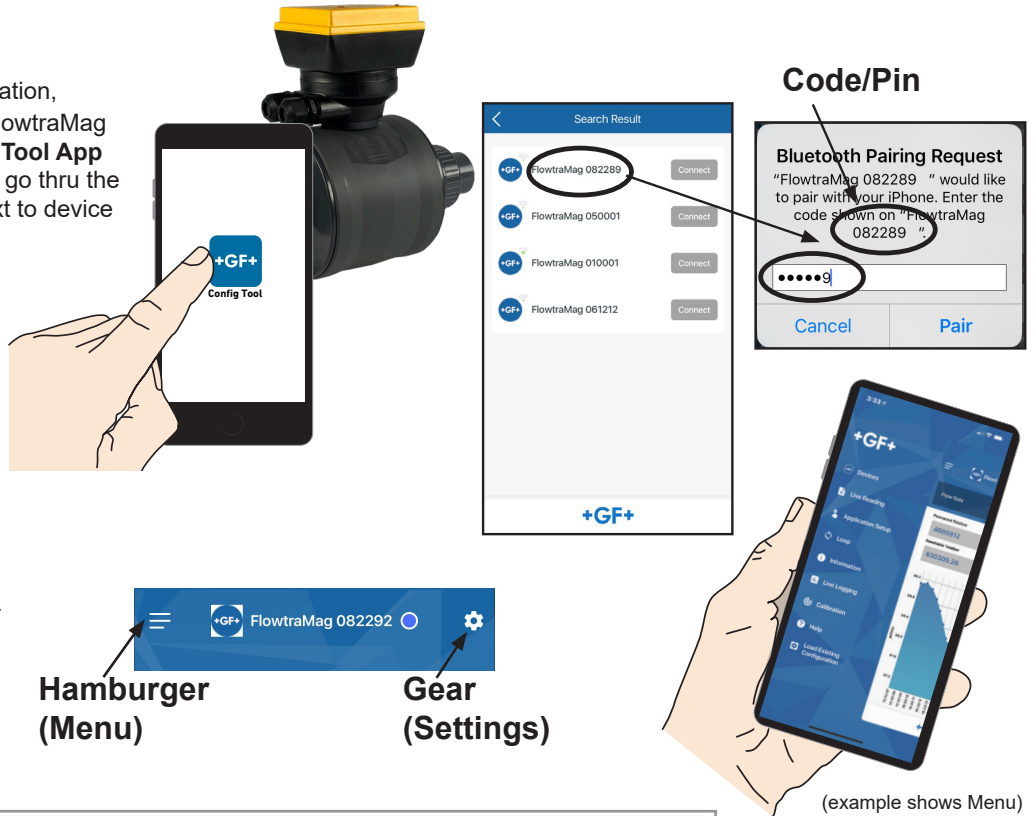3. Continue to Sensor Setup Section (next page)
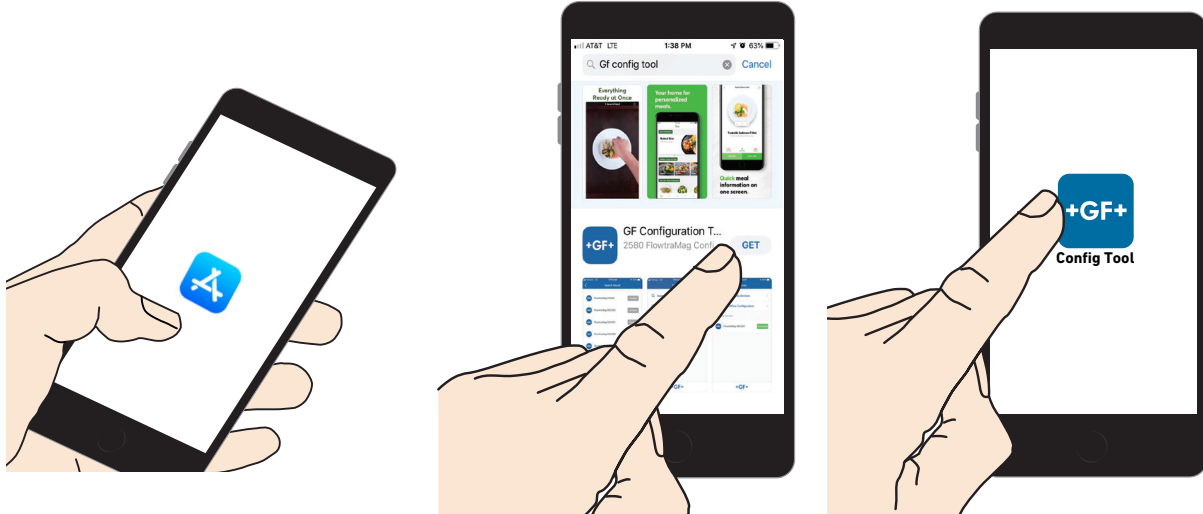
Bluetooth® App Setup Steps - Android version

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.)

iOS version

When the 2581 FlowtraMag is in operation, when in close proximity to the 2581 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 2581 FlowtraMag, if necessary, by tapping the Hamburger Menu (menu list) or Gear (edit settings).

Code/Pin

Search Result

FlowtraMag 082289   Connect
FlowtraMag 050001   Connect
FlowtraMag 010001   Connect
FlowtraMag 061212   Connect

+GF+

Bluetooth Pairing Request
"FlowtraMag 082289 " would like to pair with your iPhone. Enter the code shown on "FlowtraMag 082289 "

• • • • • 9

Cancel   Pair

(example shows Menu)

Hamburger (Menu)   Gear (Settings)

= +GF+ FlowtraMag 082292 ⚙

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.)

Android version (Version 8 or newer)

When the 2581 FlowtraMag is in operation, when in close proximity to the 2581 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 2581 FlowtraMag, if necessary, by tapping the Hamburger Menu (menu list) or Gear (edit settings).

Code/Pin

Search Result

FlowtraMag 082289   Connect
FlowtraMag 050001   Connect
FlowtraMag 010001   Connect
FlowtraMag 061212   Connect

+GF+

Bluetooth pairing request

Enter PIN to pair with FlowtraMag 082289 (Try 0000 or 1234).

PIN
• • • • • 9

○ PIN contains letters or symbols

CANCEL   OK

(example shows Menu)

Hamburger (Menu)   Gear (Settings)

= +GF+ FlowtraMag 082292 ⚙
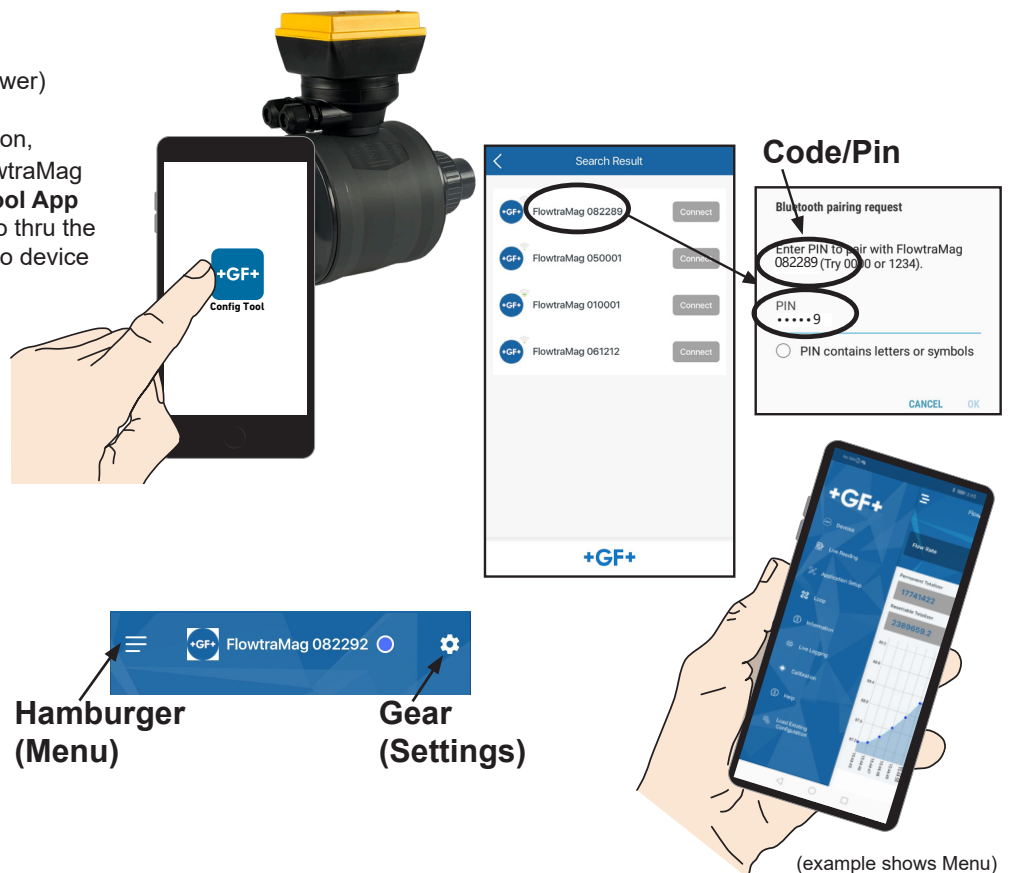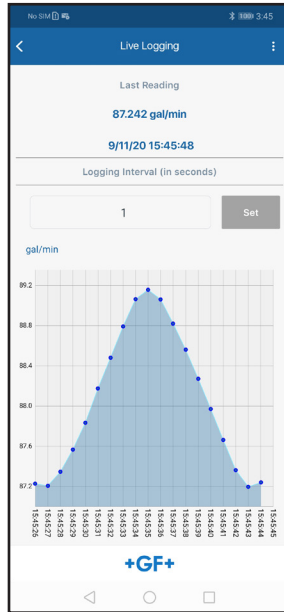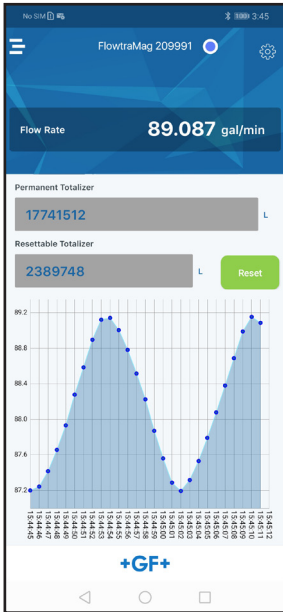
Monitoring flow and totalizer

Live Logging while connected to mobile / tablet device, set 1 sec or more increments
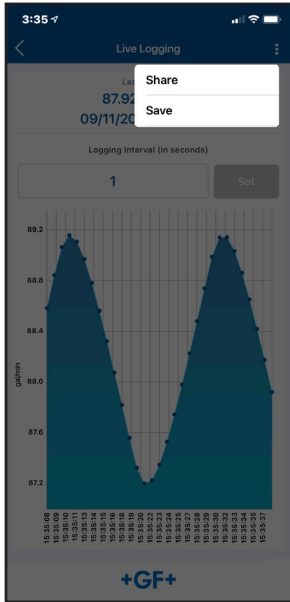
iOS version
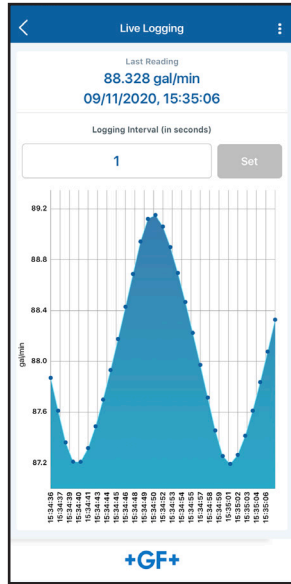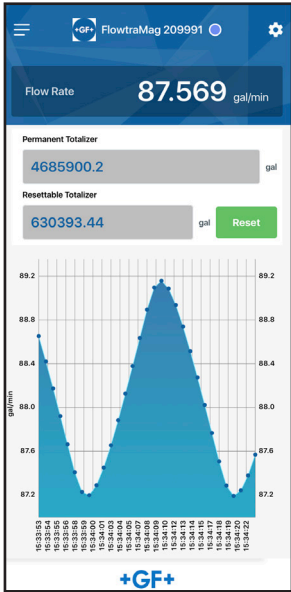
> ⚠ **Note:**
> The logging screen only logs current screen view in real-time when connected to the app.
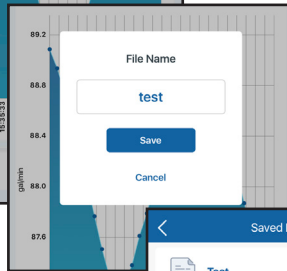
Android version

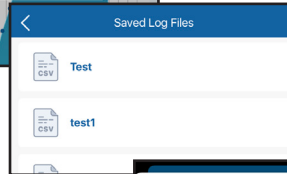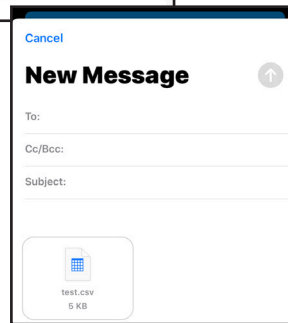## App Configuration - Files

Share and/or Save files

Naming files

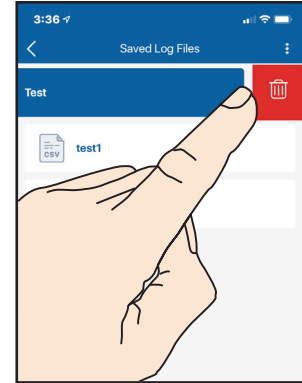To delete saved files, slide to the right and click trash can

Create filename

The file will be saved at mobile/tablet device under the Saved Log Files

Then files can be sent by Email with .csv file format

## App Configuration - Sensor Setup

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.
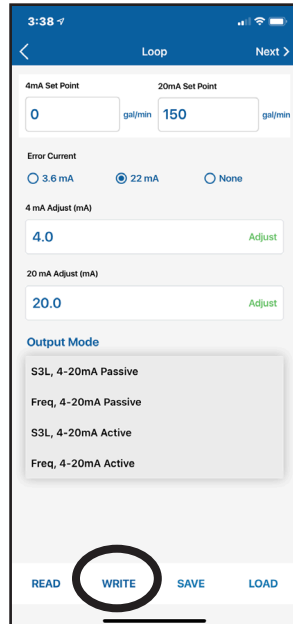
Application Setup
To set Averaging, Sensitivity, Low Flow Cut Off, Position of Flow, Flow Units and Totalizer Unit.
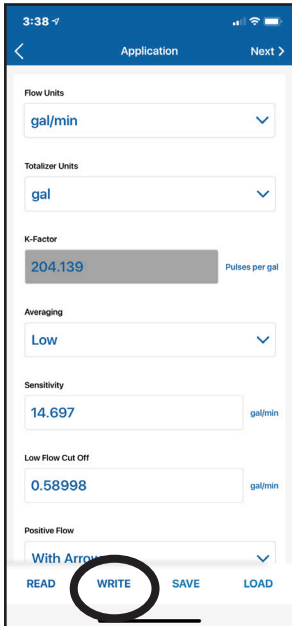
Loop
Set 4 mA, 20 mA, Error condition of the current output alarm (3.6 or 22 mA), adjust your 4 to 20 mA setting and select output mode.
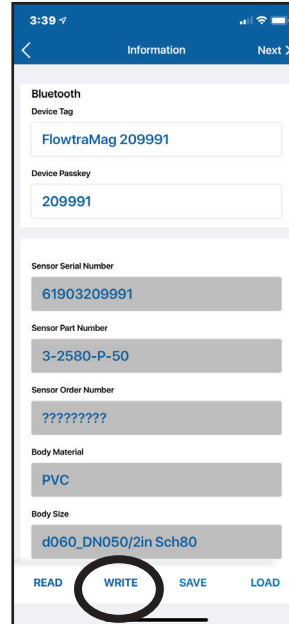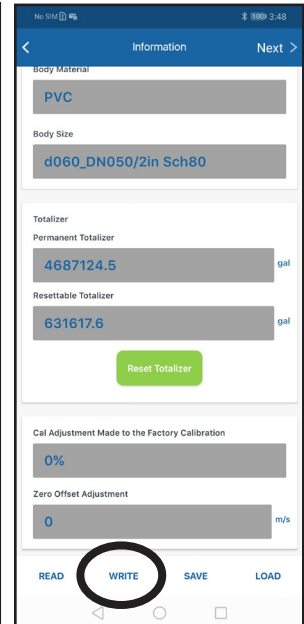
Loop adjustment is a live update.

Information
Sensor information, Bluetooth Device Tag, Permanent Totalizer, Resettable Totalizer, Calibration Adjustment Factor, Zero Offset Adjustment
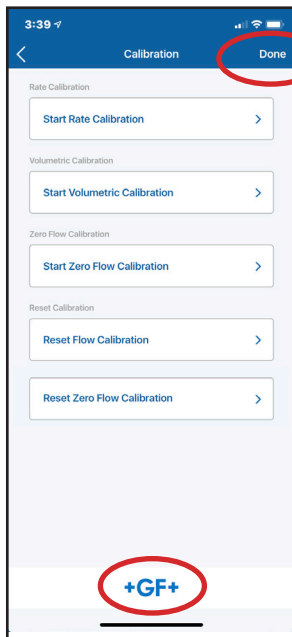
iOS version

Android version

Note: You must press WRITE to save your changes to the <u>sensor</u>.
Otherwise it saves to your phone only.

Calibration
Custom Calibration of Rate, Volumetric, Zero Flow Calibration.

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

To switch between digital (S³L) 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 digital (S³L) 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 saved 2581 FlowtraMag in iOS:
   Swipe right and select the trash can icon.
To delete saved 2581 FlowtraMag in Android:
   Swipe right, "Are you sure you want to delete this device?", choose Yes or No.

Technical Note
The totalizer in the 2581 FlowtraMag is independent from the totalizer in the 9900/9950 transmitters. If the totalizer is reset on the 2581 FlowtraMag, it does not reset the totalizer on the 9900 or 9950.

Close 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.

Calibration

No calibration is necessary to begin using the 2581 FlowtraMag. 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:

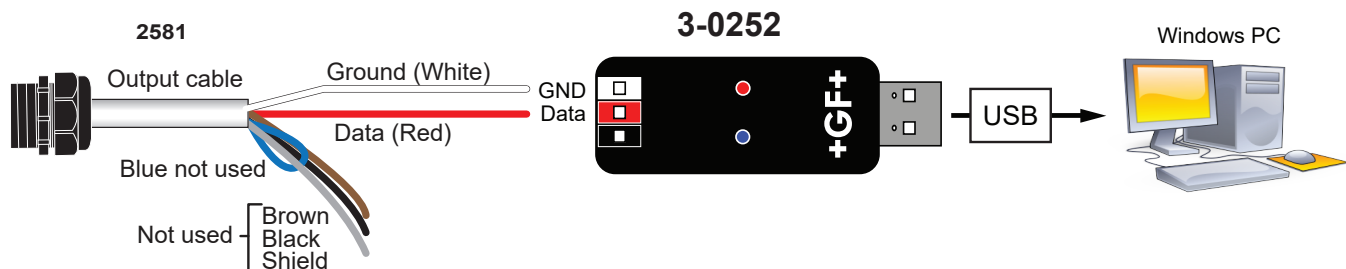| FlowtraMag Model	K-Factor pulse/L	K-Factor pulse/Gal	Flow Rate @20 mA L/min	Flow Rate @20 mA Gal/min
DN25 (1 in.)	225.264	852.716	266.350	70.363
DN40 (1.5 in.)	90.588	342.912	662.340	174.972
DN50 (2 in.)	53.928	204.139	1112.600	293.920
DN80 (3 in.)	24.060	91.077	2493.760	658.781
DN100 (4 in.)	13.768	52.119	4357.800	1151.200

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 GF 0252 Configuration Tool and software.
Refer to the GF 0252 Configuration Tool manual for details to adjust the following parameters:

Output Mode: Factory setting is Frequency, but must be changed to S³L on the mobile app to use the 0252 Tool.
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.
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.

2581 — Output cable — Ground (White) — Data (Red) — Blue not used — Not used: Brown, Black, Shield
3-0252 — GND, Data — +GF+ — USB — **Windows PC**

NOTE: Set Output Mode to S³L via the Bluetooth Mobile Application.

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 2581 FlowtraMag 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 2581 FlowtraMag 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.

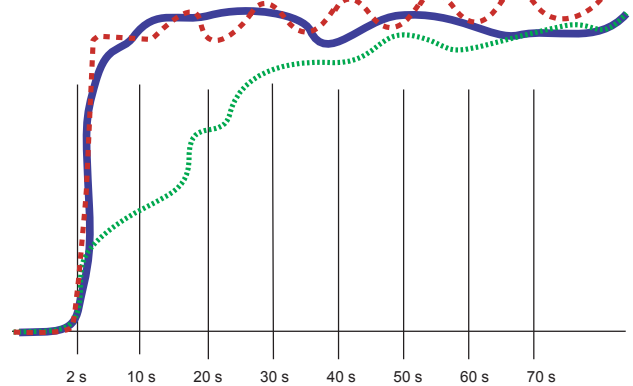**▪ ▪ ▪ ▪ No AVERAGING, no SENSITIVITY**

With AVERAGING set to Off and with SENSITIVITY set to zero, the 2581 FlowtraMag 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).

2 s   10 s   20 s   30 s   40 s   50 s   60 s   70 s

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

Grounding

Inconsistent or inaccurate readings can occur due to electrical noise radiated through the fluid when the fluid has very high conductivity or noise levels. In these cases, it is strongly recommended to install grounding rings or metallic couplings immediately upstream and downstream of the 2581 FlowtraMag and connect them to an isolated earth ground wire (12 AWG/4mm^2 wire recommended).
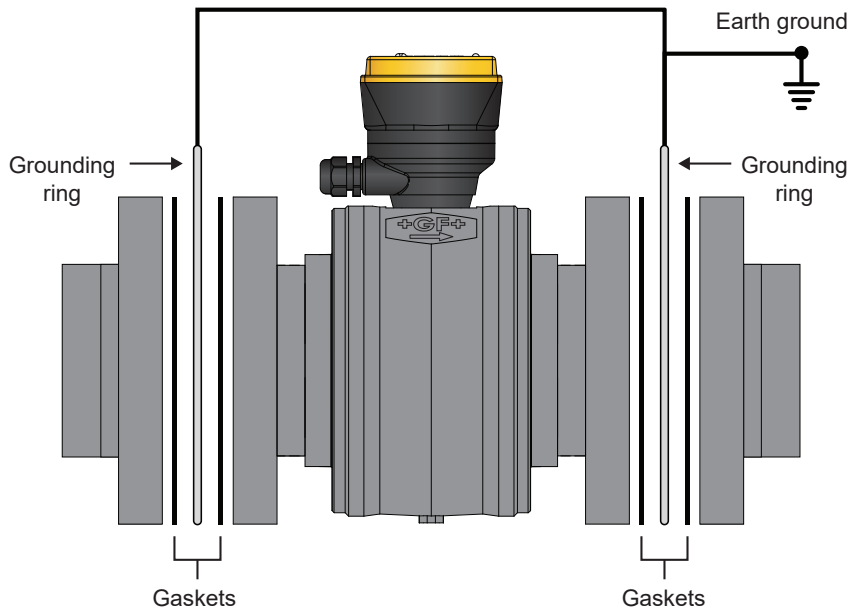
NOTE: These grounding devices must be in contact with the fluid and must not affect the flow. In addition, the grounding wires should not be connected to any other electrical devices to avoid ground loops.

LED Status Indicators

LEDs on the 2581 FlowtraMag 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.
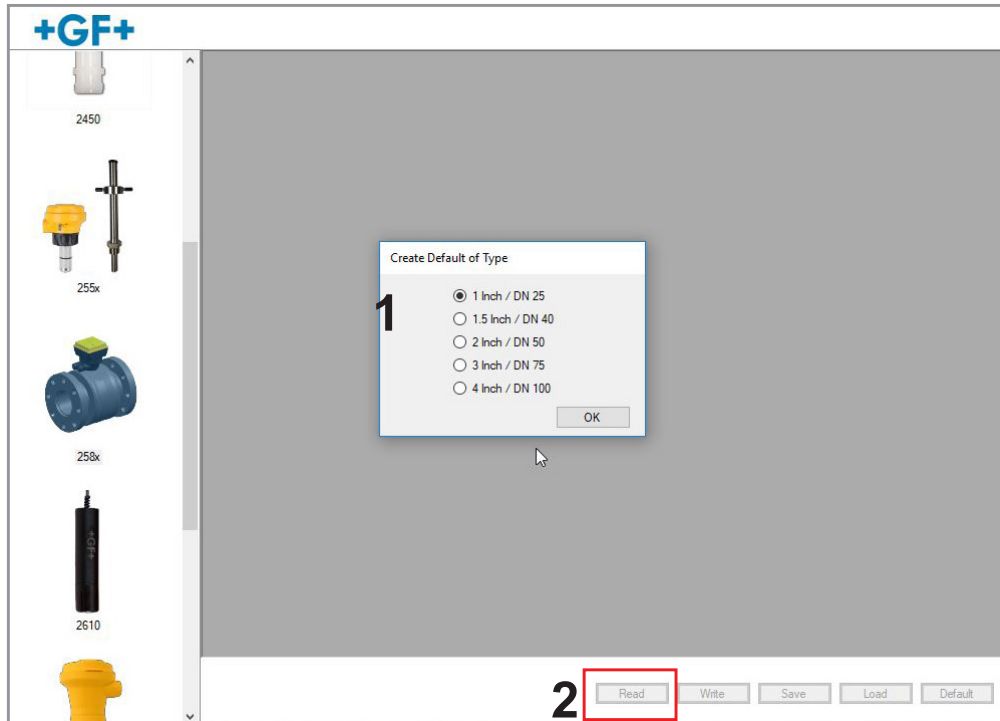
1. Select default unit by type, then click ok.
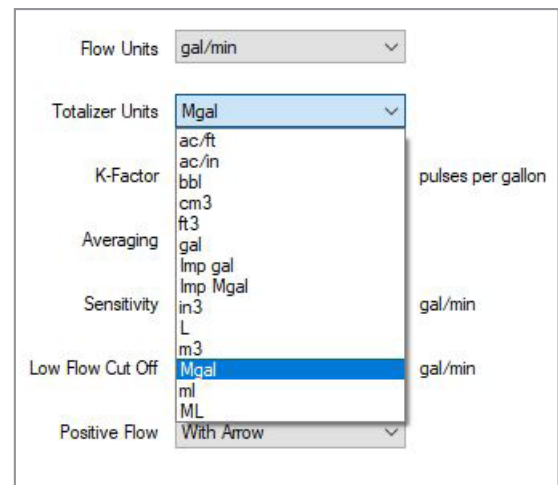
2. Then click on **Read** from the device.
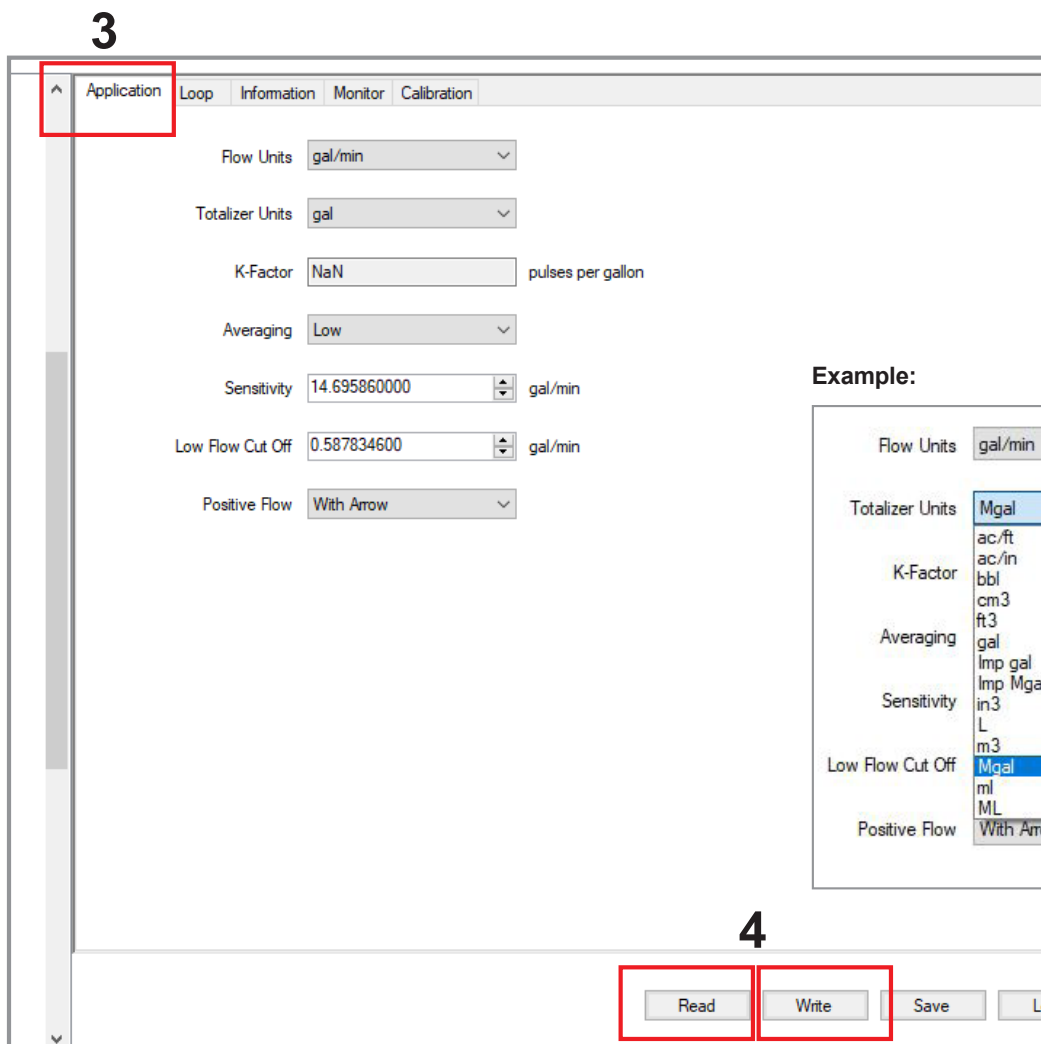
3. The **Application** tab, select flow unit (drop down menu), totalizer unit (drop down menu), Averaging (drop down menu), Sensitivity, Low Flow Cut Off and Direction of the Flow (drop down menu).

4. If the user has any correction or change, you must **Write** the information to device, then click **Read** device again.

Example:

5

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

    If the user has any correction or change, you must **Write** the information to device, then click **Read** device again.
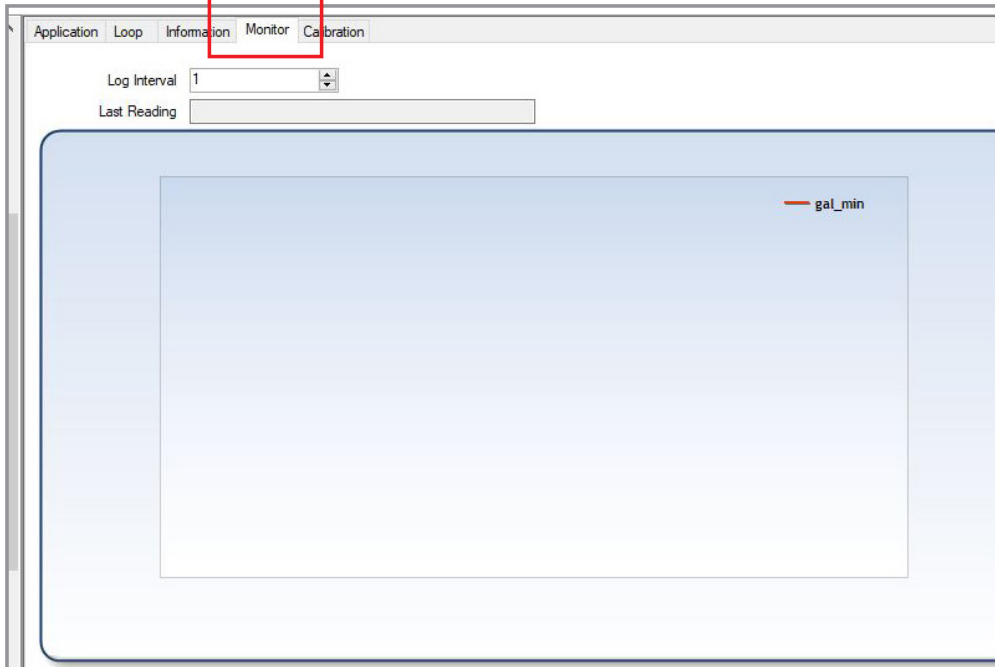
Note:
The 0252 Configuration Tool will be unable to connect to sensor when set to frequency.

6

6. The **Information** tab displays product information, calibration adjustment information, totalizer information, and Bluetooth® data.

    If the user has any correction or change, you must **Write** the information to device, then click **Read** device again.
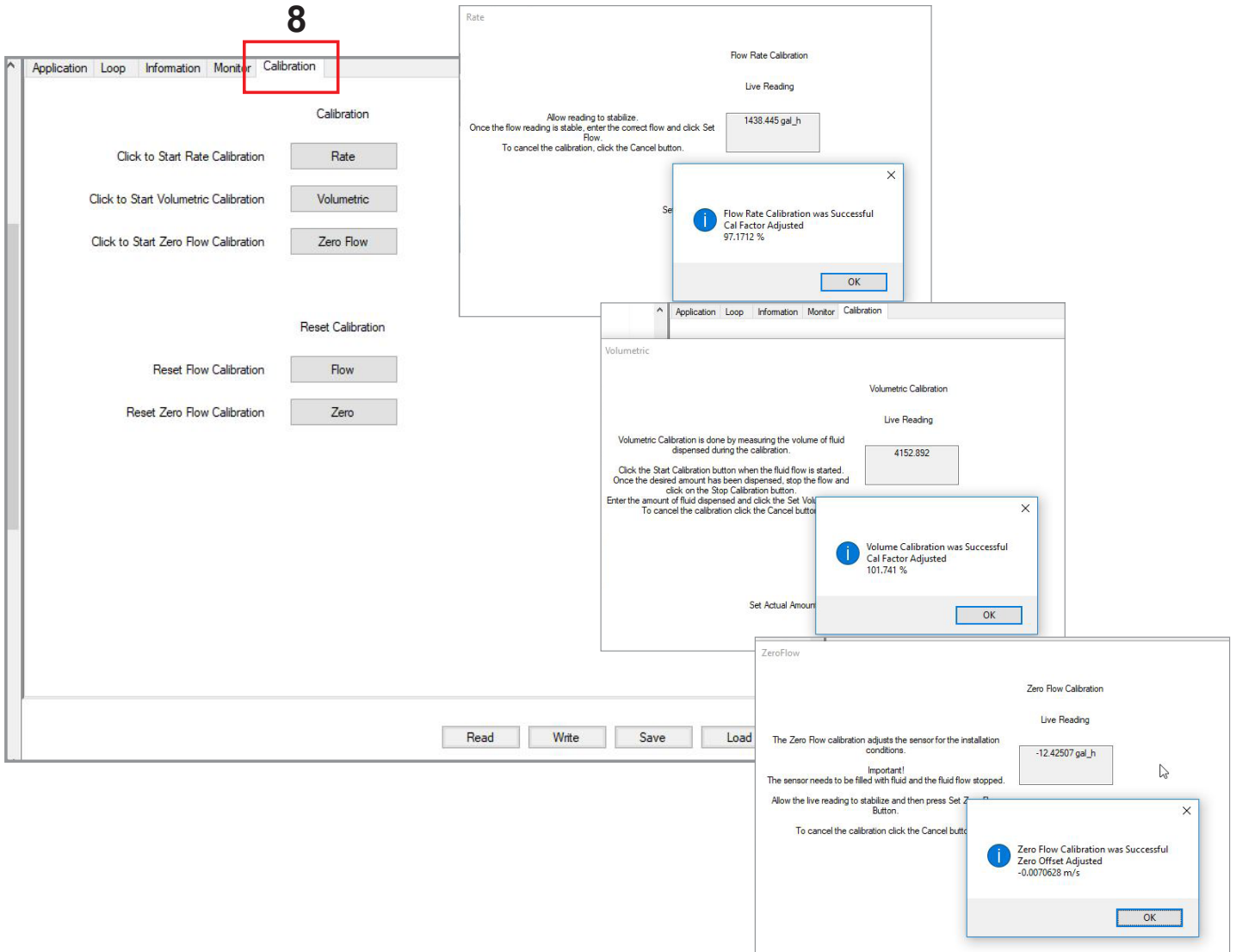
7

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

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

8

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.
Solid Red	1. EMI 2. Instrument error or defective electronic component	1. Verify the grounding of the 2581 FlowtraMag and of the nearby VFDs and Pumps or use the EMI Filter Kit. If problem persists, use grounding rings. 2. Contact technical support.
Frequency output does not work	1. Bluetooth selection is S³L. 2. Improper wiring.	1. Select frequency from GF Config Tool or 0252 Configuration Tool. 2. Check wiring. Use the wiring diagram picture in the 2581 FlowtraMag manual.
Frequency, Digital or Current Output is Erratic	1. Electrical Noise interference with the flow measurement. 2. Possible air pockets traveling through the piping system. 3. Pipe is not full and water flow creates splashing of the electrodes. 4. Excess turbulence in fluid flow profile. 5. Large and sudden swings in fluid conductivity due to Chemical dosing occurring upstream. 6. Dirty electrodes.	1. Verify the grounding of the 2581 FlowtraMag and of the nearby VFDs and Pumps or use the EMI Filter Kit. If problem persists, use grounding rings. 2. Check the piping and use vents if possible, otherwise wait for the air pockets to be eliminated through the system. 3. Try to keep the pipe full, by installing vertical. 4. Follow product manual recommended xD installation distances. 5. Relocate 2581 to upstream of chemical dosing, or improve mixing of chemical and more continuous dosing so as not to create conductivity spikes in the fluid. 6. Clean electrodes and ensure there is no debris
Output is not Zero when flow is stopped	1. Low Flow Cutoff flow value is lower than the zero flow noise level. 2. Electrical noise is interfering with the measurement. 3. Defective 2581 FlowtraMag.	1. Adjust the Low Flow Cutoff value to be above the noise level. 2. Verify the grounding of the 2581 FlowtraMag and of the nearby VFDs and Pumps or use the EMI Filter Kit. If problem persists, use grounding rings. 3. Contact Technical Support.

Symptom	Possible Cause	Solution
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.)
Measurement inaccurate	1. Improper calibration. 2. Sensor fault as indicated by the Red LED. 3. Media conductivity is lower than 20 µS/cm.	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. 2. Cycle power, make sure there is no excessive electrical noise interference. If Red LED stays on, contact Technical Support. 3. Check application and make sure the conductivity is above the specified 20 µS/cm.
User cannot communicate using the 0252 Tool	1. There is no digital (S^{3}L) communication. 2. The digital (S^{3}L) wiring is improper.	1. Select S^{3}L from GF Config Tool or 0252 Configuration Tool. 2. Check wiring as per manual.
User cannot communicate using the Bluetooth®	1. The GF Config Tool App is not installed properly. 2. The GF Config Tool App has not been identified properly. 3. The GF Config Tool App does not connect.	1. Check the Bluetooth® white light to be on. 2. Use the GF Config Tool App to identify the FlowtraMag to connect to (use elimination method if more Bluetooth® units present.) Record the FlowtraMag's IDs, or delete unused sensors. 3. Restart GF Config Tool App.
4 to 20 mA output is incorrect	1. The 4 to 20 mA in the 2581 FlowtraMag is not scaled properly. The Instrument used with the FlowtraMag has the 4 to 20 mA input not matching the 2581 FlowtraMag. 2. The setting and/or wiring for active / passive 4 to 20 mA is done incorrectly. 3. Defective hardware.	1. Scale the current output in the 2581 FlowtraMag correctly using the GF Config Tool App or the 0252 Configuration Tool. 2. Change the Instrument scaling to match the 2581 FlowtraMag. 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 2581 FlowtraMag 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 2581 FlowtraMag manual wiring diagram. 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.
Current Output at 3.6 mA or 22 mA	There is an error condition in the 2581 FlowtraMag.	Check status LED and follow existing guideline for troubleshooting.

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Ordering Information

Mfr. Part No.	Code	Description
3-2581-PT01-101	**159 001 970**	FlowtraMag, PVC, Titanium, FKM O-Ring, Union, DN25 (1 in.)
3-2581-PT15-101	**159 001 971**	FlowtraMag, PVC, Titanium, FKM O-Ring, Union, DN40 (1.5 in.)
3-2581-PT02-101	**159 001 972**	FlowtraMag, PVC, Titanium, FKM O-Ring, Union, DN50 (2 in.)
3-2581-PT03-101	**159 001 973**	FlowtraMag, PVC, Titanium, FKM O-Ring, Flange, DN80 (3 in.)
3-2581-PT04-101	**159 001 974**	FlowtraMag, PVC, Titanium, FKM O-Ring, Flange, DN100 (4 in.)
3-2581-PH01-101	**159 001 975**	FlowtraMag, PVC, *Hastelloy C,* FKM O-Ring, Union, DN25 (1 in.)
3-2581-PH15-101	**159 001 976**	FlowtraMag, PVC, *Hastelloy C,* FKM O-Ring, Union, DN40 (1.5 in.)
3-2581-PH02-101	**159 001 977**	FlowtraMag, PVC, *Hastelloy C,* FKM O-Ring, Union, DN50 (2 in.)
3-2581-PH03-101	**159 001 978**	FlowtraMag, PVC, *Hastelloy C,* FKM O-Ring, Flange, DN80 (3 in.)
3-2581-PH04-101	**159 001 979**	FlowtraMag, PVC, *Hastelloy C,* FKM O-Ring, Flange, DN100 (4 in.)
3-2581-PT01-102	**159 001 980**	FlowtraMag, PVC, Titanium, EPDM O-Ring, Union, DN25 (1 in.)
3-2581-PT15-102	**159 001 981**	FlowtraMag, PVC, Titanium, EPDM O-Ring, Union, DN40 (1.5 in.)
3-2581-PT02-102	**159 001 982**	FlowtraMag, PVC, Titanium, EPDM O-Ring, Union, DN50 (2 in.)
3-2581-PT03-102	**159 001 983**	FlowtraMag, PVC, Titanium, EPDM O-Ring, Flange, DN80 (3 in.)
3-2581-PT04-102	**159 001 984**	FlowtraMag, PVC, Titanium, EPDM O-Ring, Flange, DN100 (4 in.)
3-2581-PH01-102	**159 001 985**	FlowtraMag, PVC, *Hastelloy C,* EPDM O-Ring, Union, DN25 (1 in.)
3-2581-PH15-102	**159 001 986**	FlowtraMag, PVC, *Hastelloy C,* EPDM O-Ring, Union, DN40 (1.5 in.)
3-2581-PH02-102	**159 001 987**	FlowtraMag, PVC, *Hastelloy C,* EPDM O-Ring, Union, DN50 (2 in.)
3-2581-PH03-102	**159 001 988**	FlowtraMag, PVC, *Hastelloy C,* EPDM O-Ring, Flange, DN80 (3 in.)
3-2581-PH04-102	**159 001 989**	FlowtraMag, PVC, *Hastelloy C,* EPDM O-Ring, Flange, DN100 (4 in.)

Ordering Information

Accessories

Mfr. Part No.	Code	Description
3-0252	159 001 808	0252 Configuration Tool (optional for configuring with PC)
3-2581.391	159 002 143	2581 FlowtraMag EMI Filter Kit
5523-0222	159 000 392	Cable (per foot), 2 cond. w/shield, 22 AWG
5523-0224	159 855 034	Cable (per foot), 6 cond. w/shield, 22 AWG

3-2581-PX01-10X Accessories:

857 375 010	857 375 010	PVC 80 Type 375 Union FKM (SxS) 1 in. (ASTM)
1220-0218	159 812 039	1.234IDX.139 FKM O-ring RMS 1071 (1 in.) (2 required per unit)
897 375 010	897 375 010	PVC 80 Type 375 Union EPDM (SxS) 1 in. (ASTM)
1224-0218	159 812 044	NSF 1.234IDX.139 EPDM O-ring (1 in.) (2 required per unit)
161 375 904C	161 375 904C	Union End, PVC, PN16, d32DN25 (Metric)

3-2581-PX15-10X Accessories:

857 375 015	857 375 015	PVC 80 Type 375 Union FKM (SxS) 1.5 in. (ASTM)
1220-0327	159 812 040	1.725IDX.210 FKM O-ring RMS1071 (1.5 in.) (2 required per unit)
897 375 015	897 375 015	PVC 80 Type 375 Union EPDM (SxS) 1.5 in. (ASTM)
1224-0327	159 812 045	NSF 1.725IDX.210 EPDM O-RING (1.5 in.) (2 required per unit)
161 375 906C	161 375 906C	Union End, PVC, PN16, d50DN40 (Metric)

3-2581-PX02-10X Accessories:

857 375 020	857 375 020	PVC 80 Type 375 Union FKM (SxS) 2 in. (ASTM)
1220-0331	159 812 041	2.225X.210 FKM O-RING RMS1071 (2 in.) (2 required per unit)
897 375 020	897 375 020	PVC 80 Type 375 Union EPDM (SxS) 2 in. (ASTM)
1224-0331	159 812 046	NSF 2.225X.210 EPDM O-RING (2 in.) (2 required per unit)
161 375 907C	161 375 907C	Union End, PVC, PN16, d63DN50 (Metric)

3-2581-PX03-10X Accessories:

854-030	854-030	3 in. PVC80 Van-Stone Flange (S)
37X 002 117	37X 002 117	FKM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 3 in.
37X 002 008	37X 002 008	EPDM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 3 in.
37Z 000 068	37Z 000 068	Van Stone Flange 316SS Bolt Kit, 4-hole, 3 in. ASTM
721 790 113	721 790 113	DN80 Flange Adapter, PVC-U, Metric (Use with backing flange 721 700 013)
721 700 013	721 700 013	DN80 Backing Flange, PVC-U, Metric
749 440 713	749 440 713	DN80 FKM Profile Flange Gasket, Metric
748 440 713	748 440 713	DN80 EPDM Profile Flange Gasket, Metric

3-2581-PX04-10X Accessories:

854-040	854-040	4 in. PVC80 Van-Stone Flange (S)
37X 002 118	37X 002 118	FKM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 4 in.
37X 002 009	37X 002 009	EPDM Full Face Flange Gasket - 150# ANSI Bolt Pattern - 4 in.
37Z 000 069	37Z 000 069	Van Stone Flange 316SS Bolt Kit, 8-hole, 4 in. ASTM
721 790 114	721 790 114	DN100 Flange Adapter, PVC-U, Metric (Use with backing flange 721 700 014)
721 700 014	721 700 014	DN100 V-Flange Ring PVC-U, Metric
749 440 714	749 440 714	DN100 FKM Profile Flange Gasket, Metric
748 440 714	748 440 714	DN100 EPDM Profile Flange Gasket, Metric

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