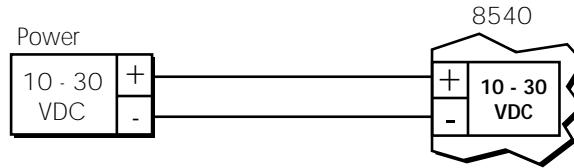


3-8540.090-1
B-3/97

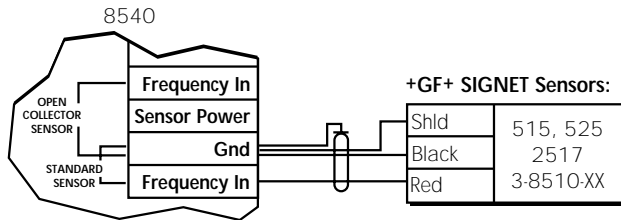
CAUTION!
Remove power to unit before wiring input and output connections.

1. Power Connections

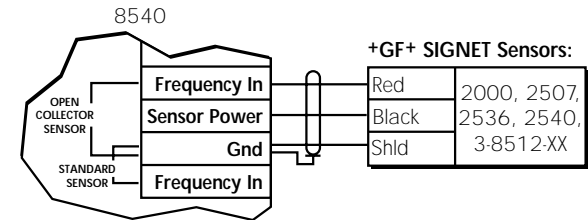


2. Compatible Sensor Connections

2.1 Non-Powered +GF+ SIGNET Flow Sensors

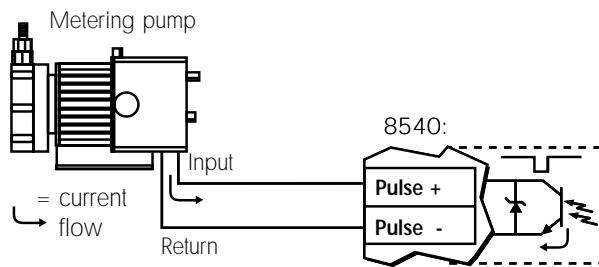


2.2 Powered +GF+ SIGNET Flow Sensors



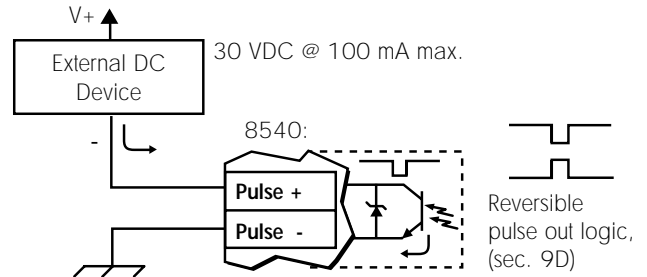
3. Pump Pulse Output Wiring

3.1 Metering pump control



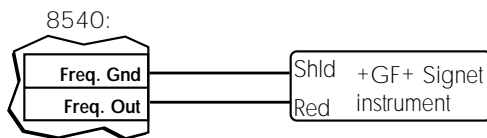
- The open-collector pulse output signal will activate all leading metering pumps requiring dry contact closures. See section 9D for pulse output operation details.
- If the metering pump strokes once and fails to continue, reverse the input and return wires for proper operation.

3.2 External device control

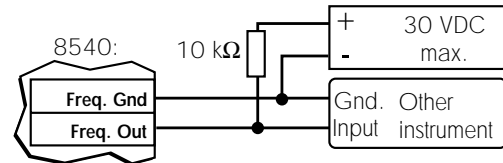


- The open-collector pulse output will work with any external **DC powered** device (e.g. relay or solenoid valve) which does not exceed 30 VDC @ 100 mA.
- The pulse output logic can be reversed as required (sec. 9D)

4. Sensor Frequency Output Wiring



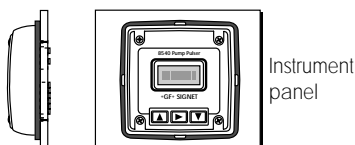
- Conditioned sensor frequency output
- +GF+ Signet Intelk-Pro, use 2535 input card setting



5. Installation Options

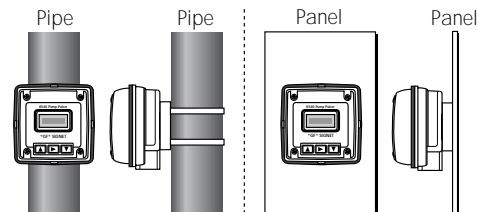
5.1 Standard Panel Mount

- Panel cutout template/instructions (included).



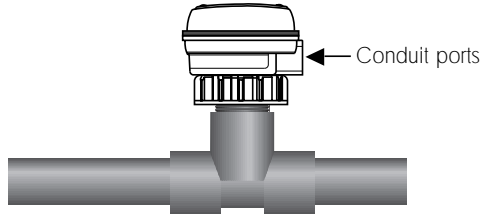
5.2 Optional 3-8010 Universal Mounting Kit

- NPT and DIN conduit port kits available (see section 5.3).
- See section 10 for ordering options.

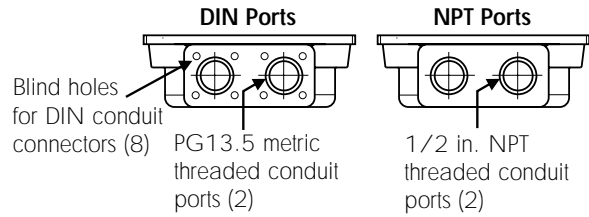


5.3 Optional 3-8011 Integral Mounting Kit

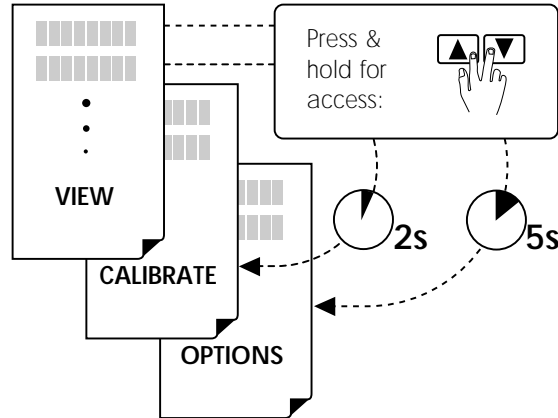
- NPT and DIN conduit port kits available.
- Compatible with 3-8510-XX/3-8512-XX flow sensors (only).
- Flow sensor and fitting purchased separately (see section 10).



Conduit Port Options



6. FUNCTIONS



7. VIEW (example)

	1 Choose:	2 Change:	3 Save:
A.	<p>▲</p> <p>12.34gpm</p> <p>Flow rate</p>	<p>▶ Press to access totalizer reset procedure (right)</p>	
B.	<p>▲ ▼</p> <p>2s galx1000</p> <p>↳ 12345678</p> <p>Resettable total</p>		
C.	<p>▲ ▼</p> <p>2s oo Total</p> <p>↳ 12345678</p> <p>Permanent total</p>		
D.	<p>▲ ▼</p> <p>1000.0g</p> <p>Pulse volume</p>		
E.	<p>▲ ▼</p> <p>2s PulsTot1</p> <p>↳ 12345678</p> <p>Pulse total</p>		
F.	<p>▲ ▼</p> <p>01-03-97</p> <p>Last cal.</p>		

Totalizer Reset Procedure

<p>OPTIONS = </p> <p>Reset? ></p> <p>1. Press and hold: 2s</p> <p>2. 00000000</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>To exit without changes:</p> <p> quick press</p> </div>	<p>OPTIONS = </p> <p>Rst:-----</p> <p>1. Press keys in sequence: </p> <p>Reset? ></p> <p>2. Press and hold: 2s</p> <p>3. 00000000</p>
--	---

VIEW Menu Functions A - F:

- Displays current flow rate
- Displays total flow units measured since the last totalizer reset. Totalizer can be reset at any time from the front keypad. A keypad sequence is required to reset the totalizer when the OPTIONS menu totalizer "Lock: on" selection is chosen (sec. 9A). Choose the "Lock:off" selection to disable this feature (sec 9A).
- Displays the total flow units measured for the life of the product. The totalizer cannot be manually reset but will roll over after maximized (99999999 → 00000000). Note: A scrolling cursor under the number identifies the permanent totalizer during operation.
- Displays the programmed volume for each pulse output occurrence.
- Displays the total number of pulse outputs. The pulse output totalizer can be reset at any time from the front keypad. The OPTIONS menu "Lock: on" "Lock:off" feature limits reset access. Refer to note B for additional information. Note: a flashing cursor under the least significant digit identifies the pulse totalizer during operation.
- Displays the user defined setup date (not an internal timer).

10. Accessories

Order no.	Description	Code
3-8010	Universal mounting kit, NPT ports	198 864 502
3-8010-D	Universal mounting kit, DIN ports	198 864 503
3-8011	Integral sensor mounting kit, NPT ports	198 864 500
3-8011-D	Integral sensor mounting kit, DIN ports	198 864 501
3-8510-PO	Non-powered integral sensor, 0.5 to 4 inch pipe, Polypropylene body & Titanium rotor pin	198 864 504
3-8510-P1	Non-powered integral sensor, 5 to 8 inch pipe, Polypropylene body & Titanium rotor pin	198 864 505
3-8510-VO	Non-powered integral sensor, 0.5 to 4 inch pipe, Natural PVDF body & Hastelloy C rotor pin	198 864 506
3-8512-PO	Powered integral sensor, 0.5 to 4 inch pipe, Polypropylene body & Titanium rotor pin	198 864 513
3-8512-P1	Powered integral sensor, 5 to 8 inch pipe - Polypropylene body & Titanium rotor pin	198 864 514
3-8512-VO	Powered integral sensor, 0.5 to 4 inch pipe - PVDF body & Hastelloy C rotor pin	198 864 516
3-8512-TO	Powered integral sensor, 0.5 to 4 inch pipe - PVDF body & PVDF rotor pin	198 864 518

11. Troubleshooting

Display Message	Cause	Solution
OVER[^]gpm	<ol style="list-style-type: none"> 1) Input frequency too high 2) Display overrange 3) Display timebase too large 	<ol style="list-style-type: none"> 1) Reduce input frequency. 2) Move display decimal to right in OPTIONS menu. 3) Change display timebase (H,M,S,D) to smaller value (e.g. LPH to LPM).
K=0error	K-Factor cannot be zero	Change K-Factor to a non-zero value.
Puls Err	Pulse width on time too large for volume/frequency input	Reduce pulse width on time or increase pulse volume setting

12. Specifications

General Data

Compatible Sensors: All current +GF+ Signet flow sensors
 Display Accuracy: Flow, $\pm 0.1\%$ of reading
 Totalizers, $\pm 0.03\%$ of reading

Enclosure:

- Rating: NEMA 4X/IP65
- Material: Glass-filled polypropylene
- Gasket: Silicone rubber (captive)
- Screws: 8-32, self-tapping (captive)

Display:

- Type: 8-digit alphanumeric dot matrix
- Update rate: Flow=1s, Totalizers=100 msec.
- Contrast: Variable
- Ranges: Flow, 0.01 to 9999.
Resettable/permanent totalizers, 0 to 99999999

Environmental

Operating temperature: -15 to 70 °C (5 to 158 °F)
 Storage temperature: -15 to 80 °C (5 to 176 °F)
 Relative humidity: 0 to 95%, non-condensing

Quality Standards

- CE
- Manufactured under ISO 9001

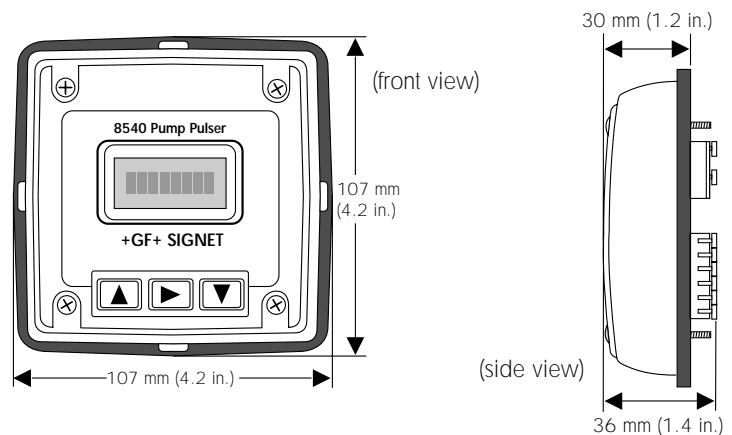
Electrical Data

Frequency range: 0.5 Hz to 500 Hz
 System power: 10 to 30 VDC @ 30 mA max.

Electrical Data

Sensor power: Powered sensor connection only, 5 VDC @ 20 mA max.
 Pump pulse output: Programmable repeat volume from 000.01 to 99999. flow units, programmable pulse width (on time) from 000.1 to 999.9 seconds, optically isolated open-collector transistor, max current sink 100 mA @ 30 VDC
 Sensor freq. output: Optically isolated open-collector transistor, max. current sink 10 mA @ 30 VDC
 Immunity: EN50082-2
 Emissions: EN55011

Dimensions:



+GF+ SIGNET

Signet Scientific Company, 3401 Aerojet Avenue, El Monte, CA 91731-2882/U.S.A., Phone (818) 571-2770, Fax (818) 573-2057

Representative Offices

U.S.A. George Fischer, Inc., 2882 Dow Avenue, Tustin, CA 92680-7285/U.S.A., Toll Free Phone (800) 854-4090, Fax (714) 731-6201
CH Georg Fischer Rohrleitungssysteme AG, CH-8201 Schaffhausen/Schweiz, Tel. 053/81 11 11, Telex 89 70 70 64 gf ch, Fax 053/25 91 30
SIN George Fischer Pte Ltd., 15 Kaki Bukit Road 2, KB Warehouse Complex, Singapore 1441, Tel: 65/747 0611, Fax: 65/747 0577

GEORGE FISCHER +GF+ Piping Systems

3-8540.090-1/(B-3/97), English

© Signet Scientific Company 1996

Printed in U.S.A.