

Flowpet-5G
FLOWPET-5G



Please read before installation and use

OPERATING CONDITIONS

To maintain high accuracy and long life of this meter, it is necessary that the meter be used within the specified conditions in flow rate, pressure, temperature and viscosity. These operating conditions are stated on the nameplate of the register. Confirm the contents of the nameplate thoroughly before installation and operation.

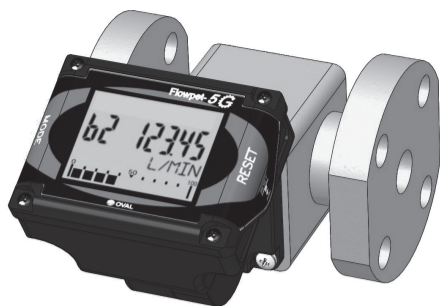
PRECAUTIONS ON INSTALLATION LOCATION

- (1) In this register, a magnetic sensor is used to pick up magnetic fields of signaling magnets embedded in the rotor. For this reason, FLOWPET should be installed sufficiently away from sources generating magnetic field. If a magnetic valve of 10 watts or so is used, separate at least 10 centimeters from the flowmeter (varies with operating conditions).
- (2) For applications in cold regions, install the meter indoors (boiler room, for example) to prevent accidents caused by freezing.
 - ① A vertical run is recommended for ease of pipeline drainage. Provide a drain plug.
 - ② When heat insulation required, do not insulate the electronic register, strainer cover, or drain plug. Also, make sure of ready separation of the meter from the piping assembly. NOTE: Refer to the corresponding sections in the instruction manual for piping details.
- (3) This register operates at the temperature range of -10 to +60°C. To ensure its operation within the specified temperature range, protect the register with a sunshade or heat shield if exposure to elevated temperatures by direct sunlight, reflected heat, etc., is expected.
- (4) This register is designed for indoor use: install the meter in a location free from rainwater, oil, or sunlight. If exposure to such environment is unavoidable, provide appropriate weather protection or sunshade.

All specifications in this startup guide are subject to change without notice for improvement in performance and product quality.

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Electronic Register STARTUP GUIDE



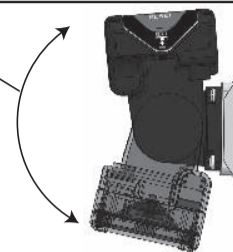
Thank you for choosing OVAL FLOWPET-5G.

This Startup Guide provides basic information helpful for starting use of the FLOWPET-5G electronic register. For detailed explanation of the FLOWPET-5G's functions and operation instructions, refer to the accompanying instruction manual before use.
Please keep this Startup Guide for quick reference.



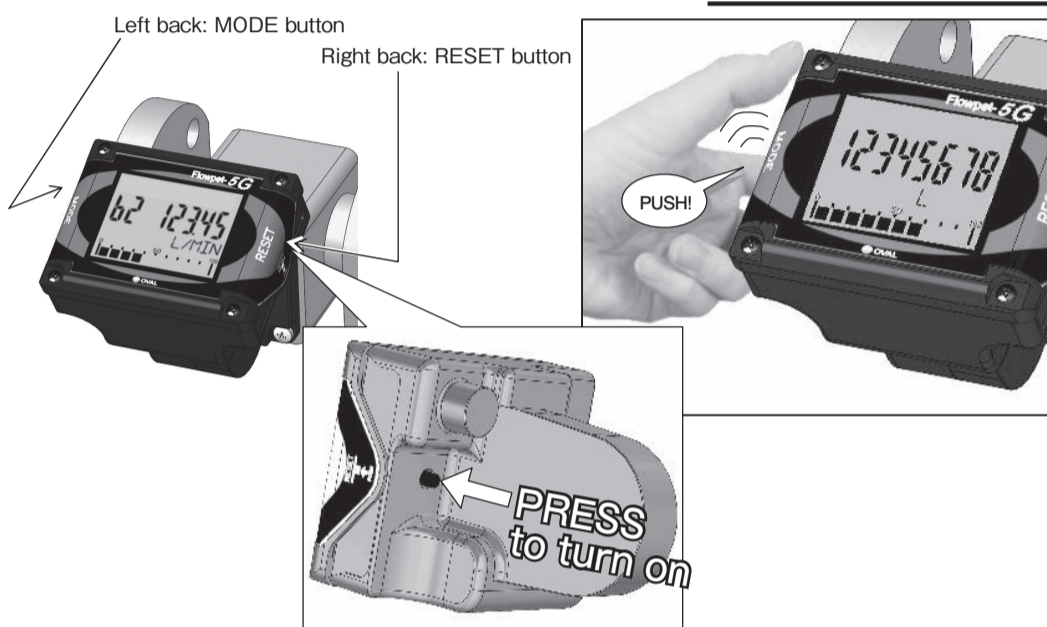
1. GENERAL SPECIFICATIONS

Item	Specification	
Local display function	Display mode	Display mode symbol
	① Accumulated total (8-digit)	None
	② Instantaneous flow rate, L/h (5-digit)	b 1
	③ Instantaneous flow rate, L/m (5-digit)	b 2
	④ Resettable total (7-digit)	C
		← Selectable with MODE button
		← Zero resettable with RESET button
Display accuracy	Total flow	Within ±1 count
	Instantaneous flow rate	Within ±1% of full scale
Display orientation	Display angle adjustable in 15° steps (Adjust the angle up or down by hand to find easy-to-view position)	
Flow detection	Magnetic sensor detects alternating magnetic fields. (200Hz max.)	
Cable	1m of vinyl-sheathed, 4-conductor shielded cable (individual elements AWG24) furnished as standard (Not furnished with models without pulse generator)	
Transmission distance	Either Pulse or Analog output used	Max. 1km (CVVS: 1.25 to 2.0mm ²)
	Pulse + Analog output both used	Max. 100m (CVVS: 1.25 to 2.0mm ²)
Power source	Lithium battery	3.6VDC dedicated battery built-in, Battery life: 8 years (varies with operating conditions) Storage life: 10 years • Battery icon blinks as the battery starts to run out. • If equipped with pulse output capability, pulse generation can be done just with built-in battery without an external power source. (If supplied with external power source, lithium battery will not be consumed.)
	External power source	12 to 50VDC ±10% (consumption current: Max. 30mA) (For analog output, refer to "6. Acceptable load resistance range")
Ambient temperature	-10 to +60°C (no condensing)	
Material	Polycarbonate (black)	
Configuration	IP65 (Install indoors or under eaves. Avoid exposure to direct sunlight.)	



2. OPERATION BUTTONS

The push buttons for operation (MODE and RESET) are located on the back of the display.



3. BASIC OPERATION PROCEDURE (MEASURE MODE)

Each time the MODE button is pressed, the screen scrolls through flow displays; select the desired flow display.
(Accumulated total → Instantaneous flow: L/h → Instantaneous flow: L/m → Resettable total)

The flow indicator at the bottom of the display indicates % of actual flow (instantaneous flow rate) to the full scale flow rate.
NOTE: Full scale flow rate (flow rate which represents 100%) is determined in the parameter: AF. (AF value is also applied to the analog output full scale value of analog output specification)

On the resettable total display, zero-reset will be performed on total flow by pressing the RESET button.

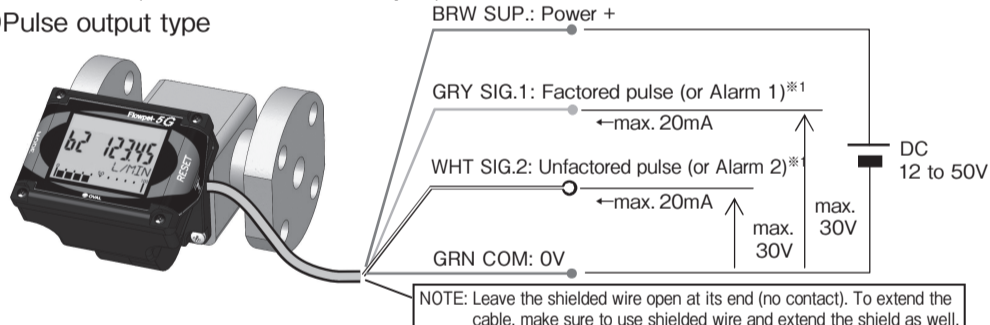
※1: About the display during MODE button operation

① Normal operation When the MODE button is pressed: ⇒ 8 bars appear.	② Long-press operation When the MODE button is kept pressed down: ⇒ Bars begin to disappear one by one from the left
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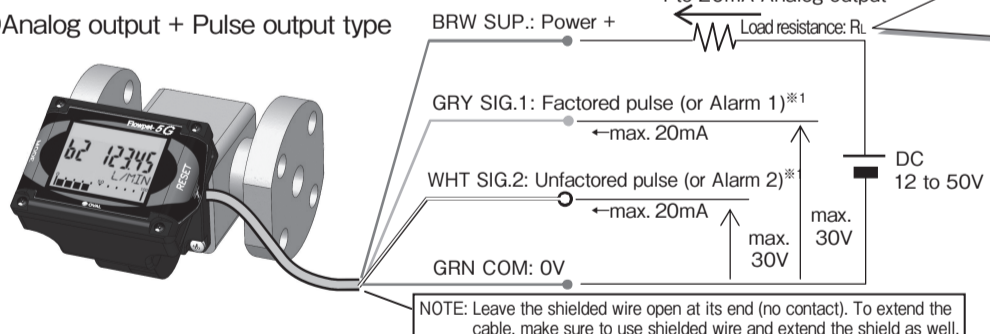
⇒ Immediately turning OFF (letting go of the button) scrolls the display to the next one.
⇒ Holding the MODE button down until the last bar disappears executes long-press process (Switching between Normal mode and Review mode, or finalizing the parameter setting, etc.). If turned OFF (releasing the MODE button) before the last bar disappears, the same operation as ① Normal operation will take place.

4. WIRING (for models with output)

① Pulse output type



② Analog output + Pulse output type

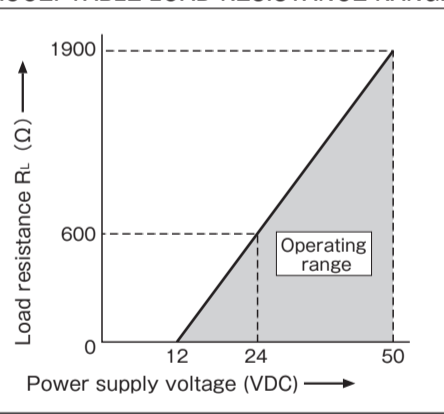


※1: SIG.1 and SIG.2 can generate pulses by built-in battery power without external power source. (Battery life is 8 years approximately.)
For analog output only model, leave the ends of SIG.1 and SIG.2 cables open since they will not be used. Alarm output is optional.

5. OUTPUT SPECIFICATIONS

Output type	Specification
Factored pulse	• Open drain output (equivalent to open collector) • Allowable current: 20mA, Max. voltage applied: 30V (Adjustable at [Pon] parameter within the range of 1 to 999ms in 1ms increments.)
Unfactored pulse	• Open drain output (equivalent to open collector) • Allowable current: 20mA, Max. voltage applied: 30V • Pulse width: 2ms (fixed)
Analog	• 4 to 20mA output (using power wire) • Acceptable load resistance: see figure below.

6. ACCEPTABLE LOAD RESISTANCE RANGE



7. STANDARD PULSE UNIT ※2

Model	Nom. size mm	Factored pulse		Unfactored pulse		Max. flow rate ※3
		Pulse unit L/P	Output freq. Hz	Nominal meter factor mL/P	Output freq. Hz	
LS5277	20	1	0.33	9.918	33.6	1200
LS5377	25	1	1.00	17.955	55.7	3600
LS5577	40	10	0.20	35.496	56.3	7200
LS5677	50	10	0.33	76.455	43.6	12000
LS4976	20	1	0.22	5.928	37.5	800
LS5076	20	1	0.56	9.912	56.0	2000
LS5276	25	1	1.05	9.639	109.5	3800
LS5376	40	1	1.77	17.47	101.8	6400
LS5576	40	10	0.38	34.526	112.6	14000
LS5676	50	10	0.66	74.483	89.5	24000

※2: Unless otherwise specified, pulse unit is set according to factored pulse unit listed in the above table. For the official specification at the time of shipment, please confirm the nameplate on the actual product.
※3: Full scale values of "Flow indicator display" and "Analog output" will be max. flow rate values in the table above. (For oil-service models, the actual rated maximum flow rate varies by types of oil.)

8. DISPLAY MENU TREE

Under "Review Mode", setting changes to the items listed below and using special functions such as "Simulated Output" are available.

Item	Description
Pon	Factored pulse width [ms] setting
Pu	Factored pulse weight [L/P] setting
AF	Analog output full scale [L/h] setting (Flow indicator display is linked to this setting.)
AdAn	Analog output damping [sec.] setting
LooPEst	Simulated output at arbitrary flow rate

⇒ Refer to the corresponding sections in the instruction manual for the procedures such as changing each parameter and operating the simulated output function.

[NOTE] All parameters are set before shipment based on the specifications at the time of order receipt, and generally there is no need for the users to perform parameter setting. Proper flow measurement may be unavailable if parameter setting is performed inappropriately. Please avoid performing unnecessary changes to the parameters. (Confirm the corresponding sections in the instruction manual thoroughly in case it is necessary to make parameter changes.)

