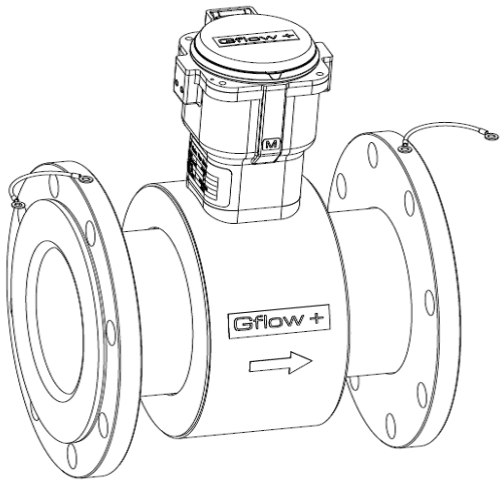
Technical Specification
gFlow+™ IF200
Battery Powered Electromagnetic flowmeter



Intelligent energy efficient flowmeter for municipal/irrigation water industry

Application

- The electromagnetic measuring principle is unaffected by pressure, temperature and flow profile
- Fully suitable for standard applications in the water and irrigation industry
- Direct replacement of turbine flowmeter or paddle water meter on your center pivot
- Best fit for in field solar panel powered applications

Features

- High precision - thanks to our high SNR flow sensor and measurement circuitry
- Dual power mode
- 5 flowtube sizes to choose from: 4",6",8",10" and 12"
- Tamper sealed
- Transmitter housing made of casted aluminum
- User friendly AMR interface
- Optional communication kit supporting multiple communication protocols
- Optional external battery kit for long term operation

Your benefits

- No more clogging on the pipe line - no moving parts and open bore
- Install and Measure - no initial setup or configuration needed
- Water seal quick connector on meter - no more wiring work on the meter
- IP68 protected device give you confident on all weather condition
- Energy-saving flow measurement – no more need of huge solar panel
- No power grid required – battery lifetime of up to 10 years(with extension battery kit)
- Worldwide transmission of measured data and events – with optional GSM/GPRS module
- Reliable data storage – Optional data logger

Flow measurement

Measured variable

Direct measured variables
Volume flow (proportional to induced voltage)

Measuring range

4"	12GPM~1000GPM
6"	30GPM~2500GPM
8"	50GPM~4480GPM
10"	80GPM~7010GPM
12"	115GPM~10090GPM

Measuring performance

0.5% o.R. from 10% to 100% flow range
1% o.R. rest of flow range

Display unit

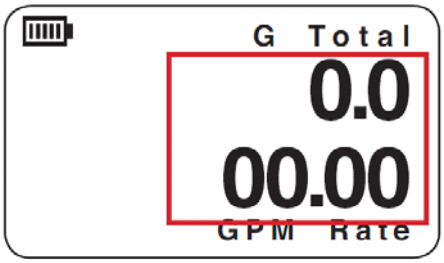
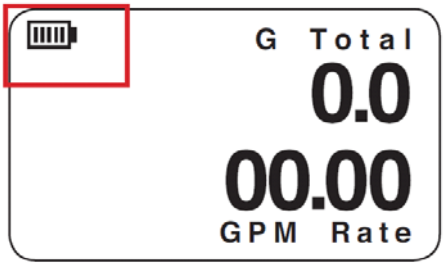
Rate
Gallon Per Minute, Litter Per Minute, Cubic Feet per Minute, Cubic Meter per Hour, Gallon Per Second, Litter Per Second, Cubic Feet per Second, Cubic Meter per Minute

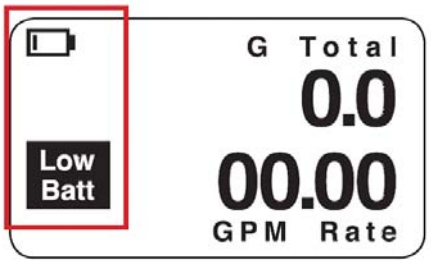
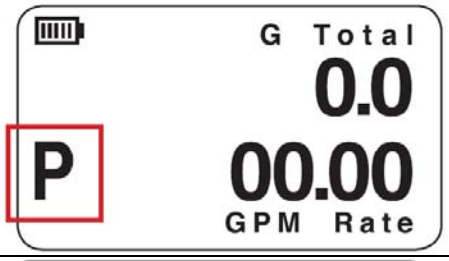
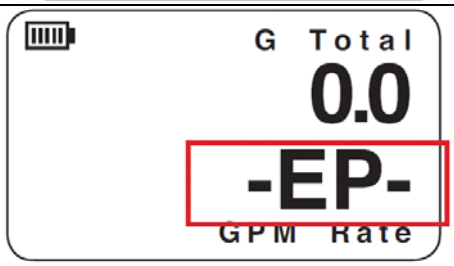
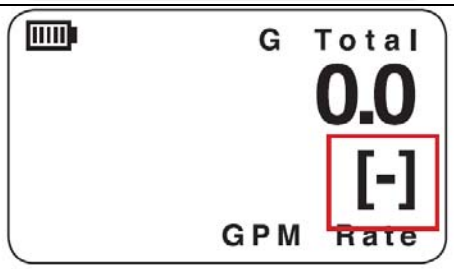
Total
Gallon, Gallon x1000, Litter, Litter x1000, Cubic Meters, Cubic Meters x1000 Cubic Feet, Cubic Feet x1000

Human Machine Interface

Display 128x64 pixel ultra low power LCD, grey background/white character

Keypad 1x reed relay for switching units

Upper line shows total flow accumulation value Lower line shows current flow rate	
Battery usage indicator	

Low battery alarm indication	
External power connection indication	
Empty pipe alarm indication	
Reverse flow alarm indication	

Output

Output signal

Pulse output
Passive
Opto-MOS (opto-isolated output)
Breakdown voltage: 30V DC
Isolated from other secondary circuits: 500V DC

Frequency output
0~200Hz, 50% duty cycle

Communication

UART (Isolated from secondary circuits: 500V DC)

Alarm indicator

Empty pipe detection
Reverse flow
Low battery
External power

Power supply

Supply voltage

Power from batteries
3.6 V DC
76 Ah nominal capacity at 20 °C
Max. power: 5 mW
Battery life : 5 years

Supply voltage via external power supply
8 to 32 V DC
Max. power: 40 mW
A battery to act as a backup if the power supply fails

Power consumption

Switch-on current
Max. 0.5 A at 24 V DC

Process

Temperature	0~40℃
Pressure	150 psi
Min. Conductivity	50 S/cm
Connection	ANSI B16.5 #150 flanges

Environment

Ambient temperature

Operation temperature
-10~55℃

Storage temperature
-20~60℃

CE Marking

Electrical Static Discharge
IEC61000-4-2, 6kV direct discharge, 8kV discharge

Radiated RF fields
IEC 61000-4-3, 80MHz~1000MHz 10V/m,1000MHz ~ 2700MHz:3V/m

Electrical fast transient/burst
IEC 61000-4-4 1kV on cable

Surge
IEC 61000-4-5, 1kV on cable,1,2/50s wave

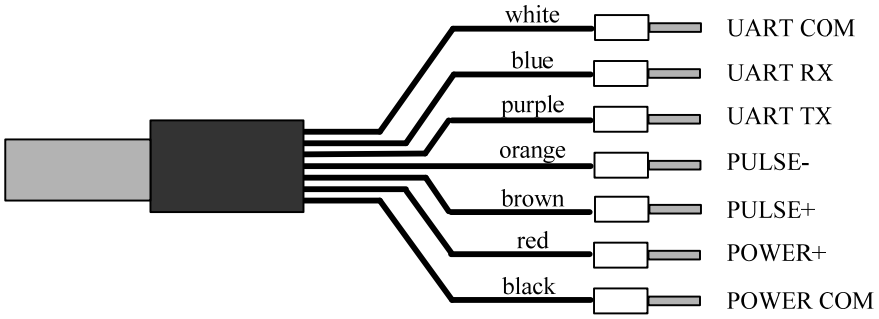
Conducted RF disturbances
IEC 61000-4-6, 0.15~80MHz 3V

Electromagnetic compatibility
IEC 61000-4-8, 10A/m

Mechanical Shock
IEC 68-2-27, half sine wave, 300g, 3 axles

Protection Level IP68

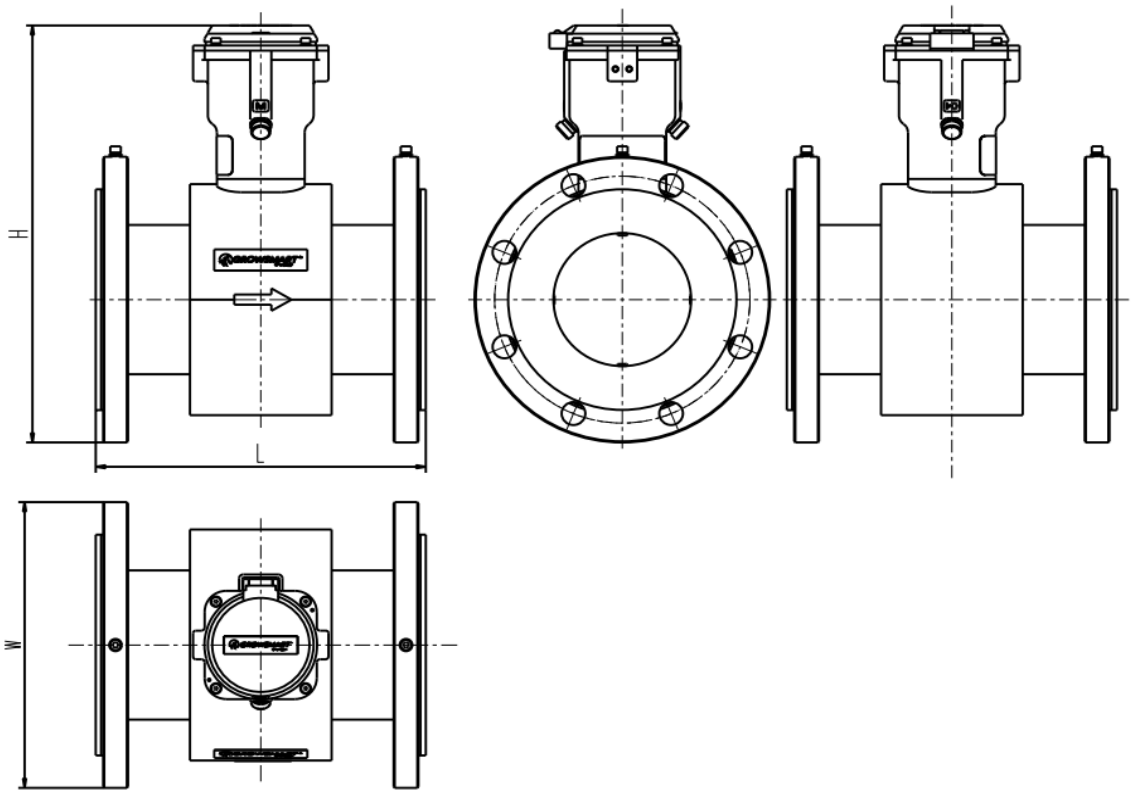
Electrical Connection



Pin definition

UART COM:	Common pin of UART communication
UART RX:	Data receiving pin of UART communication
UART TX:	Data sending pin of UART communication
PULSE-:	Pulse output positive pin
PULSE+:	Pulse output negative pin
POWER+:	8~32V DC power input
POWER-:	Power ground pin

Installation dimension and weight



Size [inches]	Dimensions[inches]			Gross weight [lb]
	L	H	W	
4	10.24	14.29	9.02	40
6	12.28	16.16	11	54
8	14.25	17.99	13.5	88
10	18.19	20.35	16	118
12	20.16	22.76	19	168

Materials

Sensor material

Electrodes
316 Stainless steel
Liner
Rubber
Flow tube
304 Stainless steel
Sensor body
Carbon steel
Sensor body paint
Epoxy coated anti-corrosion paint

Electronics Housing Casted aluminum, power coated
Sealing O-Rings EPDM
Tamper wire Stainless steel

Optional accessories

Power and signal cable Standard with length of 15ft, 25ft, 50ft, custom length up on request
Communication module Modbus RS-485, CAN, RS-232, USB
External battery pack 76Ah, extend operation time up to 10 years
Solar package 10W solar power panel with rechargeable Li batteries
Data logger With 2GB data capacity

Shipping dimension and weight

Size [inches]	Dimensions [inches]			Shipping weight [lb]
	L	H	W	
4	20	12	14	40
6	20	12	14	54
8	28	17	18	88
10	22	20	18	118
12	25	22	21	168

Order structure

IF200	-	AAA	BBB	C	DDD

Model

IF200-

AAA	Size
004	4" size
006	6" size
008	8" size
010	10" size
012	12" size
xxx	Special version

BBB	Rate unit
GPM	Gallon Per Minute
LPM	Litter Per Minute
CFM	Cubic Feet per Minute
CMH	Cubit Meter per Hour
GPS	Gallon Per Second
LPS	Litter Per Second
CFS	Cubic Feet per Second
CMM	Cubit Meter per Minute

C	Unit per pulse
0	10 unit per pulse
1	100 unit per pulse
2	1000 unit per pulse
3	0-200Hz frequency output

DDD	Cable length
000	No cable needed
010	10 ft cable
015	15ft cable
025	25ft cable
050	50ft cable
100	100ft cable
xxx	custom length