

# Fuel Flow Meter AIC - 1200 series



- Diesel or gasoline consumption flow meter for engines up to Q max 52.8 gph \_200 l/h
- Compact flow meter for a small foot print application

The AIC -1200 entry series of on-line flow meters, are especially designed to be mounted in engine compartment with a small foot print.  
Made for pulsating liquids, the true consumption of the vehicle engine is measured by switching the return flow from the tank, back to the fuel supply line.



### Applications:

- Small and medium cars and vans
- Construction, demolition machines
- Agriculture machines
- Stationary motors
- Motor boats

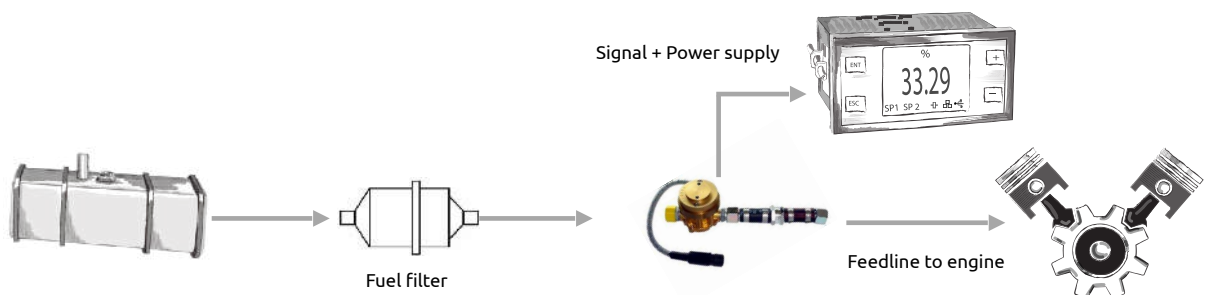
### Media that can be measured:

- Diesel
- Gasoline / petrol
- Bio-fuel
- Liquid gas

### Features and benefits:

- Up to 15 % of fuel economy, through a constant control of the driver
- Reliable instantaneous consumption display and flow totalisation
- Average fuel consumption visualisation with 3 digits after coma
- Mechanical meter of proven technology since more than 30 years
- No interferences with vehicle existing on-board electronic (CAN-Bus)
- AIC flow meters work on all fuel injection types including engines with fuel injection of latest generations

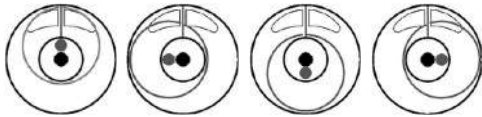
## System Setup



# Technology

## Rotary piston technology

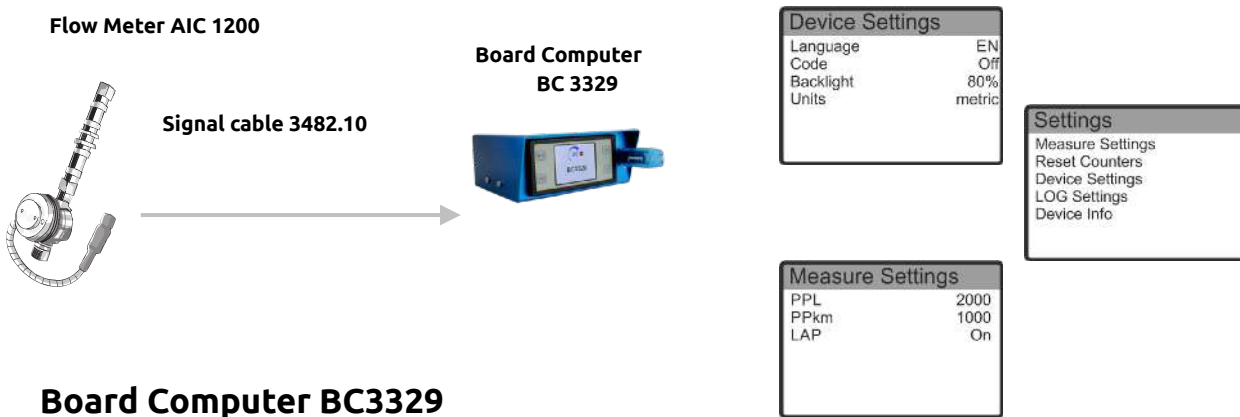
After decades of experience, AIC SYSTEMS Ltd. has opted for the reliable volumetric flow meter technology. The rotary piston technology fits the fuel consumption measuring principle ideally. A single moving piston oscillates softly in a measuring chamber protected by a thin layer of fuel maintaining the piston self floating. This allows the meter to have the less possible mechanical friction, thus reduced wear. Under normal working conditions the line pressure loss ahead of the measuring cell is of max. 100 mbar.



## Direct measuring principle

With the Direct Measurement principle, the installation of only one AIC Fuel Flowmeter is required. The fresh and cool fuel consumed is aspirated from the tank and its volume measured by the AIC fuel Flowmeter. With this solution no fuel is returning back to the tank and the fuel passing through the AIC Volumetric measuring chamber represents precisely the real engine consumption. The great benefit is that an AIC fuel consumption measuring system is ready to use right after installation.

## Typical AIC 1200 Installation



## Board Computer BC3329

The Board Computer BC3329 Display has input for Flow and Speed sensors. All measured values can be easily seen and written off the large display.

Type: BC3329										
Serial	131									
FW Ver:	3.5									
PPk:	3000									
PPMax:	175									
Date:	Time:	current Consumption:	Temperature:	total Consumption:	Ø Consumption:	Speed:	Ø Speed:	ODO:		
22.5.19	01:57:08	148.0 l/h	40.5 °C	25037.1 l	148.6 l/h	2 km/h	1.7 km/h	11234 km		
22.5.19	01:57:11	149.2 l/h	40.6 °C	25037.7 l	148.6 l/h	2 km/h	1.7 km/h	11234 km		
22.5.19	01:57:13	148 l/h	40.6 °C	25038.8 l	148.6 l/h	3 km/h	1.7 km/h	11234 km		
22.5.19	01:57:15	148.5 l/h	40.5 °C	25039.8 l	148.6 l/h	4 km/h	1.7 km/h	11234 km		
22.5.19	01:57:17	148 l/h	40.5 °C	25036 l	148.6 l/h	6 km/h	1.7 km/h	11234 km		
22.5.19	01:57:19	148.1 l/h	40.5 °C	25034.1 l	148.6 l/h	8 km/h	1.7 km/h	11234 km		
22.5.19	01:57:21	147.9 l/h	40.5 °C	25034.2 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:23	148.9 l/h	40.5 °C	25034.2 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:27	148.9 l/h	40.5 °C	25034.3 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:29	148.9 l/h	40.5 °C	25034.3 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:31	147.6 l/h	40.5 °C	25034.8 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:33	148.5 l/h	40.5 °C	25034.9 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:35	148.5 l/h	40.5 °C	25034.7 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:37	147.6 l/h	40.4 °C	25034.8 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:39	148.6 l/h	40.4 °C	25034.9 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:41	148 l/h	40.4 °C	25035 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		
22.5.19	01:57:43	148.2 l/h	40.4 °C	25035.1 l	148.6 l/h	10 km/h	1.7 km/h	11234 km		

## Technical data

### AIC 1200 series

#### General Data

Manufacturer	AIC SYSTEMS AG
Product designation	AIC 1204
	AIC 1208

#### Mechanical Data

Dimensions (L x l x p)	AIC 1204 HR : appr. 200 x 60 x 100 mm / 7.8 x 2.4 x 3.9" (without accessories)
	AIC 1208 HR : appr. 200 x 80 x 100 mm / 7.8 x 3.1 x 3.9"(without accessories)
Weights	AIC 1204 : ca 0.8kg / 1.7 lbs (sensor only)
	AIC 1208 : ca 1.2 kg / 2.6 lbs (sensor only)

#### Materials

Flow meter - sensor	Brass, aluminium
O - rings	Viton™
Connectors	Steel anodized, stainless steel, brass

#### Flowmeter

Measurement principle	Volumetric, oscillating piston, with microprocessor controlled pulse emitter
Measuring range	AIC 1204: 1 to 80 l/h AIC 1208: 4 to 200 l/h
Approx. starting flow rate	AIC 1204: 0.4 l/h AIC 1208: 1.6 l/h
Max. permissible error of actual value	AIC 1204: <math>\pm 1\%</math> 1- 2 l/h $\pm 2.5\%$ AIC 1208: <math>\pm 1\%</math> 4-5 l/h $\pm 2\%$
Repeatability	Better than 0.2 % of reading
Admissible pressure	-1 to 6 bar
Mounting position	Indifferent
Operating temperature	-20.....80 C°
Ingress protection	Sensor and electronic, IP 64

#### Electrical connection

Power supply	8 - 28 VDC
Pulse signal	NPN open -collector; square 0.7 ms pulse width
Pulse rate	AIC 1204: 200 ppl
	AIC 1208 : 80 ppl
Resolution	Lower than model e.g. AIC 900

The Board Computer BC3329 LOG has in addition the manual input for a lap routine. With the LOG version all values are logged on the USB stick in CSV format for a better evaluation and further processing.

## Ordering structure

### Model Type

### Designation

#### Flow Meter

AIC 1204

200 ppl and for engines with Q max 21.1 gph \_ 80 l/h

AIC 1208

80 ppl and for engines with Q max 52.8 gph \_200 l/h

#### Accessories

Connector kits

Connector kit

Transport case

Transport box 400 x 300 x 90 mm, with carrying handle

Signal cables

Signal cable 10m (from AIC 1200, 800, 900, 4000 to BC 3329)

Signal cable 10m 1 end free

#### BC 3329

BC 3329 LOG

Bord Computer BC 3329 **LOG** for 20-28V DC No USB stick incl

Bord Computer BC 3329 **LOG** for 09-12V DC No USB stick incl

BC 3329 Display

Bord Computer BC 3329 **Display** for 20-28V DC

Bord Computer BC 3329 **Display** for 09-12V DC

All informations are subject to change.



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