

FUEL FLOW METER AIC - 4004 / 4008 Veritas

**Diesel consumption flow meter for engines up to 515 KW (700 HP)
Permanent mounting system, ideal for fleet management systems**

888
Instruktor

900
Veritas

1000

4000
Veritas

5000
Fuel flow
Master

6000
Swissline

FS

Board
Computer
and
Totalizer



The AIC-4000 VERITAS flow meter has been designed for a permanent mounting for the fleet management whereas the instantaneous, average and cumulated values can be monitored.

Made for pulsating liquids, the true consumption of the vehicle engine is measured by switching the return flow from the tank, directly to the fuel supply line.

Application

- Medium and large trucks, buses, building machines, tractors, etc.

Media that can be measured

- any fuel oil

Features and benefits

- **Up to 15 % of fuel economy**, through a constant control of the driver
- Reliable instantaneous consumption display and flow totalization
- **Average fuel consumption visualisation with 3 digits after coma**
- Instrument protected via in-line fuel filter
- Mechanical meter of proven technology since more than 20 years
- No interferences with vehicle existing on-board electronic (CAN-Bus)
- AIC flow meters works on all fuel injection type (except systems with open injectors)
- Suitable for engines with fuel injection of latest generation

CE certified
EME Test according
to 95/54/CE directives

Measuring Systems

A complete measuring systems consist of :

- flow meter AIC-4004 or 4008
- fuel oil filter (included)
- board computer BC 2022
- cables for electrical connection (included)
- couplings for installation



Measuring principle

Each unit is produced as one module in the interests of simple installation. All holders and housing parts are made of stainless steel or anodized aluminium.

Fuel flow measurement:

The consumption of fuel for engines can be measured by 2 ways :

- Direct (means that there is no fuel returning to the tank, the return flow is reinjected in the fuel circulation flow of the injection circuit.
- Differential (means that the supply and return flow are subtracted. The return fuel flow goes back in the tank.

AIC SYSTEMS Ltd. has strongly developed the best measuring solution : the **DIRECT flow** measurement. This solution allows a true measurement of the fuel flow, within a uncertainty better than +/- 1 % (+/- 0.2 % repeatability). The differential fuel flow allows only an accuracy of best 5 % or worse.

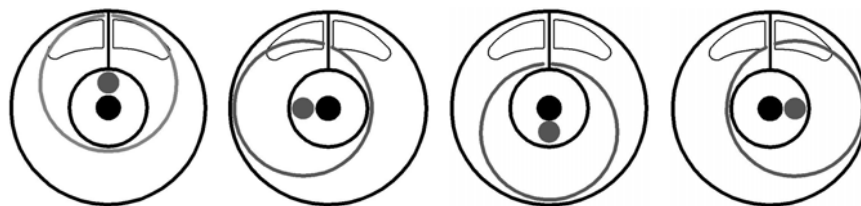
High pulse rate output:

The control and pulse technology is based on the latest SMD technology and is moulded to be water tight and vibration resistant (Pat. AIC). This allows high pulse count per flow quantity unit. The AIC-4004 VERITAS is supplied with 2000 ppl, and the AIC-4008 VERITAS is supplied or 800 ppl (pulses per one litre).

Rotary piston technology:

After decades of experience, AIC SYSTEMS Ltd. make his choice for the most reliable volumetric flow meter technology existing, with the less weir and moving parts.

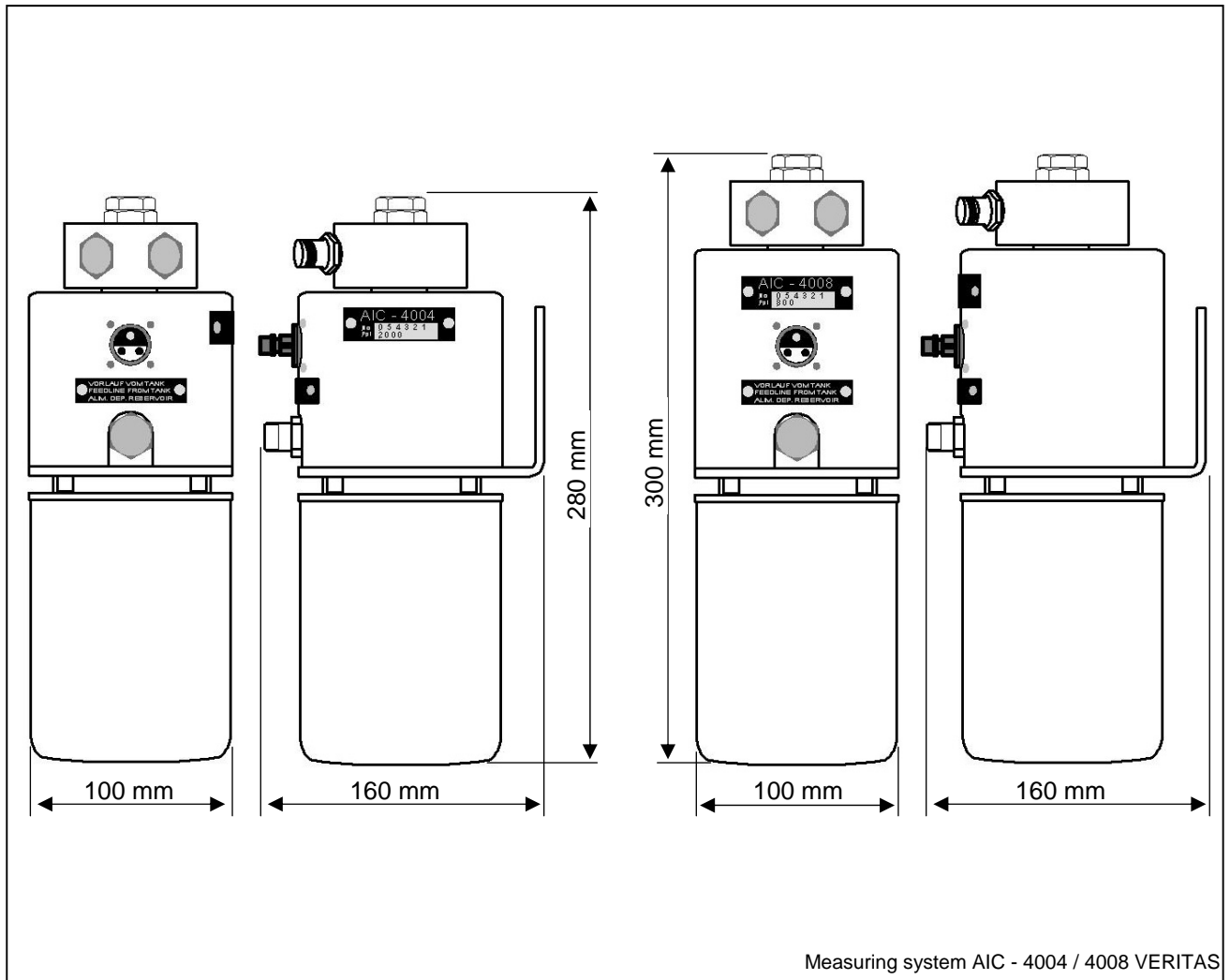
The rotary piston technology fits the fuel consumption measuring principle perfectly, a single moving piston oscillates softly in a measuring chamber protected by a thin layer of fuel maintaining the piston self floating. This allows the meter to have the less possible mechanical friction. Under normal working conditions the pressure loss ahead of the meter is of max. 100 mbar.



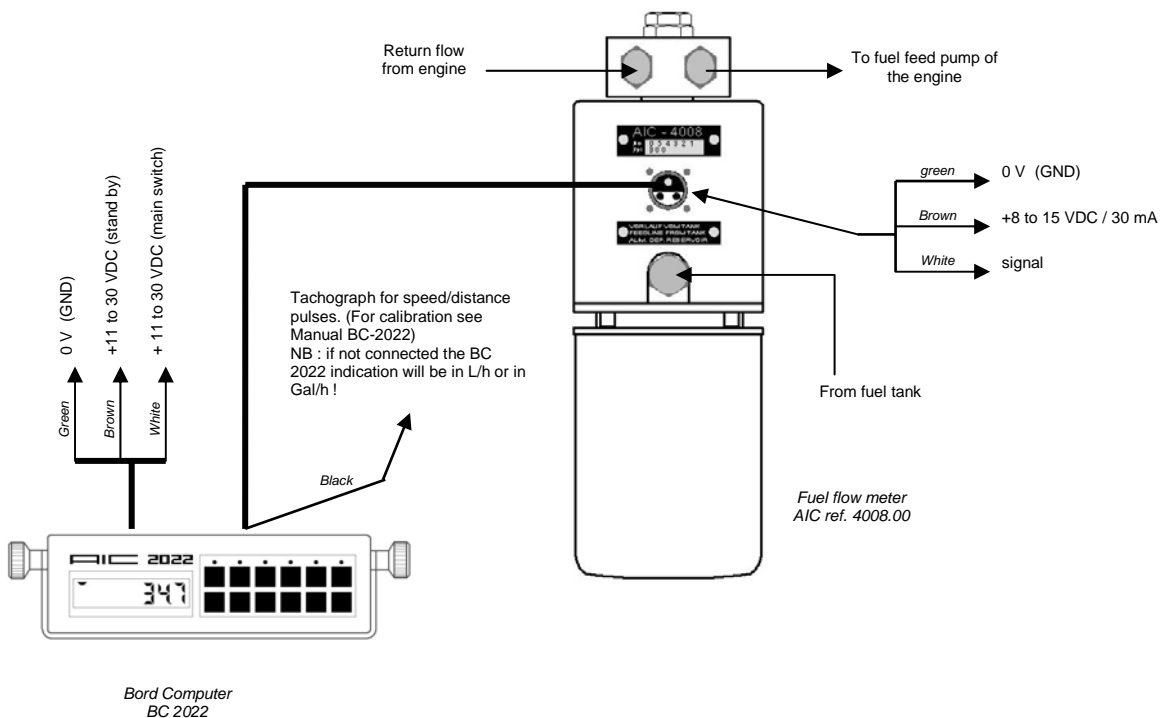
Calibration

Each flow meter unit, is subject to careful calibration at the factory. Customer calibration can also be saved on simple demand.

Dimensions



Installation



Technical data

AIC 4004 et 4008 VERITAS

General data

Manufacturer	AIC SYSTEMS S.A.
Product designation	AIC-4004 Veritas AIC-4008 Veritas

Mechanical data

Dimensions (L x l x p)	AIC-4004 280 x 100 x 160 mm (incl. filter) AIC-4008 300 x 100 x 160 mm (incl. filter)
Weights	AIC-4004 2,5 kg (incl. filter) AIC-4008 2,8 kg (incl. filter)

Materials

Flow meter sensor	Brass, aluminium
O-rings	Viton®
Connectors	Steel protection TAAC3, stainless steel, anodised aluminium
Casing	Anodised Aluminium
Mounting bracket	Stainless steel

Flow meter

Measurement Principle	Volumetric, oscillating piston, with microprocessor controlled pulse emitter (Pat. AIC)
Measuring range	AIC-4004 : 1 to 80 l/h AIC-4008 : 4 to 200 l/h
Accuracy	better than 1 % of reading
Repeatability	better than 0.2 % of reading
Admissible pressure	- 1 to 10 bar
Mounting position	indifferent
Operating temperature	-30 ... 90°C
Ingress protection	Sensor and electronic, IP 68

Electrical connection

Power supply	11 - 30 VDC (BC 2022)
Pulse signal	rectangular NPN, open collector, pulse width 0.6ms
Pulse rate	AIC-4004 : 2000 ppl AIC-4008 : 800 ppl

Ordering structure

Flow meter

Model Type	Designation	Order code
AIC-4004 VERITAS	for engines up to max. 220 KW (300 HP) 2000 ppl, pulse rectangular, NPN open collector, pulse width 0.6 ms (10 m connection cable delivered with)	S4004.00
AIC-4004 VERITAS	for engines up to max. 515 KW (700 HP) 800 ppl, pulse rectangular, NPN open collector, pulse width 0.6 ms (10 m connection cable delivered with)	S4008.00

Accessories

Connection kit	Universal connection kit CS-1, includes various connection fitting (metric), fuel hose not included	S1450.1
Connection kit	Connection kit for MB Actros	S1456.0
Fuel hose	Fuel hose unipress 9.5 x 18 mm, NBR reinforced (not for Bio-diesel purposes)	S1440.0
Connection cable	Cable connecting the fuel oil meter to the BC 2022	
	15 m instead of 10 m	5615.01
	18 m instead of 10 m	5618.01
	24 m instead of 10 m	5624.01

Board Computers

Model Type	Designation	Order Code
BC-2022	on-board computer, incl. 11 functions with feed cable and programming plug. Operating voltage : 11 to 30 VDC Functions available : consumption-instantaneous, -average with 3 decimals, -cumulated, travel speed, distance travelled, average speed, cumulated fuel consumption during stationary service, driving time, operating time, speed warning Choice of standards : metric, US, British	2022.00

AIC SYSTEMS USA
2970 N Stowell Ave.
Milwaukee, WI 53211
United States of America

T +1 262 206 03 96

aic-usa@wi.rr.com

AIC SYSTEMS Ltd.
P.O. Box 341
Ringstrasse 9,
CH - 4123 Allschwil
Switzerland

T +41 61 481 84 39
F +41 61 481 84 40
M +41 79 212 28 31

www.flowmeter-aic.com
aic@bluewin.ch



SYSTEMS AG
Switzerland

Automotive Information and Control Systems