Technical Information
TI_884-888_e_11.18

FUEL FLOW METER
AIC - 884 / 888 INSTRUCTOR

Diesel consumption flow meter for live testing while driving for engines up to 515 KW (700 HP)

888 Instructor

900 Veritas

1000 series

4000 Veritas

5000 Fuel flow

6000 Swissline

FS series

Board computers Remote totalizers

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

The AIC-888 Instruktor flow meter is the instrument for live testing on board vehicle.
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

- Diesel
- 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**
- 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
- Suitable for engines with fuel injection of latest technology

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Measuring Systems

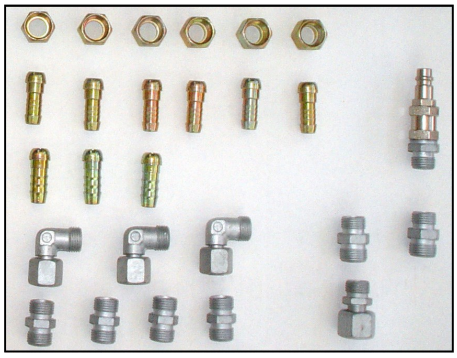
A Complete measuring system consist of:

- One AIC-884 or 888 INSTRUCTOR flowmeter
- One Board Computer, BC 3034
- Signal connection cable
- Set of installation fittings

Munting bracket
AIC part no. 888 100

AIC - 888 Instruktor
AIC part no. S888.00

AIC - 888 Instruktor
Fuel connectors detail



Univ. connection kit
AIC part no. S1450.1

Measuring unit AIC - 888 Instruktor

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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.

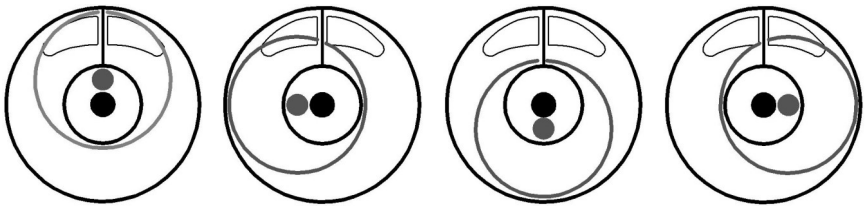
Fuel flow measurement:
The consumption of fuel for engines can be measured by 2 ways :

- 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-884 INSTRUCTOR is supplied with 2000 ppl and the AIC-888 INSTRUCTOR is supplied with 804 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 measuring cell pressure loss is 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.

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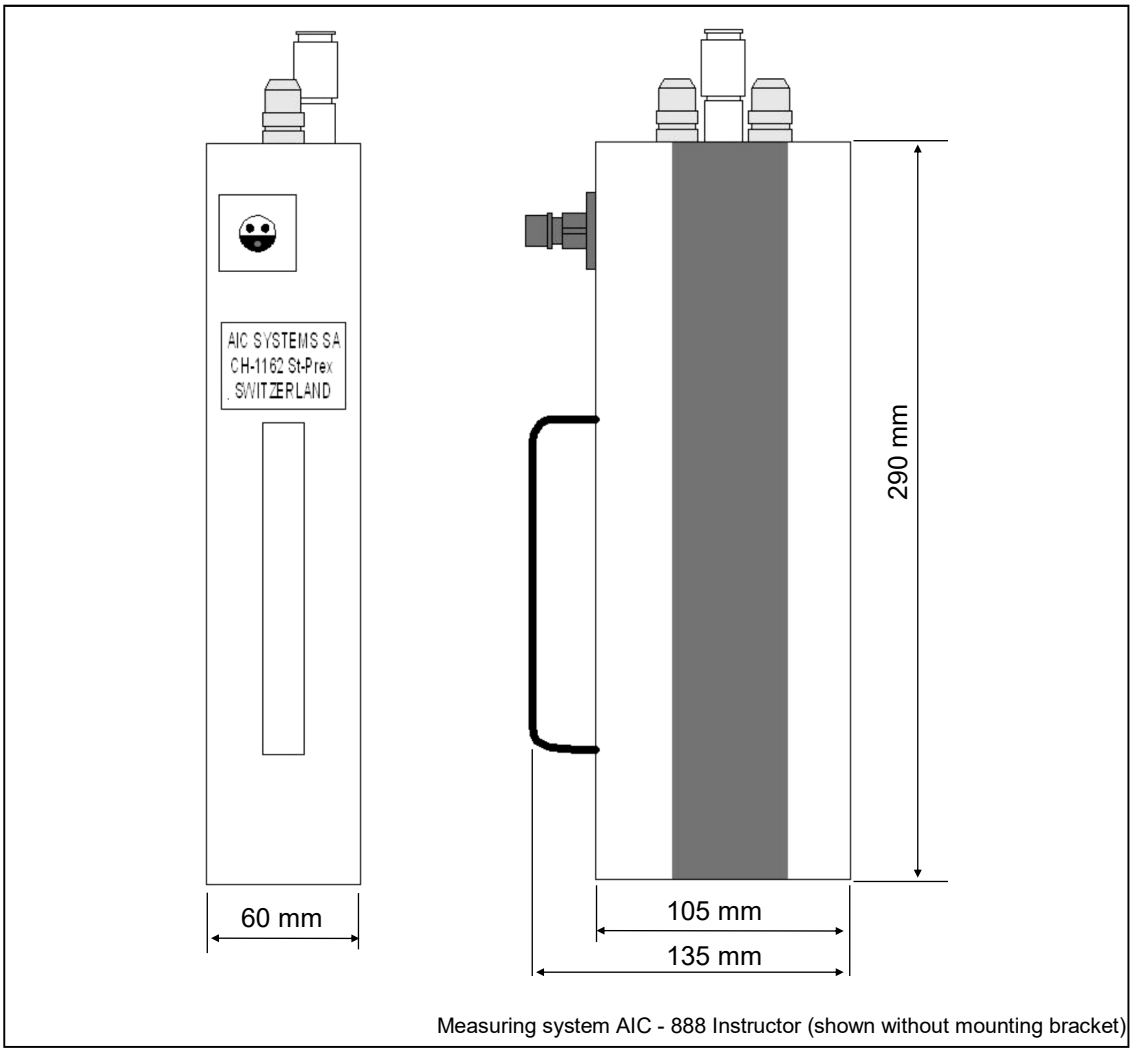
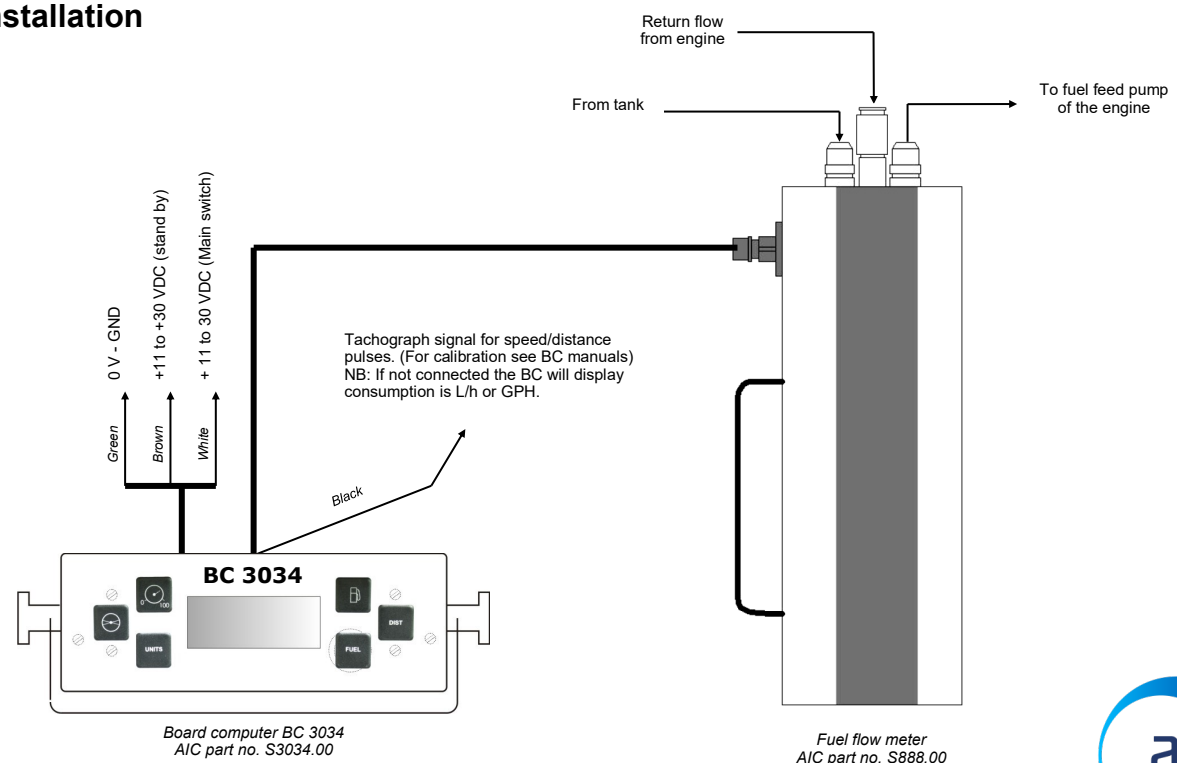
Dimensions



Measuring system AIC - 888 Instructor (shown without mounting bracket)

Installation



Board computer BC 3034
AIC part no. S3034.00

Fuel flow meter
AIC part no. S888.00

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Technical data

AIC 800 INSTRUCTOR

General data

Manufacturer	AIC SYSTEMS AG
Product designation	AIC-884 INSTRUCTOR AIC-888 INSTRUCTOR

Mechanical data

Dimensions (L x l x h)	410 x 180 x 60 mm
Weight	AIC 884: 3.5 kg AIC 888: 3.9 kg 0.2 kg (mounting bracket)

Materials

Flow meter sensor	Brass, aluminium
O-ring	Viton®
Connectors	Steel anodized, Stainless Steel, Brass
Casing and mounting bracket	Stainless steel and aluminium
Tubing (internal)	NBR

Flow meter

Measurement principle	Volumetric, oscillating piston, with microprocessor controlled pulse emitter (Pat. AIC)
Measuring range	1 to 80 l/h (884) 4 to 200 l/h (888)
Accuracy	better than 1 % of reading
Repeatability	better than 0.2 % of reading
Admissible pressure	- 1 to 3 bar
Mounting position	indifferent
Operating temperature	-30 ... 90°C
Ingress protection	IP 67

Electrical connection

Power supply	8 - 28 VDC / 30 mA
Pulse signal	rectangular NPN, open collector, pulse width 0.7 ms
Pulse rate	2000 ppl (884) 804 ppl (888)

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Ordering Structure

Model Type	Designation	Order code
Flow meter		
AIC-884 Instructor	for engines up to max. 220 KW (300 HP) 2000 ppl, NPN pulse, 0.7 ms pulse length	S884.00
AIC-888 Instructor	for engines up to max. 515 KW (700 HP) 800 ppl, NPN pulse, 0.7 ms pulse length	S888.00
Accessories		
Mounting bracket	For permanent or temporarily mount on vehicle frame, aluminium	888 100
Connection kit	Universal connection kit CS-1, includes various connection fitting (metric), fuel hose not included	S1450.1
Fuel hose	Fuel hose 9.5 x 18 mm, NBR reinforced (not for Bio-diesel)	S1440.0
	BIO-Fuel hose 10 x 14 mm, PUR reinforced	S1540.0
Connection cable	Cable connecting the fuel oil meter to the BC 3034 10 m length	5610.10
Transport case	Transport and protection of measuring instrument and accessories, dim. 560 x 420 x 140 mm	460 118

Board Computers

Model Type	Designation	Order code
BC-3034	on-board computer, incl. 14 functions and data logging option. 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, driving time, operating time Choice of standards : metric, US	S3034.00

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