

Fuel Flow Meter AIC 4000 NEMO



- Accuracy better than 0.5 %
- Fuel consumption flow meter for engines up to 4000 KW (5400HP)
- Permanent mounting system
- Ideal for fleet management applications
- PT 1000 temperature probe for fuel consumption in volume and mass flow as well as CO2 exhaustion

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

Made as well 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.

Applications:

- Small, medium and large trucks
- Buses
- Construction, demolition machines
- Agriculture machines
- Boats
- Railway

Media that can be measured:

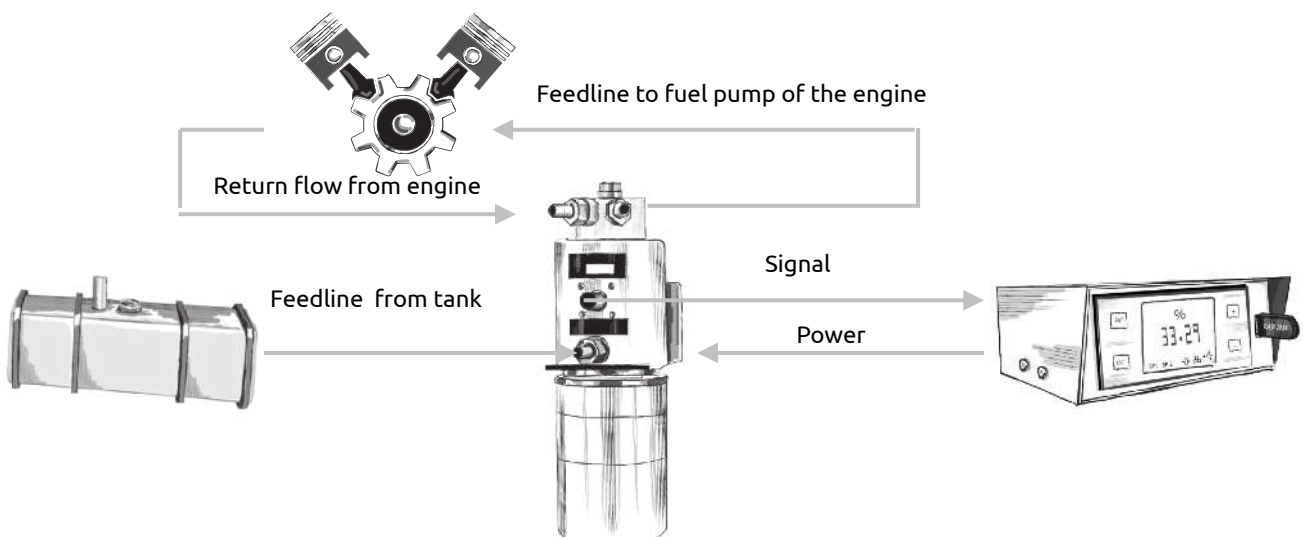
- Suitable for diesel, HVO, Biodiesel B100, B30, fuel light, medium, heavy, fuel blends, Naphtha, AdBlue, hydraulic oils, Lubricating oils. For any fluids according to ISO 8217-2012 standard.

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 for more than 40 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



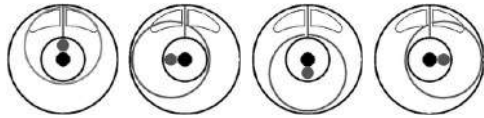
System Setup



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 before arriving in the AIC vortex head. In the Vortex head, the fresh fuel from the tank is mixed with the fuel returning from the engine. From the AIC Vortex head, the fuel is forwarded to the engine. 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 4000 Installation

Flow Meter AIC 4000



Signal cable 8282.xx

Board computer BC 3329



LOG Settings

Log Interval 5s
 Time 12:15
 Date 01.01.2019
 Logging start

72.7l/h CO2/h

145.4

1250.48l 3.373t

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.

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.

- View instantaneous fuel consumption
- Average fuel consumption (3 decimals)
- Fuel consumption accumulation
- Lap routine for later calculations of the individual lap characteristic
- Reading in Metric or US unit
- Easy control with start, stop logs and reset functions
- All settings are stored and will not be lost in the event of power failure
- Languages: English, German, French, Spanish and Portuguese

| Date: | Time: | Current Consumption: | Temperature: | Total Consumption: | Oil Consumption: | Speed: | Oil Speed: | ODO: |
|---------|----------|----------------------|--------------|--------------------|------------------|--------|------------|----------|
| 20.1.19 | 07:37:50 | 149.0 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:51 | 149.2 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:52 | 148 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:53 | 148.5 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:54 | 148 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:55 | 148.1 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:56 | 147.8 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:57 | 148.1 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:58 | 148.5 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:37:59 | 148.5 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:00 | 148.5 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:01 | 147.8 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:02 | 148 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:03 | 148.1 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:04 | 148 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |
| 20.1.19 | 07:38:05 | 148.2 l/h | 45.8 °C | 35209.7 l | 1.40 l/h | 2 km/h | -1.1 km/h | 11054 km |

NEMO option:

- Improved fluid management implemented
- Instantaneous mass flow indication in kg or lbs
- Indicating the real time CO₂ exhaustion



For the temperature compensation the measuring cell is upgraded with an PT 1000 high sensitive temperature probe

The masse calculation is based upon the the manually density input (according to DIN 51757 regulation).

Technical data**AIC 4004 / 4008 / 4008s / 4015 / 4020**

| Model | | 4004 | 4008 | 4008s | 4015 | 4020 |
|--|--------------|--|--------------------------------------|---------------------------|-------------------------------------|-----------------------------|
| Measuring range | l/h (gph) | 1 ...80 (0.26 ... 21) | 4...200 (1.05 53) | 4...240 (1.05 63) | 10 ...600 (2.6 ... 159) | 30...1500 (7.9 396) |
| App.starting flow rate | l/h (gph) | 0.25 (0) | 1 (0.26) | | 4 (1.05) | 12 (3.2) |
| Max. permissible error of actual value | | Better than $\pm 0.5\%$ | | | | |
| Repeatability | | Better than 0.2 % of reading | | | | |
| Admissible pressure | bar/psi | -1 to 6 / -14 to 87 | | | -1 to 16 / -14 to 232 | |
| Operating temperature | C°/F° | -30 ... 100 / -22 ... 212 | | | | |
| Ingress protection | | Sensor and electronic, IP 64 | | | | |
| Power supply | | 8 - 28 VDC | | | | |
| Pulse signal | | NPN open -collector; square 0.7 ms pulse width | | | | |
| Temperature sensor | | PT 1000 according IEC60751 F 0.3 | | | | |
| Dimensions (incl.filter) | mm inch | 280 x 94 x 126 11 x 3.7 x 4.9 " | 300 x 94 x 126 11.8 x 3.7 x 4.9 " | | 425 x 190 x 140 16.7 x 7.5 x 5.5 | |
| Weight (incl.filter) | Kg lb | 2.5 5.5 | 2.8 6.1 | | 7.8 15.4 | 8.2 17.6 |

All informations are subject to change.



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