VRC Fuel Management Systems

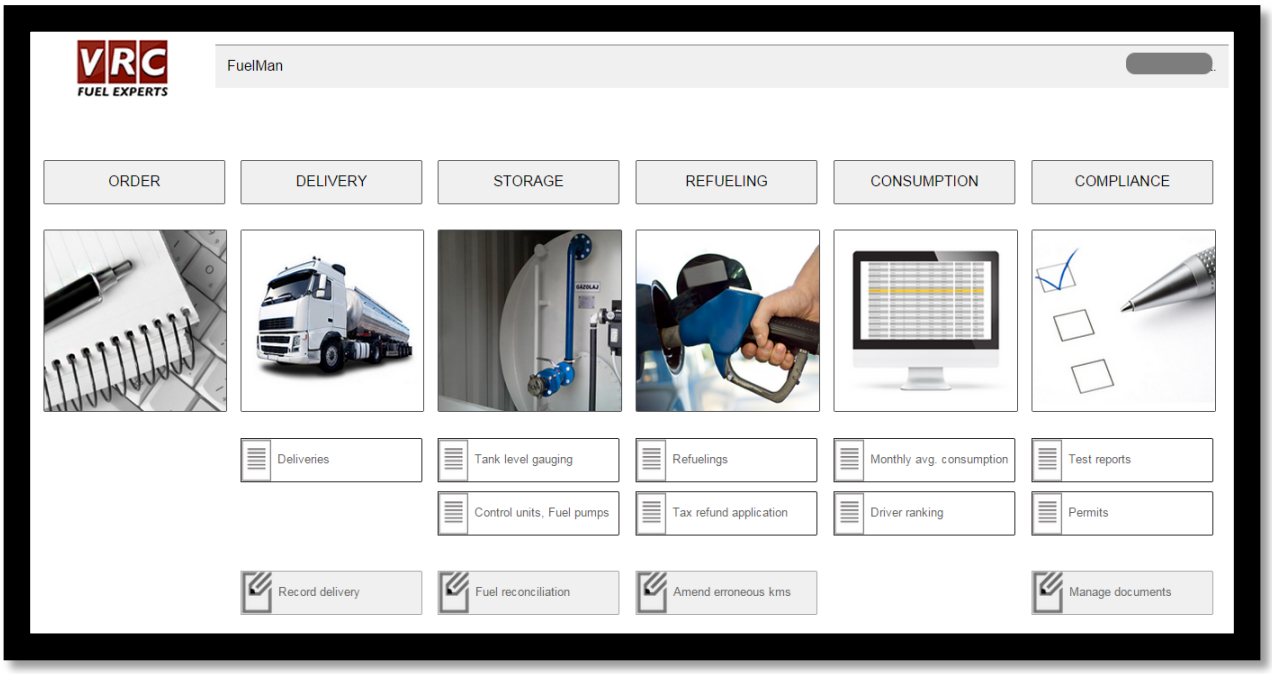
FUELEXPERTS

Ltd

2016

FuelMan

Fuel Management Support Service



VRC Fuelexperts supplies all hardware needed to facilitate the FuelMan service.

The core element is the **Kaonomat 4.0 Base Control Unit** which authorizes refuellings and transmits transactions and tank level data to FuelMan via Internet connection. A wide range of instrumentational hardware (tank level gauges, flowmeters, etc) can be connected to the Kaonomat BCU including third party products. The list of devices currently deployed on sites with Kaonomat BCU-s is continuously growing as we strive to find the most suitable hardware for every application, focusing on reliability and cost effectiveness.

For details of the operation of the FuelMan service please refer to the document “FuelMan Technical Information”

Kaonomat 4.0 BCU

The Kaonomat integrated Base Control Unit is capable of

- **controlling fuel dispensing**, up to 15 nozzles*
- **controlling tank levels** in two tanks (further tank level gauging options available)

Controlled fluids: Diesel, DEF, lubricants, windshield washer, etc **

Power supply: 230V AC or 12V DC

Manual override switch for emergencies

RF card proximity reader for industry standard RF ID cards and tags, (magnetic card reader optional)

Alphanumeric LCD display

IP54 electric protection level for outdoor installation

Connectivity: Standard RJ45 socket for wired Ethernet connection (IP) for standard operation and remote updates, D-SUB for RS232/RS485 (servicing & calibration purposes only).

Wireless Internet connection optional.

Maximum transactions stored in local flash memory: 60.000

Maximum users: 10.000

User data is locally replicated so the unit can authorize refuellings offline too, without data losses.

Recommended flowmeters: Piusi® K600/3 or Tokheim® TQM80 family. Other industry standard mechanical flowmeters can be connected via Eltamatic® pulsers.

(one **SH3 bowser circuit panel needed for every nozzle, first one included, others optional)* Made in Hungary (EU)

**[The unit is intrinsically safe, but currently has no AUS/NZ certification for petrol or other Class 4 flammable liquids]

SH3 (KUT2) bowser/fuel-pump board

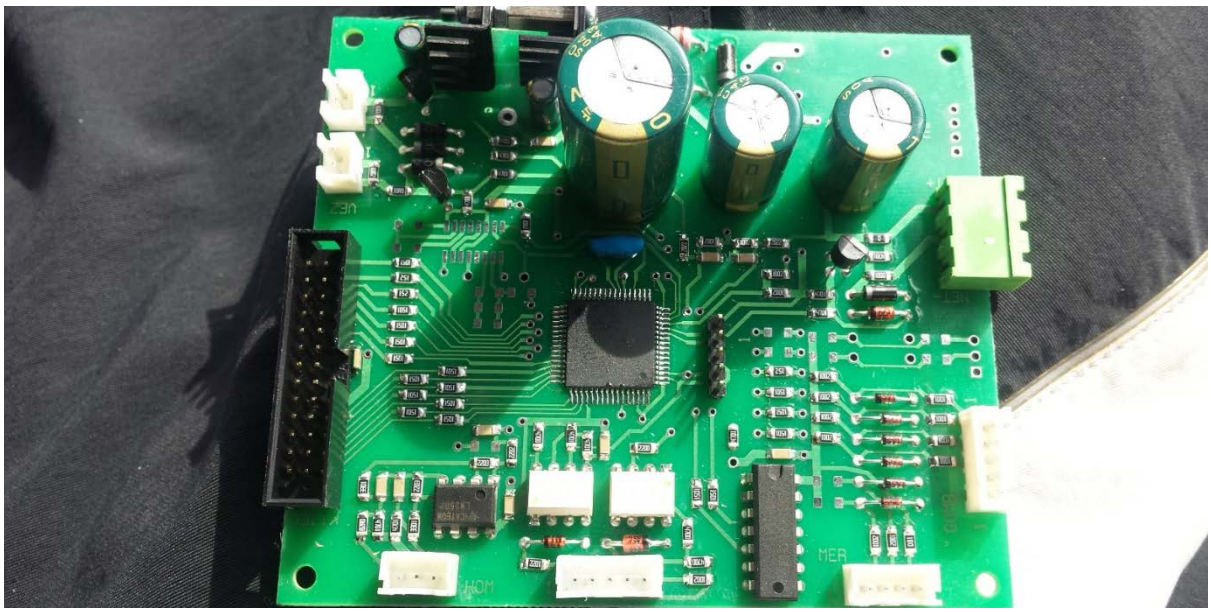
- 12V control relay output [for pump].
- 5V relay output for “Start filling” signal
- 7 digit LED display
- Connection for the pt100 temperature probe for 15^{o}C temperature equalized metering.
- D-SUB connector for RS232 service data cable
- Connector for flowmeter, (K600, Tokheim, eltamatic, Gilbarco, etc).
- Connections for

  Nozzle micro switch,

  Key switch for manual operation,

  Cumulative volume display,

  Cumulative temperature compensated volume display.
- Feed voltage 12V DC



VRC DataLevel ATG (automatic tank gauging) specifications

Probe: **DatCon U / T** pressure probe (4-20mA, no local display,)
Operating temperatures: -25 to 140 °C
Accuracy: 30000 l tank: +/-10 l = **+/- 0.0033% (digitally enhanced)**

Compatible other ATG systems

Many other ATG systems can be integrated into the system. Please contact your VRC advisor for details.

Stationary tanks

VRC's systems can be installed on any stationary tank (above- and underground) and on all mobile tanks provided that 230V AC or 12V DC power supply is available.
Please contact your VRC advisor for the range of tanks available in your area.

Auxiliary pumps

VRC recommends **Piusi Panther 56-72 pumps**
Diesel transfer, displacement, self-priming rotary electric vane pumps.
Thermal motor overload protection.
Flow rate up to 72 l/min
Continuous AC operation (230V)
Noise level below 75 dB
Filter incorporated

Flowmeters

VRC recommends the **Piusi K600/3** flowmeter but the BCU can also be connected to a range of flowmeters including the Tokheim TQM80 range and other mechanical flowmeters via eltamatic® pulsers.