Fuel flow meters

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S6 IoT BURGER

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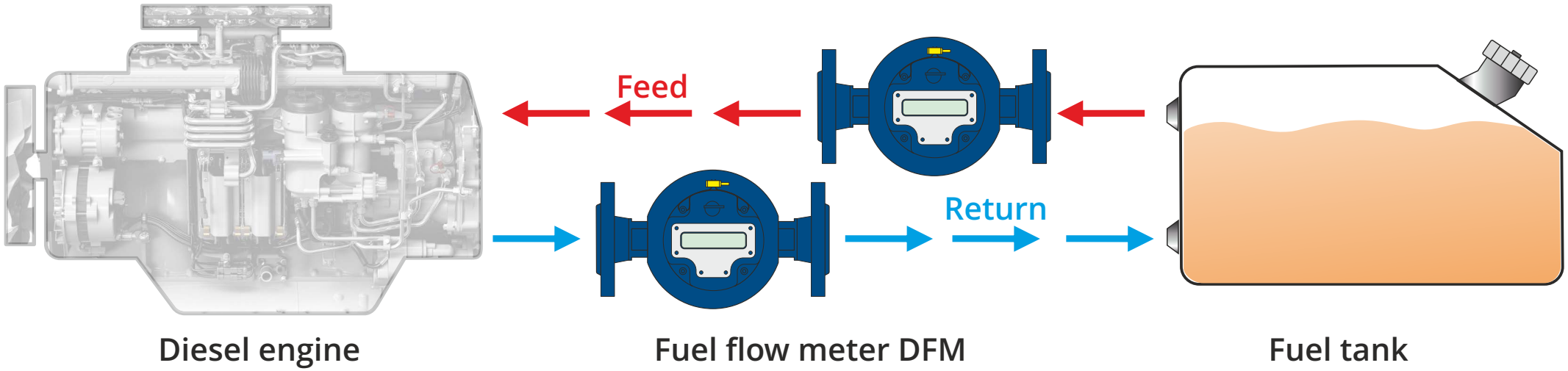
Purpose



Direct fuel consumption measurement inside fuel lines of diesel engines of vehicles and stationary machinery.

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Goals

- Monitoring of real fuel consumption
- Machine running time tracking
- Fuel consumption optimization
- Preventing fuel theft
- Engine diagnostics by consumption rate

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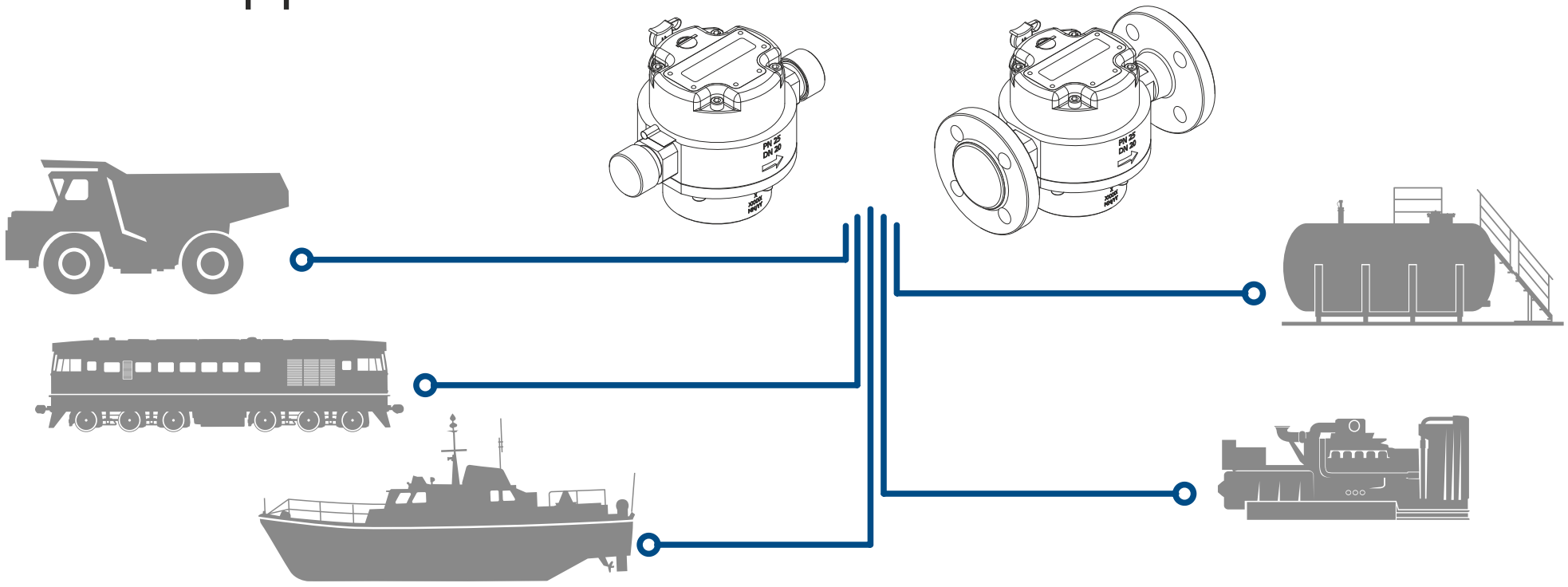
Areas of application



Precise tool for fuel consumption measurement of water transport, mining and quarrying equipment, railroad vehicles; also boilers, big diesel gensets and other mobile and stationary objects with fuel consumption up to 4 m^3/h.

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Features

- Built-in battery for recording Counters without external power supply.
- Recording total and average fuel consumption, also in various engine operation modes: “Idle”, “Optimal”, “Overload”, “Tampering”.
- Recording engine operation time, total, average and in various operation modes: “Idle”, “Optimal”, “Overload”, “Tampering”.
- Detecting quantity and duration of fraud attempts (magnet interference), recording volume of fictive fuel consumption (data tampering).
- Keeping Journal of registering Events: “Power on/off”, “Interference” etc.

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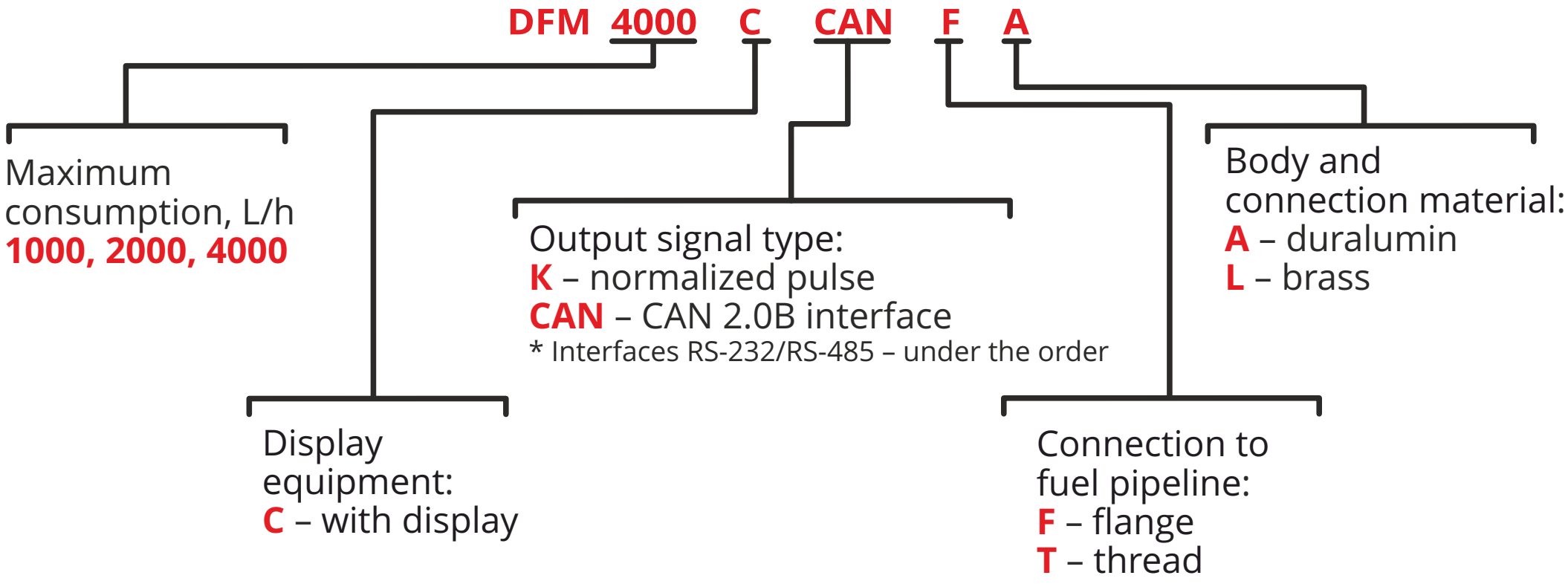
DFM Marine designation



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DFM Marine S7 designation

DFM Marine S7 4000 F A

S7 – Bluetooth 4.X interface

Maximum consumption, L/h
1000, 2000, 4000

Connection to fuel pipeline:
F – flange
T – thread

Body and connection material:
A – duralumin
L – brass

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Specifications

Measuring fuel consumption	20 to 4,000 l/h
Inaccuracy	0,5%
Nominal bore (1000|2000|4000)	15|20|25 mm
Measuring chamber volume (1000|2000|4000)	30|75|150 ml
Pipe connection type	thread/flange
External connection thread type, BSP (1000|2000|4000)	3/4"|1"|1 1/4"
Body and connection material	duralumin/brass
Maximum pressure (flange/thread)	25/16 bar
Wired interfaces	pulse, CAN J1939/S6, NMEA 2000
Wireless interface	Bluetooth low energy

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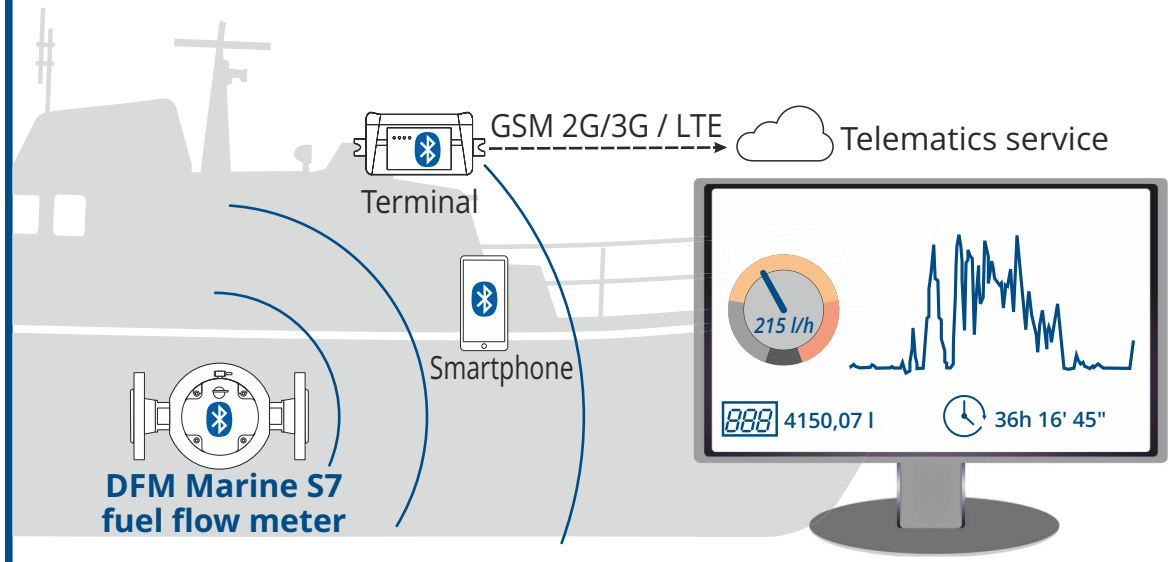
Wireless flow meter DFM Marine S7

NEW!!



Using DFM Marine S7 in telematics systems of machinery allows reducing installation time of on-board equipment.
The meter is recommended for situations when cabling is complicated or unfavorable.

Data transfer interface – **Bluetooth 4.X**

Fuel data is displayed on smartphone and allows:

- monitoring fuel consumption and operation time;
- selecting optimal work mode taking in account fuel rate;
- checking fuel rate data for diagnostics and repair of engine and fuel system.

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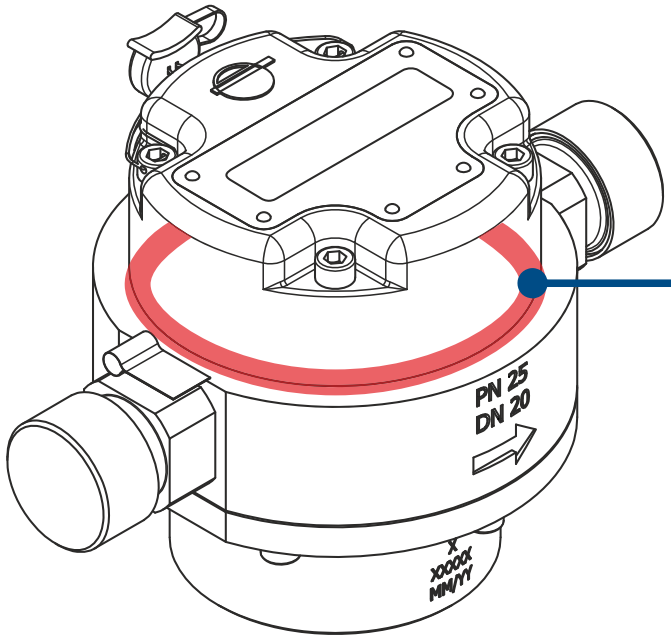
Special version



Heat insulating gasket made of PTFE (polytetrafluoroethylene)

On backorder – special version with heat insulating gasket made of PTFE between measuring chamber and “head” with electronic unit.
Designed for accurate flow measurement of fuel with temperatures up to +150°C.

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Exterior/ Duralumin body

Measuring chamber of brass

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Exterior/ Brass body

Measuring chamber of brass

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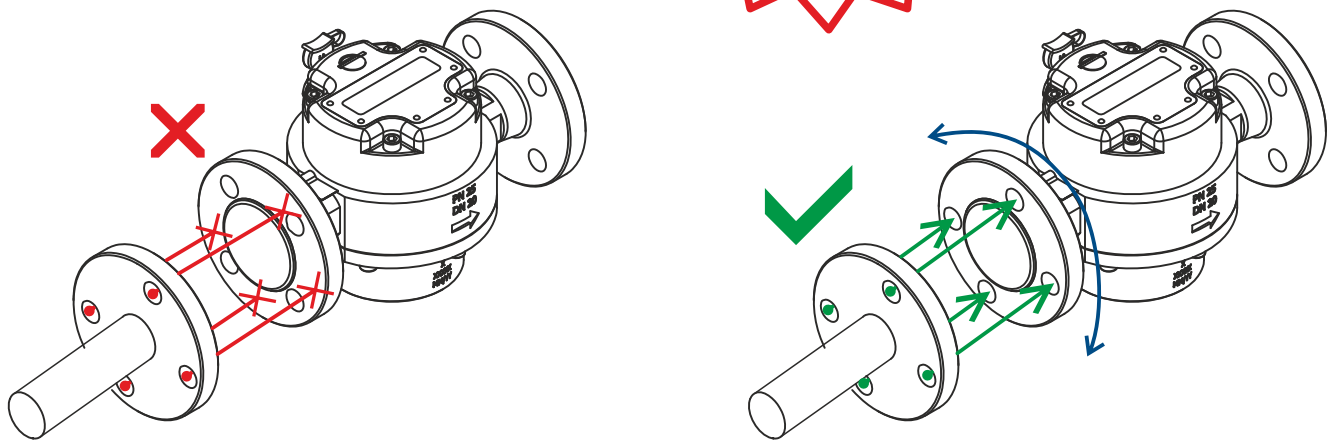
Exterior/ Swivel flange

NEW!!



Swivel flange provides easy and convenient mounting into fuel systems of water and railway transport, as well as in stationary fuel supply systems.

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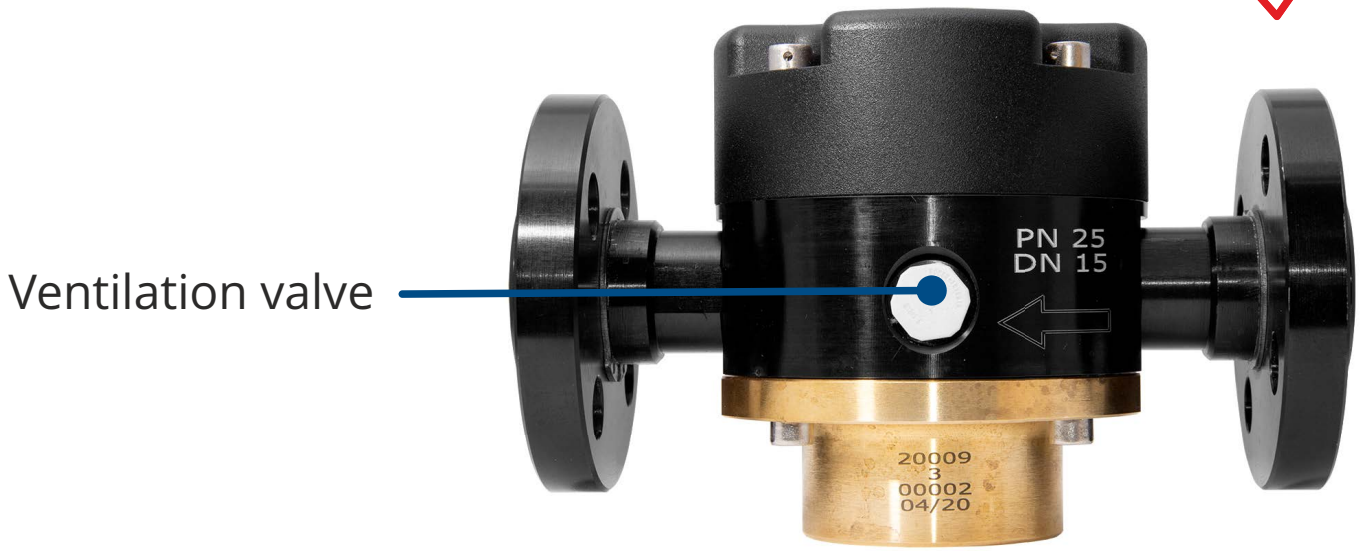
Exterior/ Ventilation valve

NEW!!



Ventilation valve is installed at the end-face of flow meter's body and protects against the formation of internal condensate during operation in high humidity conditions.

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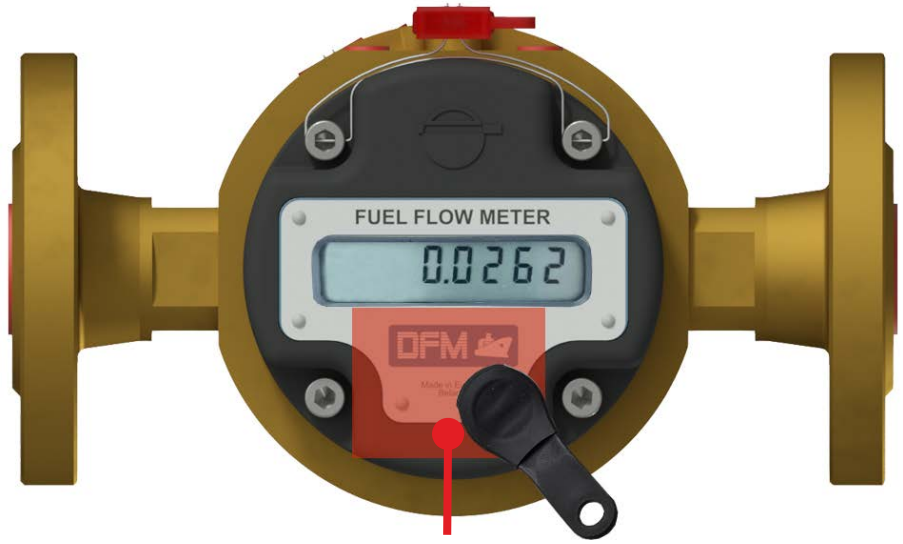
Showing and resetting data



Magnetic key application zone

Switching between data displays.
Switching metric/U.S. units of measurements.
Resetting “Total fuel consumption” resettable Counter.
Resetting “Engine Operation Time” resettable Counter.

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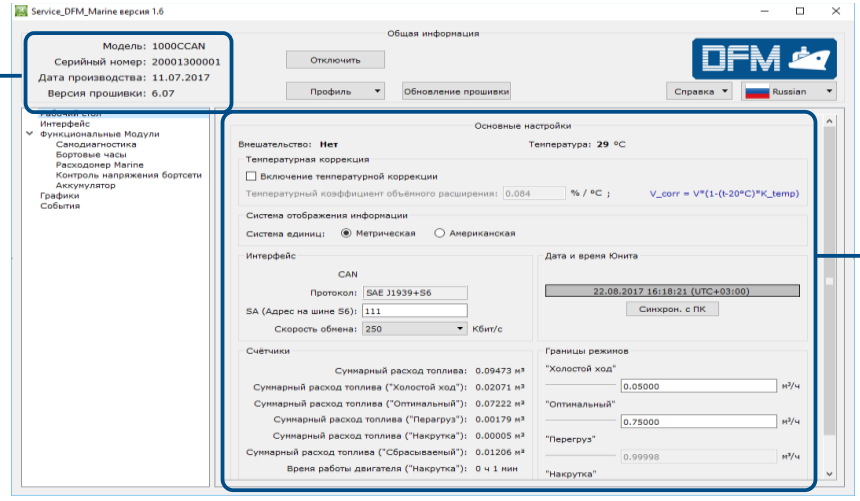
Displayed data

1	Total Fuel Consumption Counter
2	Engine Operation Time Counter
3	Engine Operation Time in Idle Mode Counter
4	Engine Operation Time in Optimal Mode Counter
5	Engine Operation Time in Overload Mode Counter
6	Engine Operation Time in Tampering Mode Counter
7	Engine Operation Time Counter. Clearable
8	Total Fuel Consumption Counter. Clearable
9	Total Fuel Consumption Counter. Tampering Mode
10	Instant Fuel Consumption
11	Interference Time Counter
12	Total Differential Fuel Consumption Counter (only for DFM Marine CCAN)
13	Instant Differential Fuel Consumption (only for DFM Marine CCAN)
14	Battery Charge in Percentage of the Maximum
15	Temperature in the Measuring Chamber

Configuration

Flow meter ID



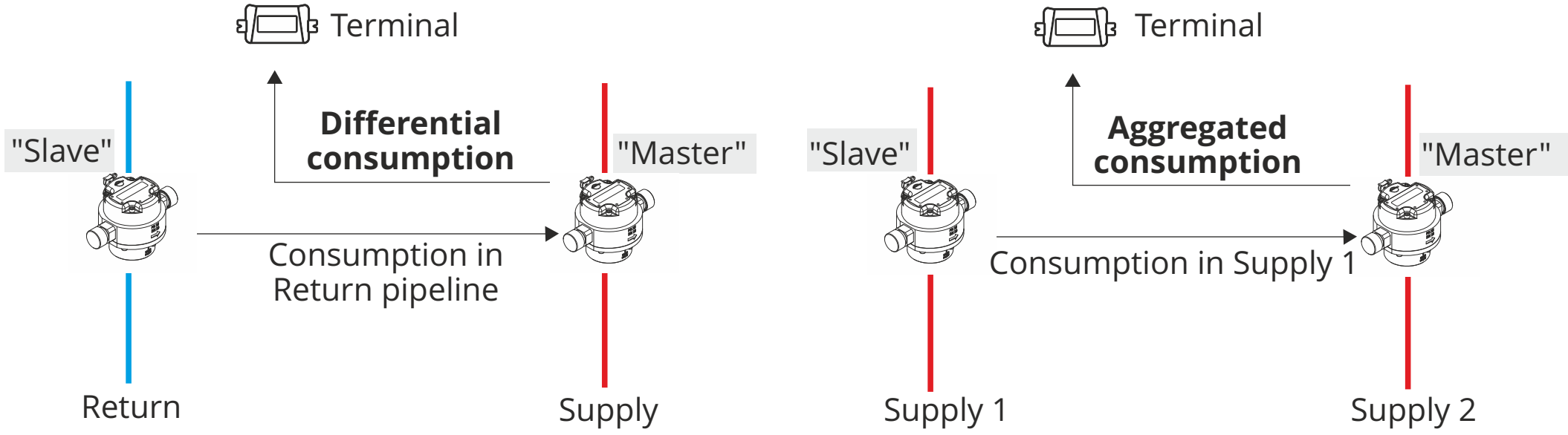
Info and settings

Service DFM Marine software

Precise flow meter configuration:

- consumption mode boundaries;
- temperature correction coefficient;
- adjustment coefficient;
- two-flowmeter operation mode;
- units of measurement selection.

Differential measurement and aggregated consumption data



Any two pieces of DFM Marine can be configured through Service software to operate in “Differential” or “Aggregation” modes.
Special selection or mutual calibration of pair of flow meters is not needed.

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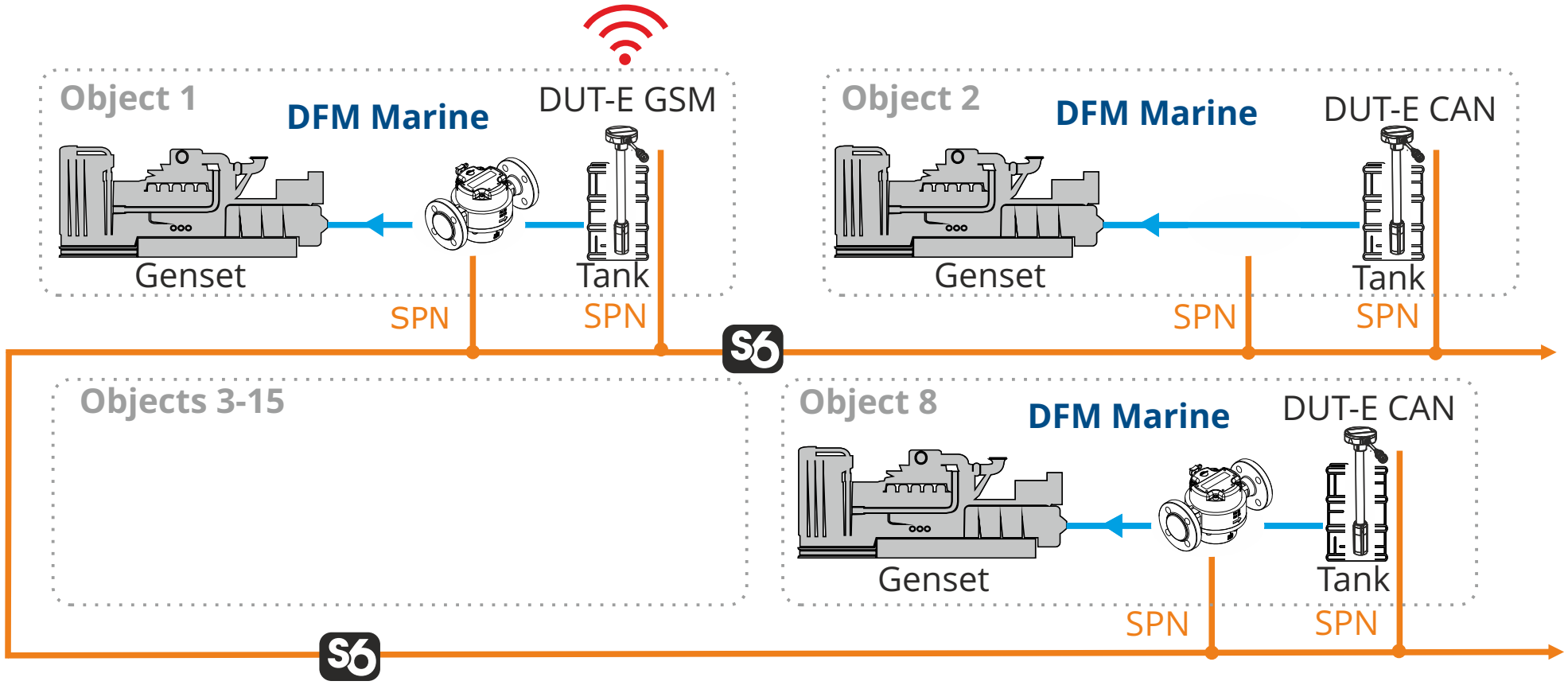
Multi-unit operation



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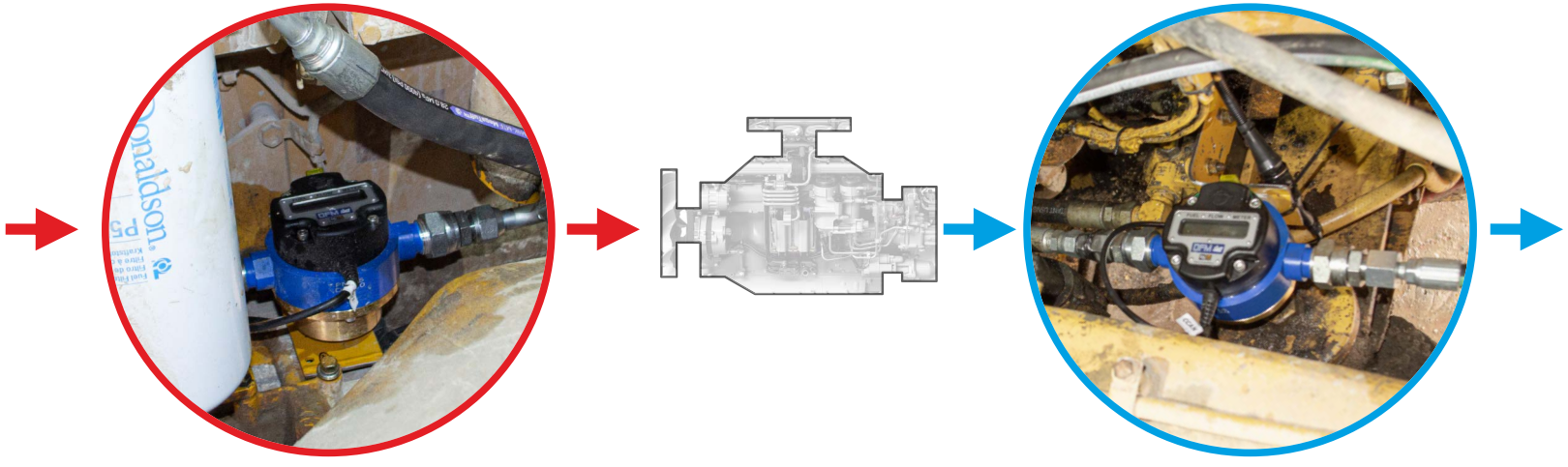
Project/ Mining equipment (USA)


Excavator Comatsu PC 1800


Mining truck CAT 777D



Differential scheme: two DFM Marine are installed, on feed (on the left) and return (on the right) lines

DFM Marine 2000 were installed on trucks and excavators.

Data from flow meters are used for evaluating efficiency of quarry operation – e.g. what is the fuel usage per ton of mined rock.

Flow meters are working in tough operation conditions (high concentration of dust) good accuracy and without any failures.

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Project/ Diesel locomotive (Chile)

DFM Marine 1000 are installed in fuel lines of locomotive according to differential measurement scheme. Fuel data is shown on CAN-display in crew compartment, so the train driver can keep an eye on engine workload.

Fuel rate data also sent to CANUp telematics gateway, which transfers information to a web-based server, where dispatcher can track train location, its fuel consumption and can export data for further analysis in automated freight management system.

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Project/ Vessels (France)

DFM Marine are installed according to differential scheme in feed **(1)** and return **(2)** lines.

Ball valves **(3)** are used for bypassing fuel and ensuring engine operation when flow meter maintenance is carried out.

Fuel data from DFM Marine meter allow captain of the ship to:

- check engines' workload based on fuel rate;
- calculate trip range and plan tank refilling.

DFM Marine flow meter model with body made of brass is resistant to corrosion, which is important for operation on marine vessels.

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Summary

- ✓ High precision of consumption measurement – inaccuracy just 0,5%.
- ✓ Fuel consumption and machine hours monitoring – total, average and in various operation modes: “Idle”, “Optimal”, “Overload”, “Tampering”.
- ✓ Measuring chamber is made of corrosion-proof material – brass.
- ✓ Configuration and diagnostics over PC: consumption mode boundaries, temperature correction on/off, viewing Instant consumption chart and Event Journal.

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Learn more

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