LoRaWAN Fuel Flow Meter

✓ Safe Zone   ◯ Hazardous Zones

LORAWAN FUEL FLOW METER
WSLRW-DFM

WSLRW-DFM is an advanced devices that use LoRaWAN (Low Power Wide Area Network) technology to measure and transmit fuel flow data over long distances. These meters are particularly useful for remote monitoring and management of fuel usage in various applications, such as industrial processes, fuel distribution, and storage. The meter provides real-time monitoring and optimization of fuel consumption, normalization of fuel quotas, detection and prevention of fuel theft, and fuel consumption testing for engines/genset. LoRaWAN fuel flow meters are used in various industries like manufacturing, agriculture, transportation, and smart cities. The device will transmit data in kilometers distance to LoRaWAN gateway, any brands on the market.
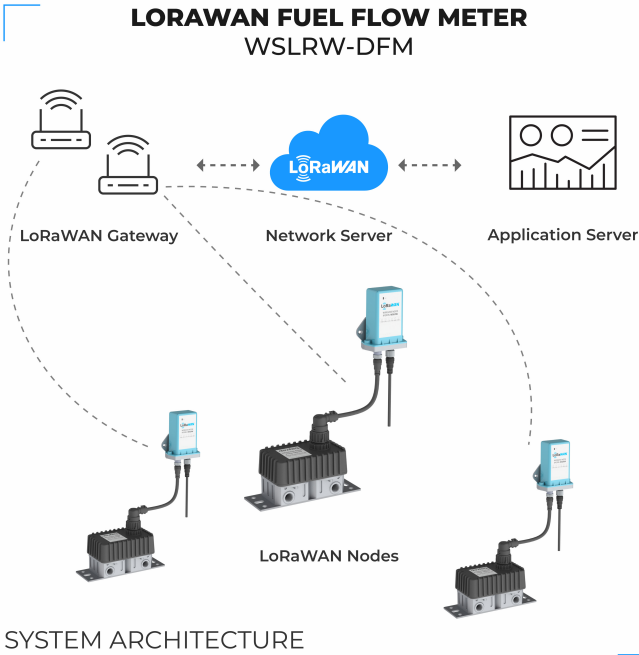
LoRaWAN

IP67
Weatherproof

CE FC ARIB

Applications

Energy Monitoring, Fuel Monitoring, Process Monitoring, Smart Irrigation, Vehicle Tracking

Notes For Applications

- Application: Identify the purpose (industrial, automotive, marine, etc.).
- Flow Rate & Accuracy: Determine flow rate range and required accuracy.
- Fluid Compatibility: Ensure compatibility with the fuel type.
- Measurement Principle: Choose the appropriate type (e.g., turbine, ultrasonic).
- Environmental Conditions: Evaluate temperature, pressure, and corrosive substances.
- Installation: Consider space, pipe size, and orientation.

✓ **LoRaWAN communication**
LoRaWAN communication standard to allow sensor connect to any LoRaWAN Gateway on the market

✓ **Design for harsh environment**
IP67 and durable housing for harsh environment of engine room/cabinet

✓ **Various fluid type monitoring**
Monitored fluid types: diesel fuel, heating oil, motor fuel, other types of liquid fuels with kinematic viscosity from 1.5 to 6 mm2/s

✓ **Multi-parameter monitoring**
Multi-parameter monitoring such as differential/supply/return flow, differential/supply/return volume, supply/return temperature

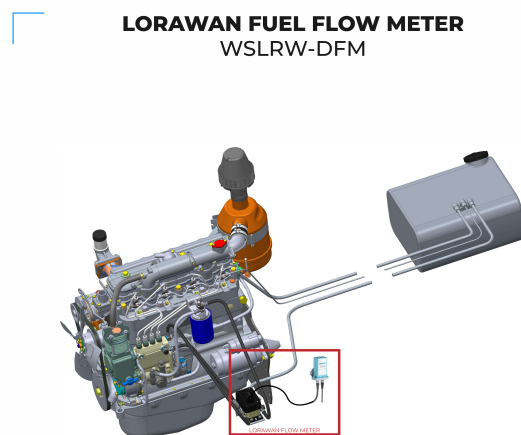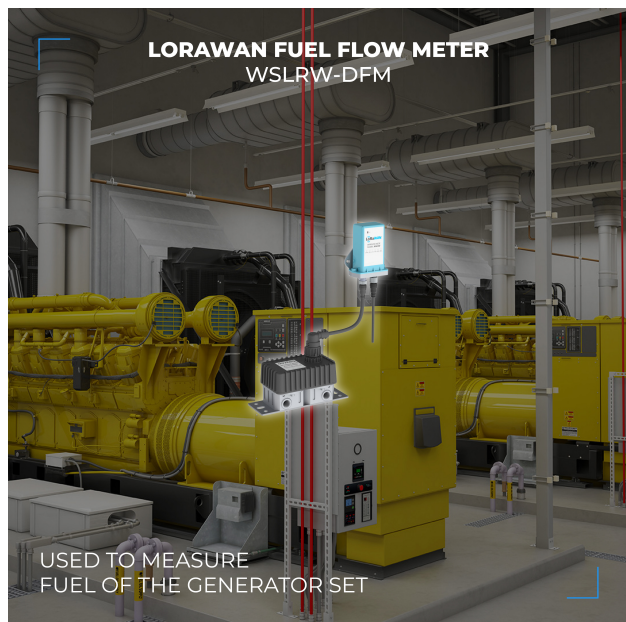## LORAWAN FUEL FLOW METER
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LoRaWAN Gateway   Network Server   Application Server
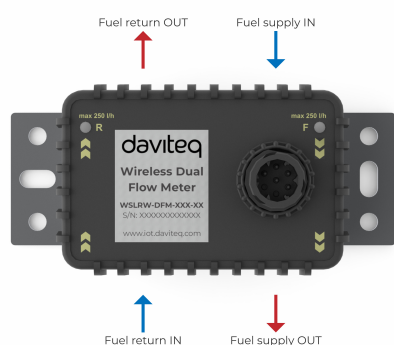
LoRaWAN Nodes

SYSTEM ARCHITECTURE

Specification

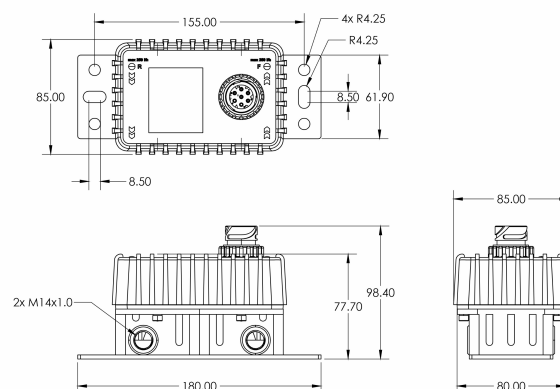| FLOW METER	
Measurement fluids	diesel fuel, heating oil, motor fuel, other types of liquid fuels with kinematic viscosity from 1.5 to 6 mm2/s
Measurement Range (L/h)	10-100, 20-250, 40-500
Measurement error	+/- 1%
Max pressure, MPa	2.5
Nominal pressure, MPa	0.2
Kinematic viscosity, min/max, mm2/s	1.5/6.0
Solid particles size in liquid, mm	<=0.015
COMMUNICATION	
SF Factors	SF7~SF12
Antenna	Internal Antenna 2.0 dbi
Power supply	External power supply 10-48 VDC, avg 41 mA and max 66 mA @12 VDC
RF Frequency and Power	860~930MHz, 14~20 dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN, class A and class C
Data sending modes	Interval time, magnetic key and alarm
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Working temperature	-40~80℃ for flow meter and -40~60℃ for LoRaWAN node
Dimensions and Net-weight	H110xW73xD42, 250g (LoRaWAN Device Node) and H100xW180xD85 for 250 L/h flow meter
Housing	Polycarbonate and Aluminum (wall mount bracket included), IP67

LORAWAN FUEL FLOW METER
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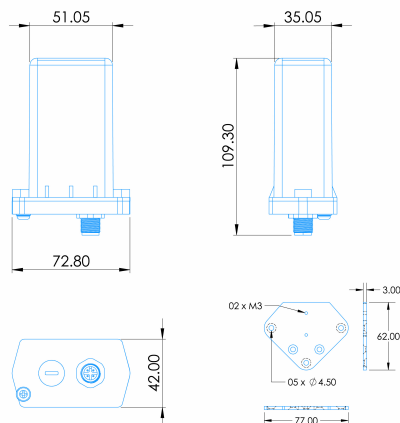USED TO MEASURE
FUEL OF THE GENERATOR SET

LORAWAN FUEL FLOW METER
WSLRW-DFM

INSTALLATION

LORAWAN FUEL FLOW METER
WSLRW-DFM

Fuel return OUT   Fuel supply IN

Fuel return IN   Fuel supply OUT

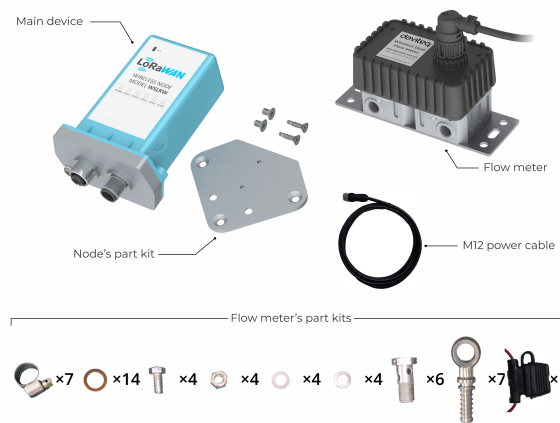FUEL PIPELINE OF FLOW METER

LORAWAN FUEL FLOW METER
WSLRW-DFM

DIMENSION DRAWING OF
FUEL FLOW METER (Unit: mm)

LORAWAN FUEL FLOW METER
WSLRW-DFM

DIMENSION DRAWING OF
WIRELESS NODE (Unit: mm)

LORAWAN FUEL FLOW METER
WSLRW-DFM

Main device

Node's part kit

Flow meter

M12 power cable

Flow meter's part kits
×7 ×14 ×4 ×4 ×4 ×4 ×6 ×7 ×1

PRODUCT PACKAGE

Ordering Information

ITEM CODE	DESCRIPTIONS
	LORAWAN FLOW METER FOR GENSET OR ENGINE, INTERNAL ANTENNA, EXTERNAL POWER, 100 LPH, INTERNAL ANTENNA, IP67, 7-48VDC SUPPLY
	LORAWAN FLOW METER FOR GENSET OR ENGINE, INTERNAL ANTENNA, EXTERNAL POWER, 250 LPH, INTERNAL ANTENNA, IP67, 7-48VDC SUPPLY
	LORAWAN FLOW METER FOR GENSET OR ENGINE, INTERNAL ANTENNA, EXTERNAL POWER, 500 LPH, INTERNAL ANTENNA, IP67, 7-48VDC SUPPLY
	CONFIGURATION CABLE FOR LORAWAN OR SIGFOX SENSOR, TTL, USB