DFV100 Electronic Register

The DFV100 series is the latest advancement in Liquip's range of electronics, featuring as a stand alone register, level gauge CPU or combined unit.

The DFV100 series provides reliable and accurate service combined with long service life and simple operation.

The DFV100 is approved for use in Zone 1 (IECEx, ATEX & UL) truck mounted or fixed site product transfer applications.

Key Features

Common to all potted DFV units

- Weights & Measures Approved: NMO UK, NMI AUS, W&M NZ, MID Europe, Measurement Canada & NTEP - USA.
- Durable Aluminium housing with hinged door to allow easy access to internal connections.
- Large display to easily view multiple information simultaneously.
- RS232 and CAN communication.
- Intuitive set up and programming.
- Electronic calibration.
- Non-linearity correction.
- Non volatile memory for storing set parameters.
- Operates on 12 or 24 volt installations.
- Backlit display for ease of reading in low light.
- Piezoelectric buttons for reliability.
- Connection to a ticket printer or a third party fuel management system.
- Can be connected to a large digit display.
- Micro SD card for easy software upgrades.

Register

- Preset functionality / batch control.
- Solenoid outputs are voltage free and can perform a 2 stage ramp up and ramp down of the fluid flow.
- No flow timer.
- One calibration point with Weights & Measures sealable captive fastener.
- Compatible with most flow meters on the market.
- Pulse output can be programed as optional additional fourth relay.
- Functionally backwards compatible with Liquip EMH registers.
- Flowrate displayed on main screen along with volume during delivery.
- Future expansion and modularity available.
- DFV100 can be upgraded to include a level gauge CPU - See DFV101 Datasheet.

Safety Approvals (All units)

IECEx	ATEX	UL
- Safety Approved for use in Zone 1 IECEx ExTC 17.0008X Ex e ib mb [ia] IIA T4 Gb IP66 (Ta = -20°C to +60°C)	- Safety Approved for use in Zone 1 DEMKO 14 ATEX 1407X Ex e ib mb [ia Ga] IIA T4 Gb IP66 (Ta= -20°C to +60°C) $C\epsilon$0518 ⟨Ex⟩II 2 (1) G	- UL Safety Approved - USA & Canada for use in Class 1 Zone 1. Cl. I, Zn1, AEx e ib mb [ia Ga] IIA T4 Gb Ex e ib m [ia Ga] IIA T4 Gb Ta= -20°C to +60°C Um = 32V E477774

Associated Equipment

- Expansion modules - Contact Liquip
- Cold Climate Register - Contact Liquip
- ERP200 - Remote Pulser
- DFV101-UP - DFV100 Series upgrade to DFV101

- DFV103 - DFV Level Gauge CPU
- DFV101 - DFV Register / Level Gauge CPU
- 4155 - Temperature Probe

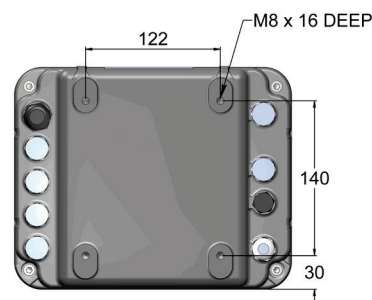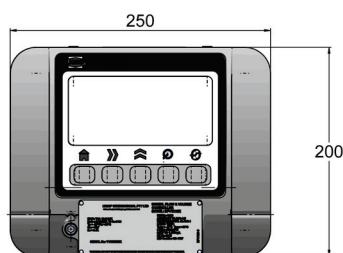|	
Size	Approx, 250 x 200 x 140mm
Displays	1 line x 14 characters 14 mm high and 4 lines x 24 characters 8 mm high
Power Input	9 to 32Vdc (safety approved) or 9 to 45V (operational) @ 250mA polarity protected. External in-line fuse (rated 1.8A, antisurge) is a mandatory condition of safe use.
Operating Temperature	-20°C to +60°C
Temperature Correction	-40 to +60°C for all petroleum products Extended ranges available according to local regulations
Temperature Probe	Pt100 class A, 3 wires, Liquip P/N 4155
Ingress Protection	IP66
Product Density	0.500 - 0.600kg/L for LPG, 0.653 - 1.075kg/L for other products
Weight	4.6kg
Communication	Two RS232C ports to be used to communicate with a PC or other serial device such as a modem or printer. One CAN port.
Touch PC	Software is written for Touch-PC on-line communication. Commands that can be interrogated include resetting the meter and requesting the current delivery quantity.
Printer	Epson CTM-290 or TM-295, Blaster Printer.
Pulse Input	Will accept 3-channel pulses of 60° phase shifted, from ERP200 pulser, dual (quadrature) or single pulse (reed or open-collector) from third-party pulsers. Third party pulsers may not be NMI approved
Pulse Output	Open drain, active-low output, signal calibrated to 10 pulses/litre, where the pulse frequency can be set up to either 400Hz or 2kHz max. (with fixed pulse duration 1.25 ms or 0.25 ms respectively). Additional in-line fuse (2A, antisurge) is a mandatory condition of safe use.
Pulse/External Reset	This is an input/output signal. Additional in-line fuse (2A, antisurge) is a mandatory condition of safe use.
Relay Outputs	Up to 4 Relay Outputs. Current sink, 2A max. Solenoid to be connected between this output and the positive of the power supply. Additional in-line fuse (2A, antisurge) is a mandatory condition of safe use.
Program Memory	microSD card

Mounting Instructions

The DFV100 can be either remote mounted or mounted to a meter using an adaptor bracket.

Adaptor Bracket: Front mount to various meters

When direct mounting to a meter is unavoidable

DFV100-23 (Suits the following meters)

- LC - M5, M7, M10, M15, M25, M30, M40, M60

- SAMPI - M5, M7, M15, M30

Adaptor Bracket: Top mount to various meters

DFV100-18 - Top mount bracket to suit meters that use the OE standard 4 bolt register mount.

For mounting to other meters please contact Liquip