



Automation | Valves | Measurement | Process Control



SPARTAN CONTROLS TRUCK UNLOADING SYSTEMS

Accurate and reliable truck unloading
systems

www.spartancontrols.com



Successful truck loading/unloading systems must offer reliable, accurate and repeatable measurement.

Spartan Controls' truck unloading and loading solutions offer a combination of best-in-class technologies from Emerson™, Phase Dynamics and Ametek Drexelbrook, coupled with Spartan's application experience and intellectual property.

Spartan Controls has over 500 truck unloading and loading panels installed in Western Canada, with over 200 multi-riser TruckVue™ systems and over 300 smaller single riser panels. Our truck loading and unloading systems have the capability to integrate data into existing business systems, providing ease of reporting, accurate accounting, and meeting regulatory compliance in Western Canada. The systems are equipped with a user interface that presents effortless navigation for the truckers and operators, and the seamless integration with plant control systems minimizes sources of uncertainty and accounting error.

Choose an accurate and reliable system

Spartan Controls' truck unloading systems use Micro Motion™ Coriolis flow meters for flow measurement and water cut determination. The meter provides three dynamic measurements that include mass flow, density and temperature. The volume measurement is derived from the mass and density variables ($\text{volume} = \text{mass}/\text{density}$). The meter can be used over a wide range of densities and volume flow rates providing custody transfer accuracy.

The system typically uses the following methods to determine water cut to the highest accuracy possible:

- 0 - 5% density compensated Ametek Drexelbrook Cut Monitor or 0-10% Phase Dynamics low cut microwave water analyzer
- 0 - 100% or 5-100% net oil density comparison using Micro Motion™
- 0 - 100% microwave water analysis using Phase Dynamics (heavy oil unloading)

For many of our systems, the water cut calculation is determined by incorporating the density compensated Drexelbrook cut monitor (0-5% watercut) and the net oil density comparison from the Micro Motion™ meter (5-100% watercut). The density compensated water cut monitor is used to improve watercut resolution to pipeline spec over the 0-5% watercut range. In heavy oil applications ($>930\text{kg}/\text{m}^3$), it is beneficial to also perform the 0-100% watercut calculation using a Phase Dynamics Microwave Analyzer. The microwave analyzer does not require a minimum oil/water density span in the calculation, allowing it to provide significantly improved accuracy.

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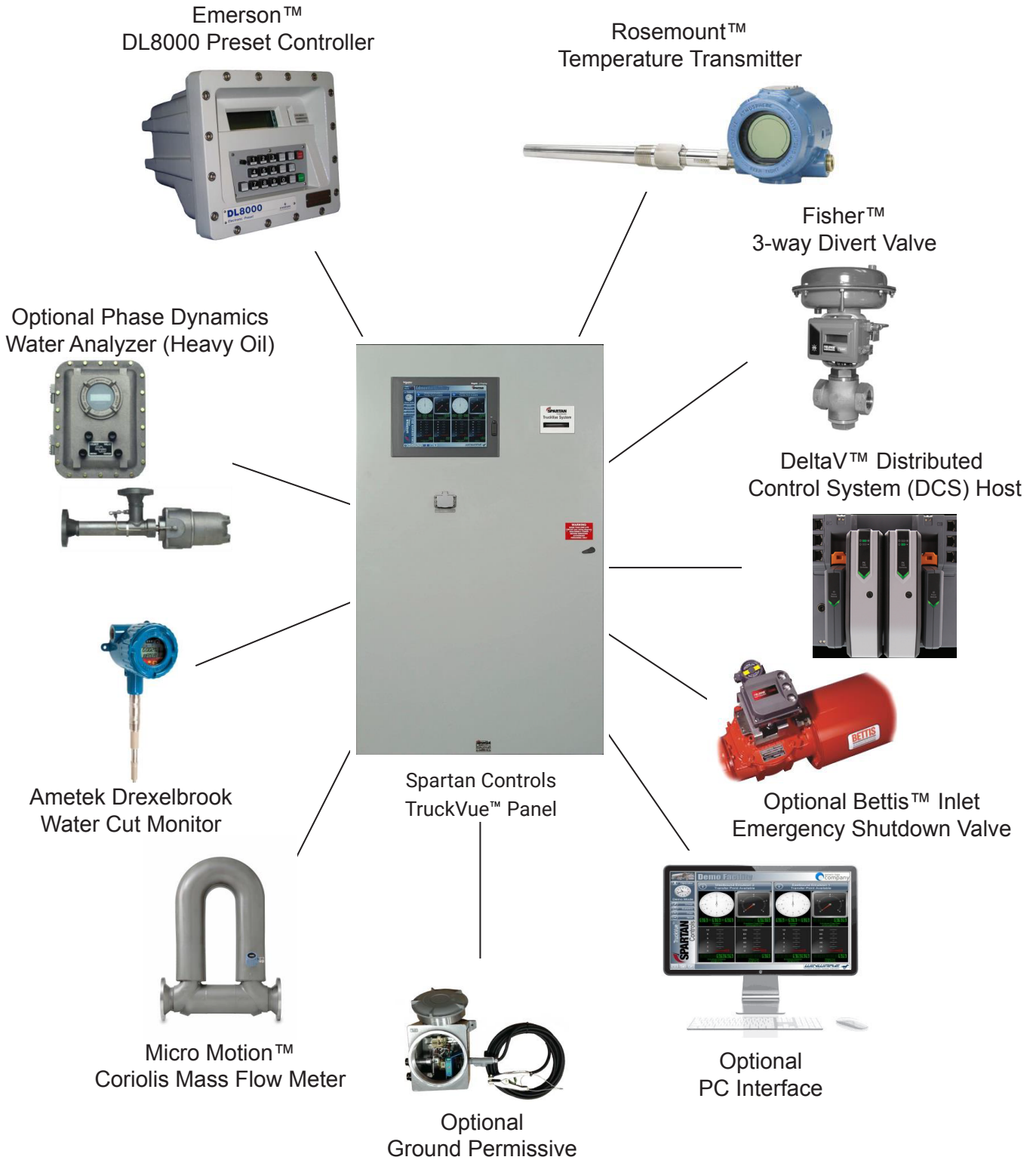
Interface System Hardware

Features	FB107 - TUS	TruckVue™
Transfer Points	1	1-12
Directive 17 Compliant	Yes	Yes
Autocomp Feature	Yes	Yes
Printer	3" Strip Ticket Printer (serial)	Serial/Ethernet/Network
Data Trending	Yes	Yes
Real-Time Monitoring	Yes	Yes
Well Database	378	> 1,000,000
Truck Database	100	> 1,000,000
Historical Records	200	> 1,000,000
Historical Meter Proving Records	30	No Limit
Modbus Access	Yes	Yes
Ethernet Access	Yes	Yes
Enterprise Solution	No	Yes
Bidirection Flow	No	Yes
SMV Records	No	Yes
Audit Trails	Yes	Yes
Vapour Metering	No	Yes
Loading Capabilities	No	Yes
Water Cut Measurement	Yes (NOC, Drex, and/or PDI)	Yes (NOC, Drex, and/or PDI)
Measurement Canada Approval	No	Yes (with DL8000)
Area Classification	GP or CL1 Div 2 (w/o printer)	GP or CL1 Div 2 (w/o printer)
Production Selection Screen	No	Yes
Optional External SQL Database	No	Yes
Load/Unload through Single Meter	No	Yes
Embedded Configuration	No	Yes

*For added data security, it is recommended that all data (including historical records) be stored off-site

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Test System Input/Output (I/O)



Call us or request a quote online 24/7

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