SPARTAN CONTROLS

SpartanPRO™ Truck Unload System (TUS)

Automated FB3000 Truck Unload Panel

By Design

The **SpartanPRO™ TUS panel** is a field-proven solution for automated, safe crude oil truck unloading at terminal and batteries. Integrating control, flow metering, water cut measurement, safety interlocks, and ticketing into a single panel, it reduces operator intervention, shortens unload times, and ensures accurate custody transfer. Bui lt on the Emerson FB3000 RTU platform, it displays real-time flow rates, totals, density, temperature, water cut, an d unload time. After unloading, the system prints multi-copy tickets with date, time, trucking details, well LSD, un load data, and corrected volumes per ***API 11.1 standards***. By automating the unload sequence, the **SpartanPRO™ TUS panel** reduces data errors, enhances safety, and maximizes site throughput.

Key Features

- Support for one truck unload transfer point
- Local HMI interface for displaying real-time volume, flow, density, and temperature measurements along with allowing for system configuration
- Reports corrected total volumes of oil and water for each truck unload transaction
- Local panel ticket printing and optional remote data access / remote monitoring
- **0-100% water cut determination** via the following methods:
    1. **0-5% density compensated** Drexelbrook water cut probe
    2. **0-100% or 5-100% net oil density comparison** using Micro Motion Coriolis flow meter
    3. **0-100% microwave water analysis** using Phase Dynamics (heavy oil unloading)
- Compliant with ***AER Directive 17*** regulations and uses ***API Chapter 11.1 2004*** calculations
- Compact, rugged panel design for installation in Class 1 Division 2 locations and is NEMA 4 rated for outdoor installations
- Micro Motion Coriolis flow meter can utilize Smart Meter Verification diagnostics to eliminate or minimize meter proving. (Per ***Directive 17 Exception 2.6.1***)

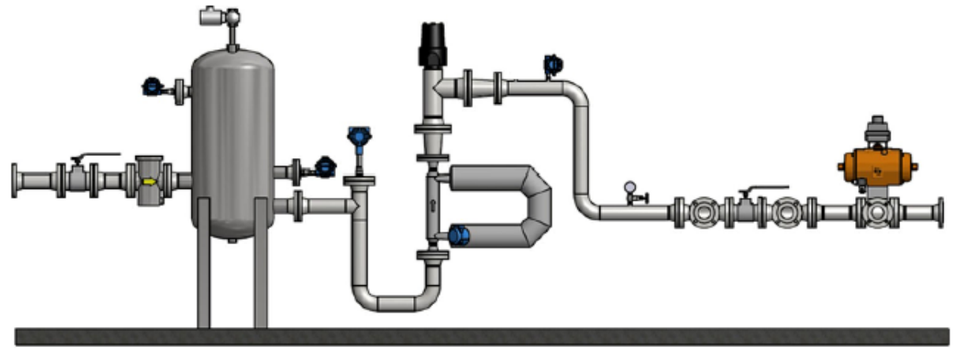
Well Database	Truck Database	Historical Ticket Records	Meter Prove Records
200	100	250	20

Standard Specifications

Access / Inputs:	MODBUS, 4-20mA
Flow Metering Input Required:	Micro Motion Elite Coriolis Flow Metering
Water Cut Input Required:	Drexelbrook or Phase Dynamics Water Cut Devices
Temperature Input Required:	Analog input (4-20mA) or RTD input
System Accuracy:	
Drexelbrook Water Cut (0-5%):	+/- 0.1% typical
NOC Inferred Water Cut (0-100%):	+/- 1.0% typical
Gross Volume:	+/- 0.1%
Density:	0.2 kg/m3
Mass:	+/- 0.1%

(Recommended Minimum Density Difference: 100 kg/m3 when using NOC inferred water cut)

TYPICAL TRUCK UNLOAD LAYOUT (Per AER Directive 17)



- DAILY TOTAL RECORDS
- MODBUS ACCESS
- ETHERNET ACCESS
- PC SYSTEM CONFIGURATION
- CLASS 1, DIV.2 PANEL
- ESD VALVE CONTROL
- 3-WAY DIVERT CONTROL
- GROUND PERMISSIVE
- DIAGNOSITIC RECORDS

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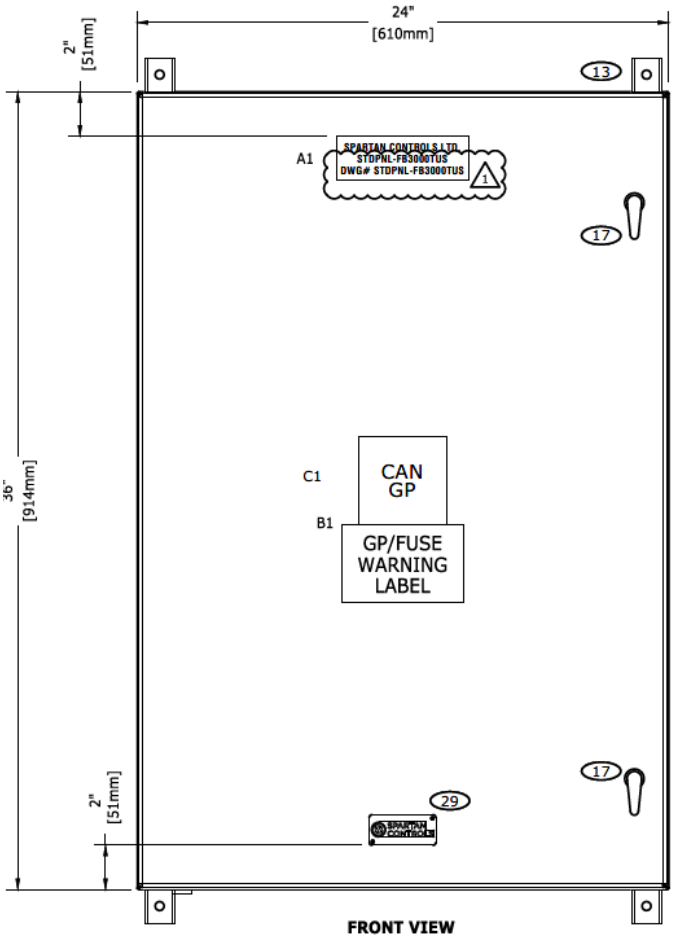
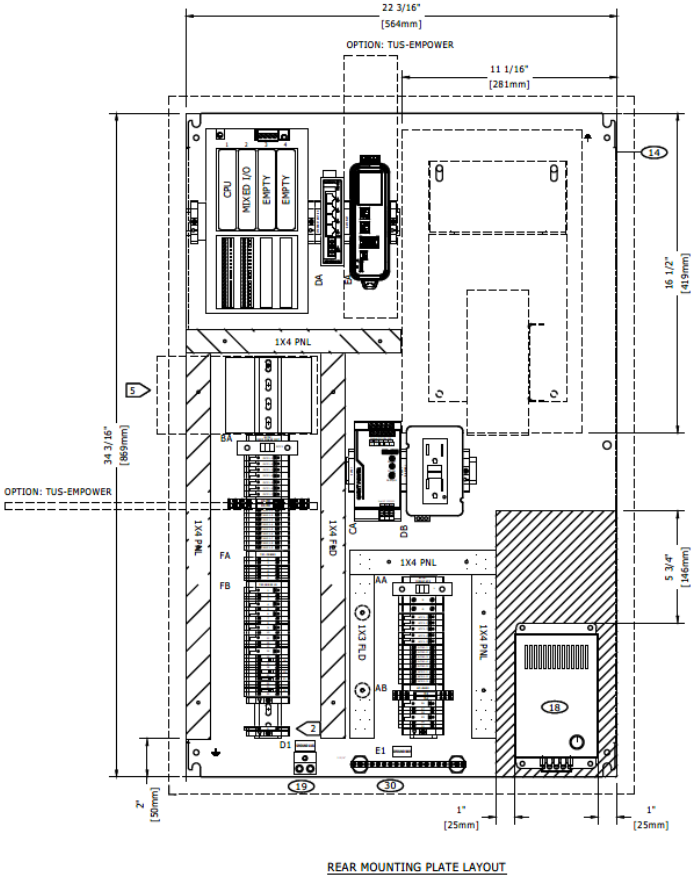
MOUNTING ENCLOSURE DIMENSIONS





Call us or request a quote online 24/7

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