



Specializing in Automated Weighing and Filling Solutions



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FILLPRO EDGE FEATURES AND CAPABILITIES

Overview

<i>Item</i>	<i>Description</i>
<i>Windows</i>	<p>The FillPro Controller is built around a Microsoft Windows 10 Pro Edition PC for familiar use and ease of integration for standalone or advanced enterprise networks.</p>
<i>Proprietary Fill Control</i>	<p>The FillPro Proprietary Fill Controller utilizes a mix of auto adjustment algorithms paired with user defined filling intervals to ensure a speedy yet precise fill every time. Fill Setups are defined as a target fill weight broken into 6 intervals that fill progressively slower, as such the bulk of the material can be dispensed quickly and then tapered down slowly to hit the target precisely every time.</p>
<i>System Architecture</i>	<p>A windows PC acting as the master controller for the system as a whole. The FillPro Control Application directs all of the filling process, IO signals, system integration, and external interfaces such as remote start signals, data backup, and user interaction. Several proprietary microcontrollers operate in conjunction with the FillPro Control Application to offload timing sensitive tasks such as precision scale monitoring and IO updates.</p>
<i>HMI</i>	<p>Human machine interface; The HMI for a given system generally is a standard monitor safe for class II div I and is interfaced via a mouse and or a keyboard. All application buttons and functions can be triggered with just a key stroke so a mouse is optional. Likewise the application was designed with a touch screen in mind and as such is easily able to be interfaced with a touch screen monitor</p>

<i>SQL Database Integration</i>	<p>SQL is the most common used database language used across all disciplines of computer programming. The database for the FillPro control platform is used for all data storage and as an entry point for SCADA. All information is stored securely and is only accessible via the application programmatically with the exception of 2 tables that can be used for integration with an external system for remote data upload and download.</p>
<i>Security</i>	<p>All application commands and functions are protected with a security profile that limits access based on a given security level. Each user can be assigned an access level to permit or restrict their privileges to sensitive commands, modifications, and data access. All user activity is logged for review. For advanced security windows profiles and hard drive level encryption can be implemented.</p>
<i>SCADA</i>	<p>Supervisory control and data acquisition (SCADA) is a control system architecture that uses computers, networked data communications and graphical user interfaces for high-level process supervisory management, but uses other peripheral devices such as programmable logic controllers and discrete PID controllers to interface to the process plant or machinery. The operator interfaces which enable monitoring and the issuing of process commands, such as controller set point changes, are handled through the SCADA supervisory computer system. However, the real-time control logic or controller calculations are performed by networked modules which connect to the field sensors and actuators. https://en.wikipedia.org/wiki/SCADA</p>
<i>Accuracy Capabilities</i>	<p>± 1mg. (environmentally dependent)</p>

User Interface and Control Platform

<i>Feature</i>	<i>Details</i>
<i>Data Collection</i>	<p>Every fill is recorded. Final weight, recipe parameters, step times, fill time, tare time, check weigh time, and user performing the fill.</p>
<i>User Access Control</i>	<p>Individual user accounts can be assigned with login credentials for tracking and access limitations. Multiple security levels permit and inhibit access to change recipes, preform engineering studies, material edit, system setting modifications, etc.</p>
<i>Automatic Fill Adjustment -Target 1-</i>	<p>If enabled, a running average (x7 fills) is applied to machine operation to more accurately dispense on target.</p>
<i>Multiple Recipes / Materials</i>	<p>Ability to define multiple recipes tied to one or more material definitions for ease of product change over and fill targets.</p>

<i>External Work Order Interface</i>	Access for an external work order to be integrated permitting the ability to request fills of various quantities and dispense weights remotely via interfacing systems
<i>SCADA Interface¹</i>	Proven interface to monitor, record, and control machine functionality.
<i>AB PLC Interface</i>	Integral with an Allen Bradly PLC for larger system control (Master or Slave)
<i>Serial Interface²</i>	Option to incorporate a Serial Channel following the same structure as the PLC command interface for integrations not capable of database integration or AB PLC
<i>Automatic retries for under tolerance fills</i>	In the event of an under tolerance fill the system without intervention will automatically retry the fill
<i>Barcode Interface³</i>	Ability to integrate a barcode scanner for custom use. Look up SCADA records, Record Serial Numbers, Etc.
<i>Automatic Database Backups</i>	System will back up the database every X hours and retain copies for the last 10 days.
<i>Force Calibration</i>	Calibration intervals can be set to a given hour interval to ensure continued accuracy of the system.
<i>Multi-Calibration</i>	System can be calibrated with multiple calibration weights of various weights for better system accuracy on applications filling a wide range of targets at a time.
<i>Historical Charting</i>	Historical data can be presenting in a graphical manor for data analysis. Including Scatter Plot and Histogram with on the fly updating.
<i>Easy Data Export</i>	Data can be exported quickly and easily to a common delimited format (CSV) for use of record keeping, data logs, and data studies with the use of Excel
<i>Faults and Warnings</i>	All Faults and Warnings are logged to the database for historical review and later follow up

Scale and Hardware

<i>Feature</i>	<i>Details</i>
<i>Hardware Specs⁴</i>	1 Scale 4 Feeders 16 Inputs 16 Outputs

¹ Contact us for further details and capabilities

² Implemented as required.

³ Motorola Barcode Code Designed; Integration Custom to Project.

⁴ Specs listed per board, one host controller can handle more.

Magnetically Balanced Scale

I/O

Hazardous Environment Rated

1mg readability
Min. sampling rate interval: 15ms

Optical Isolation for protection

Electrical enclosure and scale casing are rated for
Class II Div I Environments