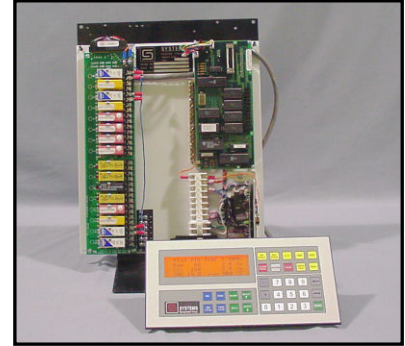


**Model ADP-070
Additive Proportioning Controller**

Designed to measure and control additives so the additive blends are accurately interlocked to a measured aggregate flow or external target rate.



NOTE

Features and their required interface modules are priced and included according to the user's actual requirement.

Available features include:

Aggregate Scale or External Target Rate.....

CAUTION!

The blending results obtained with process control systems can be no better than the signals acquired from the conveyor belt scale. The user is cautioned to carefully examine the conveyor, weighbridge, and any associated signal conditioning amplifiers to determine that these components are at least as state of the art as the process control system. New, high accuracy, high stability scale components are available from **SYSTEMS** if replacement is indicated.

Option A: Integral Aggregate Scale Totalizer

- An external loadcell amplifier/totalizer is not required. SYSTEMS provides an integral aggregate scale totalizer complete with equipment mounted proprietary *Lightning Quick Disconnect* and high stability, loadcell amplifier. Loadcell, loadcell amplifier, and optional belt scale speed pickup are automatically electrically disconnected from the control center whenever the ADP-070 is turned off. This disconnect protects against lightning induced transients of up to 1500 volts.
- Direct connection to users weighbridge low level loadcell and 110vAC belt scale starter interlock. Belt speed will be assumed proportional to the interlock line frequency.
- OR
- Direct connection to users weighbridge low level loadcell and pulse output belt speed sensor.
- The use of a belt speed sensor does increase measurement accuracy and may be required by
- governing specifications.
- User established scale damping and run/off threshold values.
- User installed aggregate percent moisture. All internal calculations and displayed values are based on the compensated dry TPH rates.
- User enabled/disabled Automatic weighbridge ZeroTracking.
- Computer assisted calibration by weighed load or by use of test weights.

Option 1B: External Aggregate Scale Totalizer Interface

- Input interface to users external weighbridge totalizer. Compatible with high level voltage, current, or frequency signals directly proportional to the measured aggregate rate.
- User established scale damping and run/off threshold values.
- User installed aggregate percent moisture. All internal calculations and displayed values are based on the compensated dry TPH rates.
- Computer assisted calibration to track users totalizer.

Option 1C: External Target Rate Interface

- The ADP-070 can interface with existing control and proportioning systems that currently control a volumetric feeder. This control signal can be intercepted by the ADP-070, interlocked to one of several metering devices, and the corrected output used to control the feeder. Simultaneously, an additive such as water can be proportioned and interlocked to the controlled additive flow rate.
- Input and output interface to users existing proportioning system. Compatible with high level voltage, current, or frequency signals directly proportional to the target rate.
- User established run/off threshold value. User selected metering interlock allows the feeder rate to be corrected by and interlocked to a suitable flow meter, or as a backup in the event the meter were to fail, to track the input target rate directly without correction.
- Computer assisted calibration to track users existing feeder controlled output.

Fines Additive Metering & Control.....

Option 2A: Metered by Depletion Weighpod with Integral Weight Meter

- Compatible with weighpods supported by 1 to 3 loadcells.
- An external loadcell amplifier is not required. SYSTEMS provides an integral weight meter complete with equipment mounted proprietary *Lightning Quick Disconnect* and high stability, loadcell amplifier. Loadcells and loadcell amplifier are automatically electrically disconnected from the control center whenever the ADP-070 is turned off. This disconnect protects against lightning induced transients of up to 1500 volts.
- Computer controlled fill output.
- User established scale damping, run/off threshold, pod full limit, and feeder interlock timeout values. Feeder rate may be interlocked to the measure rate or optionally run by volume only.
- Computer assisted calibration procedures.
- Interface to feeders powered by DC, VFAC or Eddy Current controllers. Isolated voltage, current, frequency or ratiometric feeder control signal outputs are available.

Option 2B: Metered by Depletion Weighpod with External Meter Interface

- Input interface to users external weigh pod amplifier. Compatible with high level voltage, current, or frequency signals directly proportional to the measured weigh pod weight.
- Computer assisted calibration to track users totalizer.
- User established scale damping, run/off threshold, pod full limit, and feeder interlock timeout values. Feeder rate may be interlocked to the scale or optionally run by volume only.
- Computer assisted calibration procedures.
- Interface to feeders powered by DC, VFAC or Eddy Current controllers. Isolated voltage, current, frequency or ratiometric feeder control signal outputs are available.

Option 2C: Metered by Impact Flowmeter with Integral Totalizer

- Compatible with impact flowmeters with a single loadcell.
- An external loadcell amplifier/totalizer is not required. SYSTEMS provides an integral impact scale totalizer complete with equipment mounted proprietary *Lightning Quick Disconnect* and high stability, loadcell amplifier. Loadcell and loadcell amplifier are automatically electrically disconnected from the control center whenever the ADP-070 is turned off. This disconnect protects against lightning induced transients of up to 1500 volts.
- User established scale damping, run/off threshold, and feeder interlock timeout values. Feeder rate may be interlocked to the scale or optionally run by volume only.
- User enabled/disabled Automatic weighbridge ZeroTracking.
- Computer assisted calibration procedures by weighed load or average rate (test weight)
- Interface to feeders powered by DC, VFAC or Eddy Current controllers; Isolated voltage, current, frequency or ratiometric feeder control signal outputs are available.

Option 2D: Metered by Impact Flowmeter with External Totalizer Interface

- Input interface to users external impact flowmeter totalizer. Compatible with high level voltage, current, or frequency signals directly proportional to the measured material rate.
- Computer assisted calibration to track users totalizer output.
- User established scale damping, run/off threshold, and feeder interlock timeout values. Feeder rate may be interlocked to the scale or optionally run by volume only.
- Computer assisted calibration procedures.
- Interface to feeders powered by DC, VFAC or Eddy Current controllers. Isolated voltage, current, frequency or ratiometric feeder control signal outputs are available.

Option 2E: Fines Not Metered; Tachometer Feedback Only

- Input interface to users high frequency pulse output tachometer mounted on the feeder motor or gearbox; 24-volt excitation available from the ADP-070.
- Computer assisted calibration to volumetric calibration by weighed load.
- Feeder control may be interlocked to the tachometer or optionally run by volume only.
- Interface to feeders powered by DC, VFAC, or Eddy Current controllers. Isolated voltage, current frequency or ratiometric feeder control signal outputs are available.

Liquid Additive Metering & Control.....

Option 3A: Constant Volume Variable Speed Pump with Meter or Tachometer

- Input interface to users high frequency pulse output tachometer mounted on the pump motor or pulse output meter; 24 volt excitation available from the ADP-070.
- Computer assisted calibration by weighed load.
- Feeder control may be interlocked to the meter/tachometer or optionally run by volume only.
- Interface to pumps powered by DC, VFAC or eddy current controllers; isolated voltage, current, frequency or ratiometric feeder control signal outputs are available.

Option 3B: Proportional Metering Valve with Pulse Output Meter

 **NOTE**

For optimum performance, the proportional metering valve should have a relatively linear output nominally proportional to the control signal.

- Input interface to users high frequency pulse output meter; 24 volt excitation available from the ADP-070.
- Proportioning valve control is always interlocked to the meter. User entered interlock control response damping.
- Isolated voltage, current, frequency or ratiometric proportioning valve control signal outputs are available.

User Specified Options.....

- Auto zero feature may be enabled/disabled on all integral totalizers
- Metric or English units of measure may be specified. All calibration values and accumulated totals are adjusted for the units selected so that the user may switch between options without needing to recalibrate.
- Additive blends may be calculated on the basis of aggregate or on the basis of total mix.

Calibration Features.....

- Single, on-screen calibration entry for each piece of connected equipment. No screwdriver adjustments are required or provided. With single point calibration, there is never any discrepancy between the value read and the displayed, the value used in determining the blends, and the value used for recordation. One calibration serves all.
- Computer assisted and prompted calibration procedures.

Data Recordation Printer Output.....

- A full feature data recordation output is included. Interface provided to an IBM compatible parallel printer. Printer and connecting cables are not provided.
- User defined automatic and unattended print interval.
- Demand print selected by user at any time.
- Print spooling – printer access does not interfere with any function or display, nor interrupt process control.
- Prints rates, blends, and totals for all measured or controlled values.

Operational Features.....

- Vacuum fluorescent 4x20 character and 33 key display terminal.
- Motors interlock for hands free loaded start/stop operation.
- Multi-tasking – all features available even while plant is being automatically controlled.
- Rapid updating – all data is processed and displays are updated every second.
- Interrupt driven – provides N key rollover for fault free data entry and precision timing for accurate and stable rate and totals measurement.

Controller Characteristics.....

- 24-volt DC supply for powering external sensors/meters.
- Industrial grade components.
- Direct interface to most motor controllers, loadcell scales, pumps, and meters.
- 9-digit floating point precision math ability. SYSTEMS proven real time operating system.
- Full integrating analog data conversion with greater than $\pm 0.002\%$ precision.

Automatic/Manual Transfer Switch.....

- In the event that portions of the existing asphalt or feeder controls are suitable for use as a manual backup system, the necessary transfer switches/relays can optionally be defined, installed or provided for user installation.
- Automatic/manual transfer switches will be provided for both the blend and feeder controls to provide the operator a useful manual backup system.

System Packaging.....

- Terminal and processor supplied loose for mounting by user.
- Backplate mounted I/O for installation by user.
- Backplate 110-volt 50/60 hertz to 5v/24v DC power supply for mounting by user.

 **NOTE**

Other packages are available.

Products are sold subject to SYSTEMS Equipment's current Warranty, Terms, & Conditions.