



PR445S WEIGH CONTROLLER

Features

- Accurate Recipe Batch Weighing
- Automatic Ingredient Weighing and Discharge of up to 10 ingredients.
- Single or Multiple Recipe Operation, up to 50 recipes each with 15 lines.
- Single or Multiple Batch Operation.
- Timer/Interlock options for control of Mixing, Heating and other process operations.
- Trip Level Options
- Serial Communications with a printer, for Batch Reports with time & date , or to a PC/PLC data system.
- Off-line recipe and configuration editing software including upload/download facility.

Description

The PR445S is a single weigher, multiple ingredient, weigh controller that may be used in a variety of batch process applications.

It operates from stored recipe data selected through its front panel or from a supervisory computer or PLC.

Recipe Control

The recipe system provides a flexible means of controlling both product formulations and process operations.

The recipe instructions are sequentially executed and can include both weighing control and process plant control functions. In many cases this eliminates the need for an additional PLC.

Each recipe line consists of the data items - Instruction, Output Selection, and Target Quantity or Time Period where applicable.

Recipe Instructions

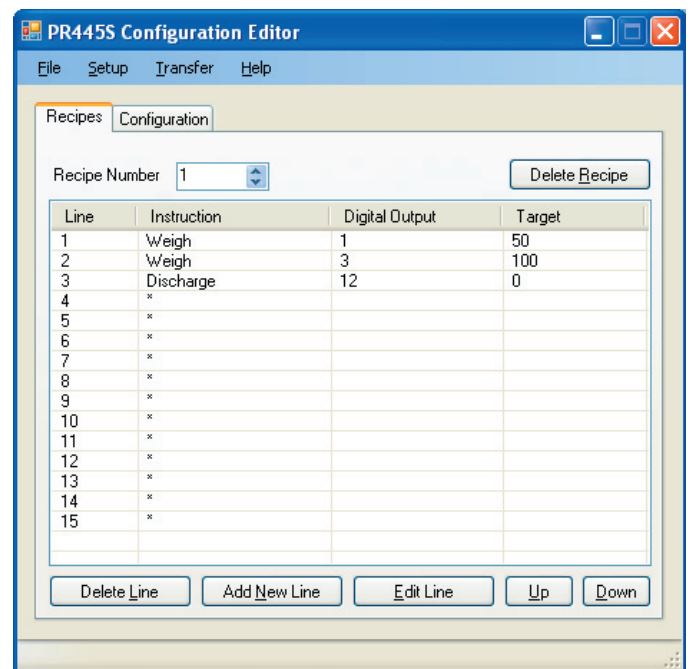
	Name	Definition
*	None	Null instruction. Performs no action.
W	Weigh	Weigh function. The output specified is energised until the NET is > TARGET - IFC
T	Timer	Timer function. The output specified is energised until the time specified has elapsed
I	Timer with Interlock	As above but the timer will hold if the interlock input is OFF
C	Continuous Timer	As Timer, but recipe execution will move onto the next line. i.e. the timer will run in the background.
D	Discharge	Discharge function. The discharge output will be energised until the weight has fallen below the discharge band, and remains below the discharge band for the discharge time
S	Set	Set Digital Output. The associated digital output will be set on
R	Reset	Reset Digital Output. The associated digital output will be set off

Recipe Example

Line	Instruction	Output	Target	Function
0	W	1	300	Weigh 300kg of ingredient 1
1	W	2	200	Weigh 200kg of ingredient 2
2	W	3	600	Weigh 600kg of ingredient 3
3	C	8	180	Set output 8 on for 3 mins
4	T	9	60	Pause for 1 min with output 9 on
5	D	12		Discharge weigher
6	*			Skip this line

Recipes may be entered and edited directly via the front panel or alternatively they may be downloaded via the serial interface from a remote PC using a Configuration Editor package provided by Practicon.

Configuration Editor - PC Application

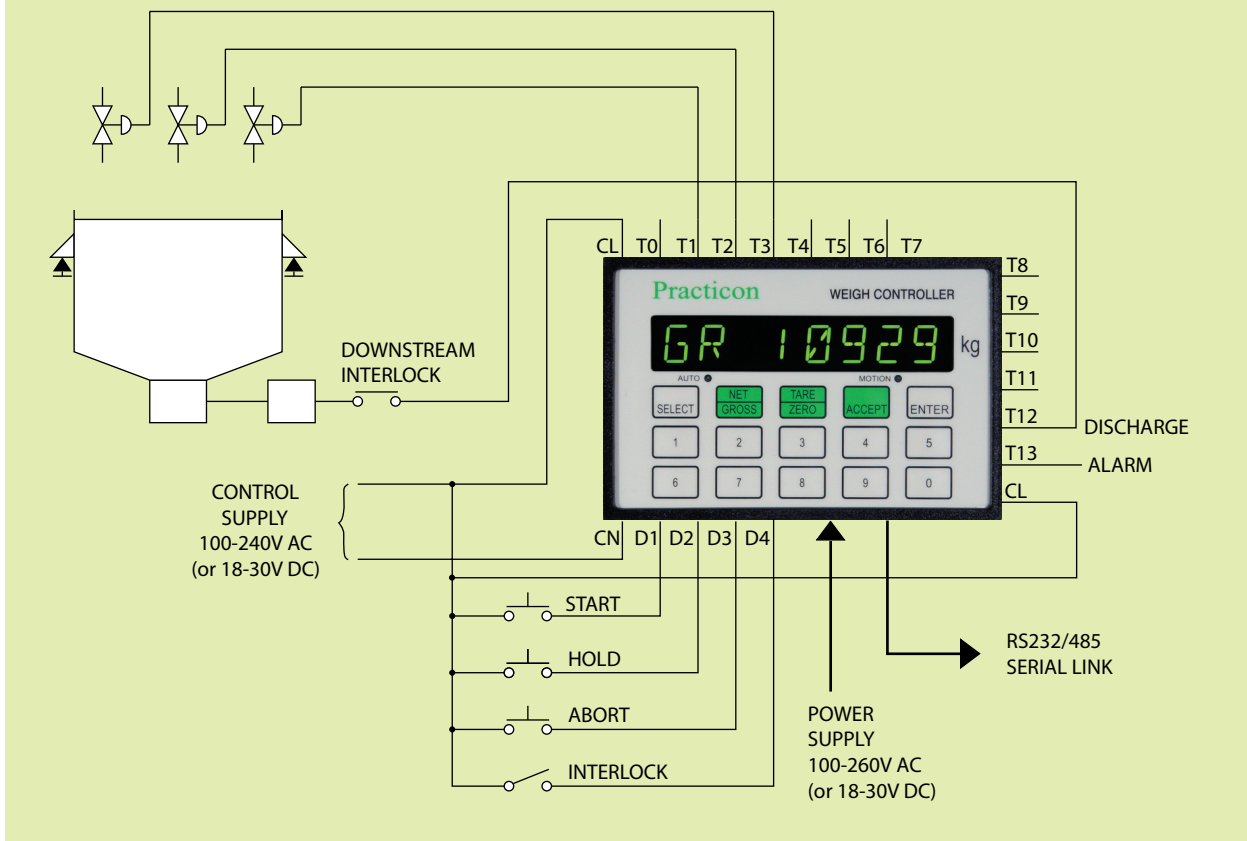


Non-Recipe Functions

In addition to recipe instructions, some outputs may be configured to alternative control functions such as High and Low trips or common Fast Feed.

	Name	Function
H	High Trip	ON if Gross Weight is above the setting
L	Low Trip	ON if Gross Weight is below the setting
F	Fast Feed	Cuts OFF when NET Weight within the FC setting of the target

Typical Application



Weighing Alarms

An alarm message is flashed on the display and the common alarm output T13 is set ON whenever a weighing alarm is generated.

Tolerance alarms cause recipe execution to be suspended until accepted, No Flow and No Settle alarms are self cancelling.

Auto Weigh Sequence

The following sequence of steps is performed whenever a Weigh instruction is executed.

STEPS	ACTION	POTENTIAL ALARM
ZERO CHECK	Initial Weigh instruction only Check Gross Weight within +/- Zero Margin ZM	UNR/OVR ZERO
FAST FEED	Ingredient Feeder on and Fast Feed on until error within Fast Feed cut-off margin FC	NO FLOW
SLOW FEED	Ingredient Feeder on until error < IF (Inflight Compensation)	NO FLOW
SETTLE	Wait until weigher settled then adjust IF for subsequent batches	NOSETTLE
UNDER WEIGHT/JOG	If final weight under target as defined by Tolerance Percentage TP, jog feeder specified number of times. If still under weight, generate alarm.	UNDER WT
OVER WEIGHT	If final weight over target as defined by Tolerance Percentage TP, generate alarm.	OVER WT
	If at any time gross weight exceeds Gross Weight Limit GW, generate alarm.	OV GROSS

