GUIDANT

Smith Meter® Load Printer

Bulletin SS06004 Issue/Rev. 0.5 (2/19)

The Smith Meter® Load Printer is an electro-mechanical, accumulative or zero start ticket printer which records and prints information received from a pulse-transmitting device. It is specifically designed to be used in most hazardous industrial and chemical operating environments.

Applications

The Smith Meter Load Printer is designed to operate in installations that require a locally printed ticket of each transaction. The Load Printer can be installed for use with a Smith Meter® AccuLoad® or with positive displacement meters equipped with a transmitter / load controller / flow computer, etc. providing a maximum frequency of 250 Hz and specified duty cycle.

Principle of Operation

The Load Printer requires 10 contact closures per unit volume to advance the right hand wheel one unit of volume. The internal circuitry conditions these 10 contact closures per unit volume and passes them on to the motor controller where they are translated into mechanical rotation of a stepper motor, which in turn drives the mechanical printer head.

The ticket tray switch is mechanically operated by turning the handle on the side of the printer, and, at the same time, a pin locks the ticket in the printer and activates the print mechanism. When the transaction is completed, the handle is turned a second time. This action opens the ticket tray switch, retracts the pin, moves the ticket about 1/4", and once more activates the print mechanism. If the printer is an accumulative volume model, when the ticket is removed, subtract the quantity of the bottom line from the quantity above it to obtain the volume of the product delivered. If the printer is a zero start model, then the bottom line would directly show the quantity of product delivered.

The optional OPV Board provides a switch selectable, frequency divided, optically isolated, pulse output for use with other instrumentation.

Features

- **Explosion Proof** – NEC, Class I, Group D, Div. 1.
- **Proven Mechanical Printer Device** – Incorporating a standard Veeder-Root mechanical printer.
- **Accumulative or Zero Start Ticket Printer.**
- **Optional Pulse Output** – Selectable 1 to 10 divide.

Specifications – Electrical Inputs

AC Power (Selectable)

115 Vac ±10%, 48/63 Hz, 1.5 Amps maximum.

230 Vac ±10%, 48/63 Hz, .75 Amps maximum.

Pulse Input

Source: A voltage free, mechanical or semi-conductor, switch contact input.

Maximum Current: Six (6) mA dc source @ 2 Volts maximum across switch when closed.

Frequency: 15,000 contact closures/min. or 250 Hz maximum.

Maximum Slew Rate: 50 Hz/second.

Duty Cycle: Minimum 2 ms on and off time.

Level: Internal counters are edge triggered and incremented upon the opening of a switch contact input.

Specifications – Electrical Outputs

DC Output

12 Vdc ±10% at 40 mA maximum (auxiliary power).

Tray Switch

Normally open contact. Closed when ticket is inserted and locked in place (by turning handle).

Contact Rating: 250 Vac at 15 Amps resistive.

Output Shaft Operation

150 rpm maximum.

Environment

Temperature

-40°F to 122°F (-40°C to 50°C).

Humidity

5 to 95% with condensation.

Enclosure

Explosion proof designed for use in hazardous locations.

Approvals

UL Listed 557N UL File E23545 - Class I Groups C&D Hazardous Locations
Tamb -40°C to + 50°C.

Weight

Approximately 43 lb (18 kg).

Print Mechanism

Type/Characters

Accumulative (non-reset), seven (7) digits or zero start (resettable), six (6) digits.

Tickets

4-1/8 - 5" x 7-3/4" (104-127 mm X 198 mm).

Transaction Number

Consecutive three (3) digits.

Location Identifier

Two-wheel selectable A, B, D, E, F, G, J, K, P, or R.

Options

Pulse/Volume Unit Repeater (OPV Option)

Pulse Resolution: One to ten pulses/unit volume (thumb-wheel selectable).

Type: Optically isolated open collector transistor switch from logic.

Maximum Voltage: (Switch off) 25 Vdc.

Maximum Current: (Switch on) 15 mA at 1V saturation.

Frequency Range: 0-250 Hz depending on pulse resolution.

Right Hand Fixed Wheel

Used for liter registration. Registers in decaliters.

Long Ticket Guide

For tickets blanks longer than the standard (7.8").

Description

The Load Printer consists of two major assemblies.

Base Assembly

The base of the housing contains the power supply; the electronics, which condition and divide the received pulses; the stepper motor controller; and the terminal strips for external wiring connections. If included, the OPV option will also be located in the base assembly.

Print Head Assembly

All of the mechanical functions are located in this assembly which mounts on top of the base. It contains the stepper motor and printing mechanism, the ticket tray and switch, and the operating handle.

Ordering Information

To assure that the Load Printer meets all requirements, please specify the following information when ordering:

- Complete model number.
- Units of registration - gallons, liters, barrels, etc.
- Maximum rate of flow.
- Approval required - UL.
- Options desired - OPV, Right Hand Fixed Wheel, Long Ticket Guide.

Modeling

Example: *K6LP — XU (Z) — OFW — L

Model Designation

Load Printer

Housing

XU - Explosion Proof and UL

Printer

Blank - Accumulative
Z - Zero Start

Fixed Symbol[1]

Z - Zero Only
S - Litre Symbol
L - Zero and Litre Symbol
M - Cubic Meter Symbol
0 - None

Hardware Options[1]

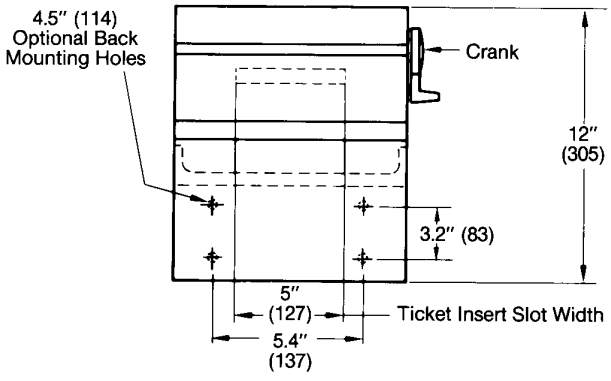
OP - OPV Board
FW - Right Hand Fixed Wheel
LT - Long Ticket Guide
OFW - OPV Board and Right Hand Fixed Wheel
OLT - OPV Board and Long Ticket Guide
FLT - Long Ticket Guide and Right Hand Fixed Wheel
OFL - OPV Board, Long Ticket Guide, and Right Hand Fixed Wheel
000 - None

***Note:** K6 in the model number is for factory reference only and will not be reflected on the nameplate of the Load Printer.

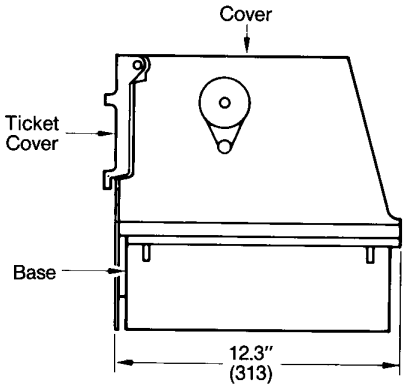
1 Please specify number for "fixed wheel" and/or symbol for "fixed symbol" when required (i.e., fixed zero with litre symbol").
Note: Selection of any 'fixed symbol' option (other than 'none') requires the right hand fixed wheel option.

Dimensions

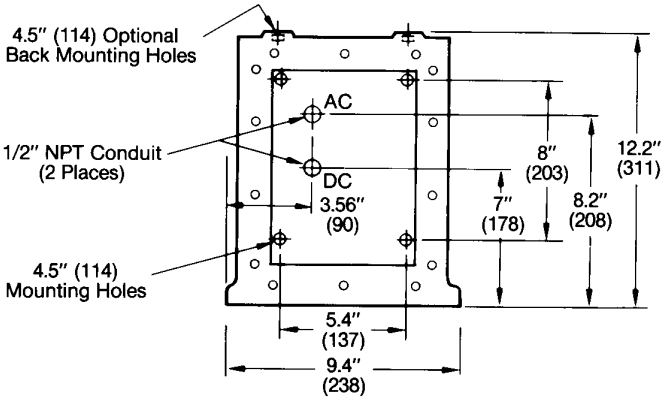
Inches (mm)



Front View

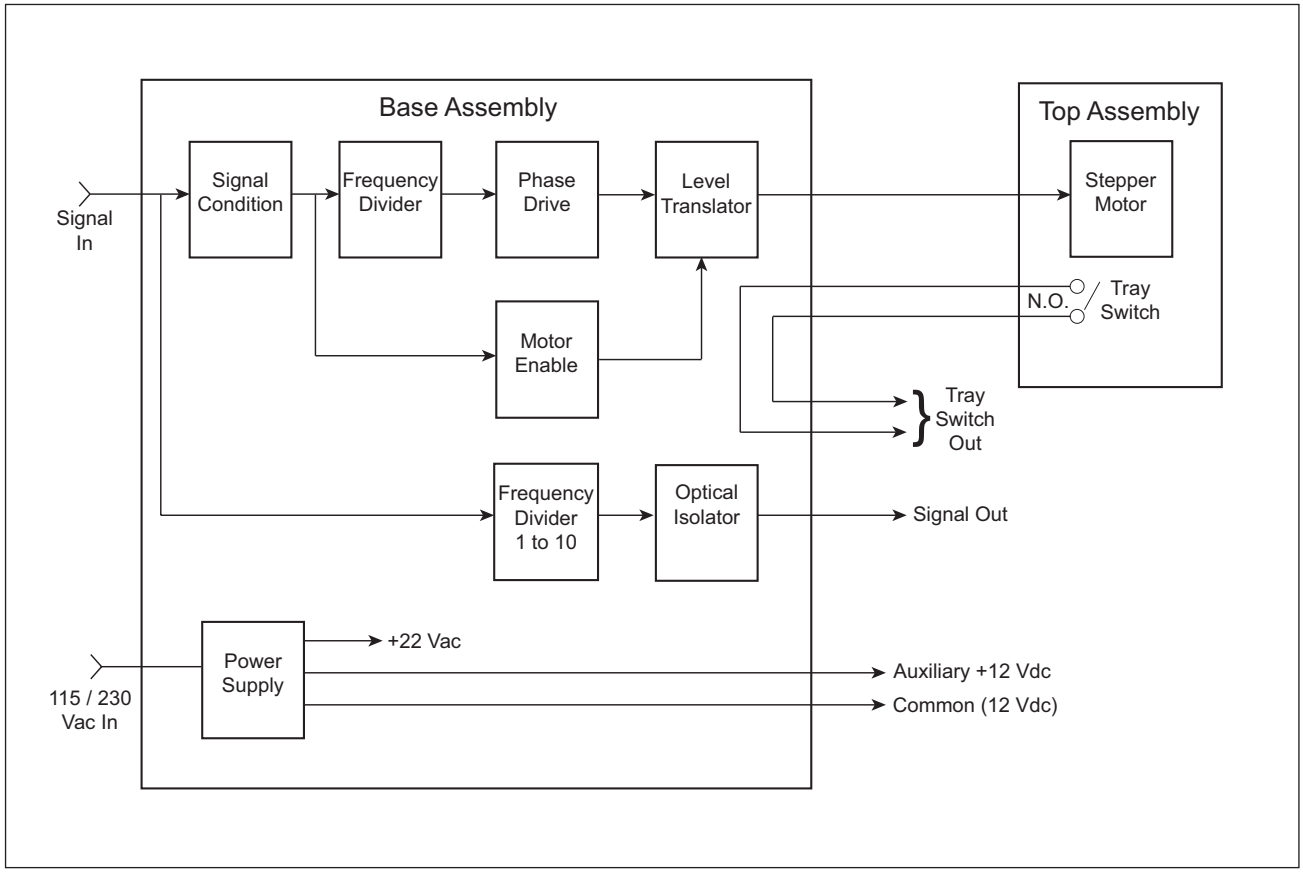


Side View



Bottom View

Block Diagram – Load Printer with OPV Option



Revisions included in SS06004 Issue/Rev. 0.5 (2/19):
Brief text information updates and new company branding.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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