# **SUPERtrol-I**

# **Economical Flow Totalizer, Ratemeter and Batcher**

### **Features**

- EZ Setup Feature Speeds Instrument Setup
- Setup Diskette
- Advanced Batching Features, Including Quick **Batching Sequence**
- Menu Selectable Hardware Features
- Two Line LCD or VFD Display
- NEW! 0-20mA or 4-20mA Analog Output
- NEW! Attractive Wall Mount Enclosure
- Isolated Pulse Output Standard
- RS-232 Port Standard, RS-485 Optional
- Advanced Printing Capabilities
- Data Logging & Modem Remote Metering Support
- DIN Enclosure with Two Piece Connectors
- DDE Server & HMI Software Available

**Description:** 

The SUPERtrol-I LE Flow Computer satisfies the instrument requirements for a variety of pulse producing flowmeter types in liquid

The alphanumeric display shows measured and calculated parameters in easy to understand format. Single key direct access to measurements and display scrolling is supported. An EZ Setup feature rapidly guides the user through the basic setup.

The SUPERtrol-I LE can be programmed for rate/total indication or batching. The various pulse inputs and outputs can be "soft" assigned to meet a variety of common application needs. The user "soft selects" the usage of each feature while configuring the instrument. A 0-20mA or 4-20mA analog output is standard.

The user can assign the standard RS-232 Serial Port for data logging, transaction printing, or for connection to a modem for remote meter reading. An optional RS-485 serial port using Modbus RTU protocol is available.

A Service or Test mode is provided to assist the user during start-up system check out by monitoring inputs and exercising outputs. The system setup can also be printed.

## Specifications:

**Environmental** 

Operating Temperature: 0°C to +50°C Storage Temperature: -40°C to +85 C Humidity: 0-95% Non-condensing

Materials: U.L. approved sting: UL/C-UL Listed (File No. E192404), CE Compliant Listing: Display

Type: 2 lines of 20 characters Types: Backlit LCD and VFD ordering options Character Size: 0.3" nominal

User programmable label descriptors and units of measure

Keypad

Keypad Type: Membrane Keypad Keypad Rating: Sealed to Nema 4

Number of keys: 16



**Enclosure** 

Depth behind panel: 6.5" including mating connector

Materials: Plastic, UL94V-0, Flame retardant

Bezel: Textured per matt finish

**Power Input** 

The factory equipped power option is internally fused. An internal line to line filter capacitor and MOV are provided for added transient suppression.

110 VAC Power Option: 85 to 127 Vrms, 50/60 Hz 220 VAC Power Option: 170 to 276 Vrms, 50/60 Hz

DC Power Option: 12 VDC (10 to 14 VDC) 24 VDC (14 to 28 VDC)

Flow Inputs:

Pulse Inputs:

Number of Flow Inputs: one (single or quadrature) Input Impedance: 10  $K\Omega$  nominal

Pullup Resistance: 10 K $\Omega$  to 5 VDC (menu selectable)

Pull Down Resistance: 10 KΩ to common

Trigger Level: (menu selectable)

High Level Input

3 to 30 VDC Logic On: Logic Off: 0 to 1 VDC Low Level Input (mag pickup) Sensitivity: 10 mV or 100 mV

Minimum Count Speed:

User selectable (as low as 1 pulse/99 seconds)

Maximum Count Speed:

Selectable: 40 Hz, 3000 Hz or 20kHz Overvoltage Protection: 50 VDC

Linearization: Average K or 16 Point linearization with separate forward and reverse tables

**Control Inputs** 

Number of Inputs: 3

Switch Inputs are menu selectable for Start, Stop, Reset, Lock,

Inhibit, Alarm Acknowledge, Print or Not Used.

Control Input Specifications

Input Scan Rate: 10 scans per second Logic 1: 4 - 30 VDC Logic 0: 0 - 0.8 VDC Input Impedance: 100 KΩ

Control Activation:

Positive Edge or Pos. Level based on product definition for switch usage.

**Excitation Voltage** 

Menu Selectable: 5, 12 or 24 VDC @ 100 mA (fault protected)

**Data Logging** 

The data logger captures print list information to internal storage for approximately 1000 transactions. This information can be used for later uploading or printing. Storage format is selectable for Comma-Carriage Return or Printer formats.

**Batching Features** 

Quick batching sequence, single or dual stage batching, slow fill, auto-batch restart and batch overrun compensation.



#### **Serial Communication**

The serial port can be used for printing, datalogging, modem connection and communication with a computer. RS-232:

Device ID: 01-99

Baud Rates: 300, 600, 1200, 2400, 4800, 9600, 19200

Parity: None, Odd, Even

Handshaking: None, Software, Hardware

Print Setup: Configurable print list and formatting.

Print Out: Custom form length, print headers, print list.
Print Initialization: Print on end of batch, key depression,

interval, time of day or remote request.

RS-485: (optional 2nd COM port) Device ID: 01-247

Baud Rates: 1200, 2400, 4800, 9600, 19200

Parity: None, Odd, Even

Protocol: Modbus RTU (Half Duplex)

#### **Relay Outputs**

The relay outputs are menu assignable to (Individually for each relay) Low Rate Alarm, Hi Rate Alarm, Prewarn Alarm, Preset Alarm

or General purpose warning (security). Number of relays: 2 (4 optional) Contact Style: Form C contacts

Contact Ratings: 5 amp, 240 VAC or 30 VDC

#### Isolated Pulse output

The isolated pulse output is assigned to Uncompensated Volume

Total.

Pulse Output Form: Photomos Relay Maximum On Current: 25 mA Maximum Off Voltage: 30 VDC Saturation Voltage: 1.0 VDC Maximum Off Current: 0.1 mA
Pulse Duration:10 mSec or 100mSec (user selectable)

Pulse output buffer: 256 Fault Protection

Reverse polarity: Shunt Diode

Fig. 1: Standard Dimensions

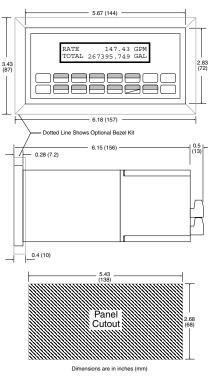
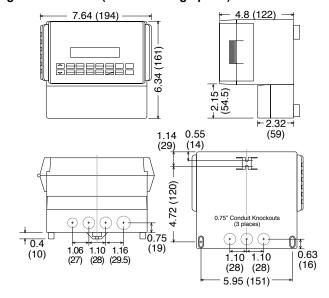
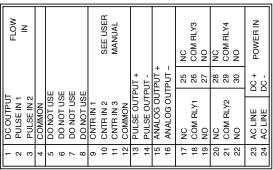


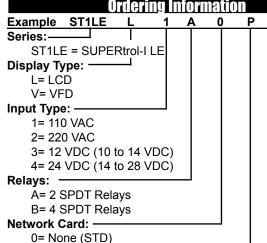
Fig. 2: Wall Mount ("W" mounting option) Dimensions



# **Terminal Designations**



ET



2= RS485/Modbus (optional 2nd COM port)

Mounting:

**P**= Panel Mount ......(see Fig. 1) N= NEMA 4 Wall Mount .....(see NEMAtrolST4X) W= NEMA 12/13 Wall Mount w/ Clear Cover ...... (see Fig.2) E= Explosion Proof (No Button Access) ...... (see XHVD 7/4)

X= Explosion Proof (with Button Access) ... (see XTROL 7/4)

Options:

TB = RS485 Terminal Block for Panel Mount Enclosure

ET = Extended Temperature ......(consult factory)

-4°F to 131°F (-20°C to 55°C)

IM = Internal Modem

M = Modem Power Option Accessories:

KEPS-KEP1-32 = KEP RS232 for SUPERtrol 1, SUPERtrol 1LE, SUPERtrol 2 and LEVELtrol 2 • 32 Bit DDE Server

Modem Available, see MPP-2400 and MPP-2400N (requires M option) Serial printer available, see P1000, P295

Ethernet Port Server available, see IEPS

RS-422/485 to RS-232 Communication Adaptor available, see CA285 Remote metering and data collection software available, see TROLlink

