SUPERtrol-I LE

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

Trend, Alarm and Log your SUPERtrol Data with your Infilink HMI Software! See Special Flow Instruments Section

Description:

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

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
Listing: UL/C-UL Listed (File No. E192404), CE Compliant
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
Type: DIN
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 KΩ nominal
    Pullup Resistance: 10 KΩ to 5 VDC (menu selectable)
    Pull Down Resistance: 10 KΩ to common
    Trigger Level: (menu selectable)
      High Level Input
        Logic On: 3 to 30 VDC
        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
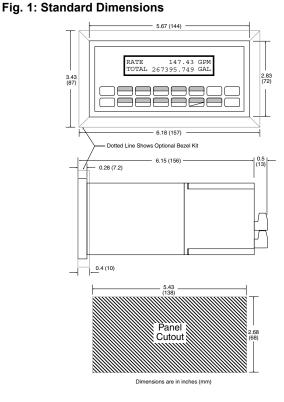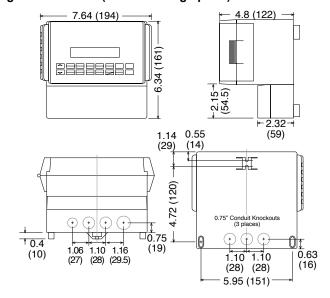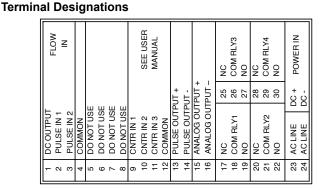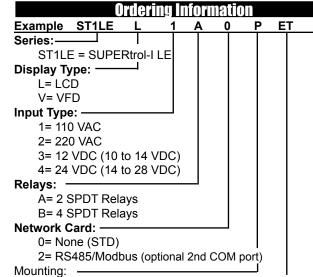Fault Protection
Reverse polarity: Shunt Diode

Fig. 1: Standard Dimensions

Dotted Line Shows Optional Bezel Kit

Panel Cutout

Dimensions are in inches (mm)

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

0.75" Conduit Knockouts (3 places)

Terminal Designations

Ordering Information

Example   ST1LE   L   1   A   0   P   ET

Series:
  ST1LE = SUPERtrol-I LE

Display Type:
  L= LCD
  V= VFD

Input Type:
  1= 110 VAC
  2= 220 VAC
  3= 12 VDC (10 to 14 VDC)
  4= 24 VDC (14 to 28 VDC)

Relays:
  A= 2 SPDT Relays
  B= 4 SPDT Relays

Network Card:
  0= None (STD)
  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