## **Features**

- Level and Tank Volume/Mass Indicator
- Batching by Level
- Level Control, Tank Volume, Corrected Volume and Mass Calculations
- Menu Selectable Hardware & Software Features
- Two Line LCD or VFD Display
- Isolated Outputs Standard
- RS-232 Port Standard, RS-485 Optional Windows™ Setup Software
- DIN Enclosure with Two Piece Connectors
- DDE Server & HMI Software Available
- NEW! Attractive Wall Mount Enclosure

### **Description:**

The LEVELtrol II Flow Computer satisfies the instrument requirements for a variety of level sensor types in liquid applications. Multiple tank geometries, fluid equations and instrument functions are available in a single unit with many advanced features.

The alphanumeric display shows measured and calculated parameters in easy to understand format. Single key direct access to measurements and display scrolling are supported

The versatility of the LEVELtrol II permits a wide measure of versatility within the instrument package. The various hardware inputs and outputs can be "soft" assigned to meet a variety of common application needs. The user "soft selects" the usage of each input/output while configuring the instrument. Consider the following illustrative examples.

The isolated analog output can be chosen to follow level, tank volume. corrected tank volume, tank mass, temperature, or density by means of a menu selection. Most hardware features are assignable by this

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.

# 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 Type: Membrane Keypad

Number of keys: 16

## **Enclosure**

Style: See Ordering Code for Available Mounting Options Size: See Dimensions

Depth behind panel: 6.5" including mating connector

Type: DIN
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# Multi-Function Level Indicator, Controller and Batch-



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)

Power Consumption

AC Power: 11.0 V/A (11W) DC Power: 300 mA max.

### Level Inputs:

#### Analog Input:

Accuracy: 0.01% FS at 20° C

Ranges

Voltage: 0-10 VDC, 0-5 VDC, 1-5 VDC

Current: 4-20 mA, 0-20 mA

Basic Measurement Resolution: 16 bit

Update Rate: 4 updates/sec

Automatic Fault detection: Signal over/under-range,

Current Loop Broken

Software Calibration (no trimmers) and Auto-zero Calibration:

Continuously

Extended calibration:

Learns Zero and Full Scale of each range using special test mode.

#### **Sensor Types Supported:**

Differential Pressure, Ultrasonic, Many Others

#### Tank Geometries:

Horizontal, vertical, spherical and 32 point strapping table

# **Auxiliary / Compensation Input**

The auxiliary/compensation input is menu selectable for temperature, density or not used. This input is used for the compensated input when performing compensated tank volume and mass calculations. It can also be used as a general purpose input for display and alarming.

Available Input Ranges
Voltage: 0-10 VDC, 0-5 VDC, 1-5 VDC
Current: 4-20 mA, 0-20 mA

Resistance: 100 Ohms DIN RTD

**Control Inputs** 



Switch Inputs are menu selectable for Start, Stop, Reset, Lock, Alarm Acknowledge, Print or Not Used.

**Relay Outputs** 

The relay outputs are menu assignable to Level, Tank Volume, Temperature, Density, Batch Control or Malfunction

Number of relays: 2 (4 optional)

Contact Ratings: 5 amp, 240 VAC or 30 VDC Isolated Analog Output

The analog output is menu assignable to correspond to the Level. Tank Volume/Mass, Temperature or Density.

Type: Isolated 4-20 mA Current Sourcing

Excitation Voltage (AC powered units only)
24 VDC @ 100 mA (fault protected)

**Isolated Pulse output** 

The isolated pulse output is menu assignable to generate pulse

outputs when tank fills, empties or both.

Pulse Output Form: Isolated Photomos Relay Maximum On Current: 25 mA Maximum Off Voltage: 30 VDC Pulse Duration: 10 msec or 100 msec

**Serial Communication** 

The serial port can be used for printing, datalogging, modem connection and communication with a computer. Windows setup software is included for easy programming using a PC.

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

RS-485: (coming soon)

Device ID: 01-247

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

Parity: None, Odd, Even

Protocol: Modbus RTU (Half Duplex)

#### **Real Time Clock**

LEVELtrol II is equipped with a battery backed real time clock with display of time and date.

Format:

12 or 24 hour time display Day, Month, Year date display

#### Fig. 1: Standard Dimensions

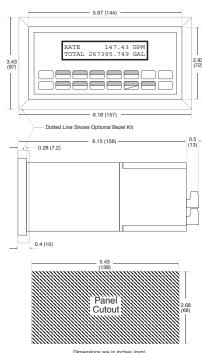
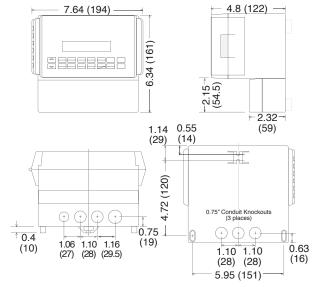
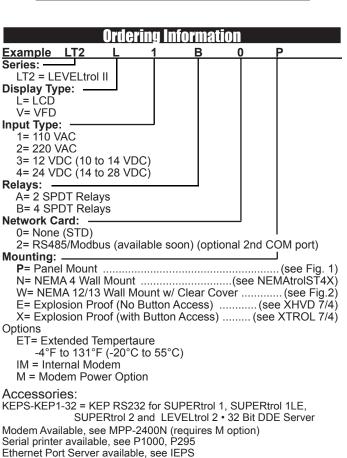


Fig. 2: Wall Mount ("W" mounting option) Dimensions



### **Terminal Designations:**

JTPUT LEVEL IN	ION	Vin +	+	+	S		IN 2 SEE USER	IN 3 MANUAL	NOI	E OUTPUT +	EOUTPUT -	OG OUTPUT + 1-30 mA		25 NC	RLY1 26 COM RLY3	27 NO	28 NC	RLY2 29 COM RLY4	30 NO	JE DC + POWER IN	- DC -
DC OUTPUT Vin + Iin +	COMMON		RTD EXCIT +	SENS	2	CNTR IN 1	CNTR IN 2	CNTR IN 3	COMMON	PULSE OUTPUT	PULSE OUTPUT	ANALOG OUT	ANALOG OUTPUT	NC	COM RLY1	NO	NC	COM RLY2	NO	AC LINE	AC LINE
- 0 E	4	2	9	7	ω	6	10	7	12	13	14	15	16	17	18	19	20	21	22	23	24



RS-422/485 to RS-232 Communication Adaptor available, see CA285

Remote metering and data collection software available, see TROLlink