

# BATTERY OPERATED ULX MODEL 136 ULX



## INTRODUCTION

The Ultrasonic level transmitter (ULX) is the low power, battery operated, micro-processor based intelligent device.

ULX BO has two modules -

1. Ultrasonic Level Transmitter (ULX)
2. Com-Data Logger

It is required to configure both modules separately. ULX is configured using its keyboard interface and Com-Data logger is configured through USB – serial port using software Modbus utility.

Normally BO ULX display is off to minimize the battery consumption. At sample interval display is powered up and is active for 1 min. In case of inactivity, the display turns off automatically. Battery Life depends on data logging & GSM/GPRS intervals

## PRINCIPLE OF OPERATION

This device works on the principle of measurement of the time required for the ultrasound sound to travel from ultrasonic sensor to the object & back to the sensor. As the speed of sound in air is known, it calculates the actual distance, as well as other parameters like level, % level, Volume and Flow and saves this information on data logger and transmits the information Over the Air (OTA) through internet / text messages to saved mobile numbers or by physical transmission media like Standard RS485 MODBUS RTU protocol to PC.

### Display Parameters

- Distance, Level, %Level, Volume, Flow, Lineraised Level

### Enviornmental Conditions

- Operating Pressure : Atmospheric.
- Storage Temperature : 0°C to 70°C.
- Ambient Temperature : 0°C to 55°C.
- IP 68 weatherproof enclosure.

### Material of Construction

- Sensor: Polypropylene
- Housing : Alluminium PU Painted
- Process Connection: Flanged

### Application

The Model 136 Ultrasonic Level Indicator Transmitter is specially designed to provide convenience of non-contact level measurement of Elevated storage reservoirs ,storage type vessels with some agitation and Open channel flow measurement. Distance and Percentage Level may also be displayed. Sophisticated design and rugged construction guarantees low maintenance.



## FEATURES

- Power Supply from internally installed Lithium battery.
- Built in Data Logger
- Built in GSM / GPRS / 485 Module
- Internally installed battery (3.6V, 19Ah x 5)
- 128 X 64 Graphical LCD Display.
- Low powered micro controller based instrument.
- Self diagnostic functions i.e. error messages on display provided to ease setting up.
- All entries protected by Password.
- Temperature indication & automatic temperature compensation.
- Dormancy mode for power saving during storage & transportation.
- Unaffected by product properties.

## SPECIFICATIONS

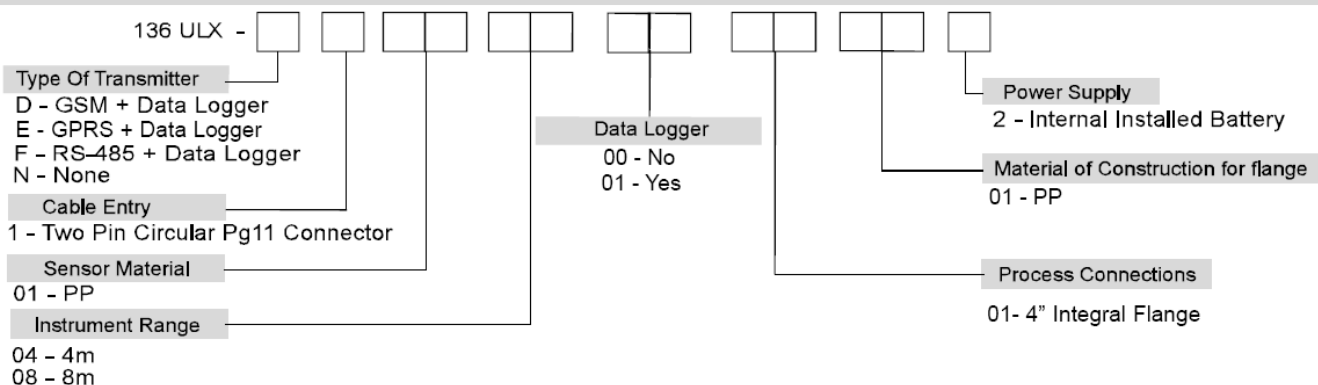
### Measurement

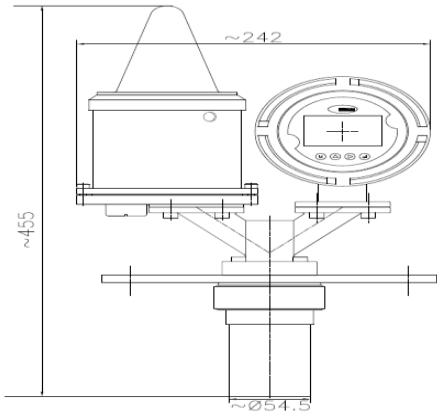
- Measuring Range: 0.25 to 4m & 0.35 to 8m
- Accuracy :  $\leq \pm 0.2\%$  of sensor range\*\* Resolution :  $\pm 1$  mm.
- Linearity :  $\pm 0.1\%$
- Repeatability :  $\pm 0.1\%$
- Dead band : 0.25m for 4m, 0.35m for 8m.
- Measuring frequency : 65KHz – 4m , 43KHz – 8m
- Keyboard : Programming through 4 key
- Display Parameters
- Battery Life : Up to 5 years \*

### Output

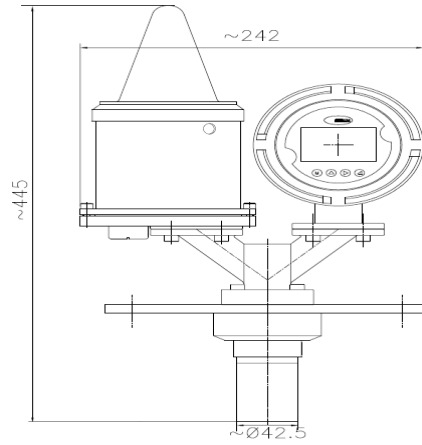
- GSM Output : Periodic (Data send interval) SMS on max 10 mboile nos
- GPRS Output: GPRS Class 10 max: 82.6 kbps(downlink)
- RS-485 Output: 2 wire half duplex modbus RTU protocol with configurable baud rates
- Data Logger : with 512kb memory (can hold upto 29k records).
- USB Port : Used for configuration & fetching of logged data

## ORDERING CODE

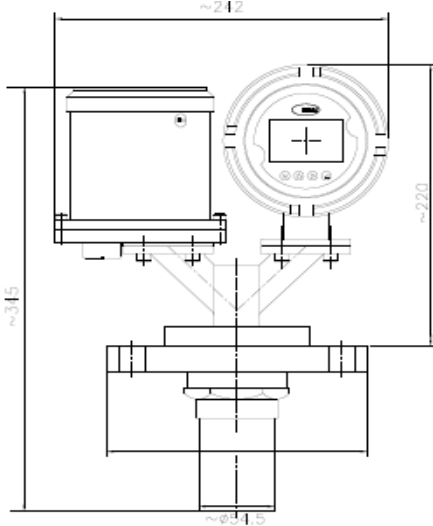




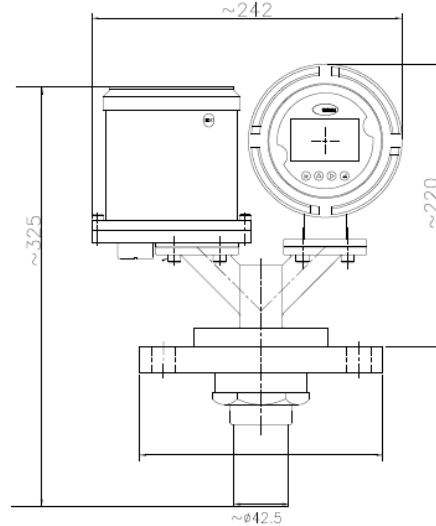
8m – GPRS/GSM Module



4m - GPRS/GSM Module



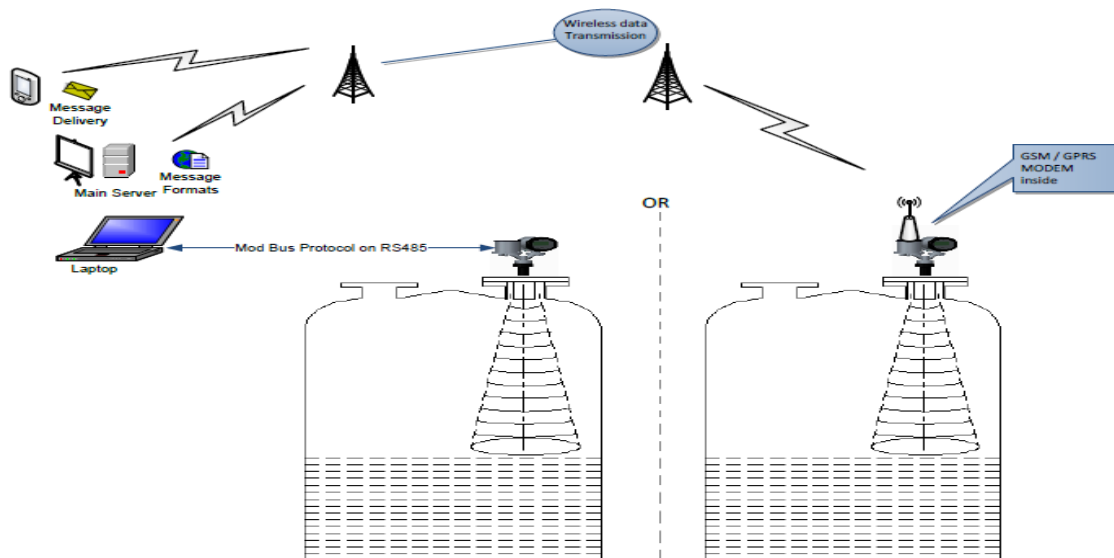
8m – 485 Module



4m – 485 Module

**Note:** All dimensions are in mm unless specified

**GENERAL MOUNTING ARRANGEMENTS**



\*Battery life depends on sampling interval & communication interval

\*\* Under optimal condition & stabilised sensor temperature

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