ChannelFlo™ UOCM
ULTRASONIC OPEN CHANNEL FLOW METER

Description

The ChannelFlo™ Ultrasonic Open Channel Flow Meter is an all-in-one solution for open channel flow measurement. The UOCM is able to provide accurate measurements in a wide variety of applications such as small streams, sewers, large rivers, V-notch weirs and flumes. Our technology allows precision continuous measurement that allows the user to monitor remotely at the convenience of a PC or locally at the display. All of our ChannelFlo™ systems are calibrated for your specific application prior to leaving our factory for easy setup and installation in the field. In an Open Channel application it is very important to have a quality, durable and accurate level measurement sensor. Our Ranger Plus™ Ultrasonic Level Transmitter measures up to 35 feet, has (3) Analog Outputs and (2) Switches. The next component in the UOCM system is an intuitive, reliable monitoring device. Our DigaCom 2000™ Universal Process Monitor is a bright, 6-digit LED display with an internal DC power supply for transmitter power, 4-20 mA repeat output and advanced communications. The DigaCom 2000™ is supplied with a remote monitoring software called DigaLink 3.0, that has the capability to remotely monitor, receive e-mail alerts, data log and much more. If you require pump control the eXmod™ Relay Expansion module is recommended. The eXmod connects to the DigaCom 2000 via RS-485 serial communication (4-wire) and provides a 10 AMP AC/DC rated relay to maximize the systems capabilities.

Typical Applications

- Wastewater Treatment Plant
- Effluent Flows
- Gravity Fed Sewer Lines
- Storm Water Monitoring
- Clarifier Effluent Flow

Application Photo

Figure 1: UOCM System in V-Notch Weir Application

Features & Benefits

- Durable, rugged housing for long life
- Non-contact level sensor to avoid corrosion, build-up and promotes longevity of the system
- 4" Deadband for greater range of measurement
- Adjustable signal strength to target the specific media in the application
- Temperature compensation for improved accuracy

- Isolated 4-20 mA, 4 10A relay outputs and 1 PNP transistor output plus RS-485 Serial communication, and Ethernet communication
- 6 digit, bright red LED display
- Remote monitoring and e-mail alert capability
- Pre-calibrated at factory for specific application to provide easy setup, installation and accuracy

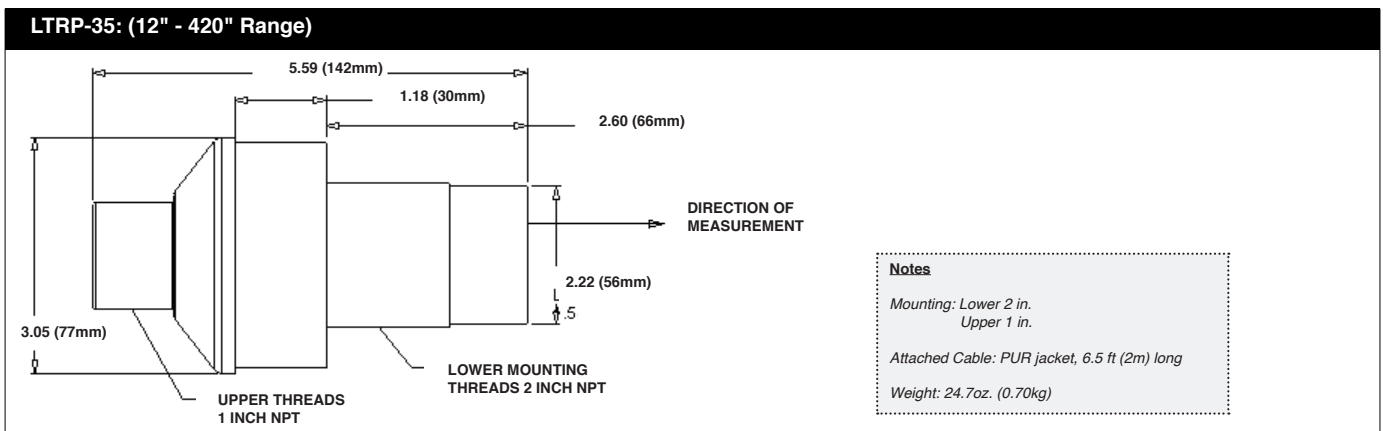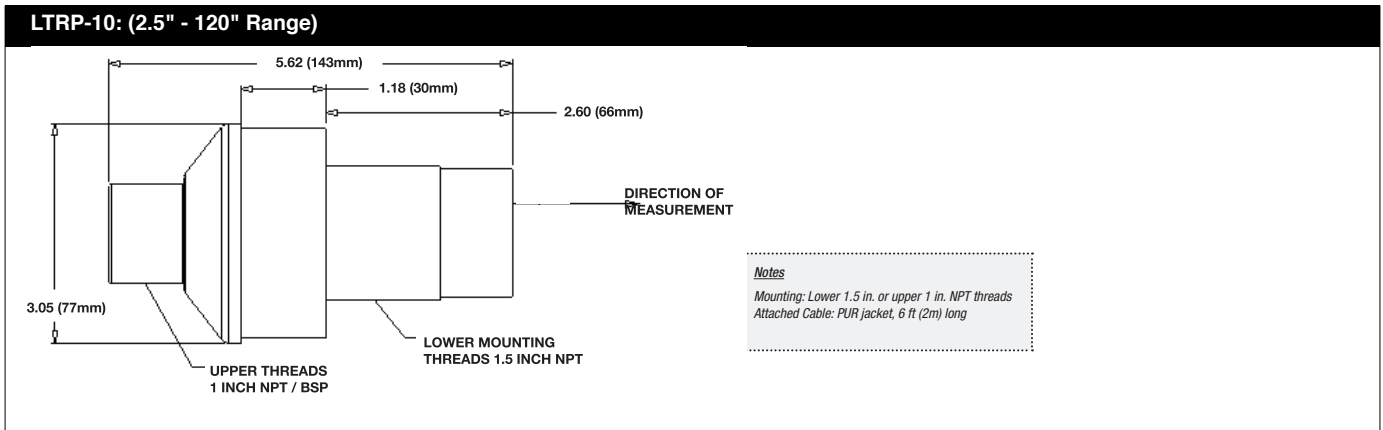# NON-CONTACT ULTRASONIC LEVEL TRANSMITTER

Ranger Plus™ Specifications

Optimum range	LTRP-10: 2.5" - 120" LTRP-35: 12" - 420"
Case Material	PVDF
Temperature	-40 to 158ºF (-40 - 70ºC)
Humidity	0 to 100% operating
Compensation	Temperature Compensated
Resolution	Digital: 0.0034" (0.086mm); Analog: 4099 steps (over full 0-10 VDC or 0-20 mA)
Repeatability	Greater of ±0.03" (0.76mm) or 0.1% of target distance in stable environment
Update Rate	50 ms, software adjustable; affected by software filter selections
Input Power	10-30 VDC, 50 mA maximum (not including output currents)
Voltage Output	0-10, 0-5 VDC or PC customized; 10mA max. (*)

Current Loop #1	Current sourcing 4-20mA or PC customized, max. loop 500Ω (*)
Current Loop #2	Current sinking 4-20mA or PC customized, max. loop 500Ω (*)
Sinking Switch	150 mA max. @ 40 VDC max., teachable set point & polarity, fault indication
Sourcing Switch	150 mA max. @ input voltage, teachable set point & polarity, fault indication
Max. Range	LTRP-10: 10 ft. LTRP-35: 35 ft.
Adjustment	Ranger Plus™ Software
Configuration	Stored in non-volatile memory
Transducer	Rugged piezoelectric
Protection	NEMA 4X, NEMA 6P, IP68

Specifications are subject to change without notice.

DIMENSIONS (Inches)

LTRP-10: (2.5" - 120" Range)

5.62 (143mm)

1.18 (30mm)

2.60 (66mm)

DIRECTION OF MEASUREMENT

3.05 (77mm)

Notes
Mounting: Lower 1.5 in. or upper 1 in. NPT threads
Attached Cable: PUR jacket, 6 ft (2m) long

LOWER MOUNTING THREADS 1.5 INCH NPT

UPPER THREADS 1 INCH NPT / BSP

LTRP-35: (12" - 420" Range)

5.59 (142mm)

1.18 (30mm)

2.60 (66mm)

DIRECTION OF MEASUREMENT

2.22 (56mm)

.5

3.05 (77mm)

Notes

Mounting: Lower 2 in.
Upper 1 in.

Attached Cable: PUR jacket, 6.5 ft (2m) long

Weight: 24.7oz. (0.70kg)

LOWER MOUNTING THREADS 2 INCH NPT

UPPER THREADS 1 INCH NPT

2 **DigaCom™ 2000 Specifications**

Display Type	6-digit, Red LED Display
Display Units	Engineering
Decimal Point	Up to 5 places
Display Output	-99999 to 999999
Display Height	0.6" (15 mm)
Status Indicators	(1) Totalizer, Yellow LED Relay (4) Red LED Relay Indicators
Over Range	Display flashes O-Range when Full value is acheived
User Interface	4 Internal Push Buttons or DigaLink™ PC Software Interface
Password	Programmable, restricts modification of settings
Operating Temperature	F: -40º to 149º C: -40º to 65º
Storage Temperature	F: -40º to 185º C: -40º to 85º
Relative Humidity	0 to 90%, non-condensing
Accuracy	± 0.1% of calibrated span ±1 count
Temperature Drift	0.005% of calibrated span/ºC max from 0 to 65ºC ambient; 0.01% of calibrated span/ºC max from -40 to 0º ambient

Supply Voltage	AC Model: 90-265 VAC @ 50-60 Hz, 15W Max. DC Model: 12-28 VDC @ 0.5A (Fuse protected via 0.5A slow blow)
Transmitter Power	120 mA @ 24 VDC 24 VDC for AC powered units; For DC powered units, supply voltage equals the DC input voltage
Display Refresh Rate	One Per Second (1/s)
Analog Input	4-20mA current loop
Analog Output	Isolated, scalable 4-20mA
Connection	Removable Screw Terminal; Accepts 12-22 AWG Wire
Enclosure Type	Field Mount
Enclosure Rating	NEMA 4X (IP65), NEMA 7, Aluminum
Enclosure Material	Polycarbonate
Classification	General Purpose
Communications	
Serial Port	RS-485, Screw Terminal ModBus®
Ethernet Port	10/100 Base-T (RJ-45)

Note: Please Consult Factory for Special Requirements

Dimensions Inches (mm)

Bottom View

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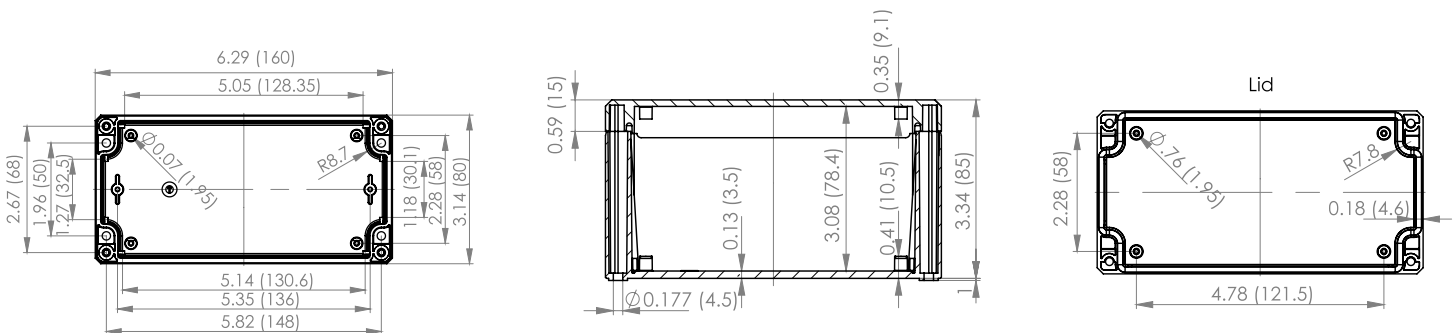
3 **eXmod™ Specifications**

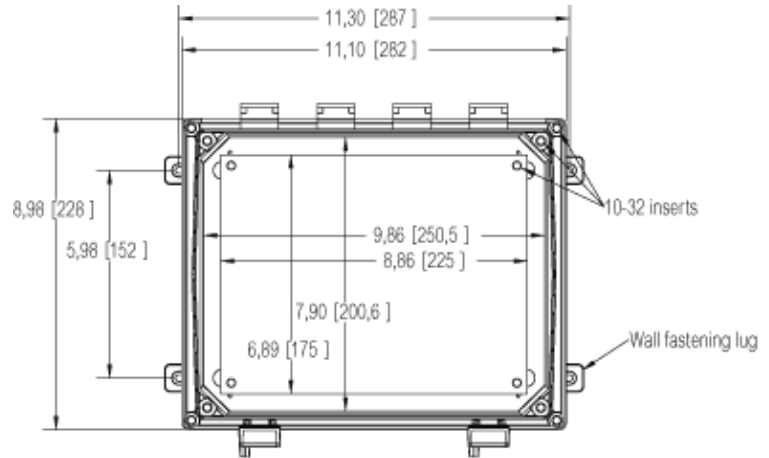|	
Status Indicators	(4) Red LED Relay Indicators
User Interface	4 internal DIP Switches Used To Select ModBus® Address
Contact Form	SPDT
Relay Rating	5A @ 28 VDC; 5A @ 120/240 VDC at Max Ambient Temperature; NO Contact Rated at 10A @ 20˚C
Operating Temperature	F: -40º to 149º C: -40º to 85º
Storage Temperature	F: -40º to 149º C: -40º to 85º
Relative Humidity	0-90%, non-condensing
Supply Voltage	12-24 VDC
Connection	Removable Screw Terminal; Accepts 12-22 AWG Wire
Enclosure Type	Field Mount
Enclosure Rating	NEMA 4X (IP65)
Enclosure Material	Polycarbonate
Classification	General Purpose

Specifications are subject to change without notice.

Dimensions Inches (mm)

11,30 [287]
11,10 [282]
8,98 [228]
5,98 [152]
9,86 [250,5]
8,86 [225]
7,90 [200,6]
6,89 [175]
10-32 inserts
Wall fastening lug
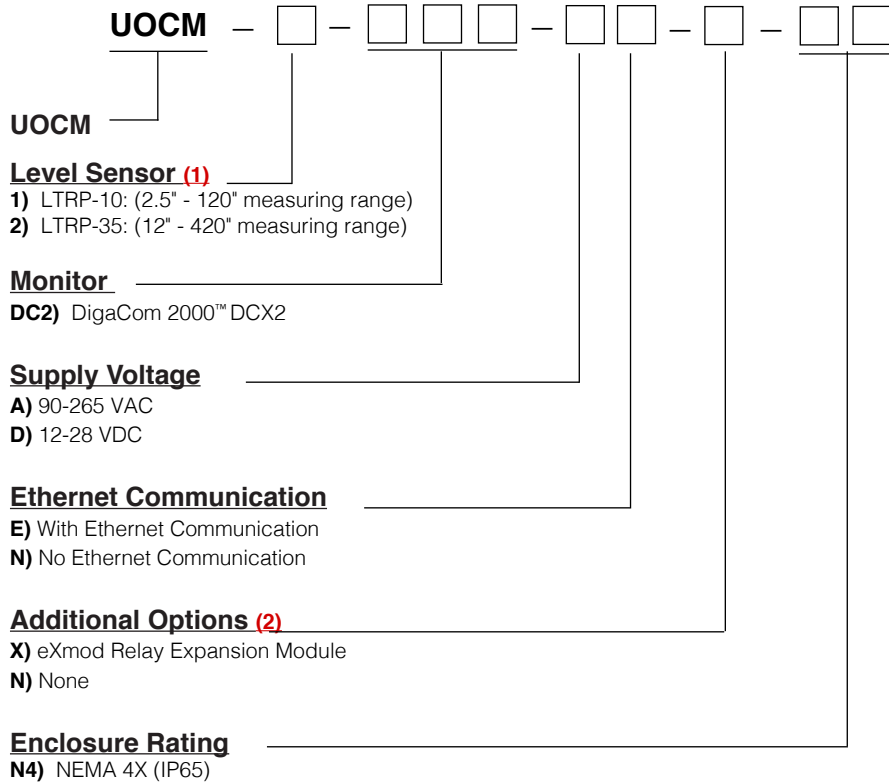
FLO-CORP MODEL NUMBER BUILDER

For Assistance Call **877.356.5463**

Use the diagram below, working from left to right to construct your FLO-CORP Model Number.
Simply match the category number to the corresponding box number.

Example: UOCM-1-DC2-AE-X-N4   *ChannelFlo™ Ultrasonic Open Channel Flow Meter with 2.5" - 120" measuring range, DigaCom 2000 monitor with 90-265 VAC supply voltage, Ethernet Communication and eXmod module in a NEMA 4X Enclosure*

UOCM – ☐ – ☐☐☐ – ☐☐ – ☐ – ☐☐

UOCM

Level Sensor (1)
1) LTRP-10: (2.5" - 120" measuring range)
2) LTRP-35: (12" - 420" measuring range)

Monitor
DC2) DigaCom 2000™ DCX2

Supply Voltage
A) 90-265 VAC
D) 12-28 VDC

Ethernet Communication
E) With Ethernet Communication
N) No Ethernet Communication

Additional Options (2)
X) eXmod Relay Expansion Module
N) None

Enclosure Rating
N4) NEMA 4X (IP65)

Ordering Notes:
(1) Select the best configuration based on your requirements. LTRP-10 has a 1.5" NPT, LTRP-35 has a 2" NPT
(2) The eXmod is recommended for pump control

Maximize Performance 🅳

DigaLink™ E-mail Alerts Configuration & Monitoring Software
DigaLink™ 3.0 is FLO-CORP's unique Alarm, Configuration and Monitoring Software. This enables users to receive e-mail alerts, configure, and remotely monitor from the convenience of their PC. DigaLink is unique in it's communication protocol that utilizes both TCP/IP Ethernet communication and Modbus/RS485 serial communication simultaneously. This advanced software features e-mail alerts, display configuration, datalogging and real-time monitoring from unlimited devices. With DigaLink you can easily setup, monitor and receive e-mail alerts from practically anywhere.