

# MNU-IS Series



Intrinsically Safe Ultrasonic Modbus Sensor

## Datasheet



MNU-IS ultrasonic sensors are rugged units, rated Intrinsically Safe for hazardous location installations. They feature APG's new QuickMode for power-saving, on-demand measurements, and optional GDT surge protection. All MNU-IS sensors are fully programmable via RS-485 Modbus communications, and with APG Modbus software and an RS-485-to-USB converter.

### Features

- Ranges: 1 ft – 25 ft, 5 in – 12 ft
- Self-Contained Sensor
- Multiple Housing Options
- RS-485 Modbus RTU Interface
- Measure Distance, Level, or Volume
- Internal Temperature Compensation
- cCSAus, ATEX, IECEx approved Intrinsically Safe
- 2" NPT and 3/4" NPT mounting options
- QuickMode ready-to-read in as little as 250 ms
- Optional Gas Discharge Tube surge protection



# MNU-IS SPECIFICATIONS

## Housing Option 2



## Housing Option 4



### Performance

- Frequency/Operating Range:
  - 69 kHz: 1 – 25 ft (0.30 – 7.62 m)
  - 81 kHz: 5" – 12 ft (0.13 – 3.66 m)
- Beam Pattern: 9° off axis
- Internal Temperature Compensation
- Accuracy:  $\pm 0.25\%$  of detected range
- Resolution: 0.1 in. (2.5 mm)
- Response Time: Programmable

### Connectivity

- Output: Modbus RTU (RS-485)
- Online Access/Control: Via APG's Tank Cloud & RST-5003 or LOE controller

### Environmental

- IP68 (3 meters submerged for 48 hours)  
M12 connector only rated IP67
- Operating Temp:
  - Standard: -22° to 140°F (-30° to 60°C)

### Programming

- Interface with RS-485 Modbus RTU
- APG Modbus Windows-compatible software can be provided to adjust internal parameters.
- User selected Units of Measure, Response Rate, Volume Calculations, and more.

### Electrical

- Supply Voltage: 8 – 24 VDC
- Operating Current Draw:
  - 18 – 26 mA @ 24 VDC, Typical 18 mA
  - 32 – 63 mA @ 8 VDC, Typical 37 mA
- Waiting Status Current Draw:
  - 13 mA @ 24 VDC
  - 17 mA @ 8 VDC
- Wiring Connection:
  - 4-conductor shielded, twisted-pair cable
- Gas Discharge Tube Surge Protection: 150 V, 1 kA

### Physical

- Upper Housing: PC/PBT blend
- Transducer Face: PVDF

### Certification

- CSA/cCSAus Contract #237484
  - Intrinsically Safe
    - Class I, Div. 1, Groups C & D, T4
    - Class I, Zone 0, AEx ia IIB T4 Ga
    - Ex ia IIB T4 Ga
- ATEX
  - II 1G Ex ia IIB T4 Ga
- IECEx
  - Ex ia IIB T4 Ga
- CE

# COMMON MODEL CONFIGURATIONS

Model Number	Model Description
MNU-IS-6424-C6A	<b>1 – 25 ft. range, 69 kHz, 2" NPT, 6 ft cable</b> , Cable Gland with Spiral Strain Relief
MNU-IS-6424-C6M	<b>1 – 25 ft. range, 69 kHz, 2" NPT, M12 Micro Connector w/ mate, 6 ft cable</b>
MNU-IS-6444-C6A	<b>1 – 25 ft. range, 69 kHz, 2" NPT, Recessed Transducer, 6 ft cable</b> , Cable Gland with Spiral Strain Relief
MNU-IS-8424-C6A	<b>5 in. – 12 ft. range, 81 kHz, 2" NPT, 6 ft cable</b> , Cable Gland with Spiral Strain Relief
MNU-IS-8444-C6M	<b>5 in. – 12 ft. range, 81 kHz, 2" NPT, Recessed Transducer, M12 Micro Connector w/ mate, 6 ft cable</b>

## MNU-IS ACCESSORIES

Please order separately, by part number.

Description	Part Number
<b>Programming Module</b>	
RST-6001	125734
<b>Barrier</b>	
RS-485 Communications Barrier (2-wire)	200186
24 VDC Barrier (2-wire)	200187





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