![CEICA soluciones logo] **CEICA** soluciones
Corporación Eco Industrial y Comercial, S.A. de C.V.

APG®

Intrinsically Safe Modbus Network Ultrasonic Sensor Series: MNU IS

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
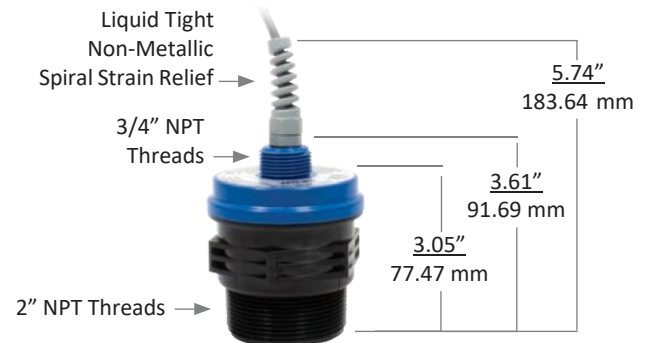- Optional Gas Discharge Tube surge protection

MNU IS Specifications

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Housing Option 2

Liquid Tight
Non-Metallic
Spiral Strain Relief →

3/4" NPT
Threads →

2" NPT Threads →

7.23"
183.64 mm

5.10"
129.54 mm

3.05"
77.47 mm

1.49"
37.84 mm

1.99"
50.54 mm

Housing Option 4

Liquid Tight
Non-Metallic
Spiral Strain Relief →

3/4" NPT
Threads →

2" NPT Threads →

5.74"
183.64 mm

3.61"
91.69 mm

3.05"
77.47 mm

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: ±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 contoller

Environmental

- IP68 (3 meters submerged for 48 hours)
  - M12 connector only rated IP67
- Operating Temp:
  - Standard: -30º - 60ºC (-22º - 140ºF)
  - Alternate: -20º - 50ºC (-4º - 122ºF)

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

MNU IS Accessories

Please order separately, by part number.

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

Model Configuration Options

Model Number: MNU - IS - _____ - _____
                       A   B   C   D   E   F   G

A. Range, Frequency

☐ **2**   1 - 25 ft. (305 - 7620 mm); 69 kHz Transducer†
☐ **6**   1 - 25 ft. (305 - 7620 mm); 69 kHz Transducer
☐ **8**▲   5 - 144 in. (127 - 3658 mm); 81 kHz Transducer

B. Lid Interface Threads

☐ **4**▲   3/4 in. MNPT

C. Housing

☐ **2**▲   2 in. MNPT, Valox PBT
☐ **4**   2 in. MNPT, Valox PBT, Recessed Transducer

D. Output

☐ **4**▲   RS-485 Modbus RTU, Intrinsically Safe
☐ **5**   RS-485 Modbus RTU, Intrinsically Safe w/ Gas Discharge Tube Surge Protection

†   Option 2 (1 - 25 ft. / 69 kHz Transducer) has alternate temperature range of -20° - 50°C.

E. Cable

☐ **C**▲   Shielded Cable with Flying Leads††
☐ **N**   No Cable

F. Electrical Cable Length

☐ **__**   Specify Length (6 ft. standard length + 5 ft. increments)
☐ **0**   No Cable

G. Seal

☐ **A**▲   Cable Gland with Spiral Strain Relief
☐ **B**   Cable Gland
☐ **C**   Cable Gland (Atex)
☐ **M**   M12 Micro Connector (on lid)††

Note: ▲Indicates this option is standard.

†† For mating connection & cable with M12 Micro Connector, use Cable and Cable Length in sections E & F

Note: Approved mating connector and cable required with M12 Micro Connector for IS use. Contact factory for information.