



# U Series

## U4466 Ultrasonic Sensor



*The U4466 is a self-contained ultrasonic sensor.*

Madison Company's U4466 Series is an ultrasonic sensor model designed for non-contact level, presence/absence, volume, proximity and distance measurements. This self-contained sensor is supplied with hassle-free set-up software and user-selectable options that allow for a variety of easy application interface considerations.

These microprocessor-based sensors are enhanced with internal temperature compensation, wave action (turbulence) compensation, agitator blanking and humidity compensation, among other user-defined settings.


The sensor adjustments and calibration can be made by the user via a Windows™ computer and the **RST** module with its software. This computer interface may be connected using either USB or RS-232 connections.

## Applications

The U44xx series of ultrasonic sensors provide a non-contact method of detecting level, presence/absence, volume, proximity and distance measurements. With this versatility, these ultrasonic sensors are ideal for a variety of applications. Some examples are:

- Car wash vehicle position and spray arm locations
- Vessel level of liquid or solid media
- River, stream or irrigation canal flow and level
- Waste water effluent gate for discharge rate monitoring
- Process control applications for liquids

## Features

- Range from 4" to 79" (102 to 2007mm)
- Housing – Polycarbonate blend with 1", 2" NPT or 2" sanitary 3A flange; wetted material is PVDF
- Programmability – Utility program supplied on CD, requires MS Windows; 5 real-time sensor status parameters to choose from (distance, analog output, temperature, communication status and signal strength)
- Approvals – NEMA 4X,  (pending), IP65
- Works with liquids and solids
- Easy to install and set up
- Virtually maintenance free

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# U4466 Series Specifications

## Electrical:

**Operating Voltage** – 12 to 28 VDC

**Programming Voltage** – for **RST** module: 15 to 28 VDC

**Output** – 4-20 mA; or 4-20 mA with (2) NPN outputs; or 0-2.5 V / 0-5 V

**Total Current Draw** – 75 mA @ 24 VDC

**Maximum Power Rating** – 2.5 W

## Operational:

**Accuracy** –  $\pm 0.25\%$  of detectable range with no temperature gradient

**Resolution** – 0.1" (2.5mm)

**Beam Angle** – 9° at full signal strength and sensitivity setting

**Frequency** – 143 kHz

**Temperature Compensation** – Yes, internal

**Calibration** – Factory settings, user-programmable

**Range** – 4" to 79" (102mm to 2007mm)

**Response Time** – User-programmable, 20 ms minimum


**Sampling Rate** – User-programmable, 1 to 22 Hz

## Environmental:

**Operating Temperature Range** – -40°C to 60°C (-40°F to 140°F)

**Pressure** – 30 psi maximum (2 BAR)

**Installation Category** – Class 1, Div. II, Groups A, B, C & D (pending)

**Approvals** – NEMA 4X,  (pending), IP65

## Mechanical:

**Cable** – Flying leads (pigtails) or micro connector (Phoenix) standards

**Computer Interface** – USB for RST-3001 or RS-232 for RST-2001A

**Enclosure** – Polycarbonate/PET blend; Transducer is PVDF-faced ceramic

**Mounting** – 1" NPT; or 2" NPT; or 2" sanitary feral standards

## Optional Features:

Over-molded extension cables (shielded), 4-conductor or 5-conductor, with straight or right-angled Phoenix connector, in 2mm or 5mm lengths (see page 12-13 of our installation manual for details)

### Sample Connector

#### IRU-xxx5-M

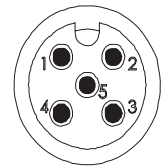
1 Brown +24VDC

4 Black mA+

2 White NPN 1

5 Grey NPN 2

3 Blue Ground



*All specifications are subject to change without notice.*



*Sensor solutions for today and the future™*



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