

MassaSonic™ M-300

Family of Low Cost Ultrasonic Sensors

Massa Products introduces the M-300 Family of RoHS Compliant Ultrasonic Sensors that incorporate state-of-the-art ultrasonic and microprocessor technology to provide low cost precision non-contact distance measurement for factory automation or industrial process control. The M-300 Sensors stand out over all other systems because of their affordability while providing extraordinary ease of operation, genuinely user-friendly software, versatility in user-controlled outputs, and the ability to be set up without using a target. The sensor transmits narrow beam sound pulses at a user-selected rate (or it can be software triggered), processes return echoes, and produces several outputs dependent on the position of the target.

Operating from 12 to 24 V DC, the M-300 Family includes several sensor models that operate at different ultrasonic frequencies, which produce detection ranges from as close as 4 inches (100mm) to greater than 15 feet (4.5 meters). A linear output of 0 to 10 V DC is provided, which is proportional to the measured distance to the target from the minimum detection distance to the nominal maximum target distance specified for the particular M-300 model. This output voltage range, however, can be easily reprogrammed to start and end anywhere between 0 and 10 V DC. The corresponding target distance span can also be set to start and stop at any two target ranges. This output voltage can also be programmed to operate as a digital switch at a specified target setpoint distance.

The system parameters and outputs are programmable via an RS-485 data link, thereby eliminating problems associated with adjustment potentiometers or pushbuttons. Some additional programmable adjustments include: analog output slope, sampling rate, averaging of multiple distance measurements, loss-of-echo time-out, setpoint hysteresis when operating in the digital switch mode, and a software sensor transmit trigger.

The M-300 user-friendly software operates with Windows® operating systems using an RS-232/RS-485 or USB/RS-485 converter. This data link allows up to 32 sensors to be on the same multi-drop communications network using the supplied protocol. This network also allows users to remotely program their sensors and read ranges for quick integration into their process control application. For users that prefer not to use a PC, the sensors can be programmed at the factory to the customer's exact specifications for true "plug and play" operation.

Other features of the M-300 include: a totally sealed PVC housing containing an industry standard 1" NPT fitting for mounting, operation from -20°C to 65°C with built-in temperature compensation, diagnostic and monitoring outputs, and protection from over-voltage, short circuits, and reverse polarity.

For more information visit our web site at www.massa.com.



GENERATIONS AHEAD IN SONAR & ULTRASONIC TECHNOLOGY

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FEATURES

- Low Cost
- RoHS Compliant
- 1" NPT Mounting Fitting
- Analog & Setpoint Outputs
- Plug & Play Setup
 - No Target Needed
- Software Set Span and Zero
 - No Pots or Pushbuttons
 - Tamperproof Settings
- Easy to Use Setup Software
 - Windows®
95 / 98 / NT / 2000 / XP
- Built-in Temperature/Sound Speed Compensation
- Up to 32 Sensors on RS-485 Multi-drop Network

APPLICATIONS

- Liquid Level Control
- Mechanical Positioning
- Roll Diameter Measurement
- Web Loop Monitoring
- Automatic Filling Operations
- Automatic Packaging
- Bulk Level Control
- Paper/Plastic Film Processing

