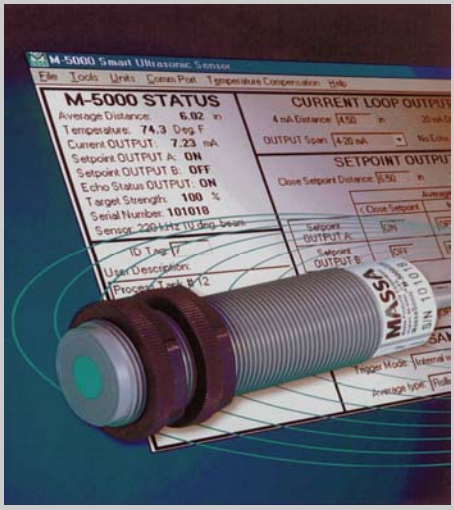
VYDAS

INTERNATIONAL MARKETING

Specialist Sensors & Instruments for Industry

MassaSonic™ M-5000/95 Smart Ultrasonic Sensor

So Smart So Easy to Use



DESCRIPTION

The MassaSonic™ M-5000/95 Smart Ultrasonic Sensor incorporates state-of-the-art ultrasonic and microprocessor technology to provide precision non-contact distance measurement for factory automation or industrial process control. The M-5000/95 stands out over all other systems because of its 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 externally triggered), processes return echoes, and produces several outputs depending on the position of the target.

Operating from 12 to 28 V DC, the M-5000/95 provides non-contact measurement over a nominal target range of 0.3 m to 4.0 m (1 to 13 feet). Outputs include a 0 to 20 mA or 4 to 20 mA DC analogue current loop, two independent set point switches, and echo status by both an LED indicator and an Echo Status Output switch. The system parameters and outputs are fully user programmable via an RS-485 data link, thereby eliminating the sealing and tampering problems associated with adjustment potentiometers or pushbuttons. Some additional programmable features include: analogue output slope, sampling rate, averaging of multiple target distance measurements, loss-of-echo time-out, and set point hysteresis.

Massa's extremely user-friendly software works with a PC running under Windows® 95 or 98 operating systems. The M-5000/95 connects to a serial port of the PC using an RS-485/RS-232 converter. The RS-485 data link allows up to 32 M-5000/95 sensors to be on the same multi-drop communications network.

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-5000/95 include: industry standard 30 mm diameter CPVC housing, environmentally sealed to IEC IP 67 and NEMA 6 specifications, 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

FEATURES

- Precision Distance Measurement
  - High Resolution (1.0mm)
- Analogue & Set point Outputs
- Plug & Play Set-up
  - No Target Needed
- Software Set Span and Zero
  - No Pots or Pushbuttons
  - Tamperproof Settings
- Easy to Use Set-up Software
  - Windows® 95 , 98, NT, 2000
- Sensor Sealed to IEC IP 67
- Built-in Temperature/Sound

APPLICATIONS

- Automatic Filling Operations
- Mechanical Positioning
- Roll Diameter Measurement
- Web Loop Monitoring
- Liquid Level Control
- Automatic Packaging
- Machine Tool Fluid Level
- Paper/Plastic Film Processing
- Robotics and Factory Automation

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ORDERING INFORMATION

MP-200547-501
M-5000/95 Full Sensor Kit
which includes:

MP-300306-501 MassaSonic
M-5000/95 Smart Ultrasonic Sensor
MP-7873-1 Locknuts (Qty. 2)
MP-7875-1 Installation & Operation Guide
MP-200511-1 Mounting Bracket
MP-7868-1 Communications Converter
MP-7876-1 Installation & Setup Software
(3 Disks)

MP-200547-502
M-5000/95 Sensor & Locknuts

MP-200547-503
M-5000/95 Sensor, Locknuts & Mounting Bracket

Custom configurations available for OEM quantities.

Consult factory for custom preset MassaSonic™ M-5000/95 Sensors.

SPECIFICATIONS

M-5000/95 SPECIFICATIONS

PERFORMANCE (Typical at 24 V DC, 22° C, and 50% RH)

Ultrasonic Frequency:	95 kHz
System Beam Angle:	8° conical
Target Detection:	
- Minimum Distance	1 foot (0.3 m)
- Maximum Distance	13 feet (4.0 m) (Maximum programmable distance is 20 feet (6.0 m). Distances out to 20 feet only under special applications. Please consult factory.)
- Accuracy:	± 0.25% of max. Distance (± 0.5 inches) in homogeneous environment (warm-up time: 15 minutes)
Measurement Resolution:	.04 inches (1 mm)
Power Required:	12 to 28 V DC (reverse polarity protected), 80 mA max.
Temperature Compensation:	Internal probe

PROGRAMMABLE OUTPUTS (Can be Factory Preset)

Current Loop Output:	0 to 20 mA or 4 to 20 mA DC sourcing, 12-bit resolution, invertible
- Span & Zero Distance	Programmable from 12 to 180 inches
- Loss-of-Echo Options	0, 3.5, 4.0, 20.0, or 20.5 mA
Two Setpoints and Echo Status:	Protected current sink, open drain N-channel MOSFETs, 28 V DC max., 100 mA max.
Setpoint Distances:	Programmable from 12to 180 inches
Setpoint Hysteresis:	0% to 93%, in 1% increments

PROGRAMMABLE SAMPLING SETTINGS (Can be Factory Preset)

Sampling Rate:	0.1 Hz to 100 Hz in 0.1 Hz increments
Trigger Modes:	Internal, internal with trigger output, external, external with delay, manual
Target Distance Averaging:	Rolling Average: up to 32 samples, or Boxcar Average: up to 1,024 samples
Loss-of-Echo Time-out:	Up to 255 consecutive samples

ADDITIONAL OUTPUTS

Diagnostic LED:	Power, loss of echo, system error
Echo Monitor:	Amplified ultrasonic signal
Communications:	RS-485, transient protected, multi-drop up to 32 sensors

MECHANICAL

Housing Dimensions:	30 mm diameter M-30X1.5 threaded tube, 115 mm long
Housing Material:	CPVC
Transducer Surface:	MassaPlast™102 (custom PPA)
Cable:	10 conductor, PVC jacket, 24 AWG, 10 ft. (3 m), user-extendable to 1,500 ft.

ENVIRONMENTAL

Operating Temperature:	-20°C to 65°C
Storage Temperature:	-40°C to 85°C
Environmental Sealing:	IEC IP 67 NEMA 6 (submersible for short periods)
Relative Humidity:	0 to 95%, non-condensing

PROGRAMMING REQUIREMENTS

Communications Converter:	RS-485/RS-232 with automatic send data control
Operating System:	Windows® 95, 98, NT, 2000

VYDAS

Call 01428 751822

For Further Information

MANUFACTURER

MASSA
GENERATIONS AHEAD IN SONAR & ULTRASONIC TECHNOLOGY

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