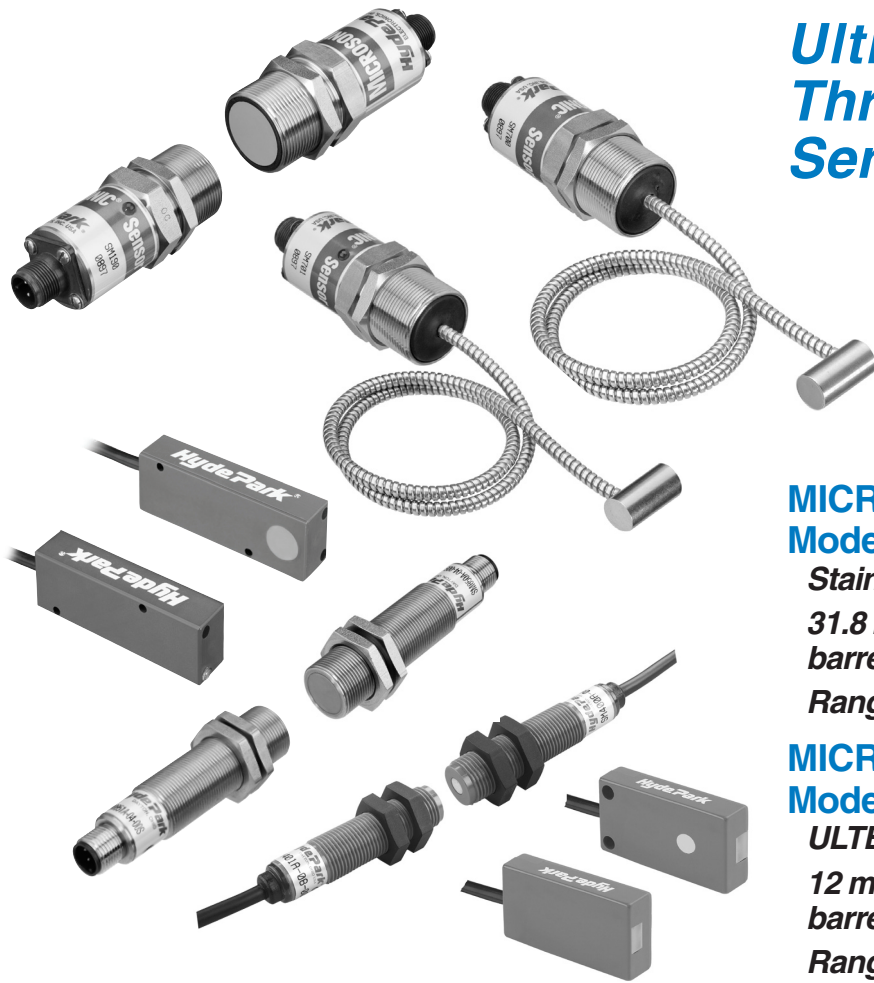


# MICROSONIC® 100/400/700/800 Series Introduction



## Ultrasonic Thru-beam Sensors

### MICROSONIC® Model SM100 Series

*Stainless steel  
31.8 mm (1.25")  
barrel style*

*Range: up to 1,829 mm (72")*

### MICROSONIC® Model SM400 Series

*ULTEM® plastic  
12 mm (0.47")  
barrel or flat-profile style*

*Range: up to 203 mm (8")*

### MICROSONIC® Model SM700 Series

*Stainless steel  
31.8 mm (1.25")  
barrel style with  
13 mm (0.5") x 25 mm  
(1") remote probes*

*Range: 381 mm (15")*

### MICROSONIC® Model SM800 Series

*ULTEM® plastic  
18 mm (0.71")  
barrel style or  
Flat-profile style*

*Range: up to 1,016 mm (40")*

## Introducing the world's finest ultrasonic thru-beam sensors

From the early MICROSONIC® SM100 Series to the latest MICROSONIC® SM400 Miniature Series and SS100 Web Sensing System, these Hyde Park noncontact sensors have earned the reputation as the best performing, ultrasonic, thru-beam sensors on the market. Wet, harsh environments, dust, ambient light, high noise levels, frequent high-pressure washdowns, and severe-duty applications are everyday working conditions for the tens of thousands of MICROSONIC® thru-beam sensors in operation today.

These sensors offer significant benefits especially accuracy and reliability. Once set up and operating, the MICROSONIC® sensors need very little attention. Even in dusty and messy envi-

ronments, these sensors reliably detect most materials ... especially clear glass, plastic, film, and irregular-shaped objects, an important advantage over many photoelectric sensors. Changing light conditions and colors have no effect on sensing capability and no sensitivity adjustments are required to compensate for inconsistent materials.

Rugged and robust, all MICROSONIC® thru-beam sensors offer a wide variety of sensing ranges, signal strengths and transmitter/receiver combinations to satisfy countless sensing needs while contributing significantly to increased productivity.

## Operation

The MICROSONIC® sensors are continuous-wave devices that consist of an ultra-high-frequency transmitter and receiver positioned opposite each other, illustrated at right, at a distance of up to 1,829 mm (72"). During operation, the transmitter sends a continuous ultrasonic beam which is picked up by the receiver. When an object of any material or shape passes between the transmitter and receiver and breaks the beam, object presence is detected and the output of the receiver switches. Or, when a hole as small as 3 mm (1/8") diameter allows the beam to pass through to the receiver, the output of the receiver switches.

## Applications

In general, the Hyde Park line of MICROSONIC® ultrasonic thru-beam sensors is an excellent solution for applications requiring the accurate and reliable detection of objects of any material or shape within a range of 1,829 mm (72"). While the kinds of applications are almost unlimited, the MICROSONIC® sensors are of particular value in tough sensing situations where the environment renders many other types of sensors inaccurate and unreliable. Take, for example, a procession of just-filled glass bottles moving rapidly from the capper on a packaging line. A sensor is detecting the leading edge of each bottle to ensure that, at the precise split second, accurate inspection will be made of the caps' presence. The line stops suddenly. It is discovered, upon inspection, that the sensor is covered with product or some other contaminant. The result is a false signal indicating a possible line backup that isn't really there...and a loss in valuable production time. The MICROSONIC® thru-beam sensor is an excellent solution in this particular application.

For applications specific to the various series of MICROSONIC® sensors, see either the product information sections that follow or the Application/Sensor Selection Chart on page 2-1.

