

Smart™ Sensors

Smarter and well connected!



A Clever Alternative!

Airmar's Smart™ Sensors feature embedded micro-electronics. Depth, speed, and temperature signals are processed inside the sensor and displayed on any radar, chart plotter or device that accepts NMEA data. Airmar® Smart™ Sensors are available with NMEA0183, NMEA2000 or customer specific CAN protocols. Smart™ Sensor technology is available in retractable thru-hull fittings, transom mount housings and in-hull mounts to meet all mounting needs. Patent pending speed signal processing provides stable and linear speed readings from 1 to 50 knots.

- 170 kHz and 235 kHz frequencies are offered to prevent mutual interference with other echosounders on a vessel
- 170 kHz frequency provides better depth range while the 235 kHz models provide better performance at high speeds
- Connect the Temp2 cable and measure a second temperature anywhere on the boat
- Cable lengths of up to 100 meters (330') are possible with no loss of performance
- Smart™ depth transducers can accept input from Airmar's analog speed sensors which eliminates the need for an NMEA combiner and requires only one cable to be routed to display screen



AIRMAR®
TECHNOLOGY CORPORATION



All Airmar Smart™ Sensors feature embedded signal processing. Cable lengths of up to 100 meters (330') are possible, with no loss of performance.

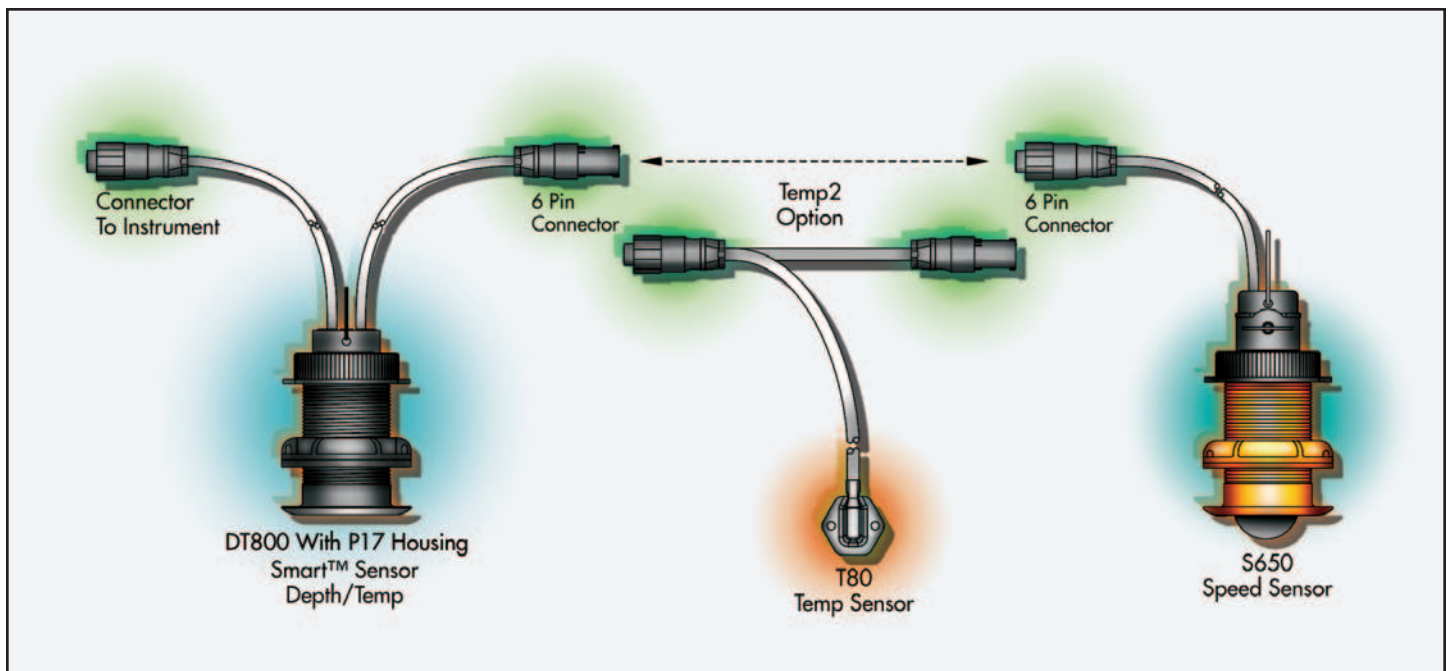
Airmar's Smart™ Sensors Get Even Smarter

What Makes a Sensor Smart™?

Airmar's Smart™ Sensors have embedded microelectronics—the transducer element and signal processor are only millimeters apart. The signal from our depth transducer is processed right inside the sensor and fed directly to any display with an NMEA port. In conventional navigation systems, a depth transducer sends its signal to a dedicated instrument which interprets the data for its display screen. Our Smart™ Sensors can make a chart plotter or radar screen do "double duty".

What Are Some Benefits Of Smart™ Technology?

The Smart™ DT800 Depth and Temperature transducers can accept input from a separate analog speed sensor. Speed signals are obtained in analog format and sent to the Smart™ Sensor where they are converted to digital data. With this approach, only one cable is routed to the display, simplifying installation. Airmar has added more functionality while eliminating the need for an NMEA combiner. The re-designed self-jacking retractable transducer insert is easily removed from the housing for quick service or storage.



Smart™ Sensors Information

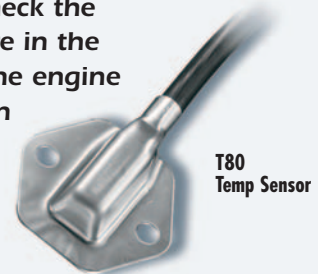
DST800



The new DST800 Smart™ Retractable TRIDUCER® Multisensor provides depth, speed and temperature functions in one compact thru-hull housing. This easy to install sensor measures depth up to 200 feet and accurate speed measurements from 1-52 knots. The wide fore-aft, fan shaped beam is able to find bottom even when installed on high deadrise hulls or on sailboats when heeled. New patented Intelligent speed circuit offers excellent paddlewheel accuracy below 5 knots and smooth, linear output at all vessel speeds. Now the design incorporates a self-closing valve. When the transducer insert is removed, the valve minimizes water flow into the boat.

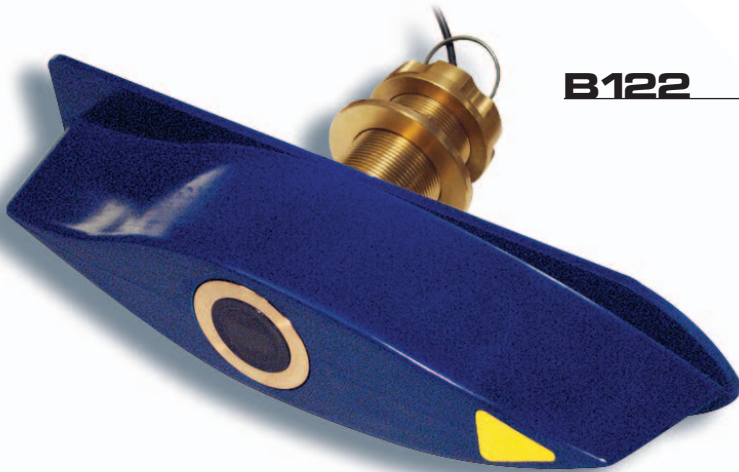
Temp2 makes it possible to measure a second temperature anywhere on the boat. Our Smart™ electronics can be programmed to the OEM's preference. With auto-configuration as a standard feature, a display screen only shows the functions that are selected by the OEM. For example, if there is no temperature option in the sensor, nothing will show on the display—an end user will never be confused by seeing 0°.

Want to check the temperature in the live well, the engine room, or on deck?



T80
Temp Sensor

B122



The Smart™ B122 retractable, long stem bronze transducer is designed for use in thick hulled wooden boats or vessels with a steep deadrise. The included high performance fairing vertically orients the sound beam for stronger return echos resulting in optimal sounder performance.

P39

The Smart™ P39 provides depth, speed and temperature in a mid-size transom mount TRIDUCER® multisensor. This hydrodynamic housing features a rounded nose which reduces the turbulence under the transducer's face for accurate high speed readings. Patent pending speed signal processing provides stable and linear speed readings from 1 to 50 knots.



Technical Information

Specifications

Operating frequency	170 kHz	235 kHz
Transducer beam width @ -3db (all thru-hull models except DST800)	13°	14°
Transducer beam width @ -3db (P66, P79)	11°	6°
Transducer beam width @ -3db (DST800)		10° x 44°
Data update rate	1/second	
Minimum sounding depth	0.5 m (1.6')	
Maximum sounding depth@ 170 kHz	180 m (600')	
Maximum sounding depth@ 235 kHz	100 m (330')	
Pressure rating	3 m (10')	
CE Regulations	Complies to IERC945	
Smart Sensor Supply Voltage		
@ 100% sound power output	11.5 VDC – 25 VDC	
Supply current	40 mA	

Housing Options



P66
Plastic Transom Mount



P39
Plastic Transom Mount



P79
Plastic In-Hull



B122
Bronze Thru-Hull Mount



P314 Retractable
Plastic Flush Mount



P217 Retractable
Plastic Flush Mount



B21 Retractable
Bronze Flush Mount



B119 Retractable
Bronze Flush Mount



P17 Retractable
Plastic Low Profile



B17 Retractable
Bronze Low Profile

Data Output Protocol

NMEA 0183 Sentence Structure

Depth.....	DDBT, DDPT
Speed.....	VVWHW
Distance.....	VVVLW
Water Temp.....	YXMTW
Temp2.....	YXXDR
Standard Cable type	C189, 22 AWG, 2 shielded pairs with standard NMEA colors
Maximum cable length.....	100 m (330')

NMEA 2000 Supported PGN's

128259	Speed (Speed Water Referenced)	600928	ISO Address Claim
128267	Water Depth (Water Depth, Transducer)	126208	Acknowledge Group Function
128275	Distance Log	126464	Transmit PGN List Group Function
130310	Environmental Parameters (Water Temperature)	126464	Received PGN List Group Function
59392	ISO Acknowledgment	126996	Product Information