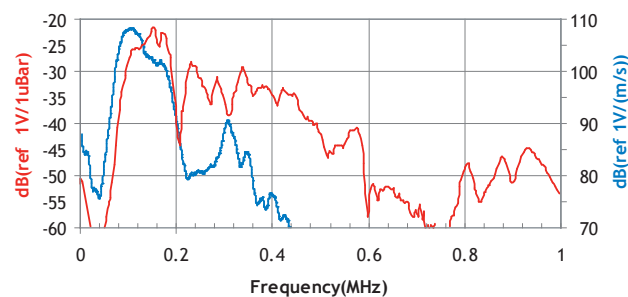
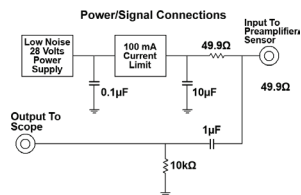
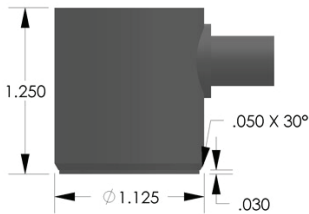


PRODUCT DATA SHEET

R15I-AST Sensor

Integral Preamp Sensor



DESCRIPTION AND FEATURES

Physical Acoustics' integral preamp sensors were specifically engineered to attain high sensitivity and have the capability to drive long cables without the need for a separate preamplifier. Incorporating a low-noise input, 40 dB preamplifier and a filter all inside the sensor housing, these transducers are completely enclosed in metal stainless steel (or aluminum) housings that are treated to minimize RFI/EMI interference. Care has also been taken to thermally isolate the critical input stage of the preamplifier in order to provide excellent temperature stability over the range of -35° to 75° C.

Their integrated Auto Sensor Test (AST*) capability allows these sensors to pulse as well as receive. This feature lets you verify the sensor coupling and performance at any time throughout the test.

APPLICATIONS

This general purpose sensor provides a good mix of high sensitivity and high low frequency rejection. These properties make it very useful for monitoring common structures such as pipelines, vessels, bridges, and storage tanks in petroleum, refineries, chemical plants, offshore platforms, as well as factory and process monitoring applications. It is Physical Acoustics' most popular and highest volume selling sensor.

OPERATING SPECIFICATIONS

Dynamic

Peak Sensitivity, Ref V/(m/s) 109 dB
 Peak Sensitivity, Ref V/μbar -22 dB
 Operating Frequency Range 50-400 kHz
 Resonant Frequency, Ref V/(m/s) 75 kHz
 Resonant Frequency, Ref V/μbar 150 kHz
 Directionality +/-1.5 dB

Environmental

Temperature Range -35 to 75°C
 Shock Limit 500 g
 Completely enclosed crystal for RFI/EMI immunity

Physical

Dimensions 1.13"OD X 1.23"H
 29 mm OD X 31 mm H
 Weight 70 grams
 Case Material Stainless Steel (304)
 Face Material Ceramic
 Connector BNC
 Connector Locations Side

Electrical

Gain 40 dB
 Power Requirements 20-30 VDC @ 25 mA
 Dynamic Range > 87 dB
 Noise Level (RMS RTI) < 3 μV
 Output Drive Impedance 50 Ω
 Grounding Case Grounding,
 Isolated from mounting surface

ORDERING INFORMATION AND ACCESSORIES

R15I-AST R15I-AST
 Cable (specify length in '-XX' m at end of PN) 1234 - X
 Magnetic Hold-Down MHR15I
 Amplifier Subsystems AE2A, AE5A

Sensors include

NIST Calibration Certificate & Warranty

* AST — Auto Sensor Testing feature allows AE systems to control the sensor as a pulser and a receiver at the same time. It can therefore characterize its own condition as well as send out a simulated acoustic emission wave that other sensors can detect, so the condition of the nearby sensors also can be tested.



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