VEHICLE SENSING SOLUTIONS: Road Noise Cancellation Sensors with Accelerometer and Microphone (RNC-AM)

Molex RNC-AM Sensors, with A²B technology, convert vehicle chassis vibration and airborne noise into a signal that generates a cancellation soundwave, reducing unwanted noise within the cabin of a vehicle

FEATURES AND ADVANTAGES



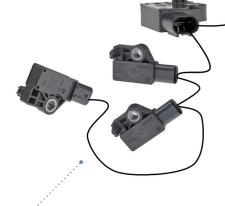




Road Noise Cancellation Sensors with Accelerometer and Microphone (RNC-AM)

Low system latency

Delivers superior noise cancellation because the time between the sensor receiving the vibration and the module receiving the signal is extremely short



IP6K9K Rating Protects against water and dust ingress in harsh environments



Mates with 1-by-4 sealed Mini50 Connector

Provides 50% space savings over traditional USCAR 0.64mm connectors. Is ideal for vehicle interiors. Delivers superior signal integrity performance

MARKETS AND APPLICATIONS

Automotive In-cabin noise reduction Autonomous vehicles Advanced driver assistance systems (ADAS)

Daisy-chained sensors

star-patterned cabling

and reduces harness

weight of the vehicle

Eliminates heavy



In-Vehicle Cabin

molex

NET ICLE SENSING SOLUTIONS: Road Noise Cancellation Sensors with Accelerometer and Microphone (RNC-AM)

SPECIFICATIONS

Microphone Technical

Very low distortion: <1% total harmonic distortion + noise @ 1kHz Acoustic overload point: 133 dB Sensitivity: -46 +/- 2 dBFS @ 1kHz Noise floor: 29 dBSPL High signal-to-noise ratio: 65dB(A) Bandwidth: 45 Hz to >20kHz Omnidirectional

Accelerometer

Maximum monitored shock load: 16g in all axes Anticipated sensory frequency range: 200 to 500 Hz Programmable frequency range: 500 Hz to 4kHz Low latency: 150µ maximum at 2kHz bandwidth Low noise: <100µ//Hz for x- and y-axes <150µg//Hz for z-axis

Digital output: Up to 14 Gbps

Mechanical Technical

Connector interface drawing: Molex drawing 349684800

Mini50 Sealed 1 by 4—see ordering information Installation force into vehicle position should

not exceed 25N

Retention force greater than 15N prior to nut and-screw fastening

Retained in place by an M6 screw and nut The torque value of screw and nut shall be 10 ± 2 Nm

Environmental

Temperature classification: -40 to 85°C Protection classification: IP6K9K (dust and highpressure spray) per ISO 20653

Harnessing Expectations

- 2x jacketed unshielded twisted pairs for 100 Mbps transmission
- Twisted pair cable types must comply with SAE-J3117 standard and the Open Alliance Specification for Communication Channel 2.0 = 100BaseT1
- Digital matched differential impedance— 100 Ohms

Sensor units are daisy-chained together

ORDER INFORMATION

Part No.	Description
213840-0002	Molex Sensor Assembly
34967-4001	1-by-4 Mini50 Sealed Connector, Key A with CPA
34967-4051	1-by-4 Mini50 Sealed Connector, Key A, with Circuits 1 and 2 Plugged (End Node)
34905-6447	CTX50 Sealed Connector, Silver Plated, Large Grip

www.molex.com/link/ancsensors.html