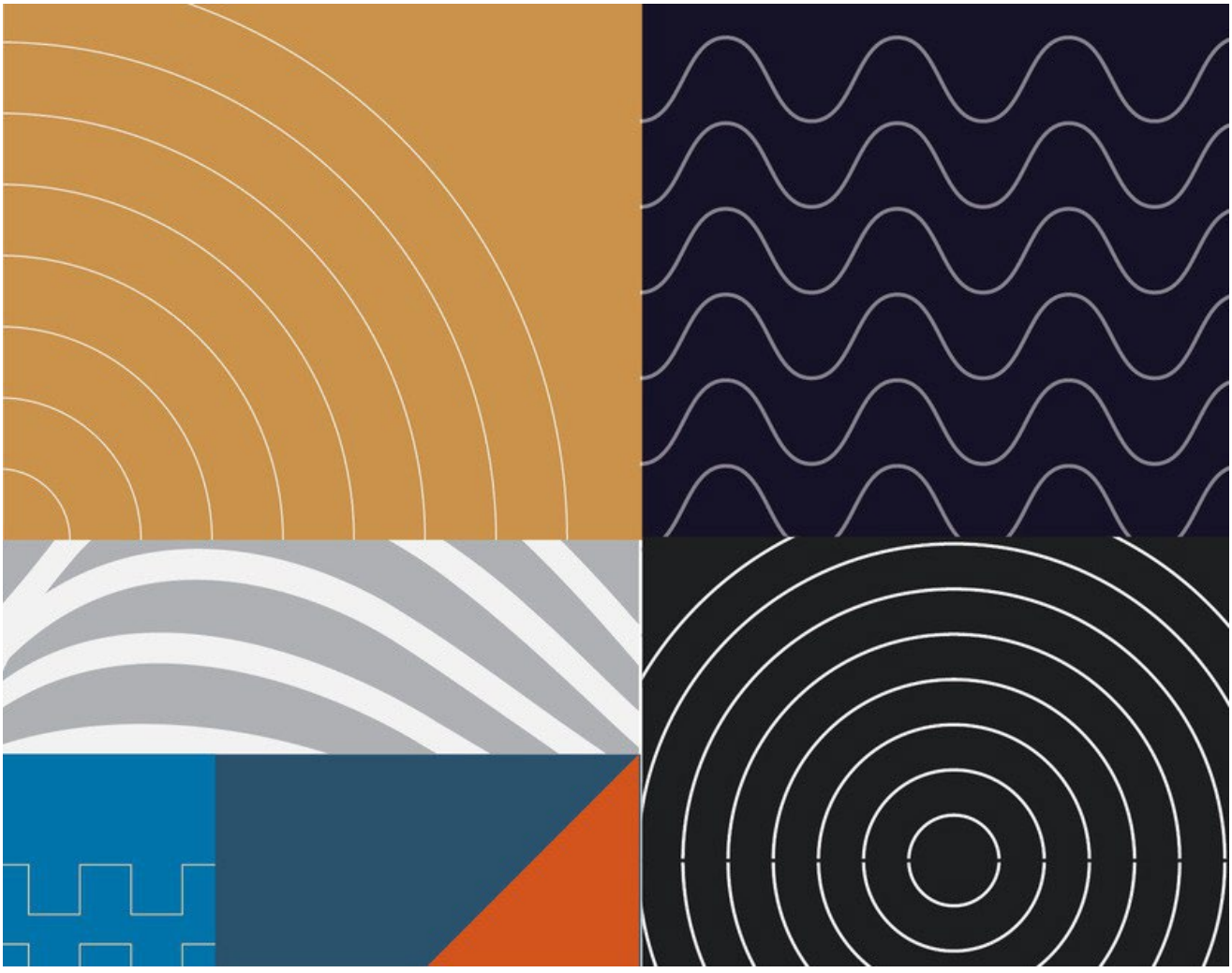
NEW PRODUCT ANNOUNCEMENT

Nov 2024

Medical Audio Indicators

IEC 60601-1-8 Compliant



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Engineers who design products for medical applications often face the difficult task of creating auditory alarm signals which comply with the International Electrotechnical Commission's regulatory standards.

The IEC 60601-1-8 standard regulates alarm signals that might be heard in a medical environment, specifically in cases where multiple instruments might be creating audible alarms in the same room simultaneously.

Traditionally, IEC 60601-1-8 compliant medical equipment requires an engineer to approach audio compliance from two aspects. Careful selection of an audio output device (one capable of reproducing the stipulated alarm frequencies for compliance) is required, in addition designing a compliant audio signal to create the alarm.

With ever-increasing quantities of medical equipment found both inside and outside of clinical environments, PUI Audio understands our customers' needs for a reliable, easy-to-use component. We set out to give engineers the ability to quickly and effectively certify their devices for IEC 60601-1-8 compliance - and now are introducing the latest expansion of our Audio Indicators - Medical Indicators.

Whether the application calls for a general medical alarm, a cardiovascular alarm, oxygen alarm, or even ventilation alarms – PUI Audio's Medical Indicators can help achieve IEC 60601-1-8 compliance.

These piezoelectric-based audio devices produce an IEC 60601-1-8 compliant alarm tone when a DC voltage is applied. Three priority levels are present in the device, in addition to the base tones, to ensure the appropriate urgency can be conveyed when the alarm is triggered.

Control of the device could not be easier – simply connect to a DC power supply, and select whether or not a Low, Medium, or High priority tone should be played by grounding the corresponding control pin!

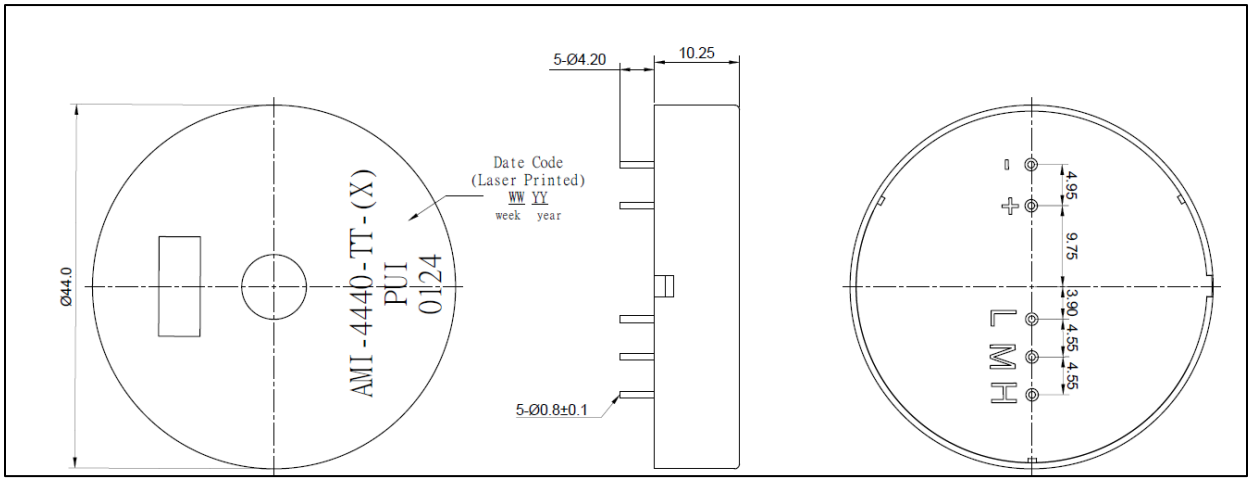
Specifications	Values
Rated Voltage	5 VDC
Operating Voltage	3.3 ~ 5 VDC
Active Current	20 mA
Standby Current	12 mA
Sound Output at 10cm	80~90 dB
Frequency Range	150 ~ 4000 Hz
Operating Temperature	-40~+85 °C
Priority Encoding	Low, Medium, High

Medical Indicator Part Numbers

Part	Alarm Signal Type	Description
AMI-4440-TT-G	General	General Alarm Tone
AMI-4440-TT-C	Cardiovascular	"Lup-dup"; heartbeat sound
AMI-4440-TT-O	Oxygenation	Irregular, stylized dripping/saturation
AMI-4440-TT-V	Ventilation	A single inhale followed by an exhale

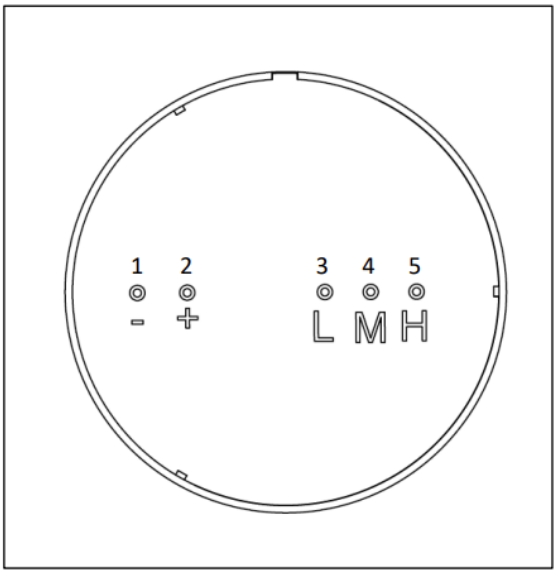
For a comprehensive guide on using other offerings from PUI Audio in IEC 60601-1-8 compliant designs, please see the whitepapers How to Choose the Right IEC 60601-1-8 Speaker and IEC 60601-1-8 Compliance with PUI Audio.

Our engineering team is eager to work on developing new solutions and continuing to push the envelope. Curious to learn more? Ready to kick off a brainstorming session about your audio needs in the manufacturing industry? Reach out! Ask an engineer or chat with us. We are here to help.



Pin Labeling / Function

Pin	Name	Function
1	-	Power Supply (-)
2	+	Power Supply (+)
3	Low	Low Priority Alarm Control
4	Medium	Medium Priority Alarm Control
5	High	High Priority Alarm Control



Controls

Priority	Description	Connection
Standby (off)	Silence	(+) → DC+ (-) → Ground
Low	2 alerts repeated every 20 seconds	(+) → DC+ (-) → Ground • L pin to (-)
Medium	3 alerts repeated every 10 seconds	(+) → DC+ (-) → Ground • M pin to (-)
High	10 alerts repeated every 3 seconds	(+) → DC+ (-) → Ground • H pin to (-)