FREQUENTLY ASKED QUESTIONS ABOUT PIEZOPANELS

This bulletin answers several questions regarding our PiezoPanels and the difference between traditional membrane switches. Should you have additional questions, please contact us at 715-845-9221 or email us at sales@wilsonhurd.com.

Q: What is the difference in technology between a membrane switch panel and a PiezoPanel?

A: A membrane switch is a mechanical switch where as a PiezoPanel is an electronic switch that generates an electrical signal when pressure is applied to the piezo element.

Q: Are PiezoPanel's a replacement for membrane switches?

A: Since a PiezoPanel generates an analog signal, it cannot replace a membrane switch without electrical design changes.

Q: Is the Piezo technology better than membrane technology?

A: The piezo technology is significantly more durable than membrane technology. Since a PiezoPanel is an electrical device, there is no fatigue to the switch. Foreign contaminants cannot enter the switch because of the completely sealed construction.

Q: What is the contact time for a PiezoPanel?

A: Based upon the applications there are two options

1. Momentary – contact time 1-3 seconds
2. Repeat Function – up to 8 seconds

Q: Does Wilson-Hurd offer an electrical interface?

A: Wilson-Hurd offers a standard DLAS-92 with up to 16 contacts. Our Engineers will also work with you to design and build a PCB to your specifications.

Q: Can I choose my operating force?

A: The contact threshold can be established electrically and depending on the force applied, a switch can be designed for two different signals.

Q: How does temperature affect a PiezoPanel?

A: The piezo element can withstand a wide range of temperature, and is dependent on the materials used in the makeup of the entire assembly.

Q: Is the voltage output proportional to the force applied to the PizeoPanel?

A: Yes.

Q: Is mechanical bounce a problem for PiezoPanels?

A: Since there are no moving parts in a PiezoPanel, mechanical bounce is not a problem.

Q: Will vibration cause falso signals?

A: PiezoPanel technology is capable of operating at very fast speeds and is sensitive to vibrations. However, this problem can be solved by using an interface suppression filter.

Q: Can we mount a PiezoPanel on our enclosure without Wilson-Hurd supplying the switch with subpanel?

A: In order to maintain the integrity and protect the switch, it must be mounted as a complete unit, sub panel included.

Q: What type of connectors can be used with PizeoPanels?

A: Almost any type of connector can be used, please contact our Business Development Department at 715-845-9221 to discuss your application.

Q: Can you protect against EMI/RFI?

A: The protection depends on the type of material used. For example, your switch can be protected against ESD by grounding the metal sub panel. Please contact our Business Development Department for further information at 715-845-9221.

Q: Does electrical crosstalk occur in a PiezoPanel?

A: Since the contacts are placed a minimum of ¾" center to center apart, crosstalk does not occur.

Q: Can Piezo Panel's be shaped, or must they be flat switches?

A: A PiezoPanel can have a slight shape as long as the contact element is flat.

Q: Is there a maximum overlay thickness that can be used?

A: The overlay thickness depends on the spacing of contacts within the switch, overall design and application needs.

Q: Are PiezoPanels more expensive than membrance switches?

A: PiezoPanels are more complex and offer features that a membrane switch does not. However, the cost of PiezoPanels are similar to high end commercial membrane switches.