Azoteq

World Leader in Capacitive Proximity Sensing

Azoteq to exhibit at Electronica 2014 in Munich, Germany

Azoteq plans to exhibit at Electronica 2014 in Munich, Germany from November 11th – 14th. Electronica 2014 is the International Trade Fair for Electrical Components, Systems, and Applications.

The focus of Azoteq's booth will be to demonstrate our Capacitive Proximity and Touch solutions.

Azoteq will present a wide range of capacitive proximity and touch solutions at our booth, showcasing the latest state of the art in capacitive sensing.

Live demo's will include 3D gesture trackpads, robust touch solutions for outdoor and vandal proof applications and low power proximity activated applications.

Other demos will show Azoteq's Movement Detector to differentiate between human contact and inanimate contact.

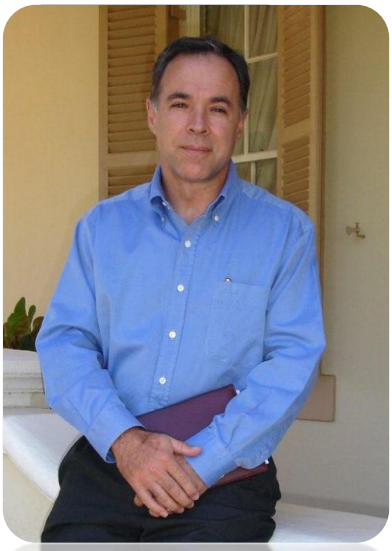
Please come by and visit our booth at Electronica 2014 in Munich! Our booth is located in Hall A5, Booth 516.

For more information, email info@azoteq.com.

Content

Azoteq enables next generation user interfaces for users to interact naturally with products through capacitive proximity and touch

Dr. Fredrick Bruwer
President and CEO



Dr. Frederick Bruwer

Dr. Frederick Bruwer founded Azoteq in 1998 with a visionary strategy to develop affordable intelligent switches on silicon. Since 2004 the company has expanded on this successful business to also focus on the emerging market for next generation user interfaces utilizing capacitive proximity and touch sensing solutions. He holds 39 patents in this field.

Previously Dr. Bruwer founded Nanoteq, which developed the Keeloq technology for remote keyless entry (RKE). Keeloq became the world standard for RKE and Nanoteq was sold to Microchip Technology (NASDAQ:MCHP) in 1995 where he was appointed VP for the Secure Data Products division.

Dr. Bruwer holds Bachelors, Masters (Cum Laude) and Doctors degrees from the University of Pretoria in South Africa.

For more information, email info@azoteq.com.

Sales contact information can be found here!

Azoteq Sales Offices

Azoteq has distribution and sales representatives around the globe. But there are three main sales offices that can help assist designers with their capacitive sensing needs. Sales offices and contacts are as follows:

- North America
  - Kobus Marneweck – VP Marketing
- International
  - Jean Viljoen – Marketing Manager Europe/Asia
- Hong Kong
  - Eric Tsang

ESD Design and Testing Guidelines

Contact discharge might be the preferred testing method for ESD immunity testing but when it comes to testing touch sensing applications, the air discharge method is used more often since most touch pads are usually covered by an insulating overlay like Figure 1.

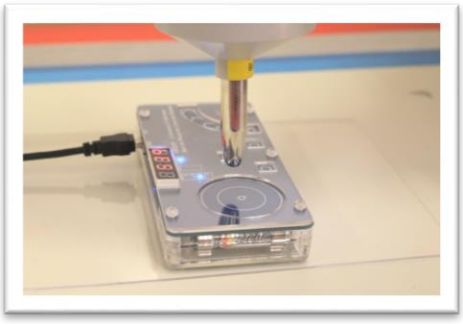


Figure 1: Air discharge on plastic overlay of touch and slider evaluation kit

The following are guidelines and notes for air discharge as per the IEC61000-4-2 standard

1. The rounded tip of the ESD gun is used for air discharge.
2. The ESD generator is set to the desired voltage level and then the trigger is closed on the ESD gun. The trigger remains closed and the tip of the ESD gun must approach the equipment under test (EUT) as fast as possible until a spark gap discharges onto the surface of the EUT electrode or until contact is made with the surface of the EUT without causing mechanical damage.
3. At higher voltage levels this discharge can occur as multiple successive discharges. A slight crackling noise can be heard.
4. After each discharge, the ESD gun must be removed from the EUT. The generator is then retriggered for a new single discharge but it is very important to allow the EUT to discharge completely before the next discharge from the ESD gun is applied.
5. Applying the next discharge before the EUT is fully discharged can lead to the EUT being tested at more than double the intended voltage level.
6. The bleeder resistors (2 x 470KΩ) can be used to ensure that the EUT is properly discharged.
7. The "bleeder resistors cable" can be connected between the EUT and the horizontal coupling plane (HCP). However it is stated in the IEC standard that the connected "bleeder resistors cable" can influence the test results and it therefore would be better no to connect the "bleeder resistors cable".
8. Alternatively the EUT can be swept with a grounded carbon fiber brush connected to bleeder resistors (2 x 470KΩ) in the grounding cable.
9. The resistors should be capable of withstanding the maximum discharge voltage applied to the EUT plane during the test.
10. A preferred method that is used at Azoteq is simply to "touch" the touch-sensing buttons or electrodes of the EUT as by doing so one removes the charge build-up on the surface of the device and the functionality of the device is also tested.
11. Ten positive and ten negative discharges should be applied at a specific voltage level.

Full Article Available on EDN.

ESD Immunity Guidelines and Common Mistakes

Contact discharge is the preferred method of ESD testing when there are conductive areas on the surface of the device. The following are guidelines and notes for contact discharge as per the IEC61000-4-2 standard:

1. The sharp tip of the ESD gun must be used for contact discharge.
2. In the case of contact discharges, the tip of the ESD gun should touch the EUT, before the discharge switch is operated.
3. The tip is then removed and the EUT has to discharge fully before the next discharge is applied.
4. Ten positive and ten negative discharges shall be applied at a specific voltage level.

Common mistakes during ESD testing

The following are a few common mistakes that are made by test and technical engineers:

1. Wrong table set-up
    - Using a fully metallic table instead of a wooden non-conductive table.
    - Connecting the HCP directly to the ground reference plane (GRP) instead of using the "bleeder resistors cable"
    - Placing the EUT directly on the HCP without insulating material.
    - The absence of a GRP
2. Successive discharges without allowing the EUT to discharge. (please see points 4 to 10 under Air Discharge)
3. Using the wrong tip on the ESD gun
4. Trying to do an air discharge simply by closing and releasing the trigger of the ESD gun
5. Performing ESD tests in adverse environmental conditions

Contact Discharge

Contact discharge to USB connector on touch and slider evaluation kit

The IQS211EV02 Evaluation Kit

Evaluation kits are made available to help designers to evaluate and prototype with Azoteq's ICs. These kits provide information on the IC's behavior to the designer and illustrates the best way to use the IC. With the new release of the IQS211, the IQS211EV02 kit was created.

You can place your order for kits on Mouser soon!

IQS211EV02 Kits Available soon at Mouser!

Sales

Azoteq International
Jean Viljoen
+27 21 863 0033
jean.viljoen@azoteq.com

Azoteq USA
Kobus Marneweck
+1 512 538 1995
kobusm@azoteq.com

Azoteq Asia
Lina Yu
+86 (138) 2696 0845
linayu@azoteq.com.cn

Distributors

Worldwide
Mouser Electronics
+1 800 346 6873
Sales@mouser.com

Worldwide
Future Electronics
+1 514 694 7710

Taiwan
Holy Stone Enterprise Co. Ltd
Terry Chiang
+886 2 2659 6722 ext. 302
terrychiang@holystone.com.tw

China
Infortech
Summer Yin
+86 21 51087875 ext. 355
summer_yin@infortech.net.cn

South East Asia
Locus Marketing Pte. Ltd
Sam Liew
+65 6299 7308
+65 6292 5848
samliew@locus.com.sg

France and China
Seltech
+33 (0) 1 48 92 90 02
+86 25 83 45 54 33
Europe@seltech-international.com
Asia@seltech-international.com

China
Lierda Technologies
+86 571 8880 0000/8990 8135
+86 755 8378 0888
hangzhou@lierda.com
shenzhen@lierda.com

Japan
Nomura Jimusho, Inc.
+81 3 3502 1466
yamashita@nomjim.co.jp

Distributors

Europe – UK, Ireland
IO Components LTD
+44 (0)1202 440422
paulb@io-components.com

South Korea
SEMPOST
+82 2 2688 1588
jason@insem.co.kr

Representatives

USA- Southern California
O'Donnell South
+1 310 781 2255
sales@odas.com

USA- GA, NC, SC, TN, MS, AL
Quantum Marketing, Inc.
+1 310 781 2255
jeannette.ayerbe@qmirep.com

USA- NY, NJ, PA, DE, MD, VA
Analectro
+1 856 795 6676
sales@analectro.com

USA- Northern California
O'Donnell Associates North
+1 408 456 2950
wepich@odonnell.com

USA- TX, LA
Logic 1 Sales
+1 512 656 4686
pat@logic1.us

USA- MA, NH, VT, ME, CT, RI
Coakley, Boyd & Abbett
+1 508 820 0800
rwalsh@cbane.com

USA – IL, WI
Horizon Technical Sales
+1 630 852 2500
lward@horizontechsales.com

Central Europe
ActiveRep GmbH
+49 (0) 812 2227 9270
+49 (0) 171 3098 721
brendon.hutton@activerep.com

India
Enecon Technologies
+919900212558
shivu@enecontechnologies.com