proxSafe® keyTag

Importance of the KeyTag in physical Key Management Systems

deister electronic

Design Matters

Our ''design matters'' philosophy is our core purpose and ultimately defines us as a company. It defines the people we choose to work with us, suppliers who partner with us and the type of clients we work with. It expresses why we care so much about what we do. 'Design matters' makes us who we are: creative, driven and ambitious people who bring uncompromising quality and original thinking to everything we do. We are passionate about our distinctive approach to product design, or as we call it, 'the deister way'.

Contactless vs contact based systems

Humidity, grease and dirt are natural enemies of electrical systems; abrasion and corrosion are common reasons for breakdown especially within electrical connectors. Today in critical systems where connectors are at risk of contamination they are sealed to prevent corrosion and premature failure.

Within a system where the contact part is handled by people, it simply isn't possible to protect the electrical contact surface. Any contact based identification system will fail if there is something between the contact and the identifier.

This is one of the reasons why the access control industry moved to proximity cards and the banking industry is moving to contactless smart cards.

What is RFID

In brief there are two parts to the acronym RFID which stands for Radio Frequency and Identification. Quite simply it means you can identify an item by means of radio waves. You are probably already using one of the most common applications for RFID within your access control system, often generically referred to as a proximity or smart card. Indeed many credit cards now include RFID on the card as a method for fast and reliable payment.

What does this mean for key management and the identification of the keyTag? Well, because a radio wave is not affected by harsh physical environmental conditions, it eliminates the need for physical electrical contacts.

Slot Reader   keyTag

ID Chip

Being "Contact-Free" the radio wave can penetrate most non-metallic materials and by its very nature unlike contact based systems means there is no wear and tear of electrical parts. Again a typical common use that is fast disappearing is the old swipe card used for access control and credit cards where the daily constant swiping action through the reader caused endless problems with wear and tear. Dirt and damage on the card all took its toll, with RFID all this is eliminated. ▶

History

Many key management systems often used what is known as a dallas touch chip, the primary reason being that it's low cost and technically easy to read the unique ID by 1 data wire and ground, this means that also the cost of the reading mechanism is low. These devices are essentially touch memories.

Being contact based they require metal to metal electrical contact. This is best described like an audio jack plug. The keyTag contains memory which is electrical connected to the metal housing. The housing has a plastic ring separating the two electrical connections. When it is inserted in to the cabinet

ID Chip

Early Systems
Used Contacts
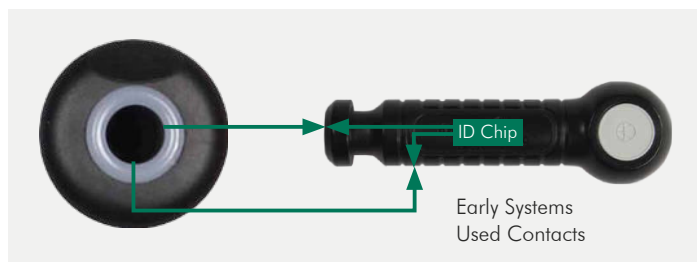
metal spring contacts mate with the surface to provide power and read the identification number of the chip.

Failure of the keyTag can cause signification problems to a business.

▸ Can result in failure to be able to remove a key from the cabinet.

▸ Failure to identify when a key tag was returned.

▸ Replacement costs extend beyond the device itself, to new seals, losses to the business as a direct result of not having access to a key.

RFID is inherently more reliable than contact identification and is why deister key management systems use RFID keyTags to provide maximum operational life with minimum cost.

If you have fitted a button battery to your watch, the packaging will clearly say "Do not touch the surface of the battery", the reason being that grease from your hands will create an electrical resistance on the surface. Like wise, have you ever

had to tap a torch on a bench to make it work, this is because the springs have slightly oxidised and prevents the electrical contact with the battery.

Integrated one time use seal and reusable key ring

Having a one time seal mechanism integrated into the keyTag sounds like and obvious and practical idea as it avoids often costly 3rd party devices. However this simple approach also means that the key or bunch of keys is kept a close as possible to the keyTag. This reduces the hanging length when keys are stored in the cabinet thereby reducing the risk of keys cluttering the keys below. The integrated seal and key ring combined with the offset slot positions in deister cabinets reduces keys getting tangled up with other. A simple idea that has many subtle benefits that ultimately makes the system easier to use and keeps operation costs to a minimum when changing keys on the keyTag. ■

For more information do not hesitate to contact us:
Tel.:   +44 (0) 1775 717100
E-Mail: info.uk@deister.com

About deister electronic

deister electronic is an innovative, family owned global business with 40 years of experience in developing electronic and mechanical products for security and industrial automation. Widely acclaimed for our expertise and specialist implementation of RFID technology within practical applications, from Key Management and access control to logistics and process control.

deister electronic GmbH (HQ)

Hermann-Bahlsen-Straße 11
30890 Barsinghausen, Germany
E-Mail: info.de@deister.com
Tel.:   +49 5105 516111
Fax: +49 5105 516217

Find your international contact:
www.deister.com /contact