



Trapped Key Interlocks for Waste and Recycling Machinery





Applications Guide



The Future of Safety is Here



-  Castell Offices
-  Castell Installations

**We Keep You Safe at Work
Worldwide**

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Why Choose Castell?



Founder:
James Harry Castell
1880 - 1953

Castell's Expertise in the Waste and Recycling Industry

Throughout its 90 years history Castell has recognised the issues of health and safety and efficiency in the waste and recycling industry as a potentially dangerous and high risk environment. Not only are there mechanical risks of handling waste, there is also the risk from toxic and contaminated substances that require processing.

Through robust mechanical design Castell products deliver superior performance over extended periods of time particularly in harsh conditions and aggressive environments. The experience of these environments has enabled Castell to deliver solutions to the waste and recycling industry that allows fast safe access ensuring that both efficiency and safety are improved.

Castell Offers:

- Expertise in providing the best possible trapped key solution
- 90 years of experience protecting people and assets in industry
- High quality innovative products
- ISO 9001: 2008 accreditation
- Global team dedicated to providing technical support and assistance in selecting the correct solution
- The widest range of rugged and reliable trapped key interlock products globally
- The ability to produce customised solutions to meet the demands of your specific application

How to design an interlock system?

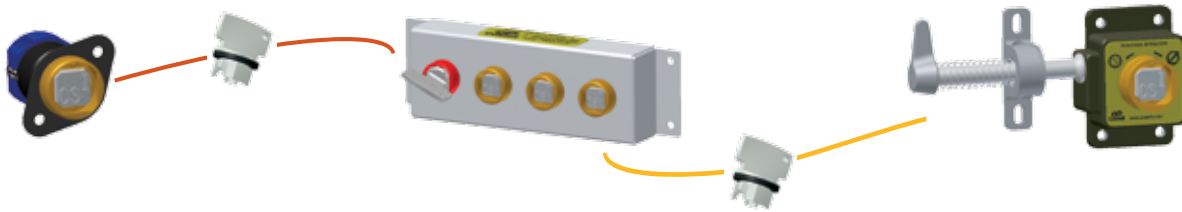
Through development and experience Castell have a number of methods to isolate machinery. This can be done mechanically, through control circuitry, through power circuitry or valve control. In complex operations a number of isolations may need to occur to ensure the plant is safe to work on. The isolation key(s) are then used to either gain direct access, are transferred to a time delay unit or for multiple entry points access through an exchange box.

The three points of trapped key interlocking

1 Isolation

2 Key Exchange

3 Access Control



Access and Personal Protection

Access to the hazardous area needs to be assessed as either part body, arm only, or full body access. Once this is determined an access lock(s) can be selected.

Part Body Access

A part body access lock has only one lock and the isolation key is used to open this. Whilst the access lock is open the key can not be removed and therefore the process can not be started. Only once the lock is closed can the isolation key be removed and the process restarted.

Full Body Access

Full body access locks have two locking mechanisms; the first step in the process is to insert the isolation key. This will allow the personnel key to be removed and then access can be granted by opening the bolt. The isolation key can only be removed once the personnel key has been inserted. Therefore whilst the personnel key is removed and the lock is open the process can not be started. Only once the lock is closed and the personnel key returned can the isolation key be removed and the process restarted.

Coding a System

The coding of the system is an important aspect of the design as this ensures the integrity and safety of the interlocking system. Castell's Trapped Key Interlocks allow for in excess of 50,000 combinations. With this level of available codes entire factories and plants can have trapped key systems with out codes being repeated. It is highly recommended that each site keeps a record of the key codes to ensure that codes are not reused in areas of the site. The isolation, access and personnel keys all need to be coded differently so the process of safe access is ensured. For example in a simple system code 'A' is used for isolation key, this is then transferred to the exchange box where the code 'B' keys are released for access, 'C' keys are then released from the Access Locks for personnel keys. Coding in this way ensures the access process can not be short cut and the system has integrity.

Waste and Recycling Machinery

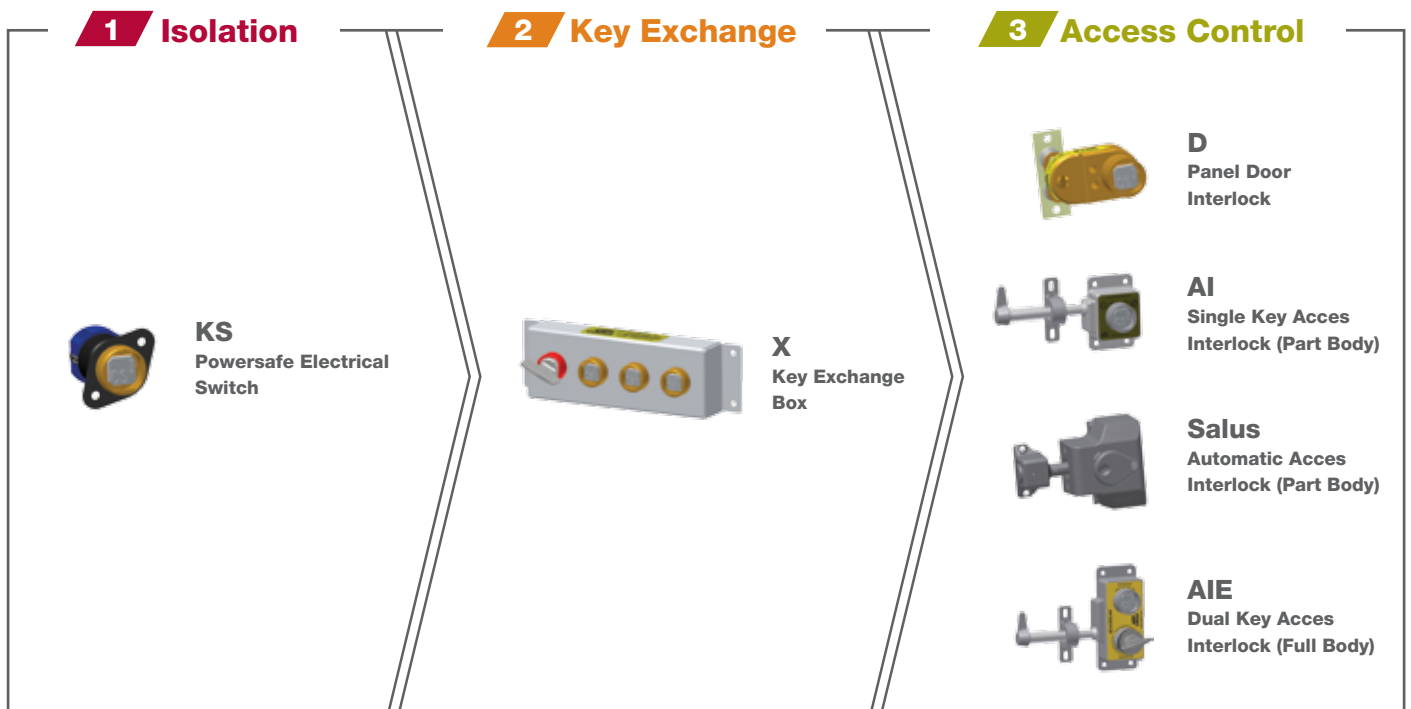
Application Waste Shredder

Safety Issue Danger from cutting parts

Solution Interlock power supply with the access lock on the access doors/covers. The key is either locked in the isolator whilst the machine is running or in the access lock when in manual mode. Where there are multiple access points an exchange box can be used to access multiple points. Depending on the access gained either full body or part body access lock will be required



Products To Provide Solution



Waste and Recycling Machinery

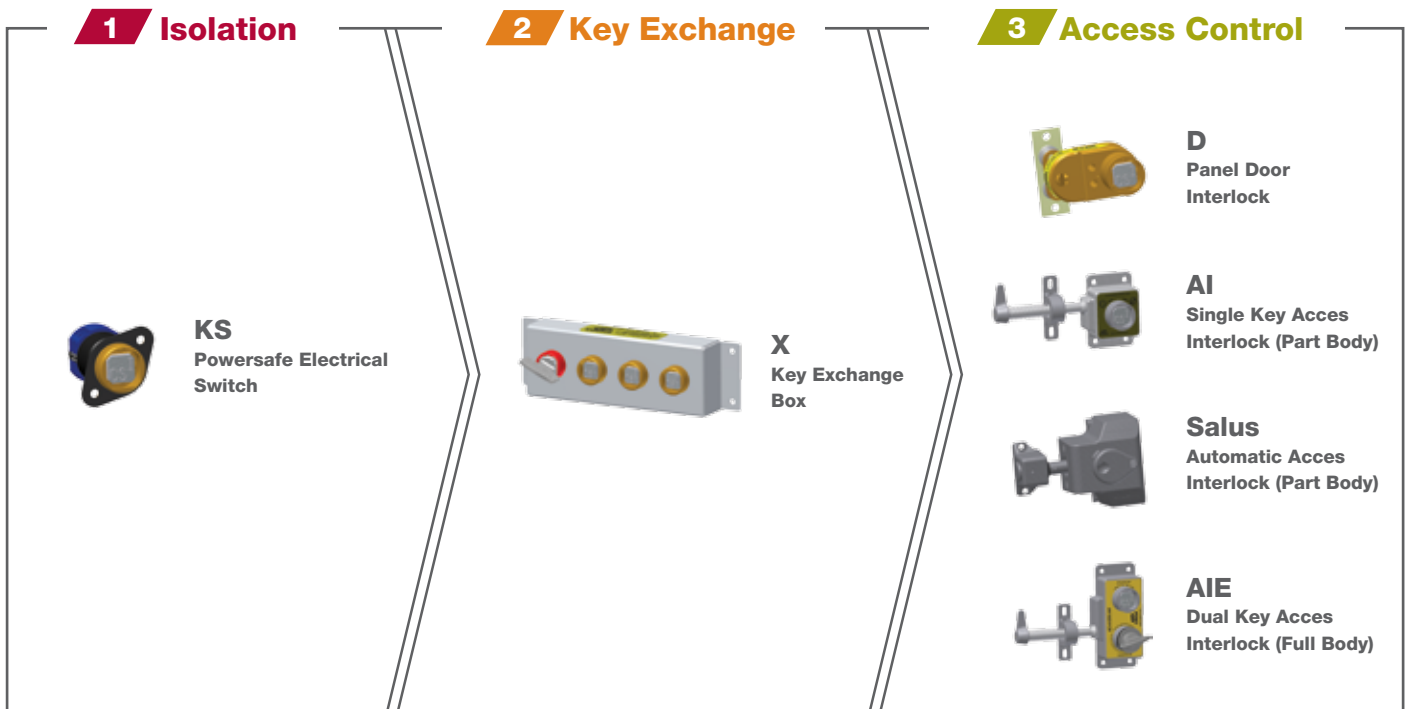
Application Waste Compactor

Safety Issue Danger from crusher

Solution Interlock power supply with the access lock on the access doors/ covers. The key is either locked in the isolator whilst the machine is running or in the access lock when in manual mode. Where there are multiple access points an exchange box can be used to access multiple points. Depending on the access gained either full body or part body access lock will be required



Products To Provide Solution

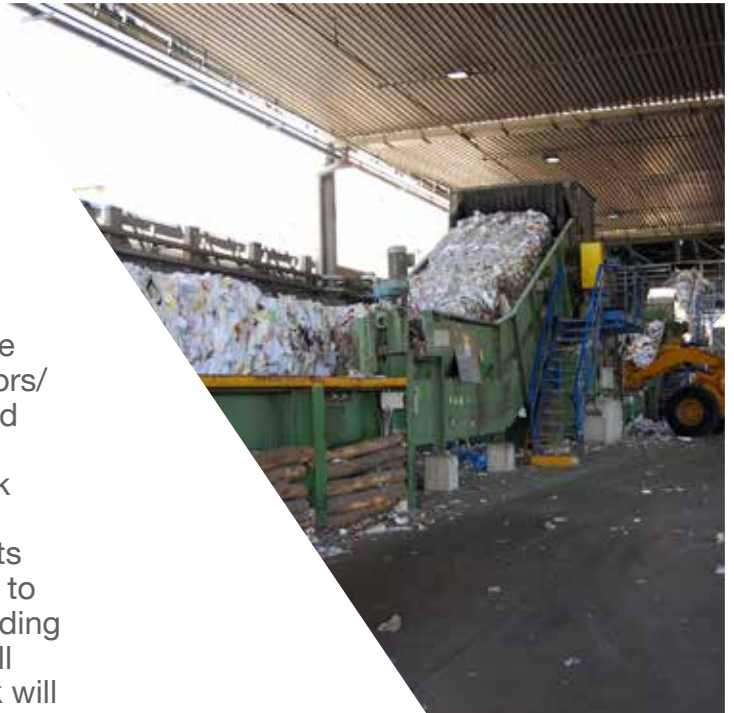


Waste and Recycling Machinery

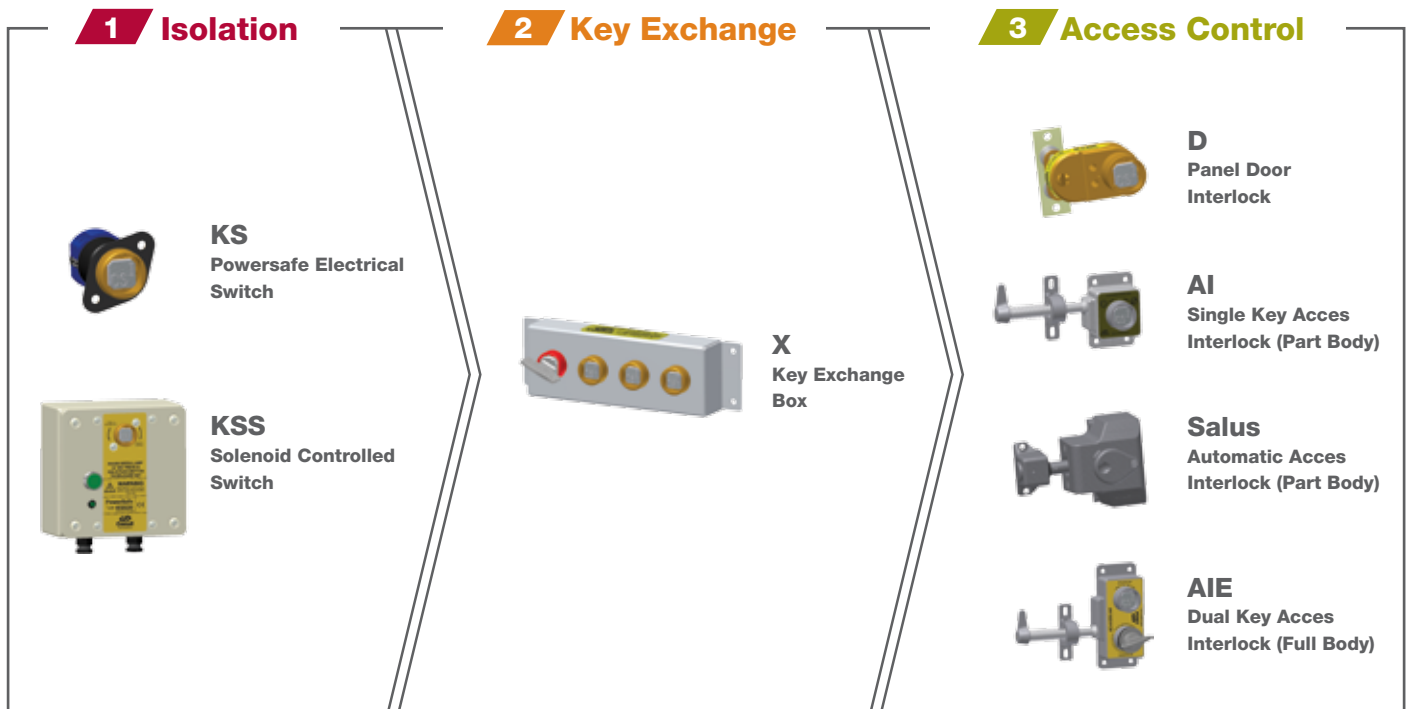
Application Waste Bailer

Safety Issue Danger from moving parts and crusher

Solution Interlock power supply with the access lock on the access doors/ covers. The key is either locked in the isolator whilst machine is running or in the access lock when in manual mode. Where there are multiple access points an exchange box can be used to access multiple points. Depending on the access gained either full body or part body access lock will be required



Products To Provide Solution



Waste and Recycling Machinery

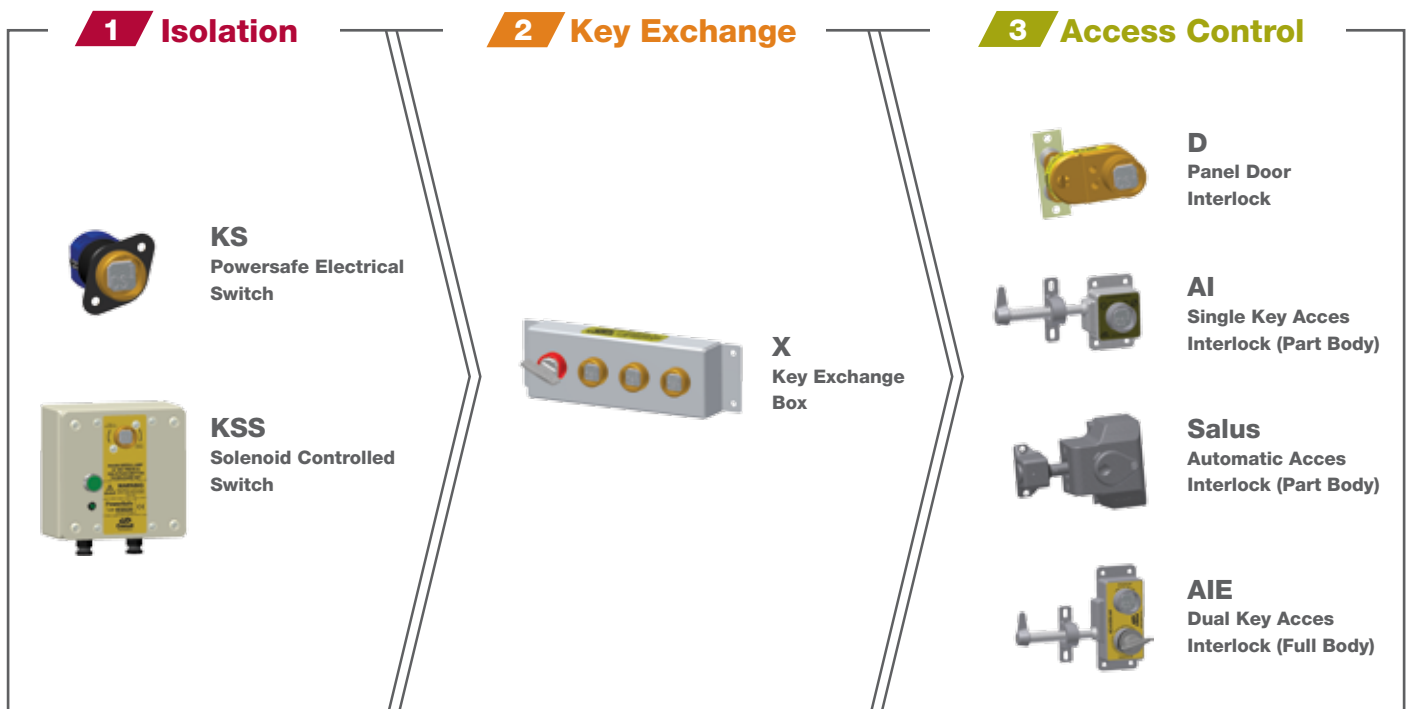
Application Waste Sorter

Safety Issue Danger from moving parts

Solution Interlock power supply with the access lock on the access doors/ covers. The key is either locked in the isolator whilst the machine is running or in the access lock when in manual mode. Where there are multiple access points an exchange box can be used to access multiple points. Depending on the access gained either full body or part body access lock will be required



Products To Provide Solution





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