



SMITH
FLOW CONTROL LTD

SFC KEY INTERLOCKS & PROCESS MANAGEMENT SYSTEMS



KEY INTERLOCK SYSTEMS

Smith Flow Control (SFC) was established in 1985 to provide engineered safety solutions for hazardous operations in the oil & gas and chemical processing industries.

In 1985 SFC introduced the coded-card linear-key concept in a range of modular key-operated interlocks to regulate operator execution of work procedures on any form of host process equipment. Typical applications include every form of valve (including motorised and instrument valves), switches, vessel closures, access guards, pressure and temperature sensing systems and rail/road/sea tanker loading systems.

SFC's solutions in hazardous processes reduce the scope for operator error and ensure safe continuous plant operation.

OUR COMMITMENT

Smith Flow Control remains committed to providing quality assured products delivered on time at competitive prices. This maxim was first stated when we formed our company in 1985 and remains the guiding principle for how we conduct our business today.

We achieve these goals by relying on three core strands in our business culture - Innovation, Realisation and Dedication.

We remain committed to retaining the confidence of our clients by staying true to the ideals that have gained us the reputation we enjoy today.

'...it would be difficult to name a particular industry that would not benefit from an SFC coded-card key interlock system...'

As a general principle, it may be said that operations which are safe when performed correctly can have catastrophic consequences when performed incorrectly. The Oil & Gas and Chemical processing industries generally have a disciplined approach to design and operating practice - usually governed by well recognised international standards and enforced by regulatory authorities and certification bodies. Whilst good practice begins with good design, both are ultimately hostage to the 'Human Factor'.

Modern process plants are highly automated and regulated by distributed software management systems which are simply monitored by 'Production' personnel - often remote from the physical location of the plant itself.

Indeed, some operations such as pig launching or receiving procedures can be effected in semi-automatic mode using push button controls (again often from a remote station).

Maintenance procedures however invariably involve human intervention and interrupt automated processes creating 'abnormal' conditions for the duration of the work.

Loading or unloading of pig traps, changeover of pressure relief valves, turbine servicing (requiring suspension of CO2 Fire Deluge), coupling or uncoupling of hoses for loading or discharge of tanker cargoes all involve human intervention and are hostage to the possibility of operator error.

Distributed control systems (DCS) cannot effectively regulate such procedures - the SFC 'Coded Card Key Interlock System' can!



SFC 'Visual Alert' Key Cabinets provide an effective and infallible management control system against unauthorised or inadvertent operation of interlocked valves or associated process equipment by keeping the coded keys which initiate the operation of critical valves under secure supervisory control.

BE SURE - BE SAFE - CHOOSE SFC YOUR PARTNER FOR TOTAL PLANT SAFETY & SECURITY.

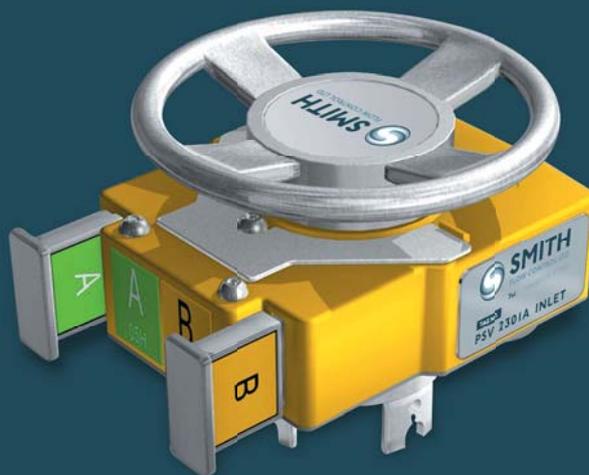
Controlling the sequence of events in which process activities are conducted has been achieved historically using Permit to Work (PtW) systems accompanied by documented instructions.

However, this system is hostage to 'human factor' distractions. Failure to interpret instructions correctly or ignorance of the system can all lead the operator to make errors which can manifest themselves in industrial accidents of varying magnitudes.

Trapped key interlocks are simple mechanical devices which can be customised to implement a safe sequence of operation in any process activity.

In the following pages we show how our mechanical key interlock system ensures that work tasks executed by human intervention can be completely regulated by SFC's coded-card key interlocks to prevent operator error or violations to protect plant, the neighbouring community and the environment.

In addition to our range of high-integrity coded-card key interlock safety products, SFC also offer a comprehensive range of valve security products for high and low-criticality applications.



'The obligation to adopt best practice is a fundamental requirement of modern safety management'.

Mechanical key safety interlocking is a technology that has evolved to offer sophisticated technical solutions to complex and hazardous process applications which increasingly are being adopted by major OpCos worldwide to protect their people, their assets and the surrounding environment.



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