

# RFID for hazardous environments

## *ATEX compliant RFID solutions reducing risks, enabling DSEAR compliance.*

Systems in many industrial environments have to cope with the problems of explosive atmospheres. The ATEX standard provides products suitable for such environments. CoreRFID offers automatic identification solutions using radio frequency identification (RFID) technology that complies with ATEX standards.

### ATEX Compliant RFID Solutions

The disastrous event at the Buncefield fuel storage depot in December 2005 demonstrated the risks of explosive atmospheres with devastating effectiveness. With a cost to the country of in excess of £1billion (according to the Report of the Buncefield Major Incident Investigation Board, 2008), the accidental ignition of the flammable vapour cloud reminded all those involved in the storage or handling of flammable substances of the need for care in avoiding potential ignition risks and the need to ensure that safety procedures are followed.

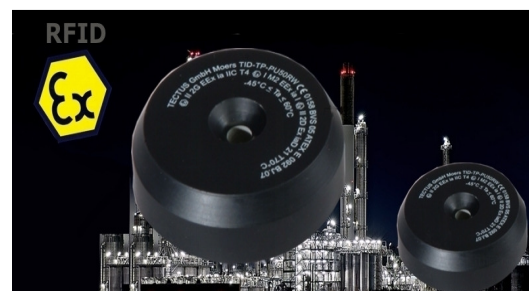
RFID technology provides a means of ensuring that safety procedures are carried out and that those responsible for them are truly accountable. RFID also makes it possible to keep track of essential equipment and tools used in hazardous areas and allows planned and preventative maintenance to be monitored.

CoreRFID has developed complete, easy to install, solutions for safety management, tool and materials management and for preventative maintenance. These solutions are available using a range of ATEX compliant technology, allowing their benefits to be brought to areas where the Health & Safety Executive's DSEAR regulations apply.

CoreRFID's ATEX compliant RFID solutions use selected ATEX approved tags and mobile computers together with a proven software solution, the CoreRFID Portable Data Collector (PDC) which has been deployed in a range of applications from premises management to health and safety monitoring and tool control.

The PDC solution is easy to install and easy to operate and automatically collects the data needed to validate tasks, check equipment and monitor the results of tests. PDC is used by organisations such as BAE Systems, Costain, Astra Zeneca, and many others.

PDC allows staff to be prompted for actions relating to particular items of plant or enables data to be collected from test readings. It identifies which staff carried out what task and when. Data collected by PDC is consolidated on a web accessible database allowing



**Using RFID in explosive atmospheres needs ATEX compliant tags & readers to ensure DSEAR compliance.**

appropriate reporting including records of inspections or actions required by DSEAR.

The CoreRFID PDC solutions include portable computing devices suitable for use in ATEX Zone 1 or Zone 2 environments, the software running on the portable computer and the data consolidation and reporting software. CoreRFID can also provide integration services to link the PDC generated data into corporate back end systems for asset control or safety management.

CoreRFID works with two leading vendors to deliver this solution. Tectus GMBH is recognised as

Europe's leading provider of ATEX compliant RFID tags and Ecom Instruments has a reputation as a provider of high quality equipment of all kinds including their ATEX compliant, robust hand held computers.

#### **Areas where ATEX compliant RFID systems are useful include:-**

- **Tool tracking and audit in petrochemical industries**
- **Managed maintenance and repair for gas extraction platforms refineries and similar environments**
- **Safety testing monitoring**
- **Check out / check in gas or fuel containers**
- **Staff access monitoring**

## Tectus ATEX Compliant RFID Tags

CoreRFID ATEX safety, plant and tool management solutions use RFID tags from Tectus GMBH. Their range of compliant tags are all manufactured in a European, ATEX certified manufacturing operation providing users with confidence regarding their suitability for use in environments subject to DESEAR. The range of RFID tags includes:-

- Low frequency, high frequency and UHF tags
- Tags in label, card, fob, hard-tag and mount on metal formats
- Heavy duty & chemical resistant tags

CoreRFID works with customers to select the appropriate combination of tag frequency and format for their particular application and advises on likely performance including read range, discrimination, installation engineering requirements (if any). Products available from CoreRFID have been certified for ATEX Zone 1 and ATEX Zone 2 atmospheres.



**ATEX compliant tags are available in a wide range of formats and for all popular standard frequencies.**

## Ecom i.roc Ex-20 Portable Computer

For environments covered by the HSE's DSEAR, CoreRFID implements PDC applications on the ecom instruments i.roc Ex-20 handheld mobile computer. The i.roc Ex-20 is a rugged (IP65 rated), compact data collection device that is based on HP iPaq technology. Running the Microsoft Windows Mobile operating system the i.roc Ex-20 is capable of barcode or RFID tag reading and can communicate using WLAN, Bluetooth, USB or IrDA links. The i.roc Ex-20 is certified for ATEX Zones 01, 21, 02, 22 and for ATEX Mining. It provides a very simple ten key keyboard – immune to dust or liquids and designed for one handed operation. The screen is impact resistant and touch sensitive screen and the i.roc Ex-20 includes software that allows it to capture signatures and to recognise handwritten input.



**The i.roc Ex-20 provides a robust, hand-held device for use in hazardous environments.**

Key features include:-

- Intel xScale processor
- 64M DRAM, 128M Flash ROM, SD & CF card slots
- 3.5", 240x320, QVGA display usable portrait or landscape
- Integrated microphone, loudspeaker & audio jack
- Plug in modules for RFID or OCR data capture
- Operating environments to 60° C, 95% RH, 15,000ft altitude

The i.roc EX-20 is available with a number of accessories including a trigger grip, docking station, in-car power charger, and belt attachment as well as custom plug in modules.



## About CoreRFID

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