iDTRONIC PROFESSIONAL RFID WHITE.PAPER

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► iDTRONICs RFID TAGS

Our RFID Tags Solutions for demanding Industry 4.0 Applications

RFID Tags exist in many possible variations and RFID frequency areas. iDTRONIC as a proven provider for robust and powerful identification solutions offers a wide range of RFID Tags, RFID Labels and RFID Transponders. We have RFID Tag solutions for almost every application. Below we will give you an overview of **Industry 4.0 application areas in harsh environments**.

► Paint Shop Manufacturing and Industry 4.0 High Temperature Environments

Paint shops require special RFID tags in order to be able to withstand the changing temperature environments and painting processes. Our **Micro X-II Paint Shop RFID Tag** was specially developed for paint shops. They are made of engineering-grade nylon polymer and can be used on metal surfaces. Parts traceability is guaranteed by the robust **IP68 certified surface**. Thanks to its **chemical resistance and ATEX compatibility**, the RFID tag withstands industrial automation processes with chemicals, colors and acetone in the paint shop without any problems. The RFID tag can be used in changing temperature environments in furnace heating or sealing from **-40 ° C to +250 ° C**.

The **Autoclave Version of the Micro X-II** has been developed for high-temperature production processes in gas-tight sealable pressure vessels. It is **ANSI/AAMI ST79 certified**. This makes the RFID tag suitable for sterilization processes, high temperatures and the associated extreme cleaning measures.

The **Micro X-II Paint Shop and the Micro X-II Autoclave** are available in **EPC Global Class1 Gen2 ISO 18000-6C** and cover the RFID frequency ranges **865 – 928 MHz (globally applicable)**. The passively oriented RFID tags achieve **reading ranges of up to 10 m** (depending on the transponder type and environment).

► Heavy Duty Areas in Offshore, Oil, Gas and Mining Industries

The difficult environments within deep-sea shipping and the associated oil and gas drilling pose challenging conditions. The inventory and tracking processes are important factors in ensuring security. Our robust RFID tags for this type of application are extremely robust and durable. Pipes, valves, hoses, hand tools, lifting and assembly devices: Every single item receives a unique RFID identification, which enables seamless data acquisition for documentation, location and maintenance history.

Our **RFID UHF Tag Xerafy Roswell** is **ATEX certified** for hazardous environments in the **oil and gas industry**. The aluminum housing of the RFID tag is resistant to corrosion, vibrations and pressure mechanisms. Thanks to the **IP69K protection class**, the RFID tag can withstand sand blasting, high-pressure washing and extensive temperature exposures.

The **Heavy Duty RFID Tags** have been specially developed for potentially explosive areas in gas and mining. The **Armored UHF Tag** is an extremely heavy On Metal Tag made of ceramic filler. It can withstand **high temperatures of up to + 400 °C** without any problems. The RFID tag can be safely attached to metal surfaces thanks to the pre-drilled holes.

With the **ISO 17665 and ISO 11135 standards**, our **Heavy Steel UHF Tags** offer special protection against chemical substances, salt water or oils in the case of deep-sea drilling. The nickel-plated steel jacket with a ceramic high-temperature filler is a durable material and resistant to this type of influence. The Heavy Steel UHF Tags are available in two versions. The **IMPACT Tag** has no pre-drilled holes. It is attached to the specific surface by welding. The **THIN Tag** is also weldable. Thanks to the two pre-drilled holes it can be mounted on canisters or containers with screws.

The **Pipe Frac UHF Tag** consists of a HVP rubber coating with a black, nylon-coated stainless steel cable and an aluminum sleeve for crimp retention. It is particularly resistant to most acids, solvents and bases. It was designed for **high temperatures from - 50 °C to + 200 °C**. Thanks to the **IP69K grade protection**, it has excellent resistance to UV radiation and continuous immersion in sea water. The unique form factor of this RFID tag was specially developed for pipes or any round metal objects.

The RFID tags are available in **EPC Global Class1 Gen2 ISO 18000-6C** and cover the RFID frequency ranges **865 – 928 MHz (can be used globally)**. The passively oriented RFID tags achieve **reading ranges of up to 2 m** (depending on the transponder type and environment).

More information about our RFID Tags can be found here:

https://en.idtronic-rfid.com/rfid-tags-2/

PLEASE FEEL FREE TO CONTACT US WITH ANY QUERIES REGARDING OUR PRODUCT PORTFOLIO

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