



Intertek



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Hazardous Area Pm205

Continuous stray voltage, ground integrity & RF monitoring for hazardous locations during well perforation

Intertek Hanson Research introduces a new range of Hazardous Location Potential Monitors. During recent years the need for monitoring stray current signals around the wellhead in hazardous locations has become increasingly common as the perforation team starts to operate in more challenging environments.

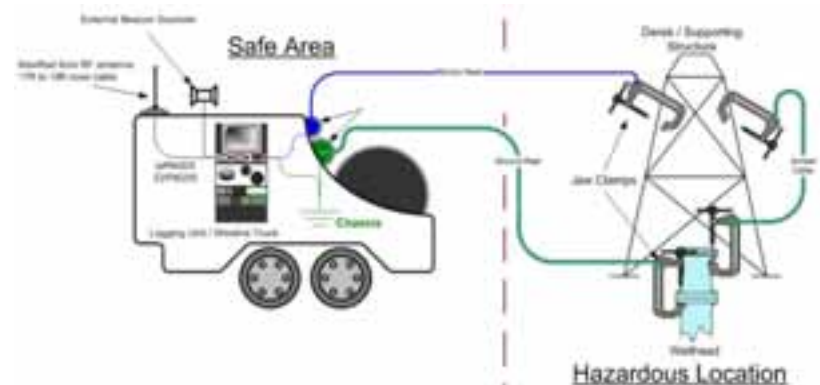
The operation of well perforation is extremely hazardous; perforation charges are highly dangerous and historically have been prone to misfire. At best, this can be costly if the downhole tubing is perforated in the wrong place and at worst, highly dangerous for the perforation team.

The causes of perforation gun misfires are well publicized and understood and preventative action plans are embedded in safety standards. The three largest threats are:

- Poor **grounding** between the wireline truck or logging area, wellhead and derrick/rig metallic structures allow potential differences to occur
- **Stray voltage** pick-up on cables
- High energy **Radio Frequency (RF) interference** caused by RF networks and transmitters

Potentially hazardous stray current signals can develop at any time and without warning and only continuous monitoring can provide the perforation engineers with the confidence and peace of mind to perform the job safely, efficiently and in accordance with Codes of Practice.

The process of well perforation is made increasingly difficult when hazardous locations are introduced. Intertek Hanson has deployed the iaPM205 and Z2PM205 at both on- and offshore locations. The schematic below shows a typical hazardous location installation.



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Hazardous Area Pm205



Safe Working Systems & Standards

The PM205 is designed to meet API RP67, OHSC, and SPE 20635 requirements.

With reference to API RP67, OHSC sets maximum allowable values and provides guidance and methods for safe and correct practice for the perforation process. These standards are recognized by every major wireline operator offering perforation services. SPE 20635 describes how potential stray currents and radio waves affect the ability for safe perforation.

Certifications, Standards and Approvals

Intertek-Hanson offers an unmatched level of commitment to 3rd party certification of the PM205 product.

Products are built to the IPC610 international standard for printed circuit board manufacture as part of an ISO 9001:2000 quality control system. In addition to this Intertek-Hanson is subject to 3rd party product manufacture audits by an international certification body operating under the International Electrotechnical Commission code.

The PM205 is certified/conforms to the following standards:

Electrical Safety:

LVD (73/23/EEC): BS EN 61010-1 2001 BS EN 60950-1 2002

EMC / Emissions:

EMC Directive (89/336/EEC):

BS EN 12895:2000 [VEHICLES]	BS EN 55012-2002 [VEHICLES]
BS EN 61000-4-4	BS EN 61000-4-4 FTB
BS EN 61000-4-5	BS EN 61000-6-2
BS EN 61000-6-3	BS EN 61000-6-4
FCC Part 15 Verified	

Z2PM205 & iaPM205:

International Electrotechnical Commission (IECEx) and ATEX.


IEC 60079-0 : 2007 -10	Explosive Atmospheres General Requirements
IEC 60079-11 : 2006	Explosive Atmospheres intrinsic safety "i"

Protection Concepts

All Gas Groups

Z2PM205 "ic" intrinsically safe for Zone 2 locations **only**

iaPM205 "ia" intrinsically safe for Zones 0, 1 locations



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