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BSI Standards Publication

**Specification for radio
telemetry systems for use
with respiratory protective
devices used by emergency
first responders**

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Foreword

Publishing information

This British Standard is published by BSI and came into effect on 30 June 2014. It was prepared by Technical Committee PH/4, *Respiratory protection*. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

This British Standard provides more up to date information than current Home Office documents relating to telemetry systems.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in notes in smaller italic type, and does not constitute a normative element.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

In particular, attention is drawn to the following legislation.

ATEX Directives [1, 2]

R&TTE Directive [3]

PPE Directive [4]

The Noise at Work Regulations 1989 [5], as amended

The Waste Electrical and Electronic Equipment 2006 [6], as amended

Introduction

A radio telemetry system provides a real time overview of the respiratory status of individual breathing apparatus (BA) wearers to the entry control point. Such systems provide a component of a safe system of work where BA is in use, and aid the management of the health and safety of wearers and assists in the wider management of an operational incident.

BA is an essential control measure for working in toxic or irrespirable atmospheres. Such working environments are often complex, physically and psychologically demanding, and consequently careful monitoring of BA wearers is essential. A radio telemetry system provides such monitoring.

1 Scope

This British Standard specifies requirements for telemetry systems intended for use during fire fighting, rescue, evacuation, escape, hazard containment and decontamination, and similar activities by emergency first responders (e.g. fire, ambulance, police, and associated civilian agencies and workers).

This British Standard is only applicable to telemetry systems incorporated with type approved respiratory protective devices (RPD) of which breathing apparatus (BA) is a significant element used by emergency first responders.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 10999, *Specification for distress signal units for the fire and rescue service*

BS EN 137:2006, *Respiratory protective devices – Self-contained open-circuit compressed air breathing apparatus with full face mask – Requirements, testing, marking*

BS EN 60079-11, *Explosive atmospheres – Part 11: Explosive atmospheres – Equipment protection by intrinsic safety “I”*

BS EN 60529, *Degrees of protection provided by enclosures (IP code)*

ETSI EN 301 220-1, *Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods*

3 Terms and definitions

For the purposes of this British Standard the following terms and definitions apply.

3.1 base unit

telemetry unit that is used by the entry control operative to monitor the portable telemetry units in use

3.2 co-existence

ability of multiple telemetry systems to operate normally in the same vicinity