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Explosive atmospheres –
Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 60079-47, which is a technical specification, has been prepared by subcommittee 31G: Intrinsically safe apparatus, of IEC technical committee 31: Equipment for explosive atmospheres.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
31G/323/DTS	31G/334/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60079 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

EXPLOSIVE ATMOSPHERES –

Part 47: Equipment protection by 2-wire intrinsically safe Ethernet concept (2-WISE)

1 Scope

This part of IEC 60079, which is a technical specification, specifies requirements for the construction, marking and documenting of apparatus, systems and installations for use with the 2-Wire Intrinsically Safe Ethernet concept (2-WISE), such as the physical layer specification for 2-Wire Ethernet 10BASE-T1L as defined in IEEE 802.3cg.

2-WISE is a concept for an advanced physical layer (APL), designed to simplify the examination process for intrinsic safety parameters of components and cabling within APL segments. This is achieved by defining universal intrinsic safety parameter limits for APL ports, according to the specific hazardous area requirements and listing a concise set of rules for the segment setup.

The requirements for construction and installation of 2-WISE devices and systems are included in IEC 60079-11, IEC 60079-14, and IEC 60079-25, except as modified by this document. Parts of a 2-WISE device can be protected by any Type of Protection listed in IEC 60079-0 appropriate to the EPL for the intended hazardous area. In these circumstances, the requirements of this technical specification apply only to intrinsically safe circuits of the apparatus.

Where a requirement of this document conflicts with a requirement of IEC 60079-0, IEC 60079-11, IEC 60079-14 or IEC 60079-25, the requirements of this document take precedence.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*

IEC 60079-11, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"*

IEC 60079-14, *Explosive atmospheres - Part 14: Electrical installations design, selection and erection*

IEC 60079-25, *Explosive atmospheres - Part 25: Intrinsically safe electrical systems*