SA/SNZ TS IEC 60079.47:2022
IEC TS 60079-47:2021

STANDARDS NEW ZEALAND
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STANDARDS Australia

Technical Specification

Explosive atmospheres

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

SA/SNZ TS IEC 60079.47:2022

This Joint Australian/New Zealand Technical Specification was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 1 February 2022 and by the New Zealand Standards Executive on 2 February 2022.

This Technical Specification was published on 11 February 2022.

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This Technical Specification was issued in draft form for comment as DR SA/SNZ TS IEC 60079.47:2021.

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ISBN 978 1 76113 653 5

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Part 47: Equipment protection by 2-wire

First published as SA/SNZ TS IEC 60079.47:2022.

Preface

This Technical Specification was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres.

The objective of this document is to specify 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 AS/NZS 60079.11, AS/NZS 60079.14, and AS/NZS 60079.25, except as modified by this document. Parts of a 2-WISE device can be protected by any Type of Protection listed in AS/NZS 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 r[illegible]79.0, AS/NZS 60[illegible]nent take precedence.

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