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Information technology — Galvanic isolation of balanced interchange circuits

*Systèmes de traitement de l'information — Isolation galvanique des
circuits d'échange équilibrés*



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Introduction

This International Standard specifies a method of galvanically isolating signal exchanges on balanced interchange circuits using optocoupler integrated circuit technology. It may be applied for data transmission in a two-condition code (e.g. NRZ).

Galvanic isolation of interchange circuits is required whenever the intercommunicating devices are connected to different mains supplies. In this case, the ground potential difference between the earthing systems frequently is higher than the common mode voltage specified for the interchange circuit receiver. Transmission errors and even damage to the receiver may be the result.

The optocoupler type of galvanic isolation may also be used when high external signal interferences have to be minimized. This situation may exist with long interchange circuits and operation at higher data signalling rates.

The specifications of this International Standard are compatible with both ISO 8482 (multipoint connection) and CCITT Recommendation V.11 (point-to-point connection) because of application flexibility and the fact that there is not much difference in the parameters for the component design.

Bidirectional data transmission is provided and requires the implementation of an isolated generator and an isolated receiver. Their unbalanced interfaces are not specified in order to provide flexibility for implementations and device manufacturers.

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