Foreword

This is the first in a series of ISA standards that addresses the subject of security for industrial automation and control systems. The focus is on the electronic security of these systems, commonly referred to as cyber security. This Part 1 standard describes the basic concepts and models related to cyber security.

This standard is structured to follow ISO/IEC directives part 2 for standards development as closely as possible. An introduction before the first numbered clause describes the range of coverage of the entire series of standards. It defines industrial automation and control systems and provides various criteria to determine whether a particular item is included within the scope of the standards.

Clause 1 defines the scope of this standard.

Clause 2 lists normative references that are indispensable for the application of this document.

Clause 3 is a list of terms and definitions used in this standard. Most are drawn from established references, but some are derived for the purpose of this standard.

Clause 4 provides an overview of the current situation with respect to the security of industrial automation and control systems, including trends and their potential impact.

Clause 5 contains a broad description of the subject and the basic concepts that establish the scope of industrial automation and control systems security. Many of these concepts are well established within the security discipline, but their applicability to industrial control systems may not have been clearly described. In some cases the nature of industrial control systems leads to an interpretation that may be different from that used for more general information technology applications.

Clause 6 describes a series of models that are used to apply the basic concepts of security for industrial automation and control systems. As with the concepts, several models are based on more generic views, with some aspects adjusted to address specific aspects of industrial control system applications.

The ISA99 Series

Standards in the ISA99 series address the application of these concepts and models in areas such as security program definition and minimum security requirements. The series includes the following standards.

1. **ISA99.00.01 – Part 1: Terminology, Concepts and Models**

   Part 1 (this standard) establishes the context for all of the remaining standards in the series by defining a common set of terminology, concepts and models for electronic security in the industrial automation and control systems environment.

2. **ISA99.00.02 – Part 2: Establishing an Industrial Automation and Control System Security Program**

   Part 2 will describe the elements of a cyber security management system and provide guidance for their application to industrial automation and control systems.

3. **ISA99.00.03 – Part 3: Operating an Industrial Automation and Control System Security Program**

   Part 3 will address how to operate a security program after it is designed and implemented. This includes definition and application of metrics to measure program effectiveness.

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