
**Intelligent transport systems —
Roadside modules SNMP data
interface —**

**Part 2:
Generalized field device basic
management**

*Systèmes de transport intelligents — Interface de données SNMP pour
les modules en bord de route —*

Partie 2: Gestion de base d'appareil de terrain généralisé

ISO/TS 20684-2:2021

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

A list of all parts in the ISO 20684 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 Background

The need for standardized communication with ITS field devices is growing around the world. Several countries have adopted SNMP-based field device communication standards.

There is a growing view and empirical evidence that standardizing this activity will result in improved ITS performance, reduced cost, reduced deployment time, and improved maintainability. The ISO 20684 series extends ISO 15784-2 by defining the management information necessary to monitor, configure and control features of field devices. The data elements in all parts of the ISO 20684 series may be used with any relevant protocol, but were designed with an expectation that they would be used with one of the ISO 15784-2 protocols.

By using this approach, agencies can specify open procurements and systems can be expanded geographically in an open and non-proprietary manner which reduces costs, speeds up deployment and simplifies integration.

0.2 Overview

SNMP is a collection of well thought-out and well-proven concepts and principles. SNMP employs the sound principles of abstraction and standardization. This has led to SNMP being widely accepted as the prime choice for communication between management systems and devices on the Internet and other communications networks.

The original implementation of SNMP was used to manage network devices such as routers and switches. Since then, the use of SNMP has grown into many areas of application on the Internet and has also been used successfully over various serial communications networks.

This document defines management information for ITS field devices following the SNMP conventions.

0.3 Document approach and layout

This document defines:

- a) Conformance tables for this document ([Clause 5](#));
- b) Architectural assumptions made by this document ([Clause 6](#));
- c) User needs that are deemed to be common to many types of field devices ([Clause 7](#));
- d) Requirements for implementing the identified user needs, organized by major feature ([Clause 8](#));
- e) Security vulnerabilities that should be considered by implementers of this document ([Clause 9](#));
- f) The management information base (MIB) for the features defined by this document ([Annex A](#));
- g) A requirements traceability table that traces requirements to the design elements ([Annex B](#));
- h) A series of standardized codes that can be used to identify types of sensors and actuators ([Annex C](#));
- i) The user needs, features and requirements that were considered for but not included in this document ([Annex D](#)).

In addition, a simplified version of the conformance table and the MIBs are available electronically at <https://standards.iso.org/iso/ts/20684/-2/ed-1/en/>.