



OPEN METERING SYSTEM

The Only Open Standard
for Smart Metering
Across all Energy Types

EN 13757-x | BSI TR-03109-1 | EU Mandate M/441
ISO 14543-3/EN 50090



The Metering System for the Energy Transition

OMS Ensures Interoperability

The future of energy is digital and interconnected. Only digital networks can fine-tune demand and supply, if the energy sector is based on fluctuating renewable power sources. Digital networks are just as important for an efficient use of energy.

We need smart metering for the resource-friendly production and consumption of energy. The digital metering systems we are developing today have to be ready to handle tomorrow's challenges.

Open, Comprehensive, Interoperable, International, Patent-free

The OMS-Group's Open Metering System (OMS) is Europe's only open and standardized energy metering system that integrates a wide range of utility metering into one device: electricity, gas, thermal energy, water, as well as submetering. In addition, the OMS system is compatible with KNX, the communication protocol

for intelligent buildings, so it can easily be linked with building automation, energy management and smart home systems. OMS communication is based on the proven M-Bus standard.

The OMS specification was developed by an interest group of meter manufacturers, utilities, meter operators, electronics manufacturers, communication firms, and IT companies. The main goal was to provide a sustainable communication protocol for digital metering systems and to guarantee the interoperability between metering products. The OMS-Group distributes the OMS specification patent-free via the Internet.

The OMS specification has been included in the European Union's standard for smart metering. The specification also takes account of different national systems. More than ten different countries, including China, are represented in the OMS-Group and the number is growing.



OPEN METERING SYSTEM

OMS-Group e.V.
Marienburger Str. 15
50968 Cologne
Germany

Phone +49 231 395798-02
Fax +49 231 427867-32
Email info@oms-group.org
www.oms-group.org

Why OMS? Perspectives



“The OMS V4 specification in particular shows that state-of-the-art and sophisticated end-to-end security solutions such as TLS 1.2 can be applied to efficient and optimized wireless networks. My view is that this scalable security architecture is a model for many trades and industries.”

Prof. Dr. Axel Sikora

Scientific Director of the Institute for Reliable Embedded Systems and Communication Electronics (ivESK) at the University of Applied Sciences Offenburg; Deputy Director and Head of the division „Software Solutions“ at the Hahn Schickard Society for Applied Research



“Within the last ten years energy metrology moved from single devices to connected systems. OMS played a key role in this process. Only a holistic, systems-thinking approach to energy applications will enable us to achieve our CO₂ emission reduction targets.”

Andreas Bolder

Senior Expert Energy
Deutsche Telekom Technischer Service GmbH

“OMS 4.02 is the only open standard for interoperable and secure M-Bus communication. It was developed by the leading smart metering companies and grid operators in Europe and is freely accessible for any application.”

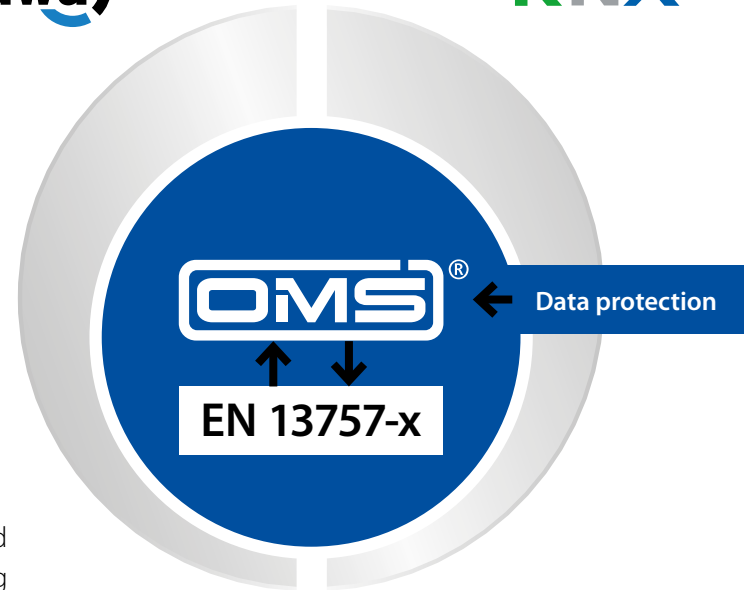
Charles van Dyck

Business Development & Area Manager
FLONIDAN A/S



OMS in the European Standards

EN 13757-x for all Energy Segments



The OMS-Group is a nonprofit organization founded to provide a secure and future-proof metering system for the energy transition. Two associations were among the founding members: figawa, the Federal Association of Gas and Water Companies, based in Cologne, and KNX Association, based in Brussels. Today, more than 50 companies are involved in the OMS-Group.

An Industry Initiative

In 2007, working groups of the Open Metering Initiative began to examine the existing international standards for interoperable communication between metering systems. The European standard EN 13757-x was chosen in view of various considerations. Both the OMS specification and the global standard for home and building automation KNX use the norm EN 13757-4 for wireless communica-

tion, so OMS systems are able to transmit metering data as well as building automation data. In this way, OMS devices enable a seamless transition from smart metering to energy management.

To achieve interoperability, vendor independence, and suitability for all energy segments, the OMS specification streamlined the European standard and added data security aspects. These modifications have in turn been included in the European standardization process.

The OMS Specification

National and International Harmonization

The OMS specification describes the two-way communication between an OMS device, for example a smart meter, and a communication system installed in a building. The OMS specification is patent-free and publicly available. Thus it can be used by every interested party without any restriction. The OMS label is awarded to devices that comply with the OMS specification and were certified by an independent certification body. The OMS specification has influenced political guidelines due to its interoperable, multi-vendor and cross-functional definitions. Here are two examples.

National Guidelines

The OMS specification is an integral part of the Common Criteria Protection Profile of the German Federal Office for Information Security (BSI). The BSI developed the Common Criteria Protection Profile in 2010 and later specified Technical Guidelines for the communication unit of intelligent metering systems, the smart meter gateway, to provide a mandatory security standard. The OMS-Group contributed its expertise to the development of this security standard. The Technical Guidelines BSI-TR- 03109-1 makes the OMS specification man-

datory for the LMN (Local Metrological Network) interface.

International Harmonization

With the M/441 mandate, the European parliament has authorized the standards organizations European Committee for Standardization (CEN), European Committee for Electrotechnical Standardization (CENELEC), and European Telecommunications Standards Institute (ETSI) to develop an interoperable communication system for smart metering in Europe. The norm EN 13757, which was revised on the basis of the OMS specification, is part of this mandate.

The responsible advisory body, the Smart Meters Coordination Group (CG MSM), has secured the mutual recognition of standards among the participating Technical Committees of CEN and CENELEC. That means that electricity meters communicating in accordance with EN 13757 are considered to comply with CENELEC. Thus, the standards series EN 13757, i.e. the OMS specification, is the only communication standard for meters and related equipment in all sectors.



Security and Data Protection

Very Strict Requirements

The smart grid completely depends on data security. Companies, consumers, utilities, the housing industry and all other institutions concerned with energy and water metering, controlling, visualization of energy consumption, and usage periods, want to be sure that their smart metering systems comply with the highest standards of data protection and security.

OMS Stands for Maximum Data Security

The OMS specification complies with the data security requirements of the German Federal Office for Information Security. The BSI requirements are very strict compared to other national standards. They comply with the globally recognized Common Criteria for Information Technology Security Evaluation.



The OMS Label

The OMS Mark for Certified Products



Smart metering products that comply with the requirements of the OMS specification can receive the OMS label. The DVGW, the largest gas and water certification authority in Europe, is the certification body.

The OMS-Group has developed a testing tool for all generations of the specification to enable manufacturers to perform pretests prior to certification. All OMS certified products are listed on the OMS website.

The OMS label shows consumers, companies, utilities, the housing industry and users of building automation systems that these smart meter devices can communicate with devices of other manufacturers and other energy segments. They comply with very high data security requirements and are extremely future-proof.

Pro OMS-Group

Manufacturer-Independent Development

In Europe, the implementation of intelligent metering systems is now required by law. This has created high demand for interoperable devices for the planned rollout. The mission of the OMS-Group is to develop a non-proprietary technology that covers the main utility services and building automation. All interested companies and associations are invited to join the OMS-Group.

Working Groups

Working groups of the OMS-Group initiate developments of the OMS specification and define requirements for communication modules of OMS devices:

- Working group Primary Communications
- Working group Testing
- Working group Wired M-Bus
- Working group Marketing

Executive Board

The executive board consists of up to nine elected members. It is in charge of the strategic orientation of the OMS-Group.

Dr. Werner Domschke

Spokesman of the OMS-Group
Executive Board

Andreas Bolder

Deutsche Telekom
Technischer Service GmbH

Wolfgang Esch

WEPTTECH elektronik GmbH

Jürgen Frech

Landis+Gyr GmbH

Gotthard Graß

figawa – Federal Association of
Gas and Water Companies

Johannes Hauck

Hager Group

Carsten Lorenz

Elster GmbH

Heinz Lux

KNX Association

Hermann Trottler

Diehl Metering GmbH

Pro OMS-Group

7 Reasons to Join

1. Active shaping of the specification, testing standard and certification.

2. Networking opportunities with utilities, operators, industry and associations – national and international.

3. Benefit from media exposure.

4. Presentations at regional and international business events.

5. Free publications in the association's journal "metering4all".

6. Positioning as an expert for manufacturer-independent meter communication.

7. Exchange of experiences and optimization of R&D and applications.

Take part in the continuously growing community of suppliers and users who employ, develop and spread the open OMS communication standard for metering systems in all energy segments. The European market is now developing, stimulated by the European Union's directives, which have been adopted into national laws by EU member states.

You can join the OMS-Group as a company or as an association. As a member, you can actively participate, benefit from first-hand experience, and share your experiences with other members.

OMS On-Site

News in the Media

More information about the work of the OMS-Group is available in the members magazine "metering4all", on the OMS-Group website, and in trade magazines.



www.oms-group.org



OMS On-Site

Exhibitions and Industry Events

Visit us, get to know us, and participate in our initiative. The OMS-Group organizes forums where you can learn everything about OMS. The OMS-Group also presents its work at trade shows. We look forward to seeing you!

- OMS Forum – congress and trade show for Open Metering
- E-world energy & water
- European Utility Week
- Meetings of the working groups
- OMS-Group General Meeting





Experts for Smart Metering

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Sontex

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ZENNER
Alles, was zählt.

figawa)
Firmen im Gas- und Wasserfach

KNX®

Gründungsverbände

Die Experten für Smart Metering

OMS®