

# DLMS/COSEM training course

KEMA Academy



## Course summary

Correct exchange of meter data is of major importance in the liberalized energy market. Remote energy meter interrogation is essential for the fast and reliable determination of balance or unbalance between forecasts and actual energy usage. The data collection protocol DLMS/COSEM is an international standard that is ideal for this purpose.

KEMA Academy invites you to attend our two-day training course. The course has been developed to offer telecommunication professionals the opportunity to obtain up-to-date information on the communication protocol standard and hands-on experience of protocol performance analysis using the KEMA communication test tools. Attending this course with our leading experts will give you the knowledge you need regarding the capabilities and benefits of DLMS/COSEM communication, and regarding recent developments in this field.

## Target group

This course is meant for developers, consultants and telecom engineers at manufacturing companies and end-user utilities who need up-to-date knowledge of DLMS/COSEM.

## Course information

The course has a theory component and a practical component. The theory component covers DLMS from a high level (what is DLMS, what is the DLMS UA, the standard's abstract model, etc.) down to a low level (how to translate the objects into frames and bytes). The practical component provides a detailed introduction to DLMS message encoding and involves a hands-on experience using the official conformance test tool together with our DLMS analyzer and a DLMS device. Exercises will enable you to immediately put what you have learned into practice. Participants will look at the message flow on a link and will learn how to detect and solve communication problems.

## Course outline

### Day 1 Overview

- > Introduction
- > Open communication protocols
- > Overview DLMS/COSEM
- > Device modeling
- > COSEM classes and OBIS codes
- > DLMS services SN and LN
- > DLMS protocol layers

### Day 2 Details

- > DLMS over HDLC and over IP
- > Encoding DLMS frames
- > Application Association request/response
- > Exercises with DLMS test tools
- > Conformance testing
- > Common problems
- > Evaluation and comparison with other protocols
- > Questions and discussion

## Location

The course will be held at an external training location in Arnhem, The Netherlands.

## About KEMA

KEMA is the leading company in independent testing, certification and consultancy for standard communication protocols used in the utility industry. KEMA has already given numerous training courses to both vendors and utilities. We are actively involved in the IEC working groups and smart meter projects around the world. As a result, KEMA has acquired detailed knowledge of and expertise with the DLMS/COSEM protocol that we use in our test tools, giving the participants of this course a unique hands-on experience.

## In-company and customized training courses

At the client's request KEMA can also provide in-company and customized training courses. The course can then, for example, deal with actual cases from your business operations, or future scenarios sketched out by you. We are flexible in this.

KEMA Academy  
P.O. Box 9035  
NL-6800 ET Arnhem  
T +31 26 3 56 29 54  
kema.academy@kema.com  
www.kema.com/academy