



SMART METERING

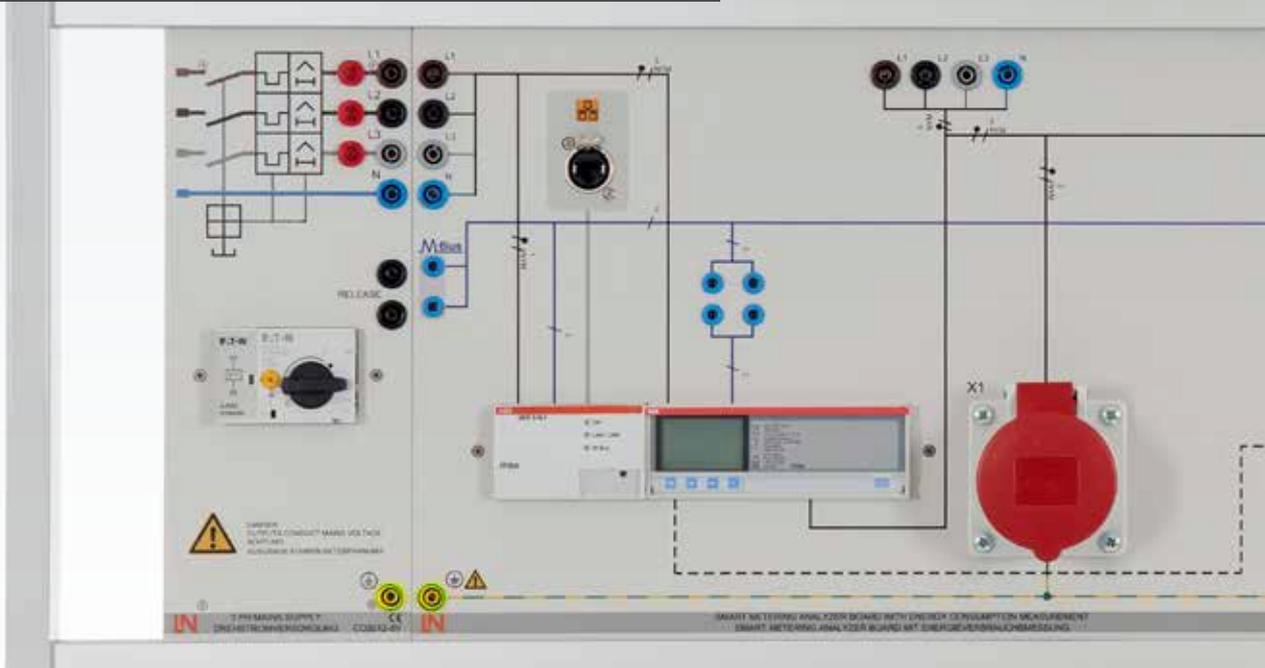
Building Management Systems

SMART METERING

Smart Metering opens up new options in the development of smart homes. By using household meters which are intelligent and able to communicate, it is now possible to keep an eye on and to analyse the level of energy consumption in a home at any given time. Spikes in energy consumption can be identified so that wasteful guzzling of energy by appliances can be consigned to the past.

Consumers now have the option to monitor their own use of electricity, gas and water with the help of smart meters. Therefore smart home equipment can be used to make efficient energy savings aligned to actual consumption levels.

Our smart metering training system provides a clear and practically oriented introduction to how smart meters work and how they can be used to best effect.



This board forms the basis for an effective smart metering system. It includes a controller plus a 3-phase, programmable two-way energy meter. The meter is a multi-tariff device which can be used as the primary meter for a household. With the help of the meter's programmable inputs and outputs, it is possible to build up a full-scale load management system. The controller is equipped with a web interface and makes it possible to acquire, assess and offer visual presentation for a wide range of consumption data. The system also encompasses a bus system to which multiple metering devices of various kinds can be connected. The controller can also be adapted to handle the monitoring and billing units required throughout the world.

Technical data

- Controller
 - Operating voltage: 100-240 V AC
 - Frequency: 50/60 Hz
 - Indicator lights: ON LED, LAN LED, bus LED
 - LAN port: RJ45
 - Bus port: 2-mm safety sockets
 - Data rate: 2400-9600 baud
- Meter
 - Type: digital, multi-tariff, two-way meter, programmable
 - Metered variables: U, I, f, P, Q, cos phi
 - Measurement options: 3-phase, direct
 - Operating voltage: 100-240 V, 50/60 Hz
 - Inputs/outputs: 2 DI/2 DO

i Learning contents

The recording and recording of energy quantities and values as well as the evaluation and further processing of these are becoming more and more important. This is not only due to rising energy costs, but also to the frequently required evaluation and query options via a decentralised reading point. Combined with the possibilities of the Smartmeter, convenient and economical solutions for modern energy and load management can be implemented for the operator or user.



Learning contents

- Getting to know different smartmeters
- Integration of conventional meters into a Smart Metering System
- Parameterization and programming of smartmeters
- Collecting and processing data in evaluation software
- Integration of the data into a SCADA system
- Connecting the smart meters with other external power engineering systems (e.g. regenerative power generators, storage units, etc.)¹⁾

¹⁾additional equipment necessary.



This board can be used as a supplementary addition to a smart metering system. It includes a single-phase, programmable electricity meter, a pulse converter for conventional meters with a pulse input, as well as water and gas meters. All consumption data can be communicated via a bus system. Data from conventional meters with a pulse output can be converted into bus signals.

Technical data

- Electricity meter
 - Type: digital meter, programmable
 - Metered variables: U, I, f, P, Q, cos phi
 - Measurement options: Single-phase, direct
 - Operating voltage: 100-240 V, 50/60 Hz
 - Inputs/outputs: 2 DI/2 DO
 - Communications ports: M-bus, 2-mm safety sockets
- Pulse converter
 - Inputs: 2 pulse inputs
 - Outputs: M-bus, 2-mm safety sockets
- Water meter
 - Metering equipment: Mechanical
 - Communications port: M-bus, 2-mm safety sockets
- Gas meter
 - Metering equipment: Mechanical
 - Communications port: Pulse input

Order no. CO3109-6B



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