ZERA

INFO PAPER

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STM4000 series — Digital measuring system

Beyond our conventional products for metrological meter testing our new digital measuring system of the STM4000 series offer the combined testing of metrology and data communication. The modular architecture and design permit flexible and cost-efficient solutions for modern meter testing. Performing automated test procedures for Smart Meter testing – despite the request of encrypted data handling – is the main goal of our new concept of our STM4000 series.

Basic system for testing metrology and data communication

Modular and cost-efficient

The modular design of the **S**tationary **T**est **M**odule STM4000 system offers a wide range of opportunities to connect the various types of devices under test. The two plug-in modules offer interfaces for RS232, RS485, M-Bus or the connection of the CA2000 or CA4000 communication adapter, for example.

Communication test

Beyond the conventional metrological tests our digital measuring system allows communication tests of compliance with the specified communication requirements. Therefore, the communication protocols will be analysed in details. This will happen in every layer of the ISO-OSI model e.g. HDLC, LLC, DLMS, DLMS/COSEM and checked down to byte level against the corresponding specification. In this way the detection of deviations inside the communication structure or syntax will be recognized. Moreover, specified requirements concerning the timing can be evaluated. This detailed analysis detects errors inside the communication and indicates them ***before*** the meter under test is used with the productive system.

Three security levels are supported: LLSO, LLS and HLS.

A log viewer for detailed analysis is optionally available.

Communication with the meter

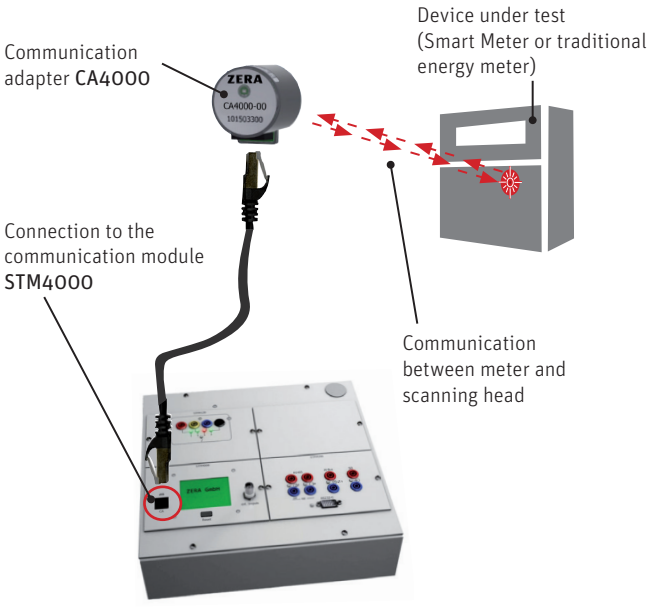
More and more the meaning of the need to import meter data during a test procedure will increase. The required data could be firmware version or pin code ***or*** cryptographic encoding information – as a need of the encoded communication with the meter under test. To avoid the manual input of these data, the STM4000 system establishes a connection to the backend system – the digital database where this information is managed. This is another important milestone in automation for performing automated test procedures.

Event test

The STM4000 system cannot only ask for information but also perform specified interactions. Possible actions are operating breaker/load switch or reading and writing of data records. This feature will be tailor-made for every customer system.

Adjustable light intensity for communication

The **C**ommunication **A**dapter CA4000 can adjust light intensity as well as light colour for the communication with the meter. Moreover, the light intensity of the meter is measurable and traceable.



Example of use for one test position

Modular design of the hardware - several configurations

Basic equipment

Display module STM4000

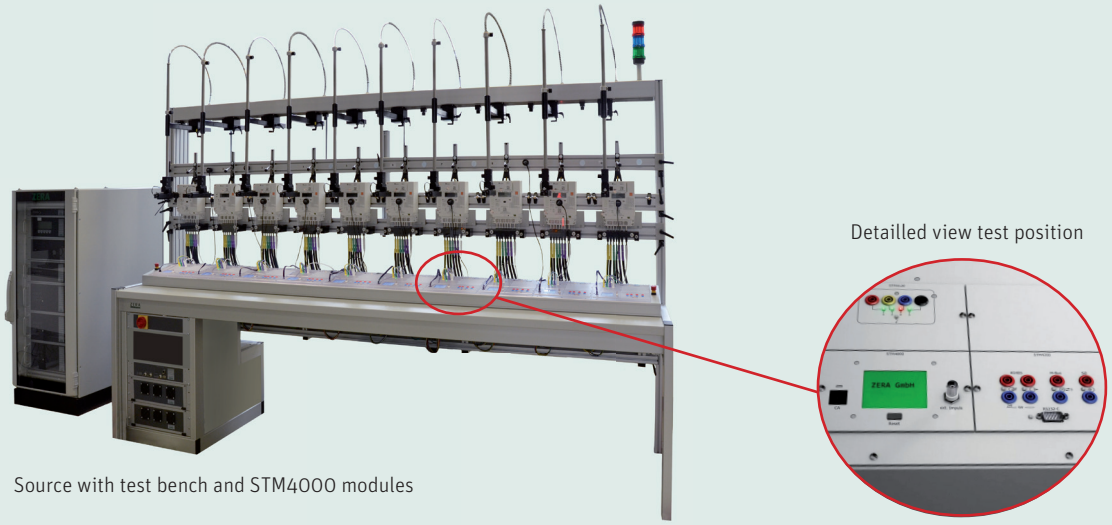
Full equipment

Summary of **S**tationary **T**est **M**odules STM4000

Function	Product name	Type [1]	Decription
Basic	STM4000	M D	Display, input communication adapter CA2000/4000, input scanning head TK32x (backside), pulse input BNC, button
Test voltage	STM4120	M	Voltage connection 4x, voltage switch-off per phase
Communication	STM4200	D	Communication via interface RS485, M-Bus, RS232-C, Connection of the pulse output of the meter

1 M = metrological interface, D = data communication interface

Example of a Meter Test Sytem with modules of the STM4000 series



Source with test bench and STM4000 modules

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