


ZERA

Precision starts with us



We are the **preferred** and **independent** partner
for energy meter testing **worldwide**

We are the preferred and independent partner for energy meter testing worldwide

ZERA develops and manufactures systems for producing, measuring, testing and calibrating electrical quantities and sells them worldwide.

Renowned utilities as well as meter and instrument transformer manufacturers are among our customers. ZERA is an independent company, led by its employees.

[Click here for more information about ZERA](#)

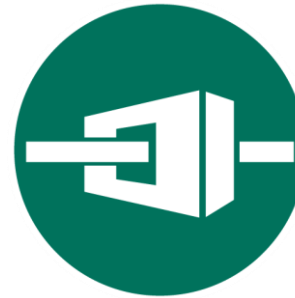




Meter Test
Systems



Test systems
E-mobility

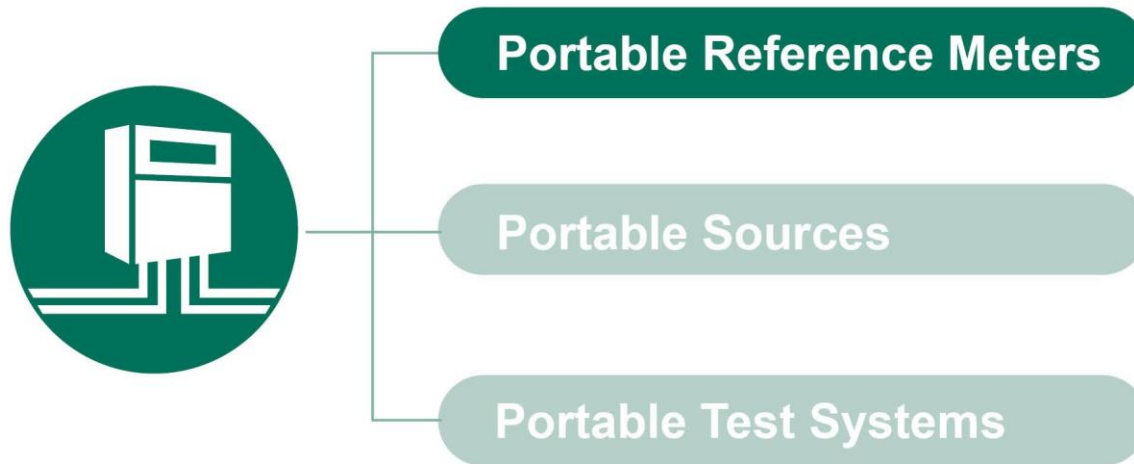


Instrument
transformer &
Switch gear testing



Services

Product Overview, On-site-Meter-Testing



Portable Reference Meters



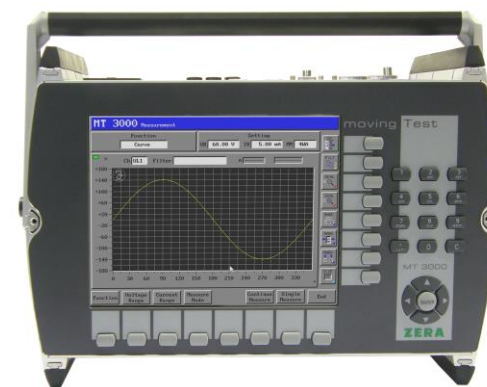
MTx0
Reference Meter
Class 0.1



MT3x0
Reference Meter
Class 0.1 (0.05)



MT3x0s2
Reference Meter
Class 0.1



MT3000
Reference Meter
Class 0.02 (0.05)

MT3x0s2 Reference Meter



• Accuracy class

- MT310s2: 0.1
- MT320s2: 0.05

Main functions

- Direct measurement up to 12 A / 300 V
- CAT IV
- Current measurement via AC current clamps up to 300 A
- Actual value, vector, curve display
- Harmonics up to 40th
- Error measurement

Scope of application

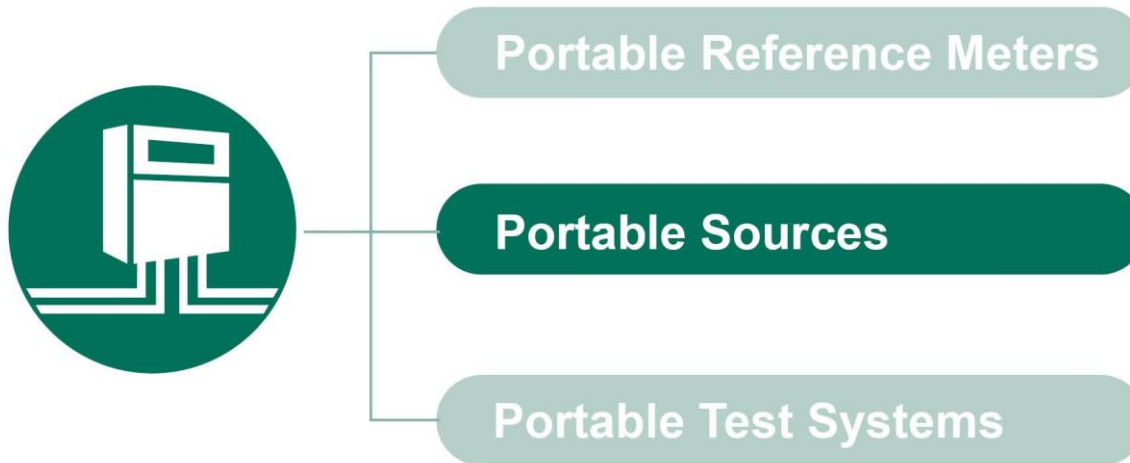
On-site measurement with system load or battery pack

Specials

- Supply via mains plug or battery pack
- Non-sensitive against interferences (e.g. 150 kHz)
- Additional channels for measuring $U_{(PE-PN)}$ or I_N
- Burden measurement for CT/VT
- I-transformer testing
- Selective power measurement
- Hardware can be extended modularly
- Exchangeable battery pack



Product Overview, On-site-Meter-Testing



Portable Sources

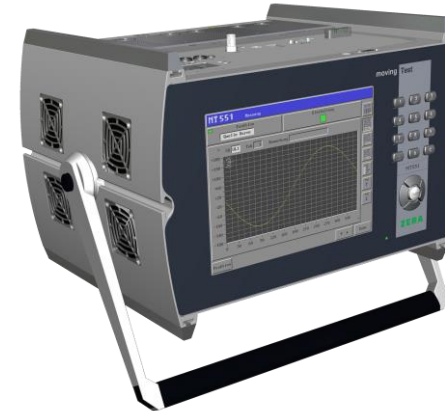


MT400
Current source

12 A

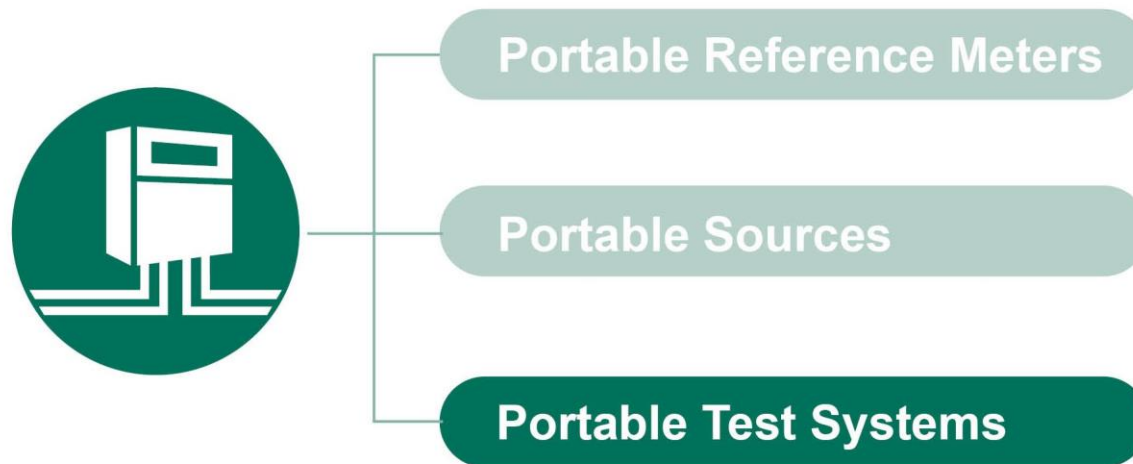


MT500
Current and
voltage source
12 A / 300 V



MT551
Current and
voltage source
120 A / 500 V

Product Overview, On-site-Meter-Testing



Portable Test Systems



MT680s
Single-phase Test System
Class 0.1
120 A



MT686s
Single-phase Test System
Class 0.05
120 A

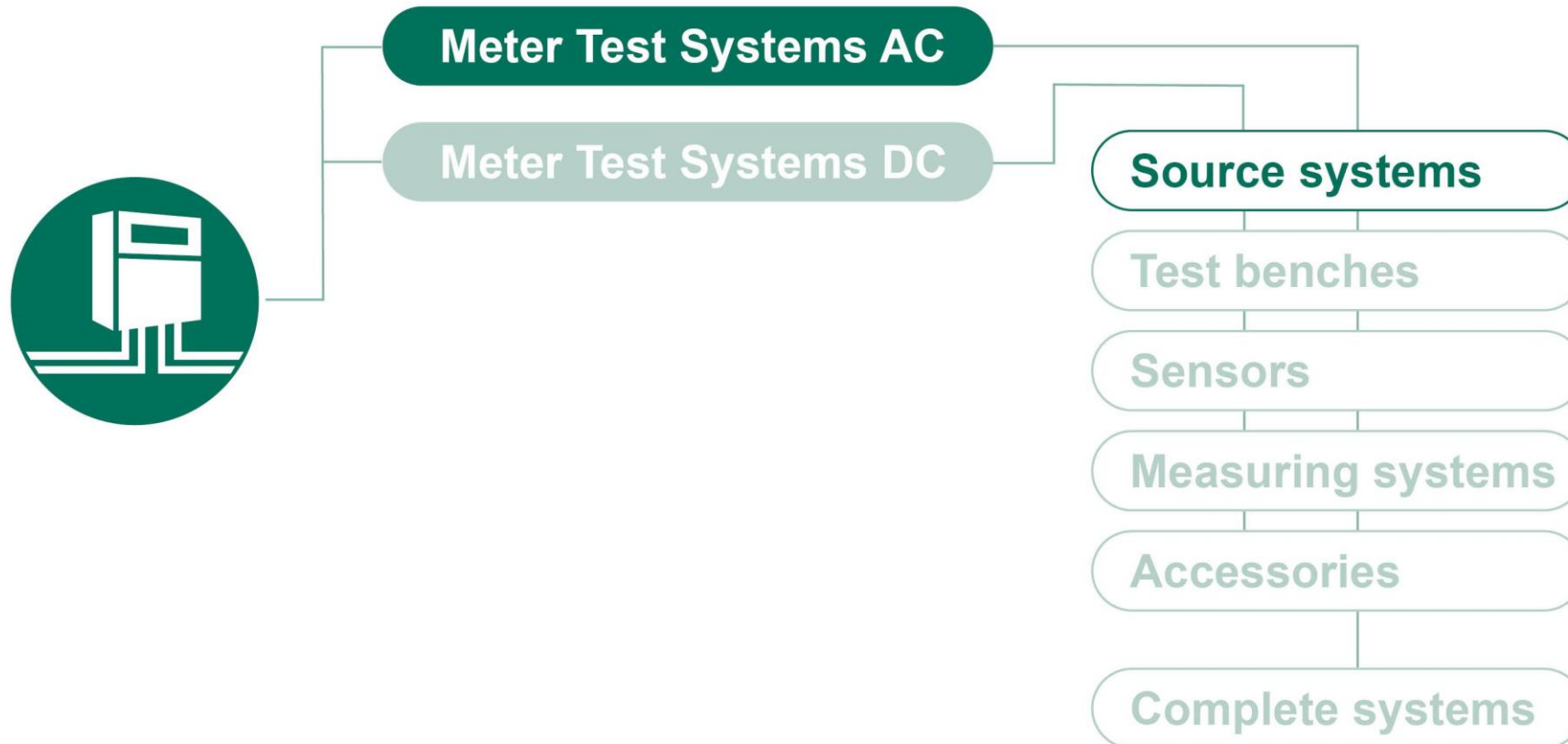


MT781
Three-phase Test System
Class 0.1
120 A / 500 V



MT786
Three-phase Test System
Class 0.05
120 A / 500 V

Product Overview, Stationary Meter Testing



Source Systems AC



MTS140

U: 1 x 1500 VA

I: 1 x 1500 VA

Class 0.02 up to 0.005



MTS310

U: 3 x 500 VA

I: 3 x 600 VA

Class 0.02 up to 0.005



MTS320

U: 3 x 500 VA

I: 3 x 2000 VA

Class 0.02 up to 0.005



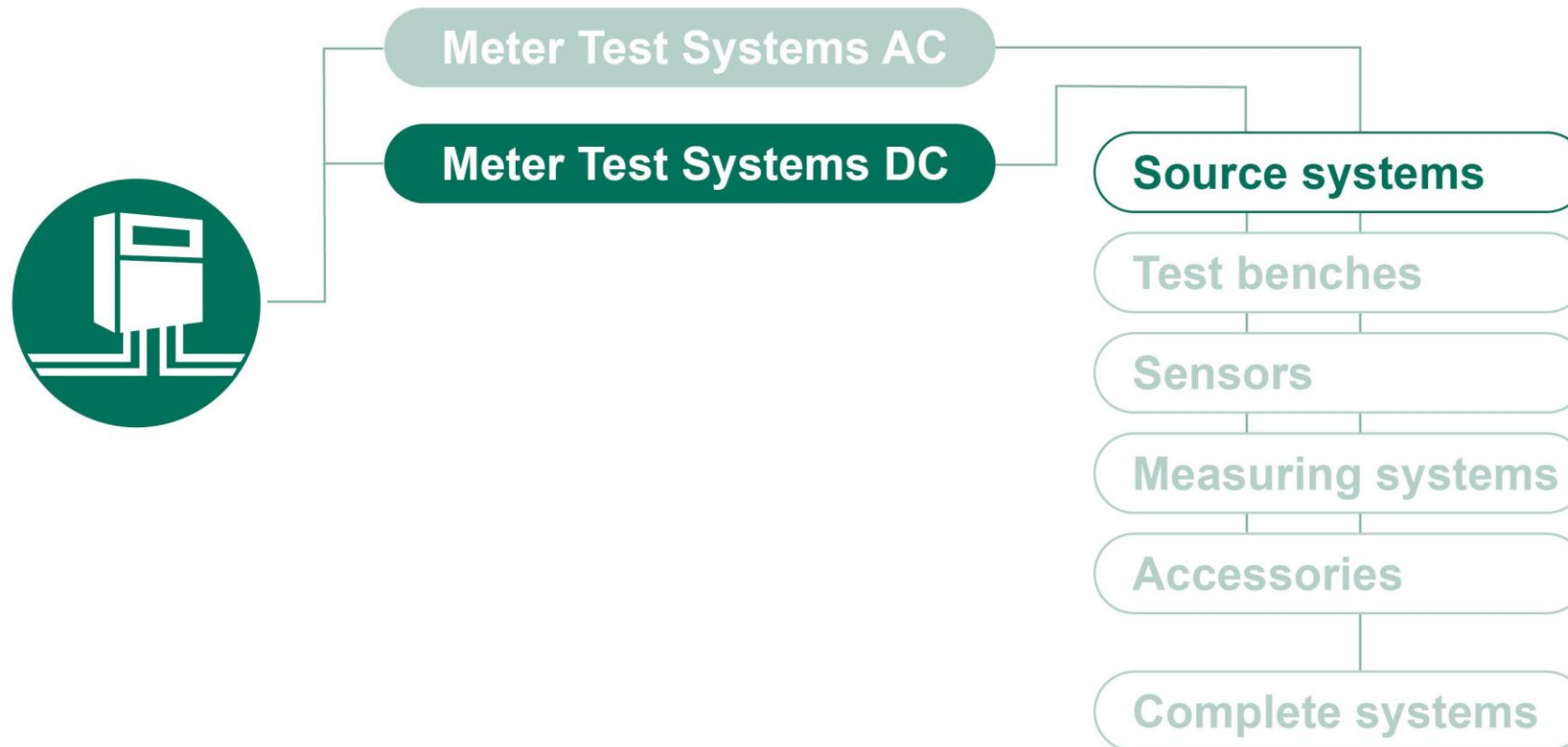
MTS340

U: 3 x 1500 VA

I: 3 x 2000 VA

Class 0.02 up to 0.005

Product Overview, Stationary Meter Testing



MTS750 Source System DC



Main functions

- Generation of DC test values

Scope of application

- Usage in ZERA Meter Test Systems

Accuracy class

0.040

Voltage generation max.

1000 V (DC)

Current generation max

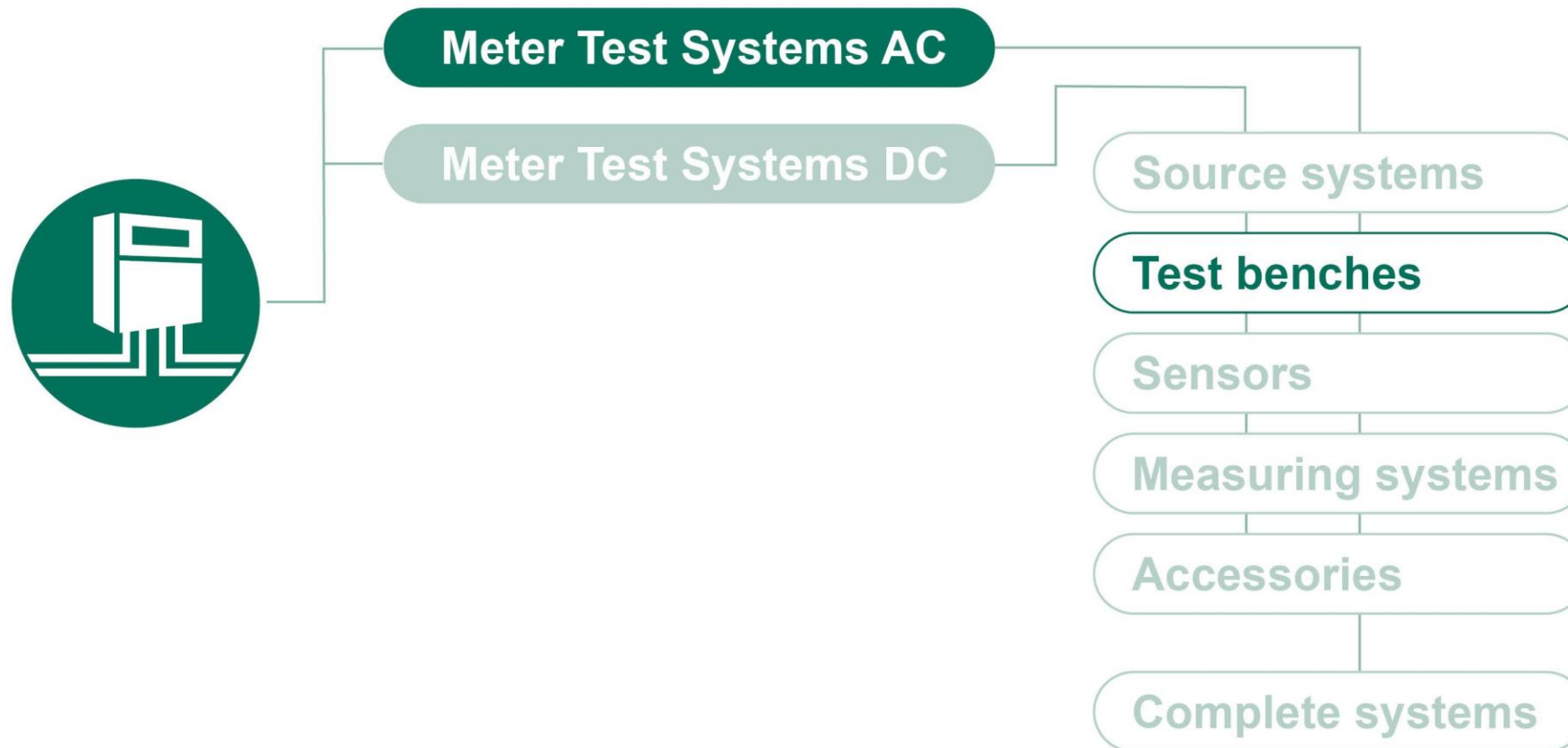
0 ... 600 A (DC)

Specials

- FG-Middleware (software) for communication between WinSAM and individual hardware components
- Testing of AC and DC quantities



Product Overview, Stationary Meter Testing



Test Benches



Single-Position Test Bench

Test bench with one single test position

Phases: 3

For STM4000- or STM6000 series



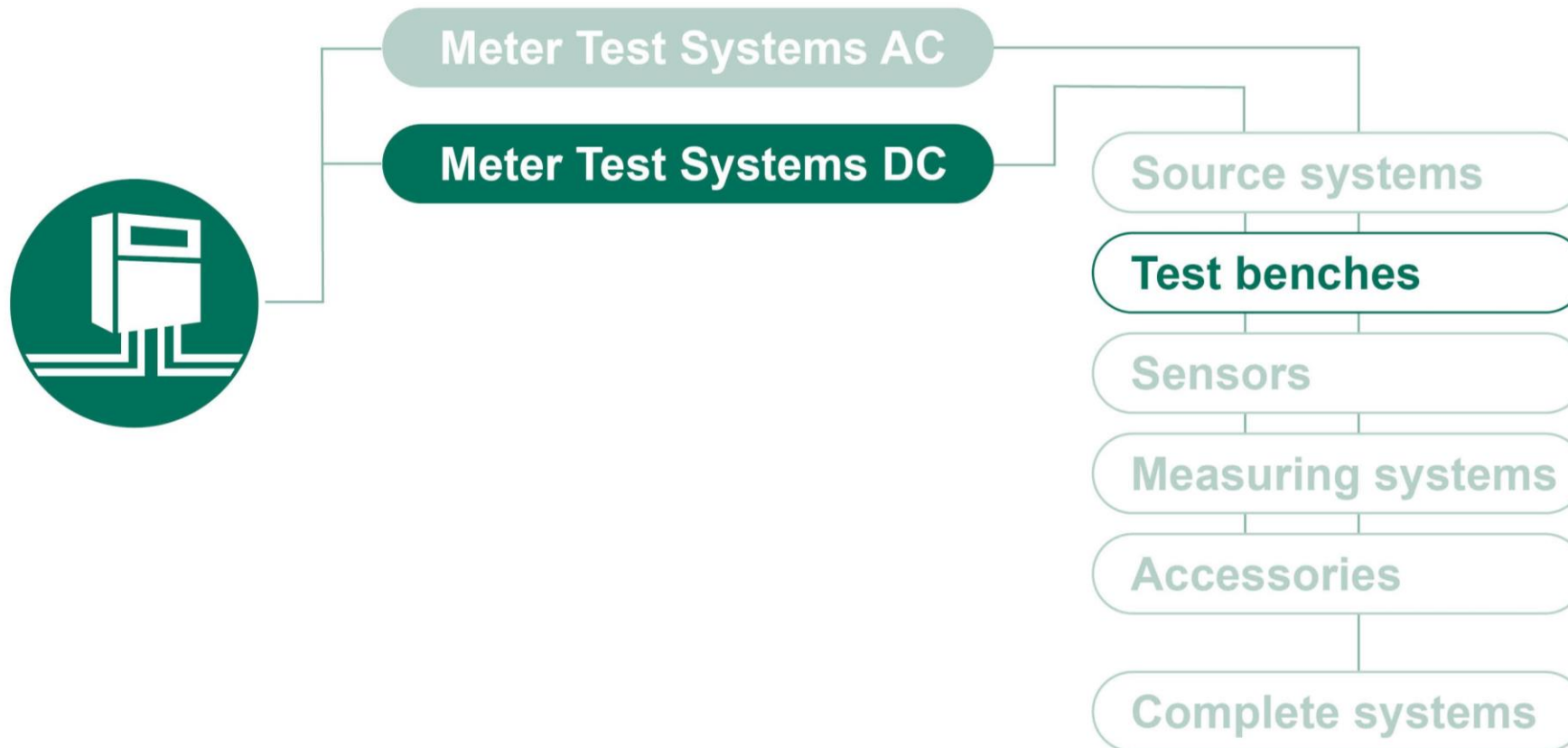
Multi-Position Test Bench

Test bench with 5, 10, 20 or 40 test positions

Phases: 1 or 3

For error calculator DS421,
STM4000- or STM6000 series

Product Overview, Stationary Meter Testing



Multi-position Test Bench DC



Test positions

1 up to 40

Accuracy class

0.040

Main functions

- Single-phase DC meter testing

Scope of application

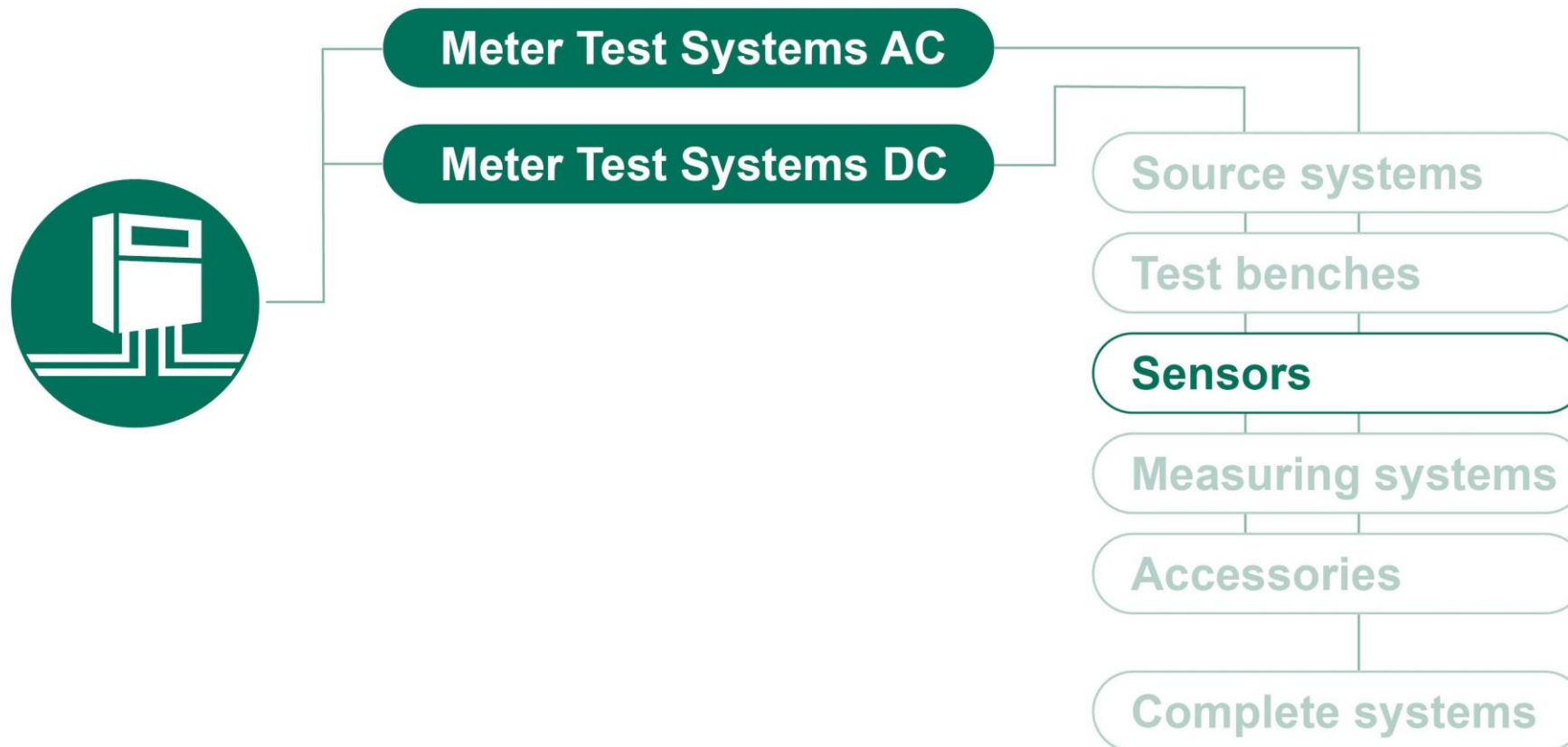
- Combined with a power source system e.g. MTS750 this test bench is used as a DC meter test system with max. 40 test positions

Specials

- Extendable by modular design
- On request the test position can be adapted to the DUT
- PLC for control of the current and voltage circuit and the status lamp



Product Overview, Stationary Meter Testing



Sensors



TK325/TK326

Photoelectric Scanning Head
For electronic meters



CAx000

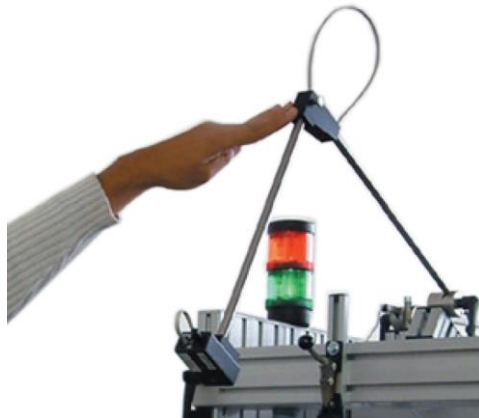
Infrared Communication Adapter
Data communication with EDL meter and
Basiszähler (electrical energy meter)



TK2020-02

Infrared Scanning Head
For EDL meters and *Basiszähler*
acc. to FNN guidelines LMN

Sensors



Standard Scanning Head Suspension
Ball-bearing mount suspension with
quick height adjustment and
fine adjustment

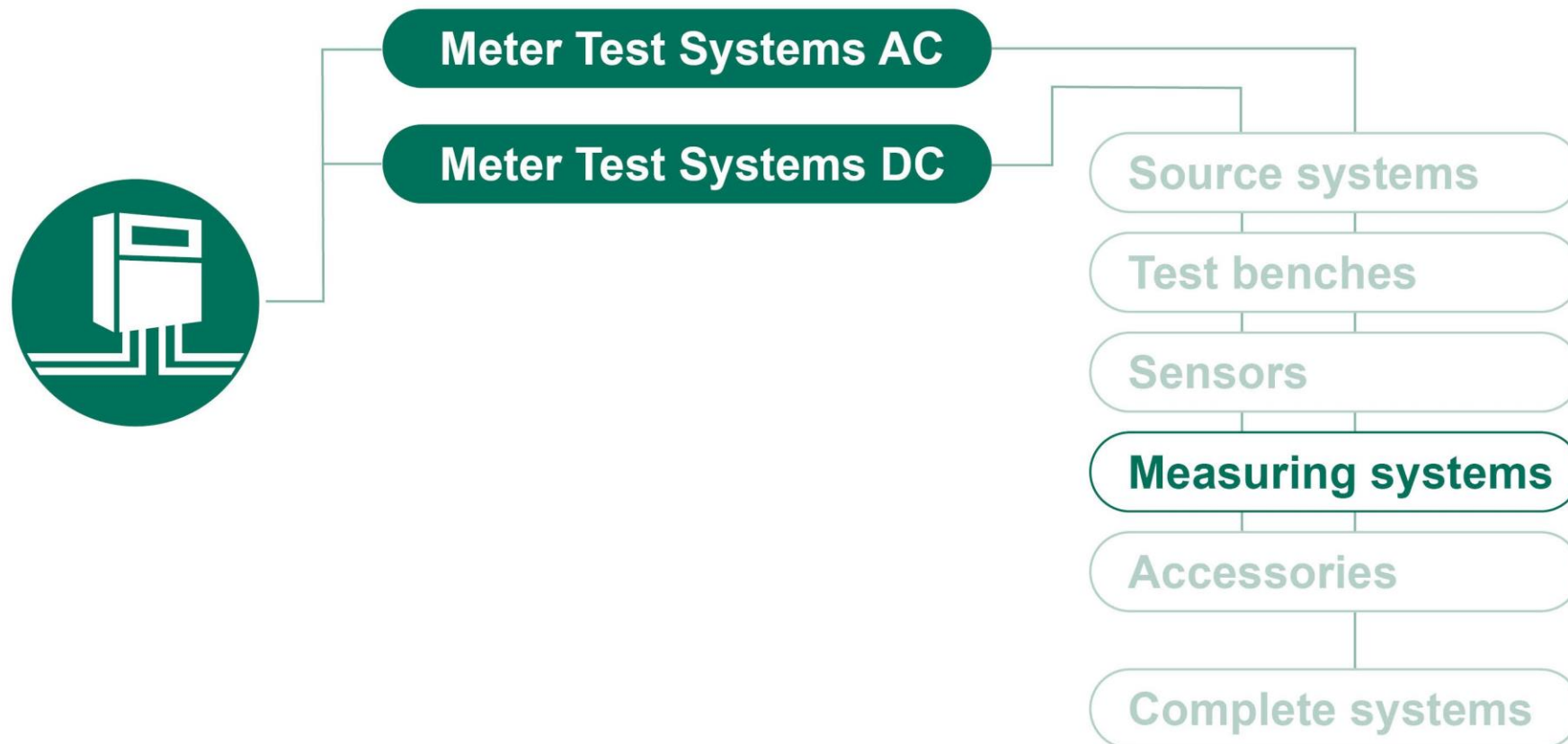


Basic Scanning Head Suspension
Folding mechanism adjustable
in all directions



Rotating Meter Racks
Meter racks for
2 or 3 connection options
Quick and reliable positioning of
different meter types

Product Overview, Stationary Meter Testing



Measuring Systems



DS421
Multi-position Error Calculator
+ Display
Testing of electricity meters



STM4000
Digital measuring system
Testing of Smart Meters



STM6000
Digital measuring system
Testing of Smart Meters

STM4000 Series, Testing of Smart Meters



Type of current

- AC and DC

Main functions

- Testing of metrology and data communication
- Suitable for testing Smart Meters

Scope of application

- Usage in stationary ZERA Meter Test Systems
- One module is required per test position/meter

Besonderheiten

- Modular design of the hardware
- Smart Meter testing
- Analysis of data communication
- Encrypted communication
- Adjustable light intensity for communication

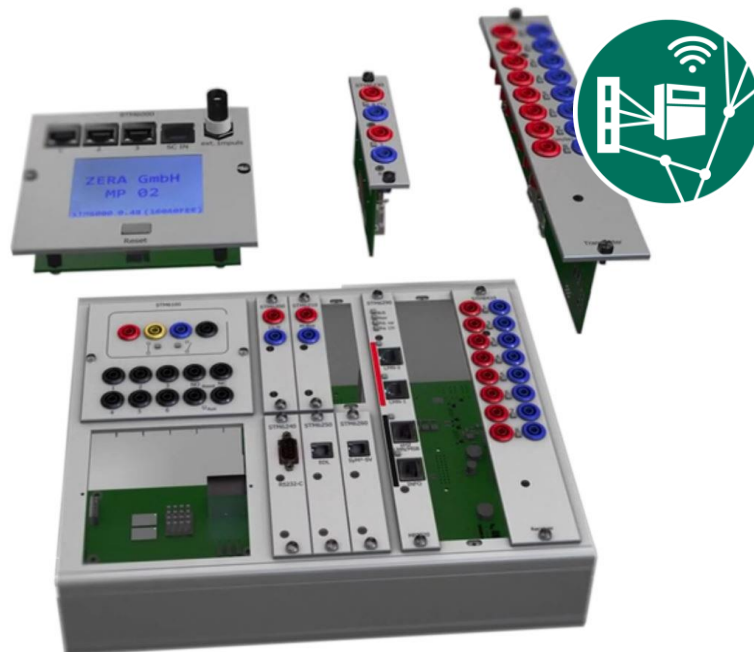
Interfaces

RS232, RS485, M-Bus, IR, S0

Communication tests

IEC62056-21, IEC62056-42-46-53, DLMS/COSEM (HDLC, LLC, DLMS (auth. by LLS, HLS), COSEM), ABB (Elster) Vision

STM6000 Series, Testing of Smart Meters



Type of current

- AC and DC

Main functions

- Testing of metrology and data communication
- Suitable for testing intelligent measuring systems, Basiszähler, Smart Meter Gateway and more

Scope of application

- Usage in stationary ZERA Meter Test Systems
- One module is required per test position/meter

Specials

- Modular design of the hardware
- Individual equipment
- Smart Meter Gateway testing
- Analysis of data communication
- Encrypted communication
- Adjustable light intensity for communication

Interfaces

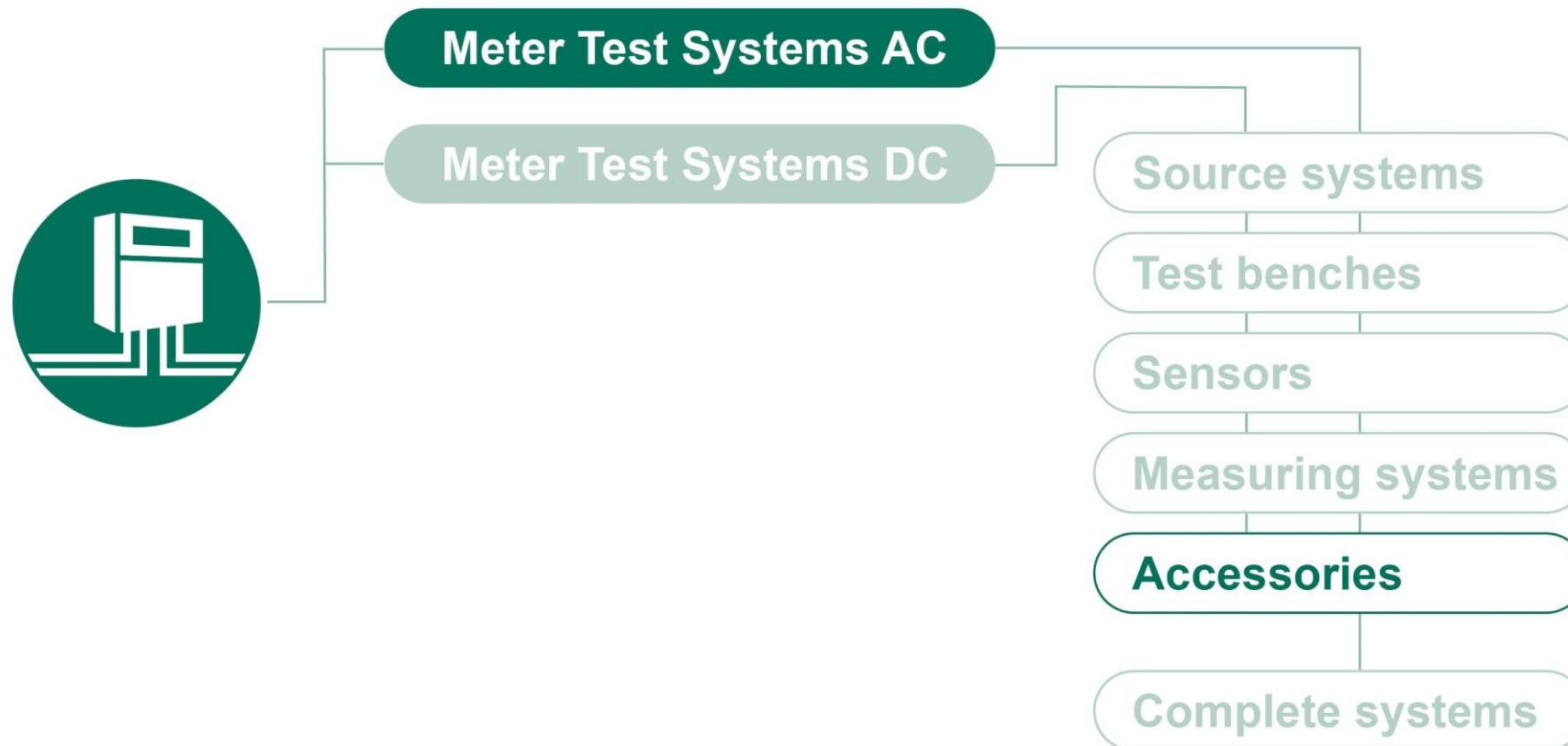
RS232, RS485, RF, 20mA, PLC, M-Bus, IR, ZigBee etc.

Communication tests

DLMS / COSEM, TLS, HDLC, IEC 62056-21, SML / COSEM etc.



Product Overview, Stationary Meter Testing



Current and Voltage Transformers



MSVT

Multi-Secondary Voltage
Transformer for galvanic isolation
of **single-phase meters**



ICT123/ICT128

Isolated Current Transformers
Max. current range
120 A 1:1/1:2
Burden measurement
Breaker test



ICT125/ICT126

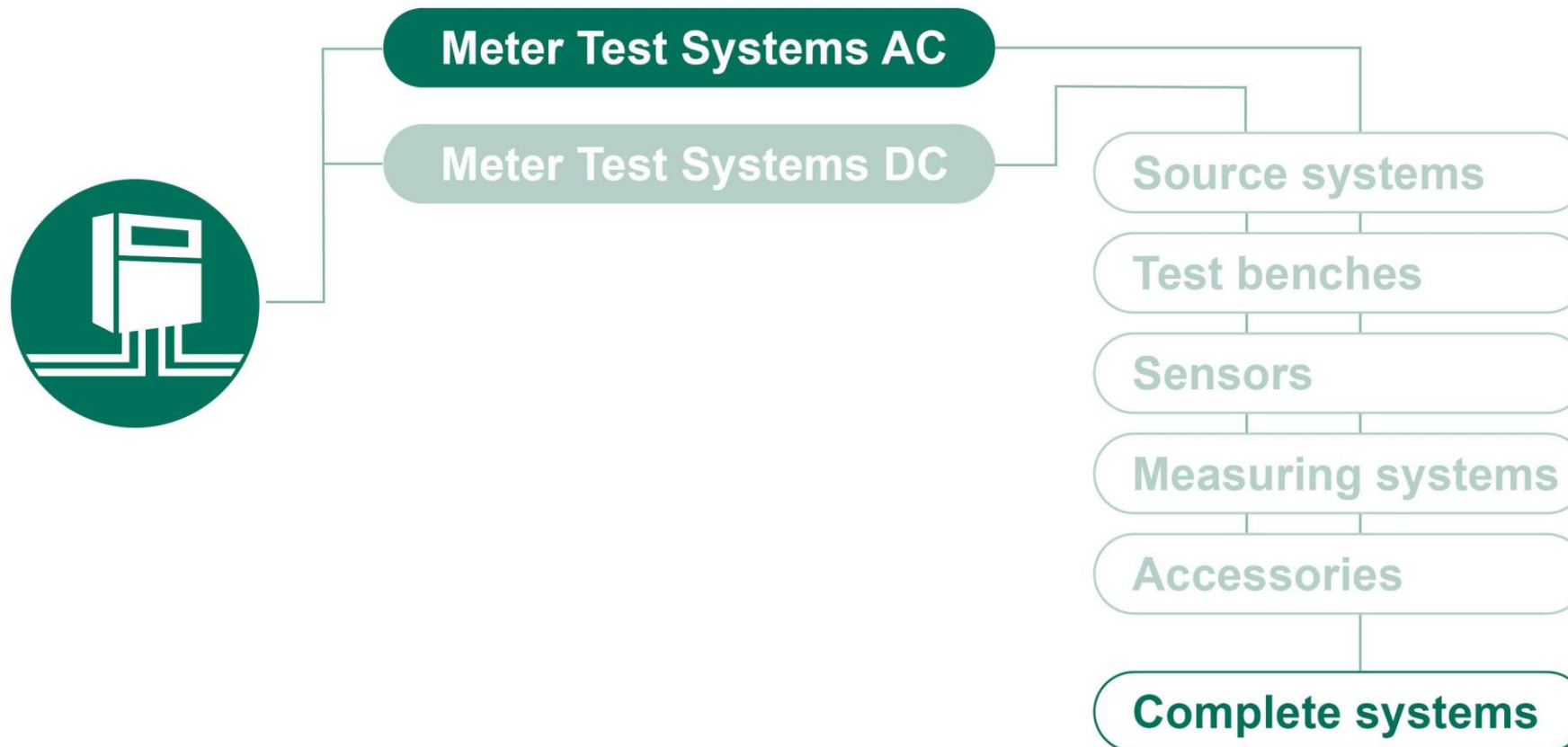
Isolated Current Transformers
Max. current range
160 A 1:2 / 1:1
Burden measurement
Breaker test



ICT127

Isolated Current Transformers
Max. current range
120 A 1:1 / 10:1
Burden measurement
Breaker test

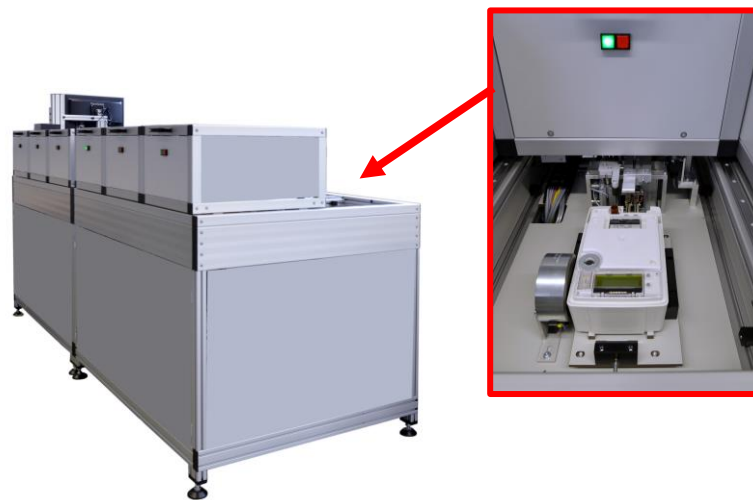
Product Overview, Stationary Meter Testing



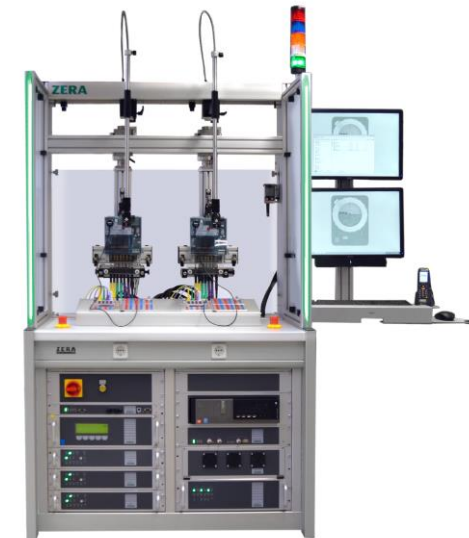
Complete Systems



Quality Assurance
Semi-automatic Test System
Quality testing of energy meters
max. 20 test positions



Functional Testing
Semi-automatic Test System
max. 9 test positions
Testing of magnetic sensors,
motion sensors, housing switch etc.



Special Designs
Meter Test System with
highest possible equipment
Light curtain, integrated source,
movable meter racks, scanner,
PC, retractable castors etc.

Product Overview, Devices for Laboratories & Metrology Institutes



Reference Standards

Test Equipment for Laboratories and Metrological Institutes



RMM3006
Reference Multimeter
Class 0.02



COM3003
Comparator
Class 0.008



COM5003
Comparator
Class 0.005

Test System E-Mobility



Test systems for AC & DC charging stations

Test Cases for AC and DC Charging Stations



EMOB32

Test case for

AC charging station

**Current measurement up to
32 A AC**

Connector type 2 (EU)



EMOB80

Test case for

AC charging station

**Current measurement up to
80 A AC**

Connector type 1 (USA)



EMOB200

Test case for

AC & DC charging station

**Current measurement up to
32 A AC and 200 A DC**

Connector type 2 / CCS 2 (EU)



EMOB500

Test case for

AC charging station

**Current measurement up to
500 A DC**

Connector type 2 / CCS 2 (EU)



EMOB32 Test case for AC charging stations



Connector: Type 2 (EU)

Phases: 3

Current/Voltage measurement

- 32 A (AC)
- 300 V (AC)

Accuracy class

- 0.05 (accuracy of the integrated transformer)

Main functions

- Direct connection to charging stations for electric vehicles
- Direct measurement up to 32 A (AC)
- Energy measurement during the charging process
- CAT II

Scope of application

On-site measurement (without mains supply) of charging stations of electric vehicles

Specials

- Independent of the mains supply by battery operation of the connected reference meter (MT3x0s2)
- Comfortable control by guided test sequences via WinSAM and tablet
- Short set-up times
- Comprehensive range of accessories
- Charging cable with additional measuring line (sense)
- Electromechanical plug locking
- Security check
- Charging cable detection

EMOB 80 Test case for AC charging stations



Connector: Type 1 (USA)

Phases: 1

Current/Voltage measurement

- 80 A (AC)
- 300 V (AC)

Accuracy class

- 0.05 (accuracy of the integrated transformer)

Main functions

- Direct connection to charging stations for electric vehicles
- Direct measurement up to 80 A (AC)
- Energy measurement during the charging process
- CAT II

Scope of application

On-site measurement (without mains supply) of charging stations of electric vehicles

Specials

- Independent of the mains supply by battery operation of the connected reference meter (MT3x0s2)
- Comfortable control by guided test sequences via WinSAM and tablet
- Short set-up times
- Comprehensive range of accessories
- Electromechanical plug locking
- Security check
- Charging cable detection
- Temperature monitoring of the high-current contacts



EMOB200 Test case for AC & DC charging stations



Connector: Type 2 / CCS 2 (EU)

Phases: 1,3

Current/Voltage measurement

- 200 A (DC), 32 A (AC)
- 1000 V (DC), 300 V (AC)

Accuracy class

- 0.05 (accuracy of the integrated transformer)

Main functions

- Direct connection to charging stations for electric vehicles
- Direct measurement up to 200 A (DC) and 32 A (AC)
- Energy measurement during the charging process
- CAT II

Scope of application

On-site measurement (without mains supply) of charging stations of electric vehicles

Specials

- Independent of the mains supply by battery operation of the connected reference meter (MT3x0s2)
- Comfortable control by guided test sequences via WinSAM and tablet
- Short set-up times
- Comprehensive range of accessories
- Electromechanical plug locking
- Security check / cable detection
- Temperature monitoring of the high-current contacts
- Suitable for high-current / quick charging stations



EMOB500 Test case for DC charging stations



Connector: Type 2 / CCS 2 (EU)

Phases: 1

Current/Voltage measurement

- 500 A (DC)
- 1000 V (DC)

Accuracy class

- 0.05 (accuracy of the integrated transformer)

Main functions

- Direct connection to charging stations for electric vehicles
- Direct measurement up to 500 A (DC)
- Energy measurement during the charging process
- CAT II

Scope of application

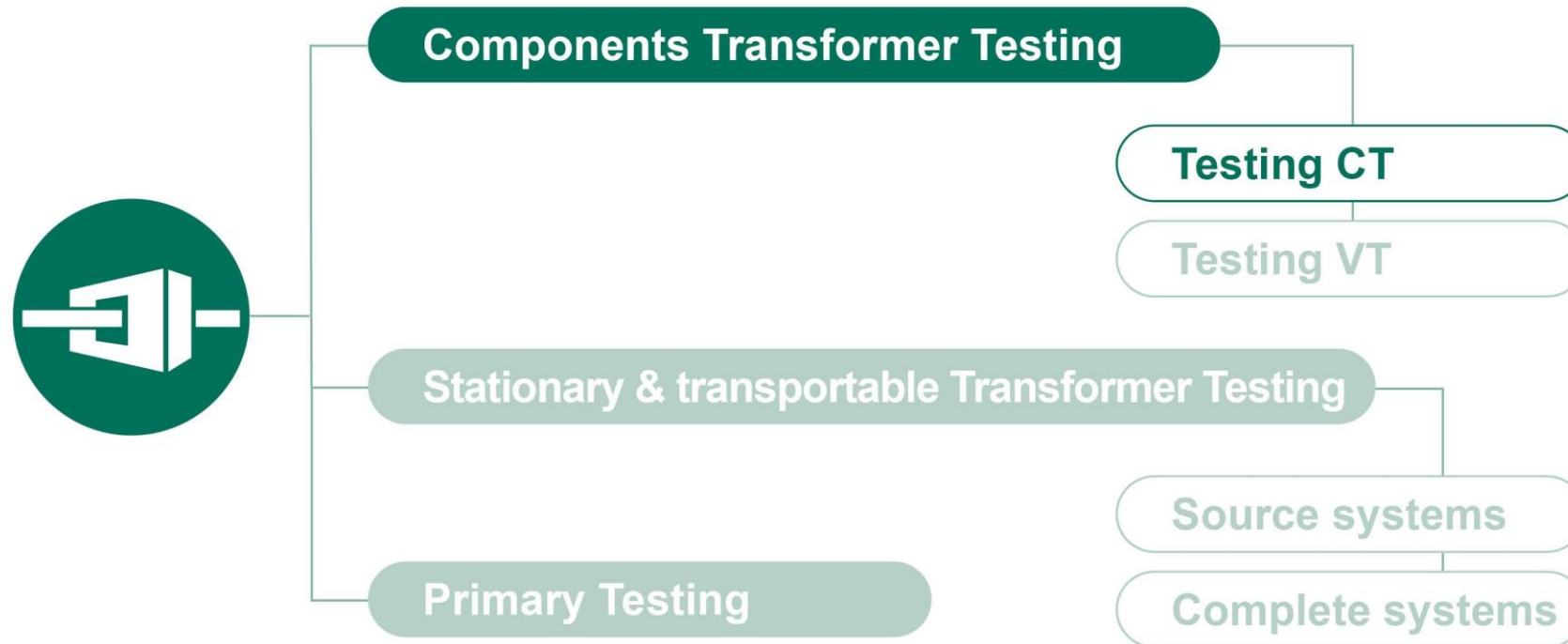
On-site measurement (without mains supply) of charging stations of electric vehicles

Specials

- Independent of the mains supply by battery operation of the connected reference meter (MT3x0s2)
- Comfortable control by guided test sequences via WinSAM and tablet
- Short set-up times
- Comprehensive range of accessories
- Electromechanical plug locking
- Security check / cable detection
- Temperature monitoring of the high-current contacts
- Suitable for high-current / quick charging stations



Product Overview, Transformer Testing



Testing of Current Instrument Transformers



WM1000I

Current transformer
measuring bridge
For conventional CTs



WM3000I

Current transformer
measuring bridge
For all types of CTs



ESCB100

Electronic compensated
Standard Current Burden
**Fixed burden steps
Manual CT testing**

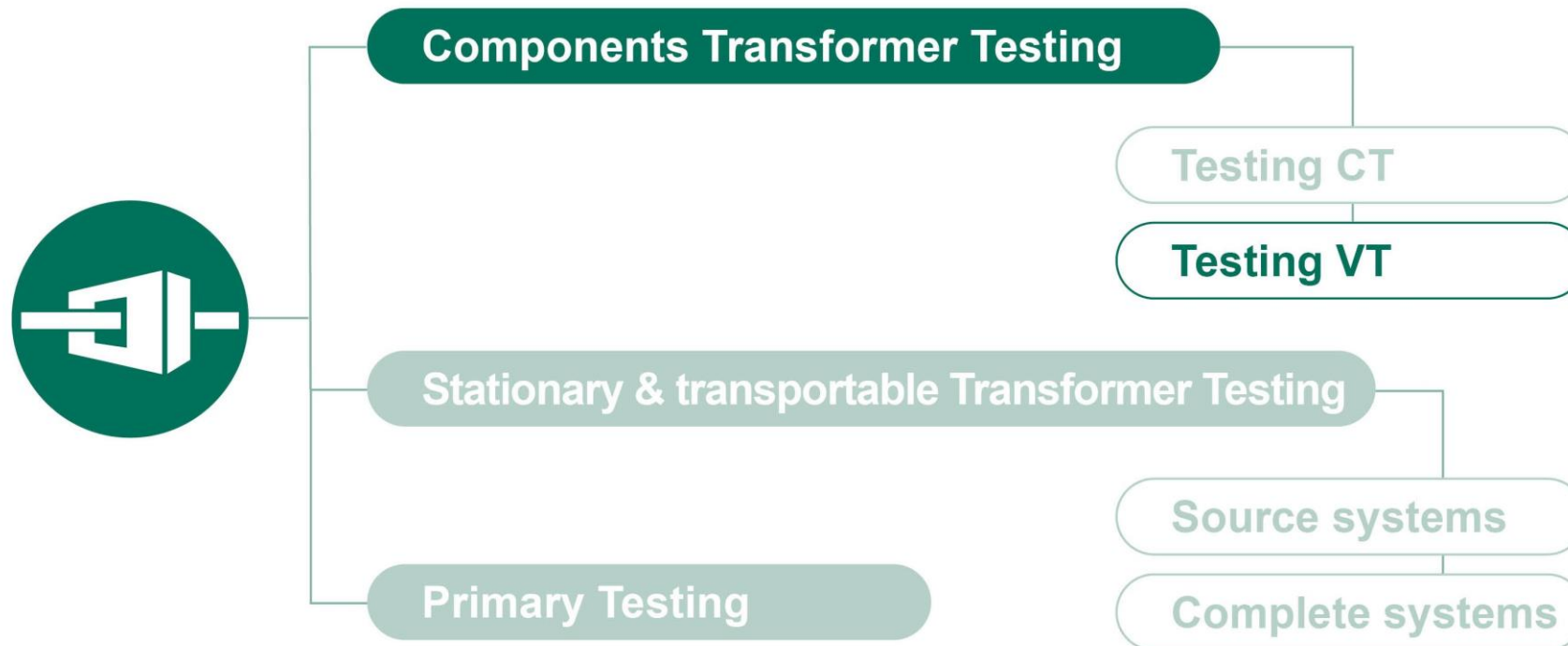


ESCB200

Electronic compensated Standard
Current Burden
**Free selectable burden steps
Manual & automatic CT testing**



Product Overview, Transformer Testing



Testing of Voltage Instrument Transformers



WM1000U

Voltage transformer
measuring bridge
For conventional VTs



WM3000U

Voltage transformer
measuring bridge
For all types of VTs



ESVB100

Electronic compensated
Standard Voltage Burden
Fixed burden steps
Manual VT testing

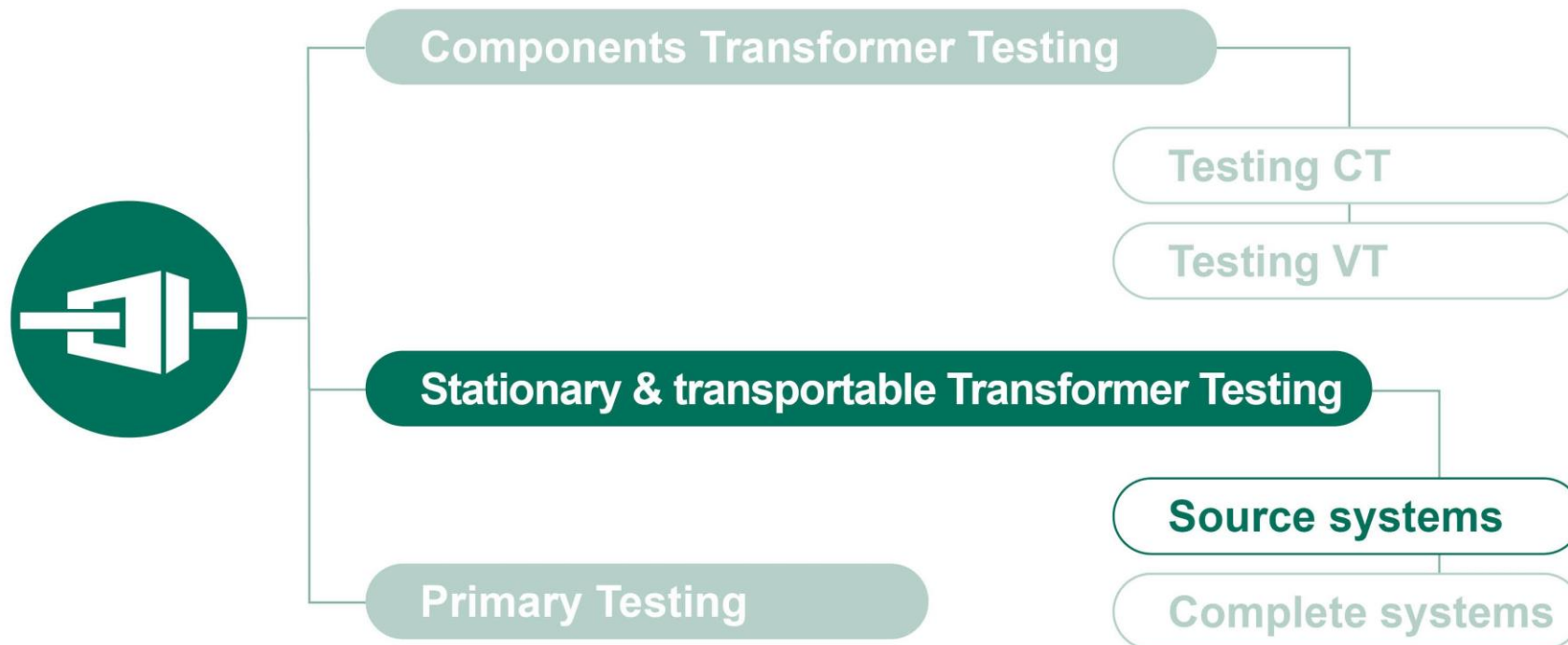


ESVB200

Electronic compensated Standard
Voltage Burden
Free selectable burden steps
Manual & automatic VT testing



Product Overview, Transformer Testing



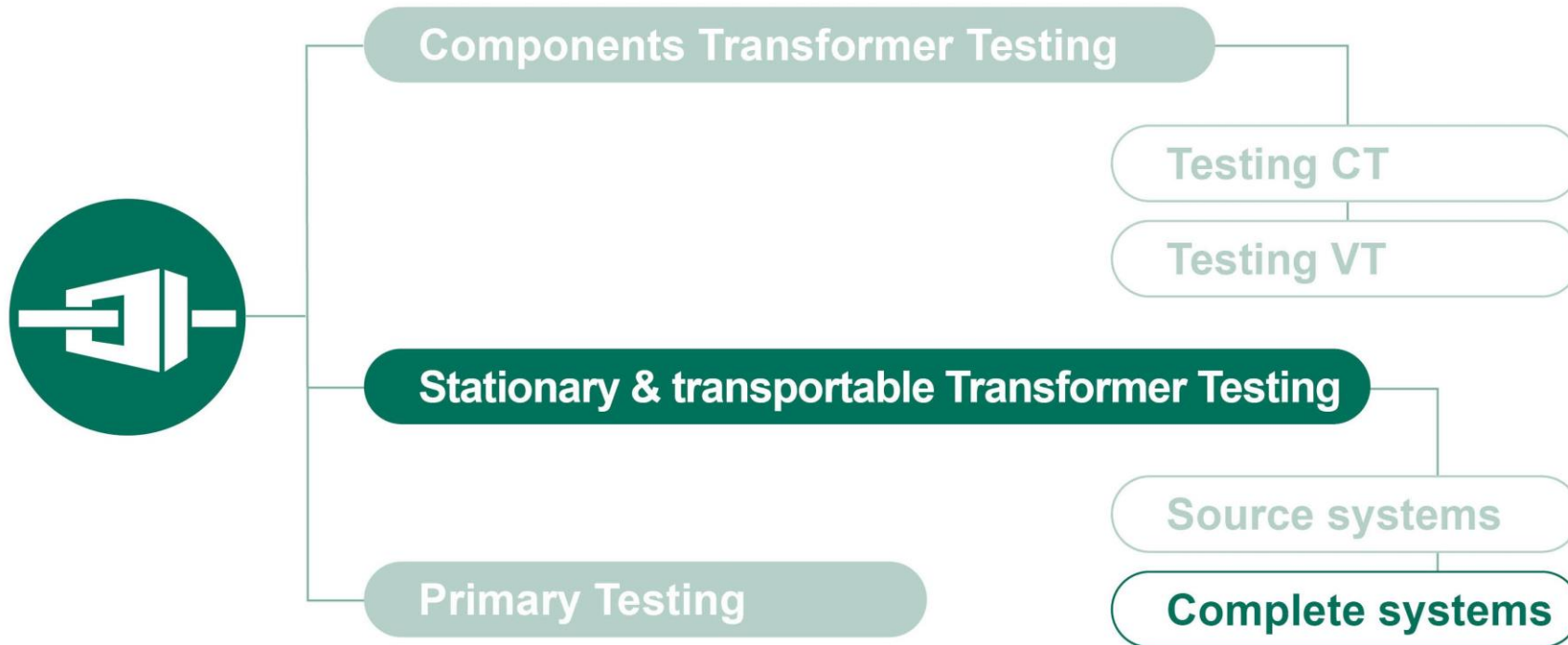


EVRMU
Electronic Source
max. 400 V, 50 Hz / 60 Hz



VRT
Transformatory Source
max. 400 V, mains frequency

Product Overview, Transformer Testing



Complete Systems for CT & VT testing



ITTS eco
Compact CT Test System
Generation: max. 16 kVA

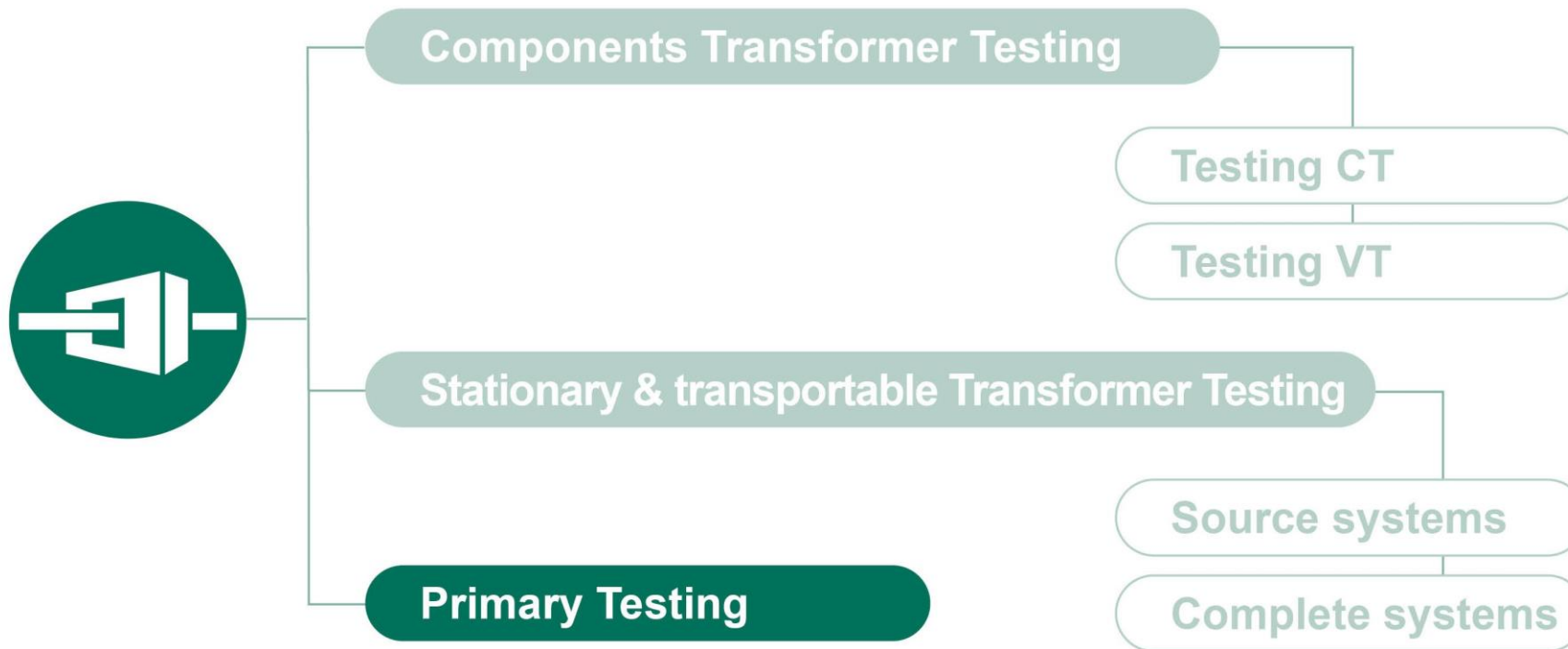


ITTS (CT-80)
CT Test System
Generation: max. 80 kVA



ITTS (CT-VT-80)
CT and VT Test System
Generation: max. 80 kVA

Product Overview, Switch Gear Testing



Switch Gear Testing



RPE04

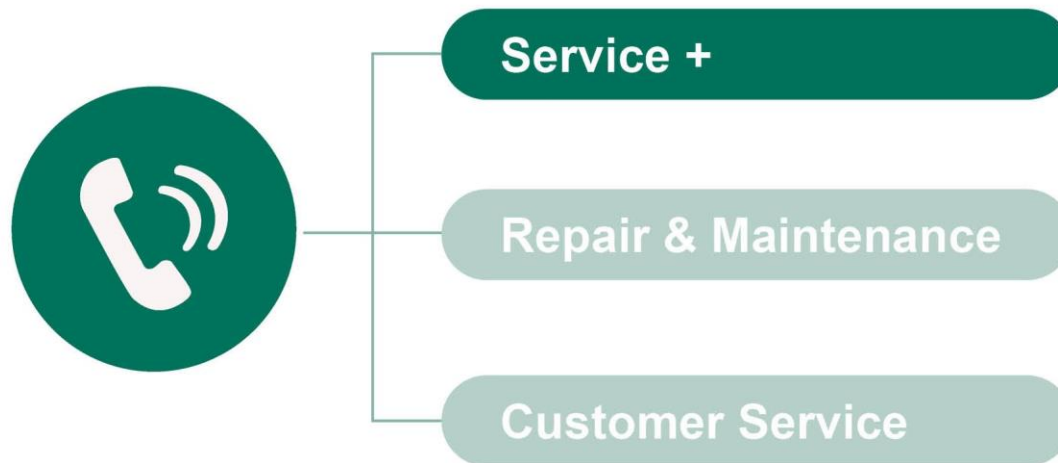
Constant Current Source
max. 4 kVA, 50 Hz,
mains frequency



RPE08

Constant Current Source
Cascadable amplifiers
at each 8 kVA, 50 Hz / 60 Hz

Product Overview, Services



The ZERA Service⁺

Diversified. Precise. Binding. Guaranteed.



- First class quality work
- Binding commitments
- Transparent costs
- Constant further development
- Complete freedom of choice
- Expandability of your service package at any time



Support

- Accessibility & Support Level 1-3



Safety

- Spare part
- Rental units
- Maintenance & reliability check
- Warranty extension
- DAkkS calibration



Software

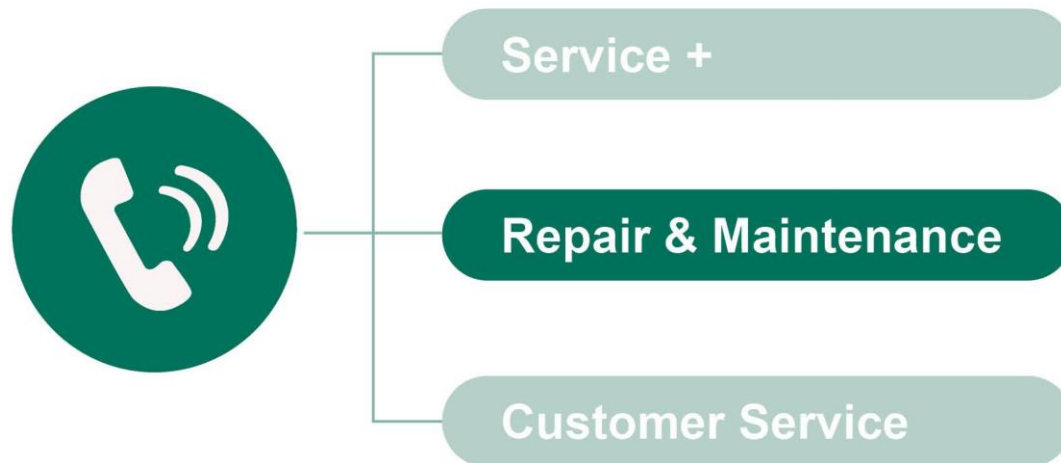
- WinSAM Update/ Upgrade
- WinSAM test sequence
- Measurement uncertainty budget



Training

- Training courses
- Consulting

Product Overview, Services





Repair

Reference Meters, Test Systems, Source Systems, Meter and Instrument Transformer Test Systems



Maintenance

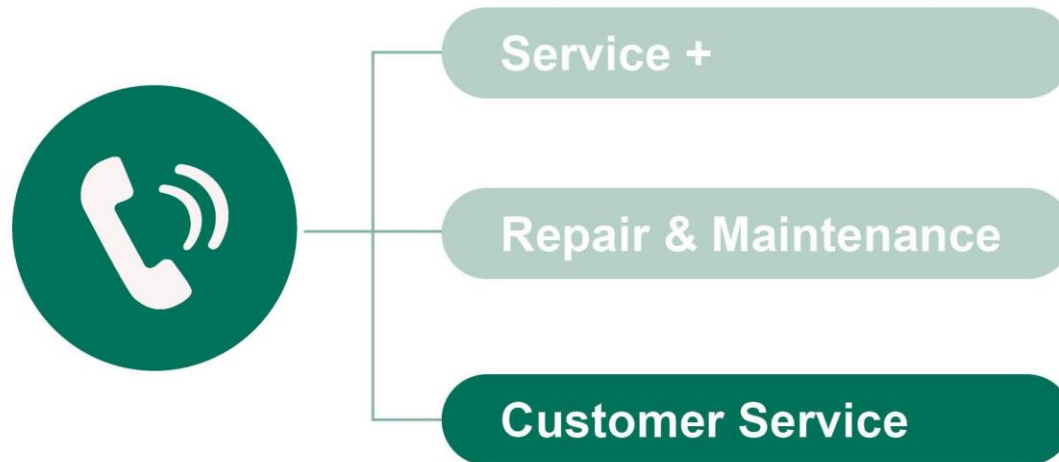
Regular maintenance tailored to your application



Upgrade

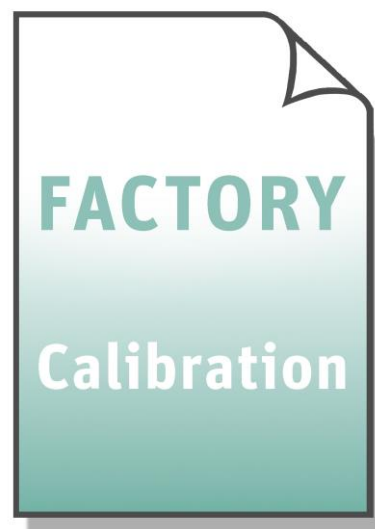
Software and Firmware

Product Overview, Services





DAKkS Calibration
for Reference Meters and
further test equipment



Factory Calibration
for Reference Meters and
further test equipment



Measurement Uncertainty Budget
Creation of a measurement
uncertainty budget for your
test equipment

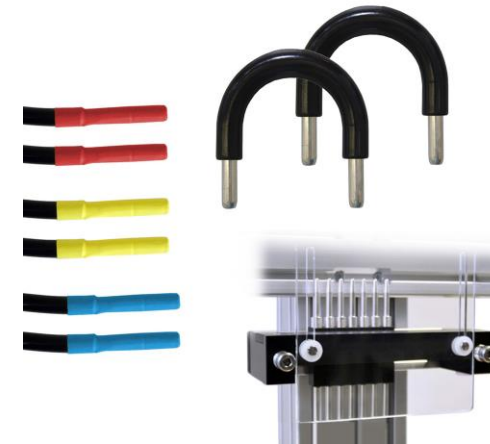
[Meter Test Systems](#) [Test Systems E-Mobility](#) [Instrument Transformer & Switch gear testing](#) [Services](#)



Loan unit pool
ZERA devices for an
agreed period



Accessories
Multifunctional – Everything
for your measuring tasks.



Spare Parts
Just in case.
Here are some quick
replacements.

Utilities, test laboratories as well as meter and transformer manufacturers from all over world



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