


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

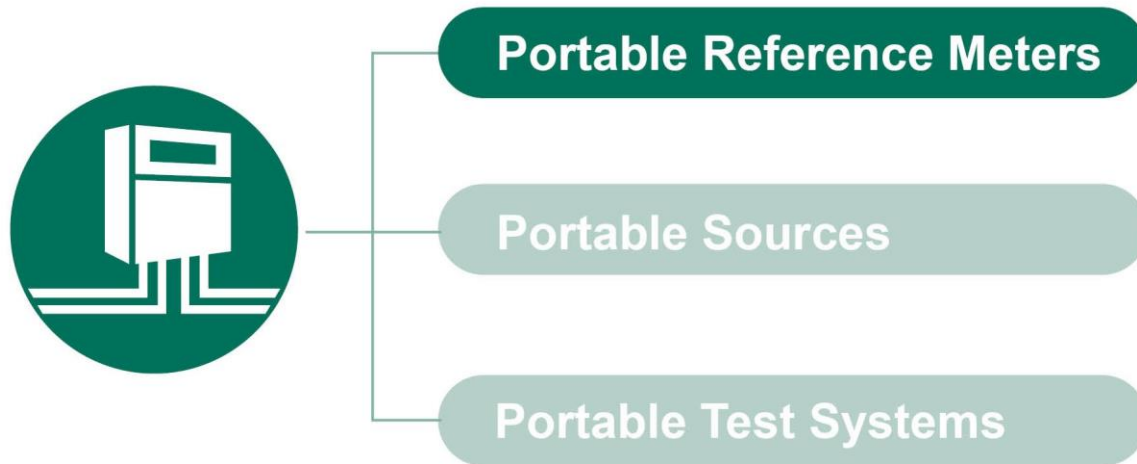


Instrument
transformer &
Switch gear testing



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 – Standard Set



Standard set MT3x0s2 CAT IV including accessories, battery pack, adjustment and factory calibration for one frequency.

Accuracy class

- MT310s2: 0.1
- MT320s2: 0.05

Main functions

- Direct measurement up to 12 A / 300 V
- Current measurement via special current clamps up to 120 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



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

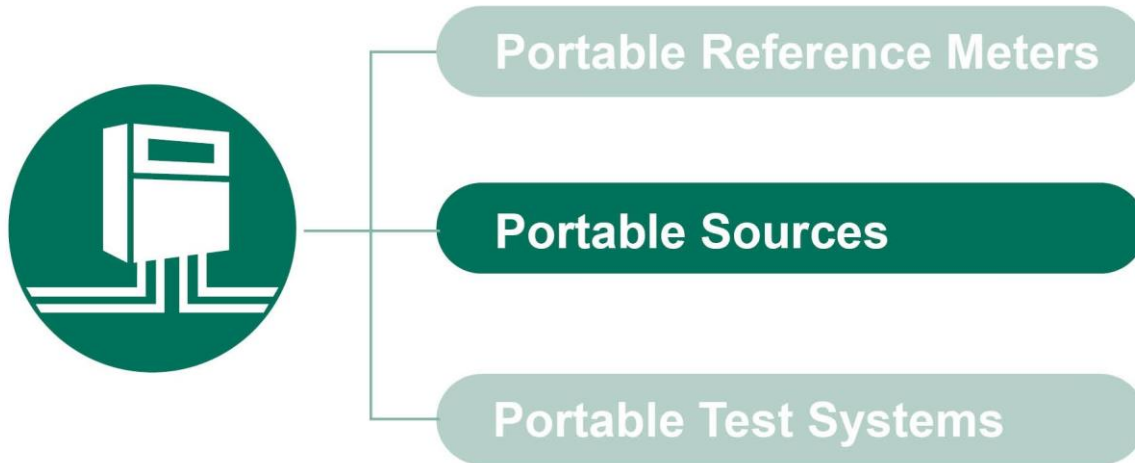
On-site measurement with system load or battery pack

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- 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

MT551 Current and voltage source – Standard Set



Standard set MT551 including accessories, adjustment and factory calibration for one frequency.

Current generation max.

- 120 A

Voltage generation max.

- 500 V

Scope of application

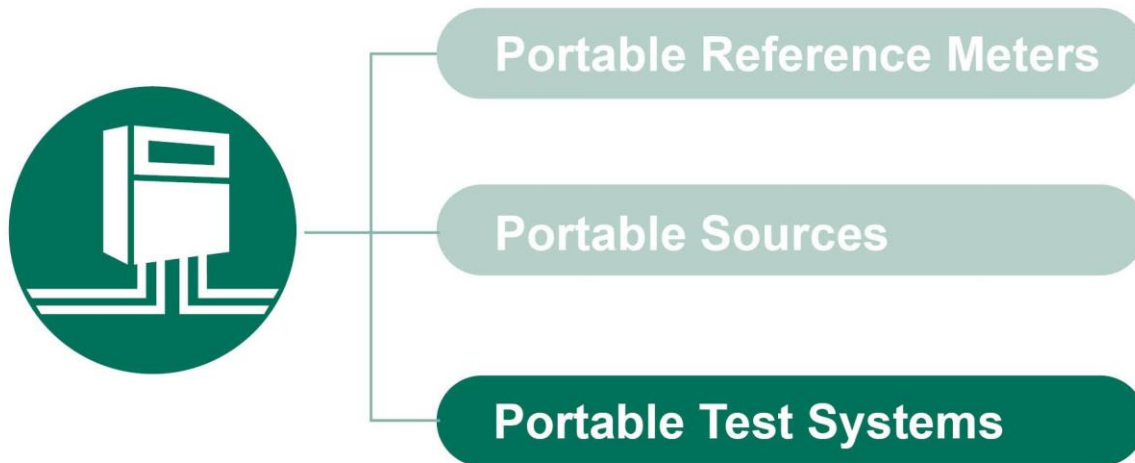
- Simulation of load while testing meter installations on-site

Specials

- Generation of harmonics up to the 40th
- Programmable waveforms for voltage and current
- Touch screen



Product Overview, On-site-Meter-Testing



Portable Test Systems



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

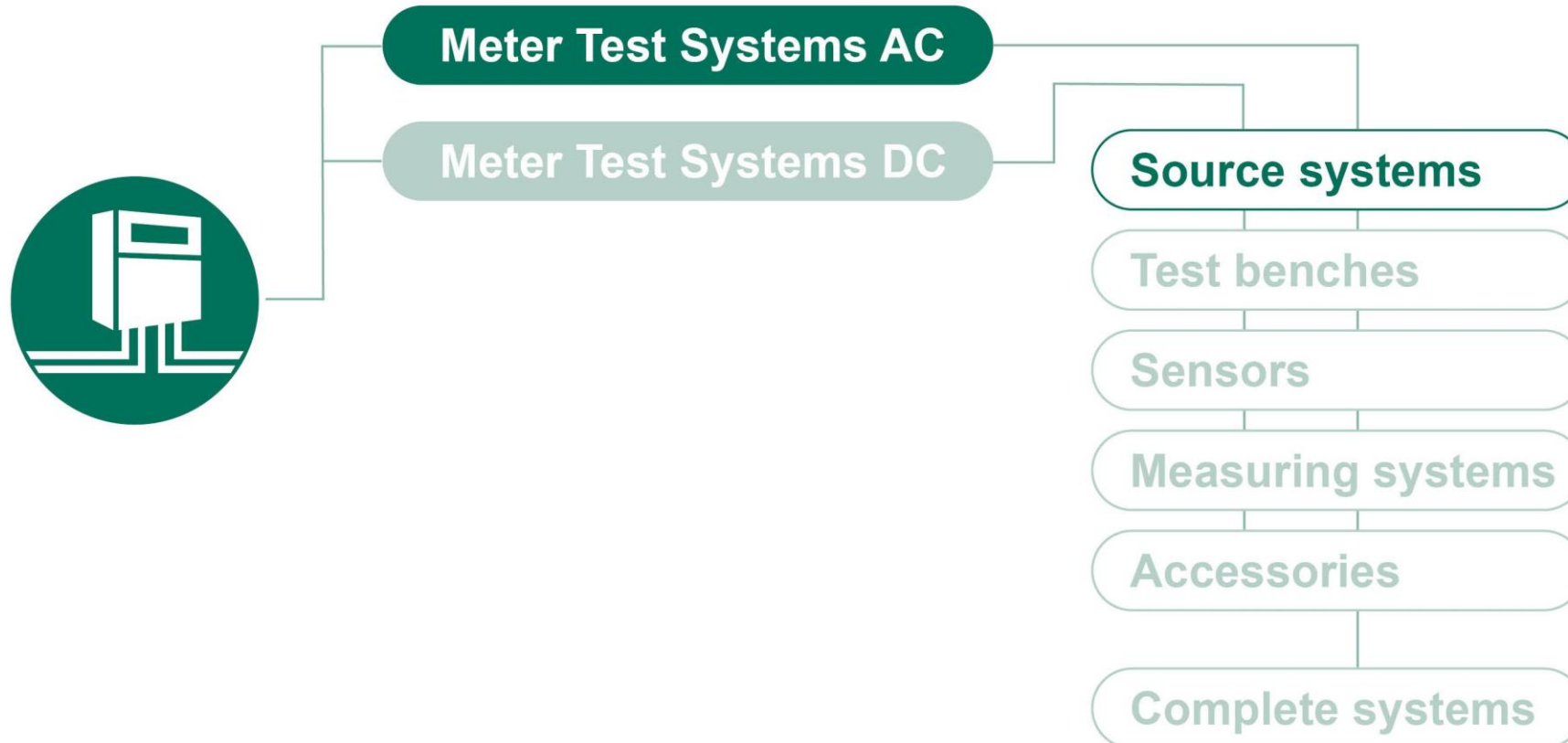


MT786 Standard Set
Three-phase Test System
including accessories
Class 0.05
120 A / 500 V



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 2000 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

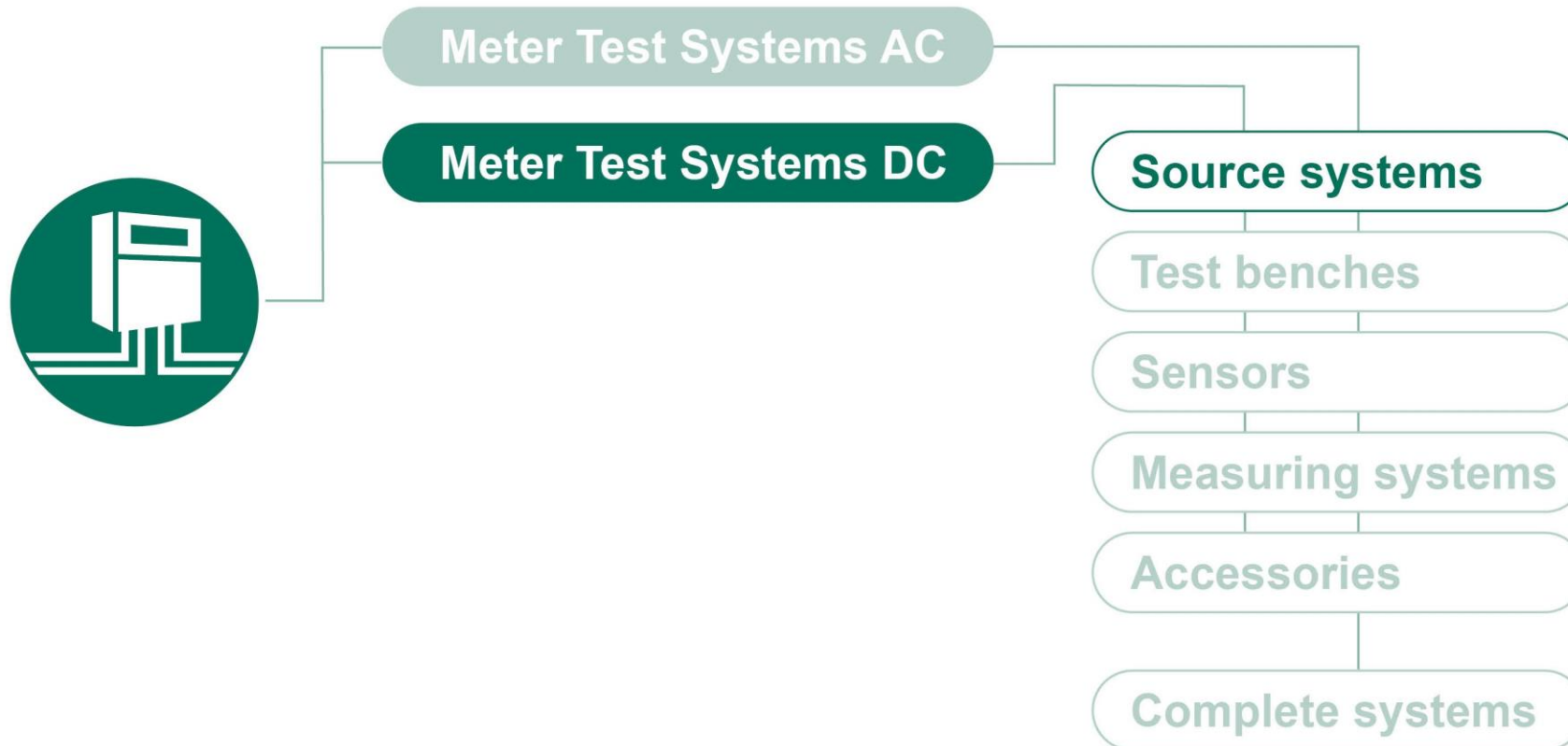


MTS320
U: 3 x 500 VA
I: 3 x 2000 VA
Class 0.02 up to 0.005

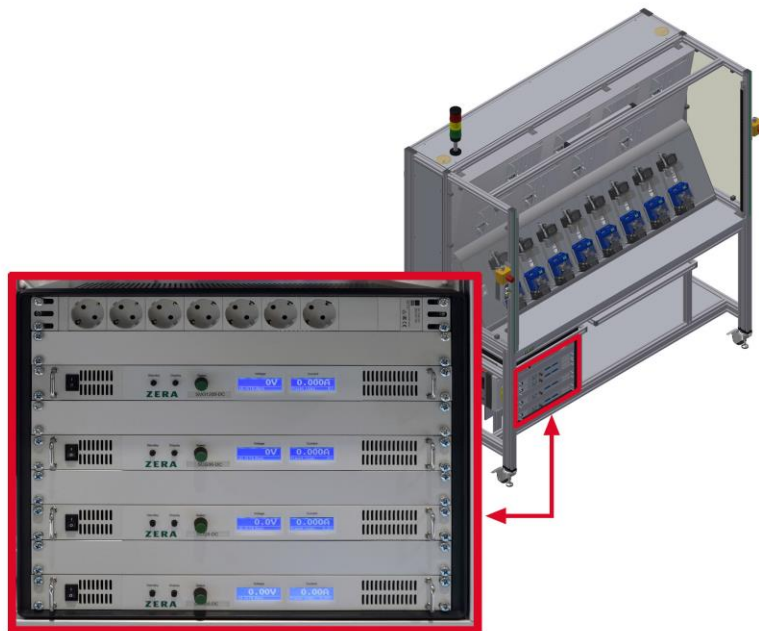


MTS340
U: 3 x 1500 VA
I: 3 x 2000 VA
Class 0.02 up to 0.005

Product Overview, Stationary Meter Testing



MTS710 Source System DC (integrated)



Main functions

- Generation of DC test values

Scope of application

- Usage in ZERA Meter Test Systems

Accuracy class

0.1

Voltage generation max.

1000 V (DC)

Current generation max

0 ... 100 A (DC)

Specials

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



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 DC quantities



MTS780 Source System DC



Main functions

- Generation of DC test values

Scope of application

- Testing of DC meters
- Testing of DC charging stations (High Power Charger) for EV

Accuracy class

0.1

Voltage generation max.

1200 V (DC)

Current generation max

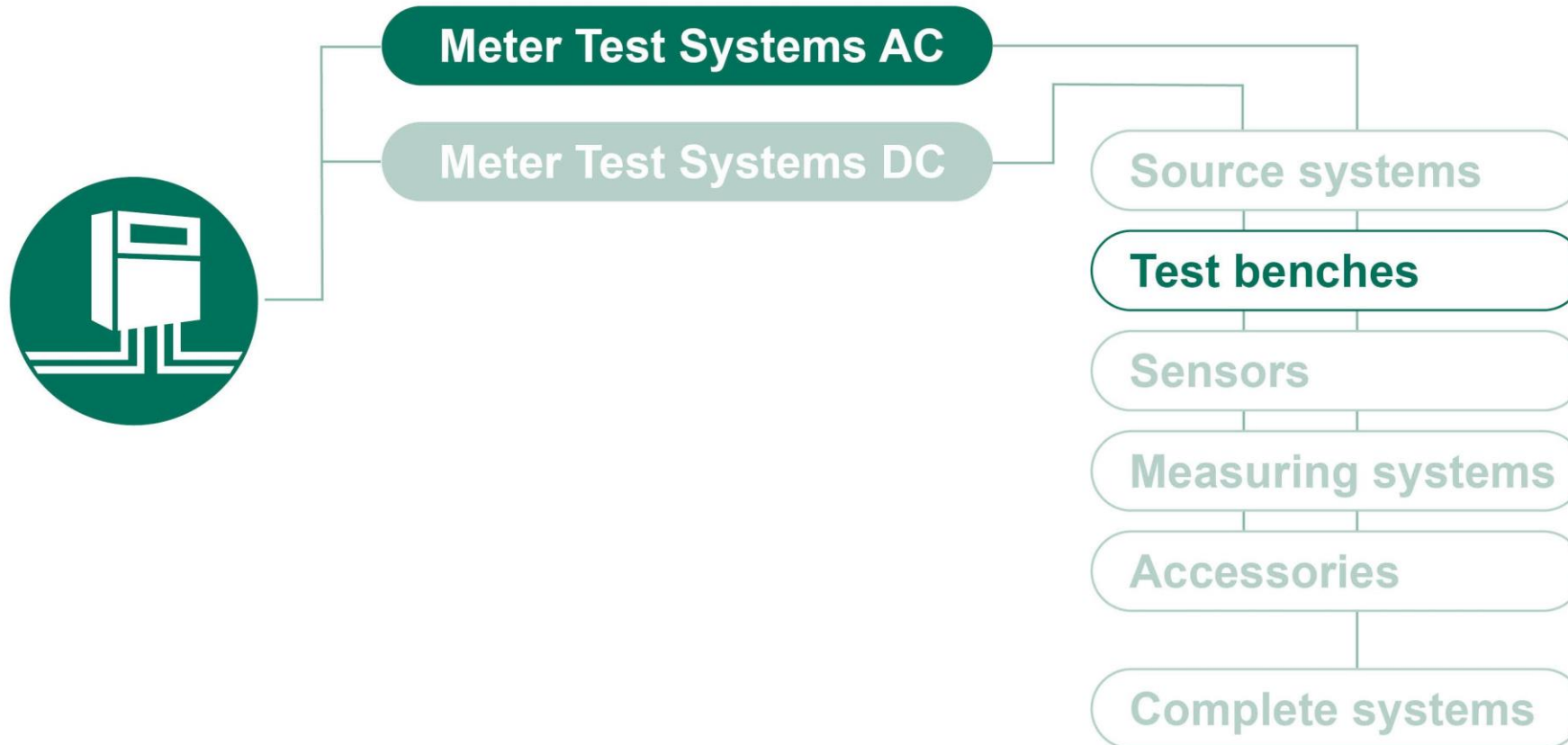
0 ... 1000 A (DC)

Specials

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

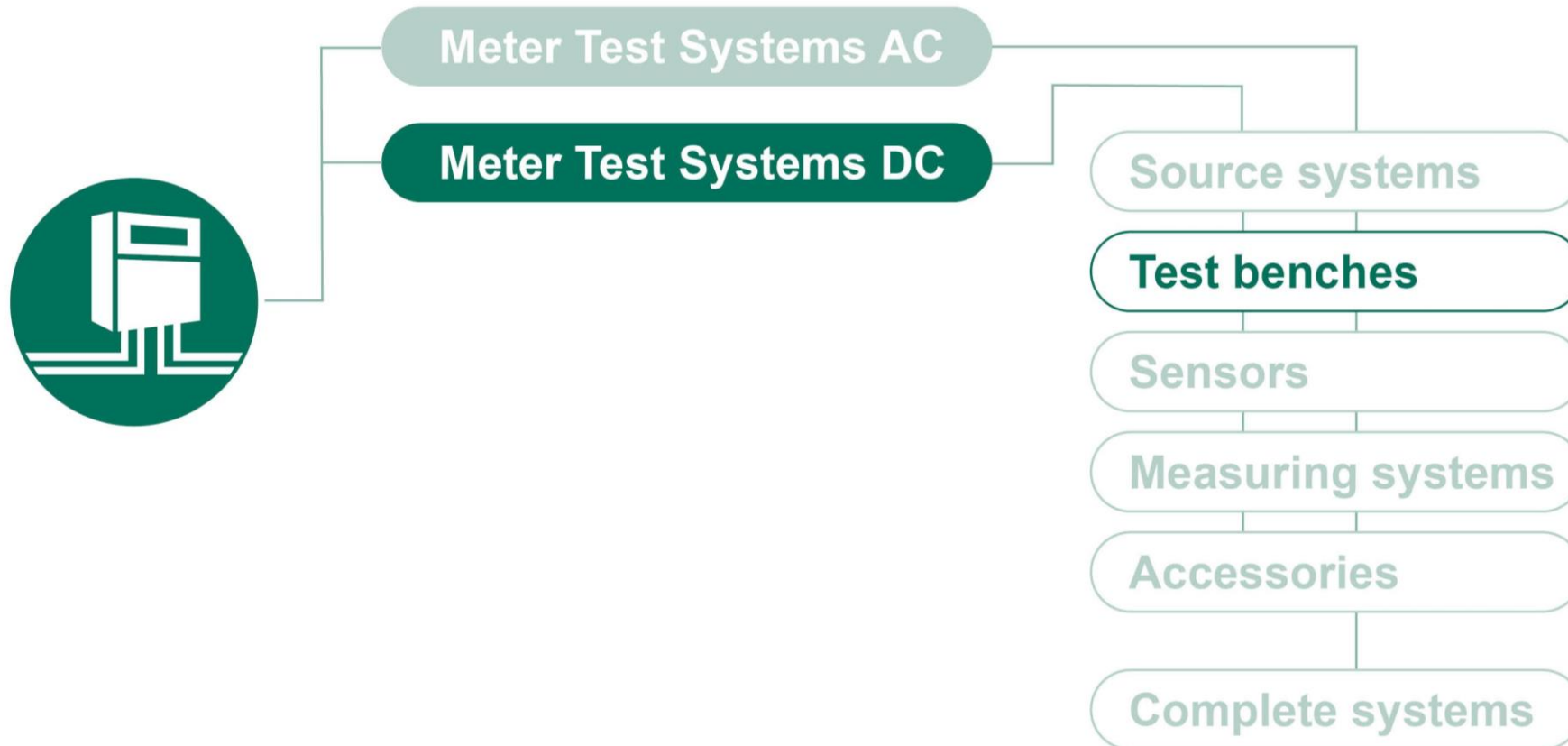
Test bench with 5, 10, 20 or 40 test positions

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

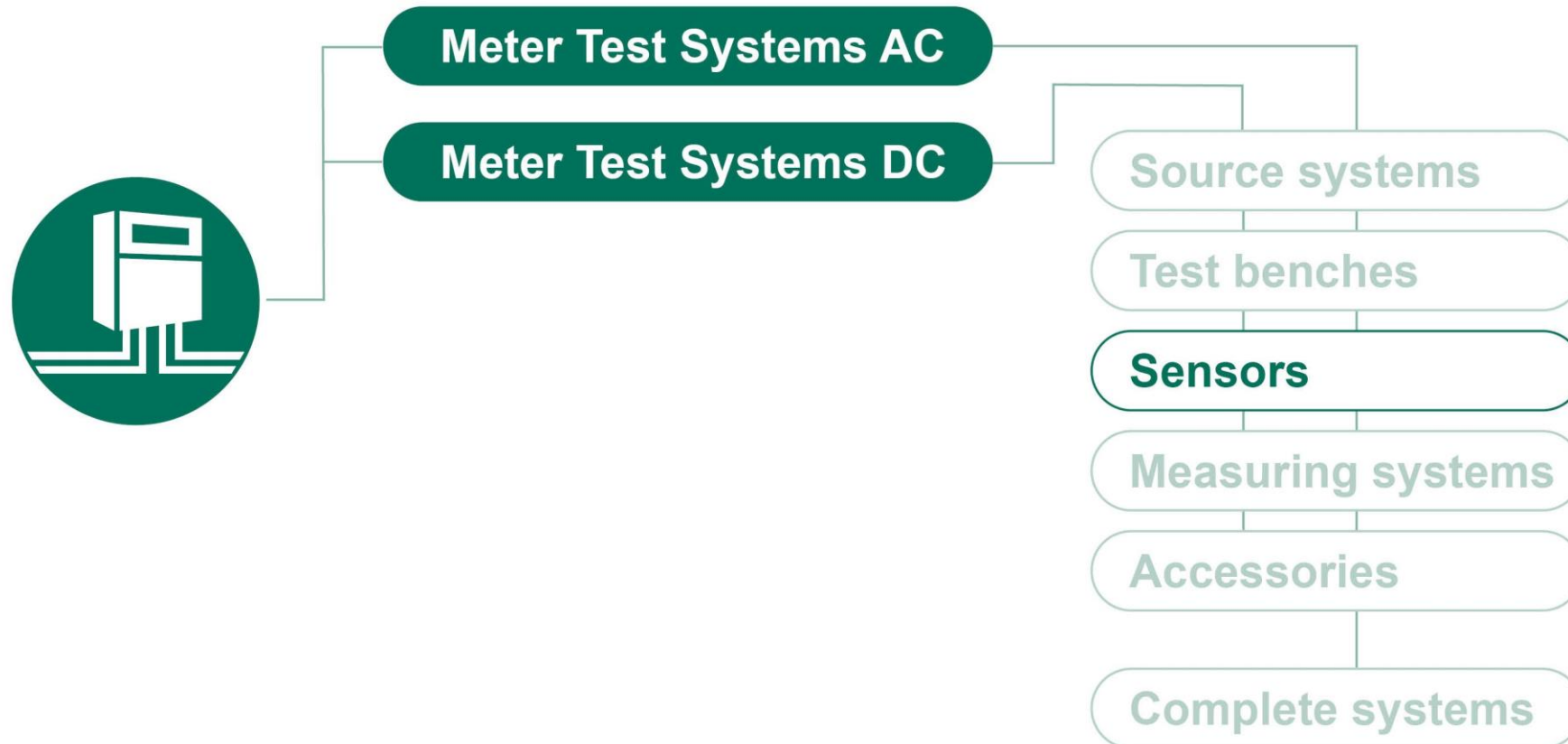
- Combined with a power source system e.g. MTS750 this test bench is used as a DC meter test system with max. 40 test positions

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

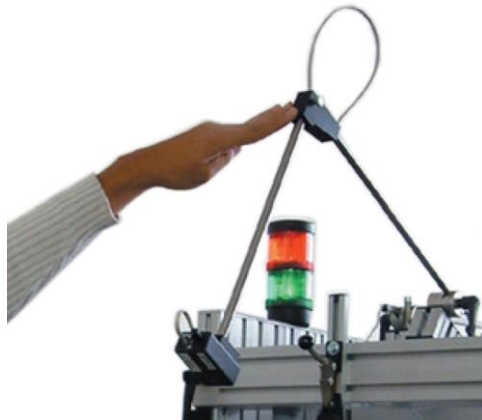


CAx000
Infrared Communication Adapter
Data communication with EDL meter and
Basiszähler (electrical energy meter)



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

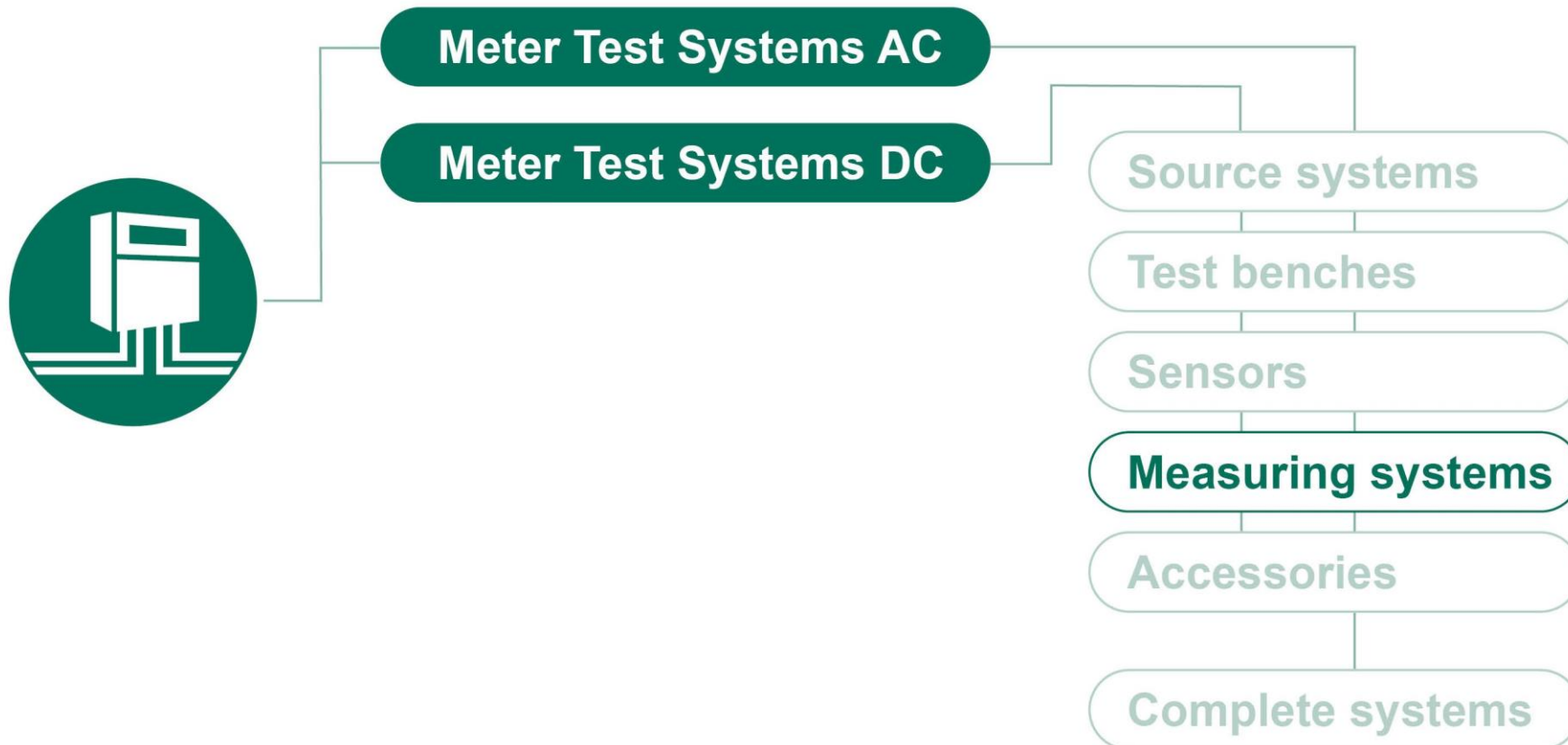


Basic Scanning Head Suspension
Folding mechanism adjustable in all directions



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

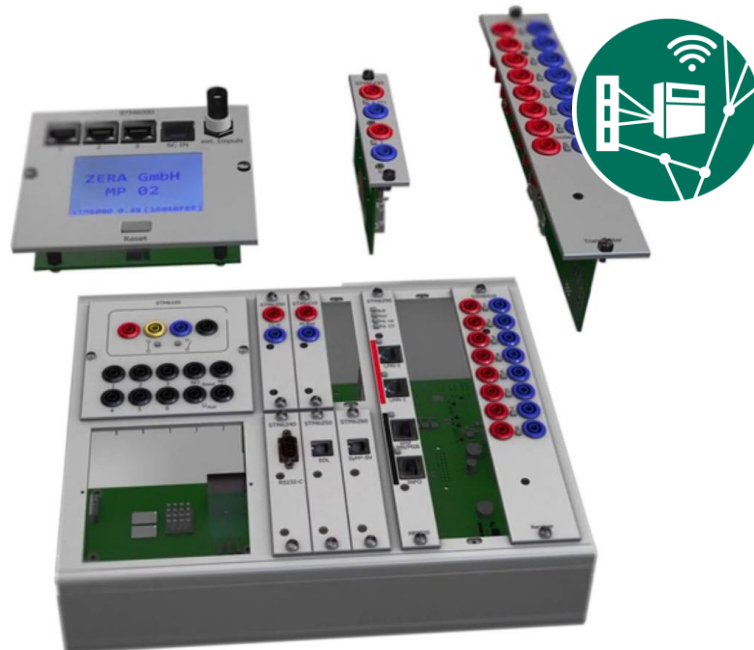
RS232, RS485, M-Bus, IR, S0

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

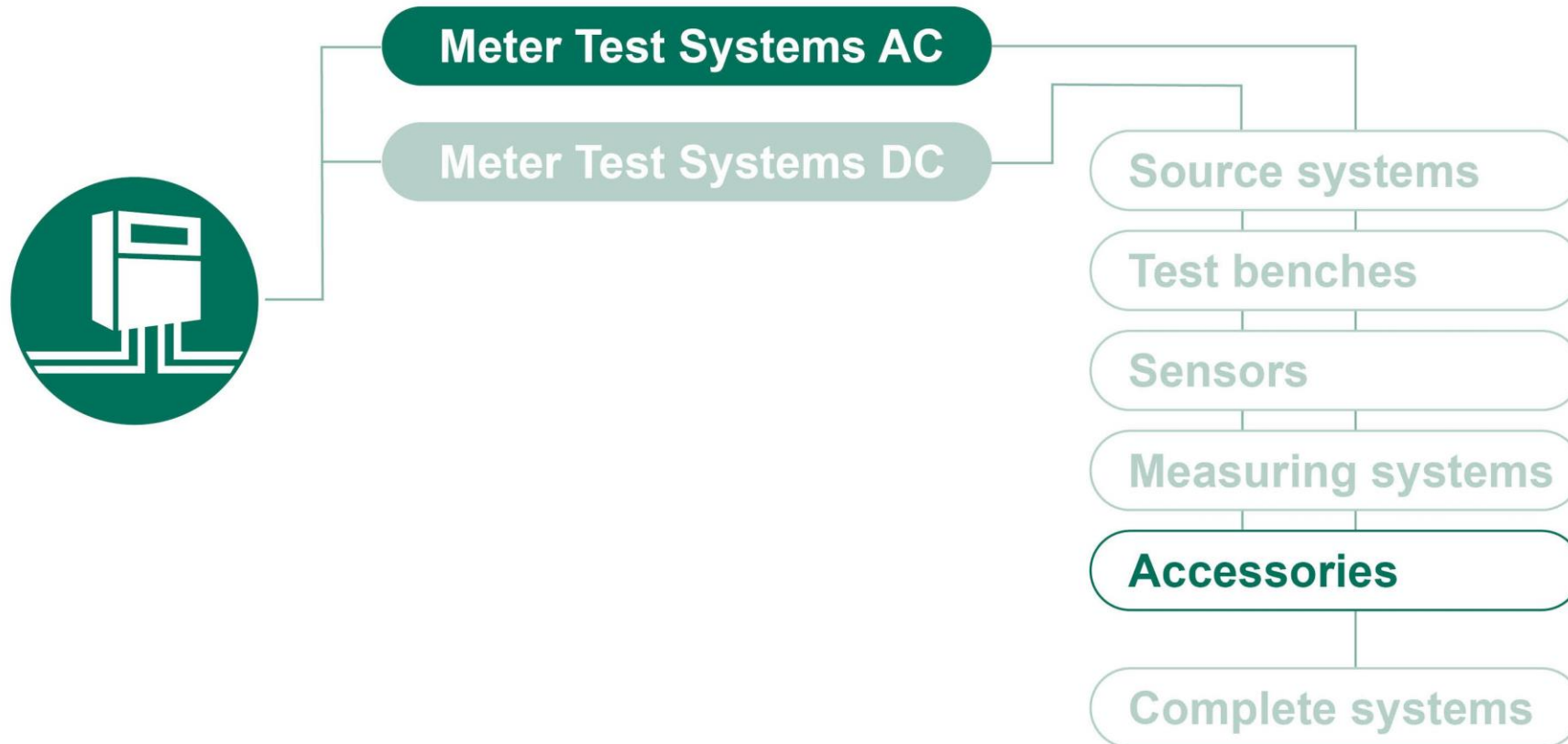
RS232, RS485, RF, 20mA, PLC, M-Bus, IR, ZigBee etc.

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



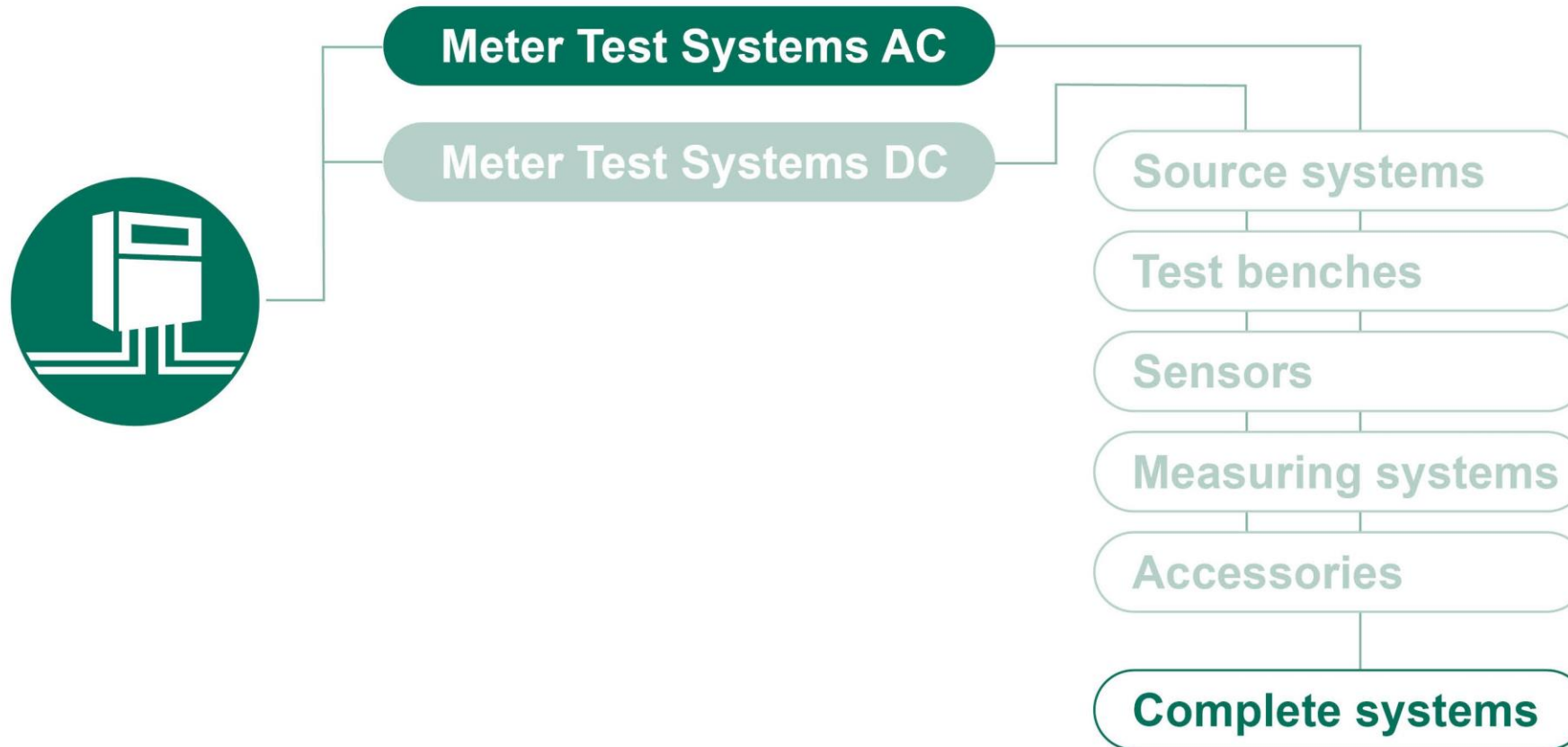
ICT125/ICT126
Isolated Current Transformers
Max. current range
160 A 1:2 / 1:1
Burden measurement
Breaker test



ICT127
Isolated Current Transformers
Max. current range
120 A 1:1 / 10:1
Burden measurement
Breaker test



Product Overview, Stationary Meter Testing



Standard Meter Test Systems



MTS - Metrology
 Standard Meter Test System
 DS421, measuring system
Testing of metrology



MTS - Communication
 Standard Meter Test System
 STM4000, digital measuring system
*Testing of metrology
 and communication*



MTS – Advanced Communication
 Standard Meter Test System
 STM4000, digital measuring system
*Testing of metrology
 and communication
 with additional interfaces*



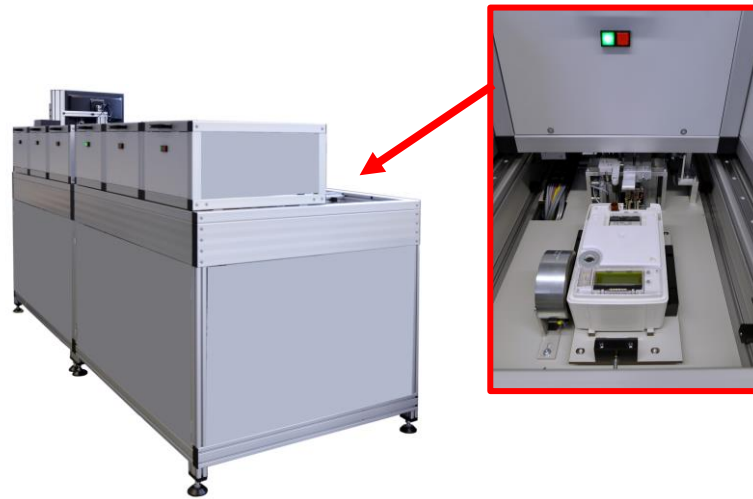
MTS – Premium Communication
 Standard Meter Test System
 STM6000, digital measuring system
*Testing of metrology
 and communication
 on the highest level*



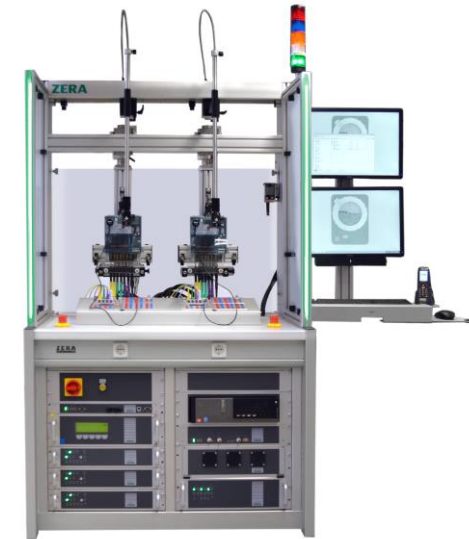
Complete Systems



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[DC]
Comparator
Class 0.04



COM5002
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 charging station
Max. 32 A AC
Connector type 2



EMOB80
Test case for charging station
Max. 80 A AC
Connector type 1



EMOB200*
Test case for charging station
Max. 32 A AC and 200 A DC
Connector type 2 / CCS 2
* as version -10 type 1 / CCS 1
up to 80 A AC and 200 A DC



EMOB500
Test case for charging station
Max. 500 A DC
Connector type 2 / CCS 2

EMOB32 Test case for AC charging stations



Connector: Type 2

Phases: 3

Current/Voltage measurement

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

Accuracy class

- 0.1

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

Phases: 1

Current/Voltage measurement

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

Accuracy class

- 0.1

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



EMOB 200-00 Test case for AC & DC charging stations



Connector: Type 2 / CCS 2

Phases: 1,3

Current/Voltage measurement

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

Accuracy class

- 0.1

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



EMOB 200-10 Test case for AC & DC charging stations



Connector: Type 1 / CCS 1

Phases: 1,3

Current/Voltage measurement

- 200 A (DC), 80 A (AC)
- 1000 V (DC), 300 V (AC)

Accuracy class

- 0.1

Main functions

- Direct connection to charging stations for electric vehicles
- Direct measurement up to 200 A (DC) and 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 / cable detection
- Temperature monitoring of the high-current contacts
- Suitable for high-current / quick charging stations



EMOB 500 Test case for DC charging stations



Connector: Type 2 / CCS 2

Phases: 1

Current/Voltage measurement

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

Accuracy class

- 0.1

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



Stationary test solutions for EV charging stations



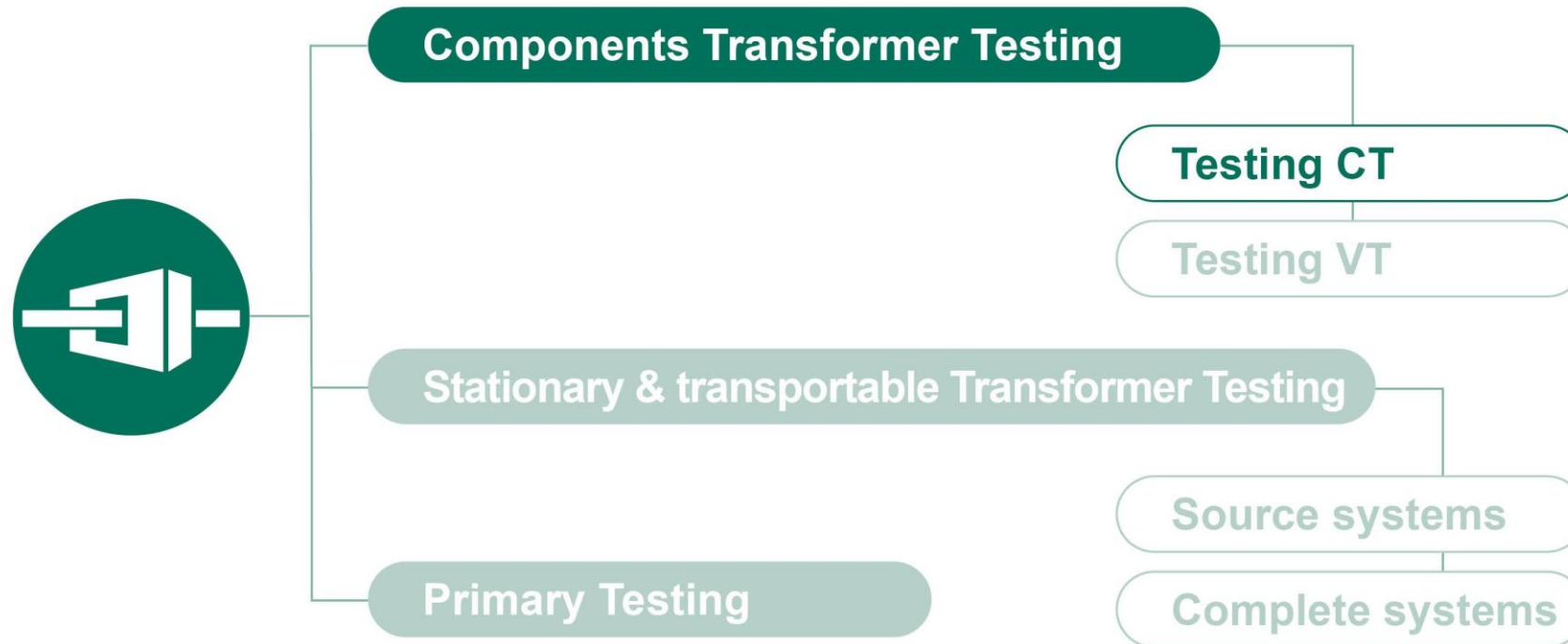
MTS310e
Source and Test system
for AC charging stations
Class 0.02
Max. 120 A (AC)
Max. 320 V (AC)



MTS750e
Source and Test system
for DC charging stations/HPC
Class 0.1 (0.04 COM3003DC)
Max. 1000 A (DC)
Max. 1500 V (DC)



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

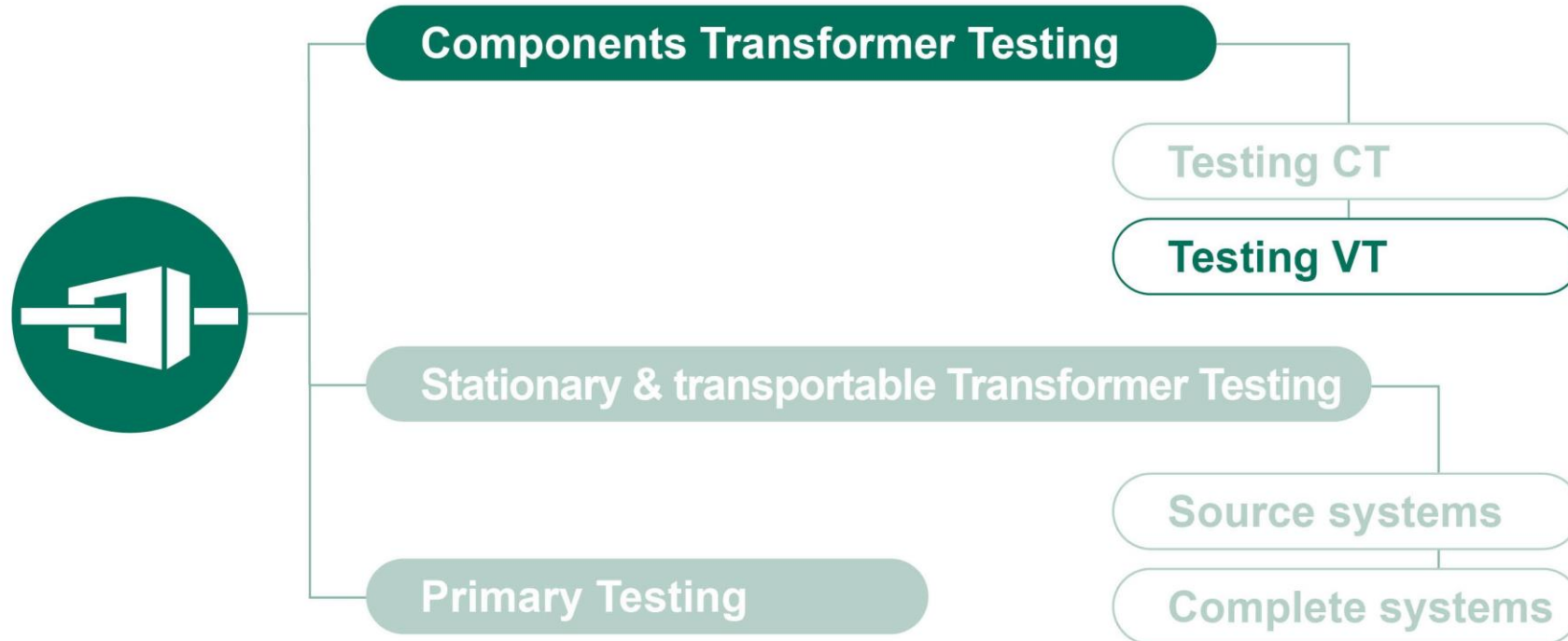
Electronic compensated
Standard Current Burden
**Fixed burden steps
Manual CT testing**

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



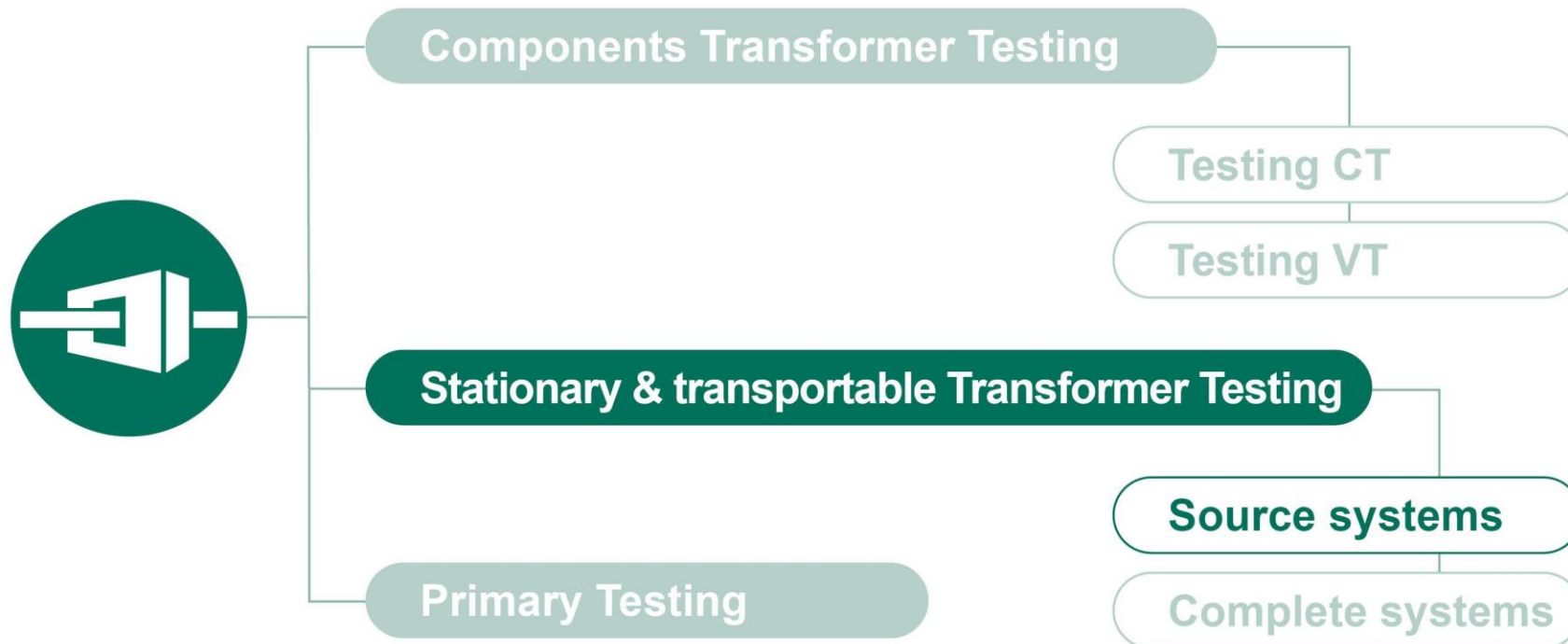
ESVB100
Electronic compensated
Standard Voltage Burden
Fixed burden steps
Manual VT testing



ESVB200
Electronic compensated Standard
Voltage Burden
Free selectable burden steps
Manual & automatic VT testing



Product Overview, Transformer Testing



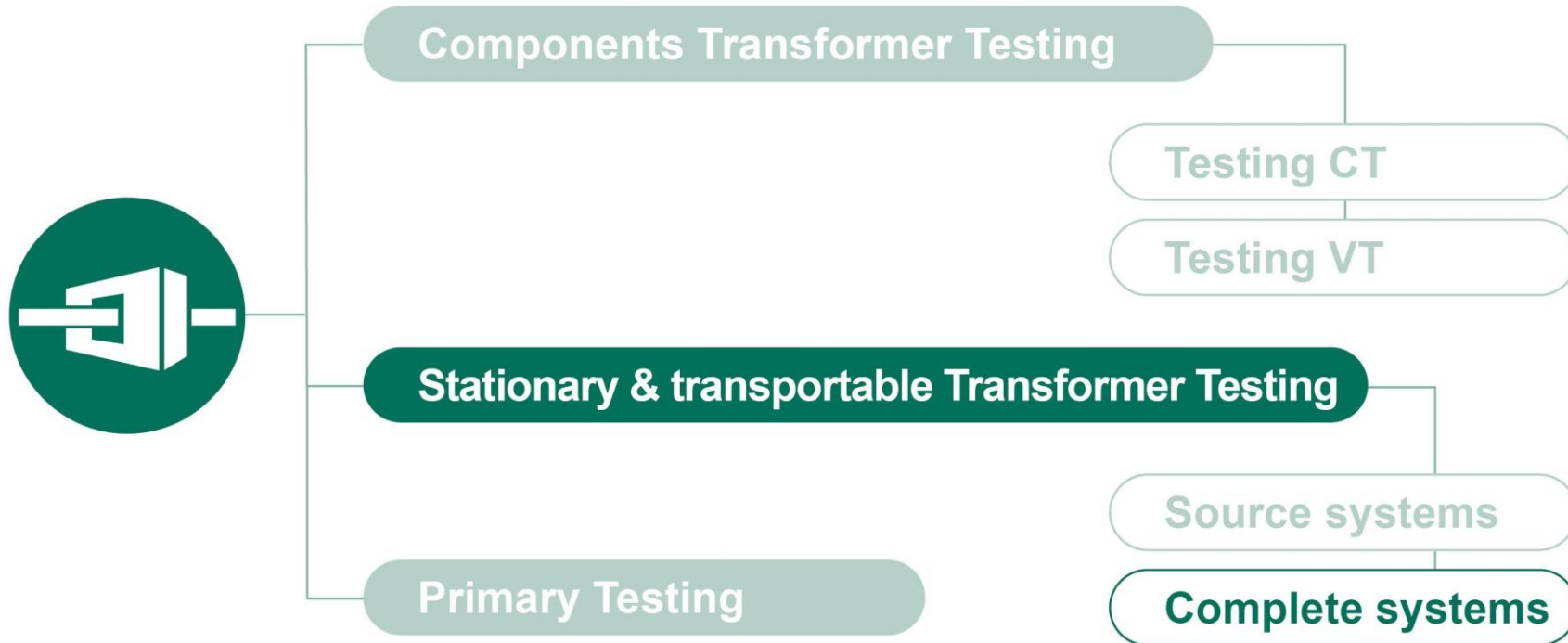


EVRMU
Electronic Source
max. 400 V, 50 Hz / 60 Hz



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

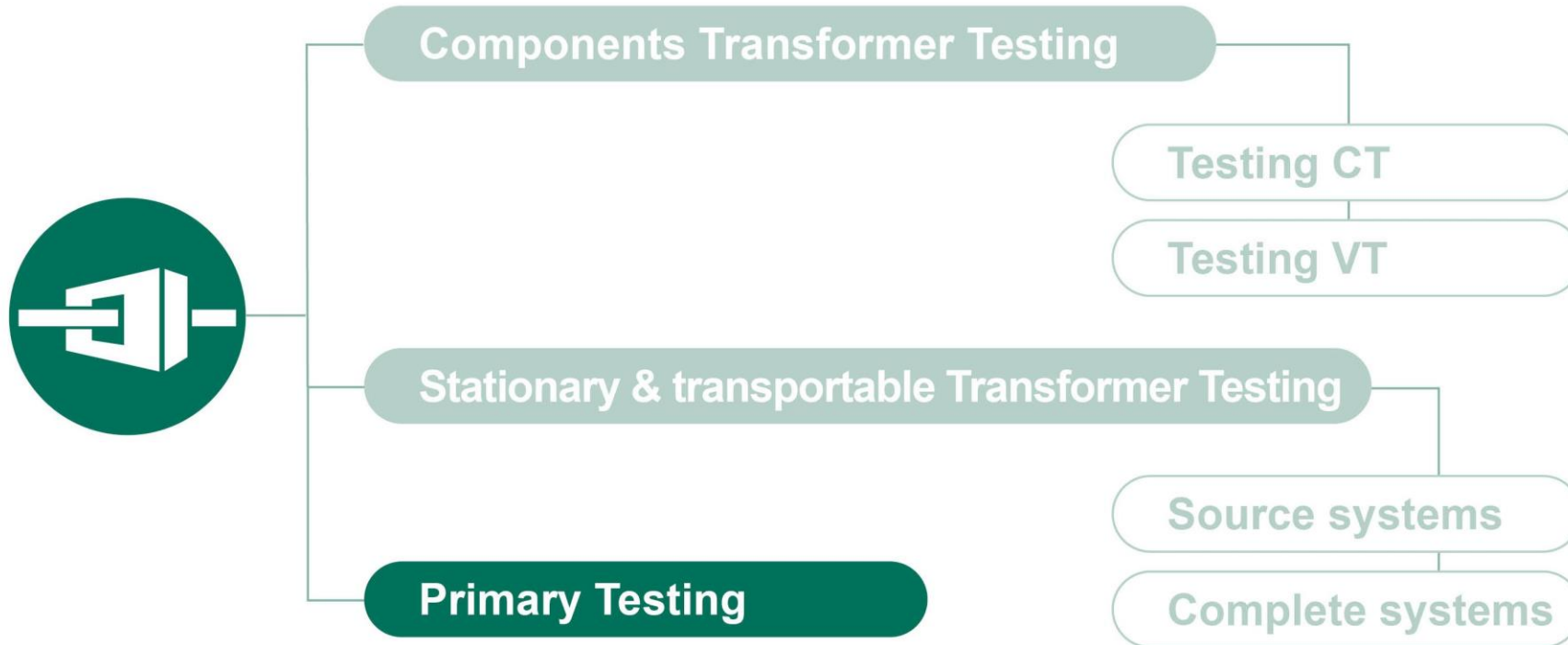


ITTS (CT-80)
CT Test System
Generation: max. 80 kVA



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

Product Overview, Switch Gear Testing



Switch Gear Testing

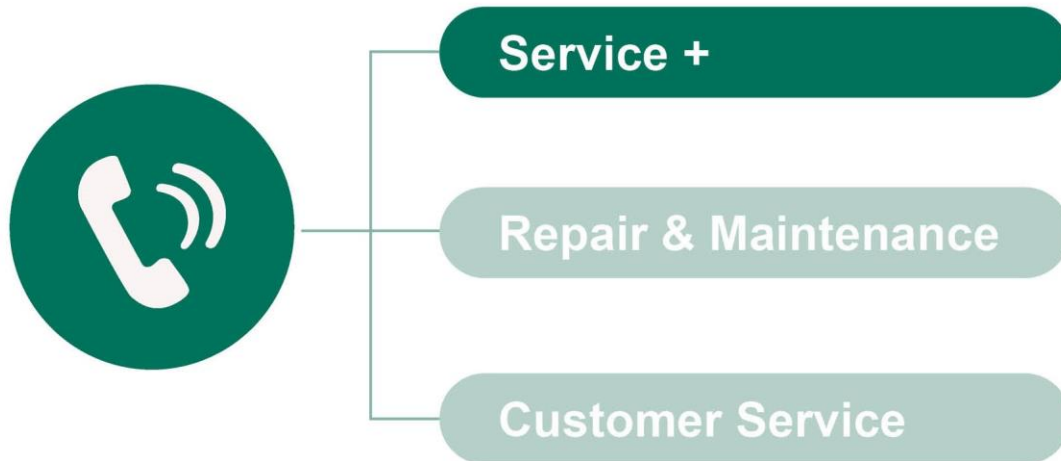


RPE04
Constant Current Source
max. 4 kVA, 50 Hz,
mains frequency



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

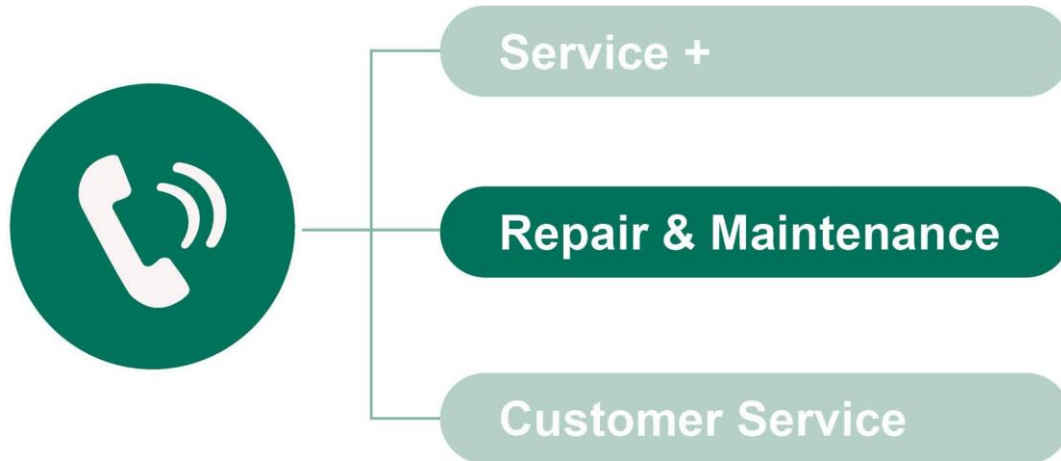


Training

- Training courses
- Consulting



Product Overview, Services





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

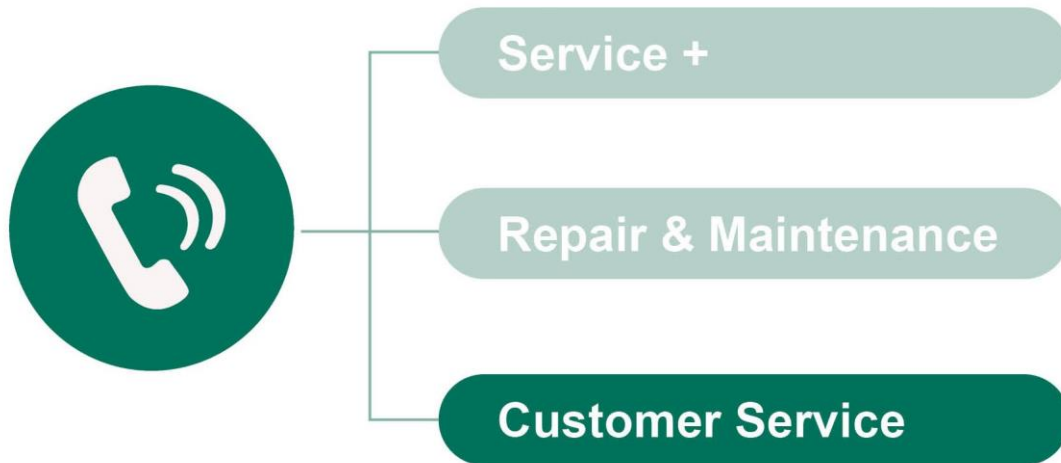


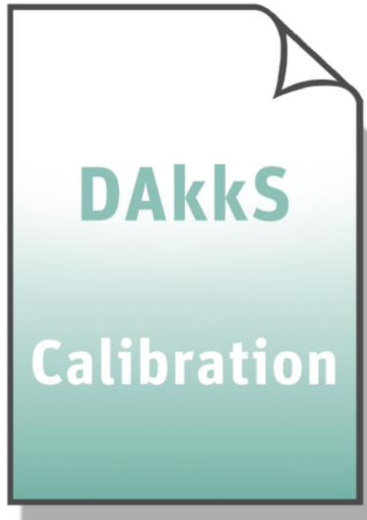
Maintenance
Regular maintenance
tailored to your application



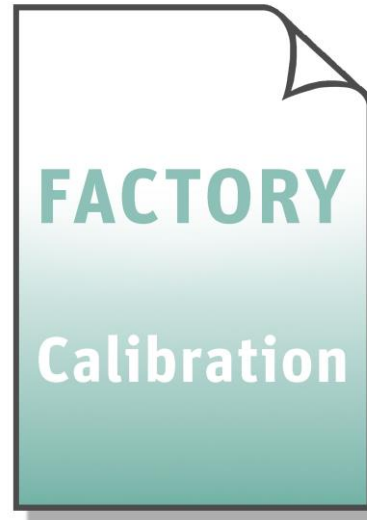
Upgrade
Software and Firmware

Product Overview, Services





DAkkS Calibration
for Reference Meters and
further test equipment



Factory Calibration
for Reference Meters and
further test equipment



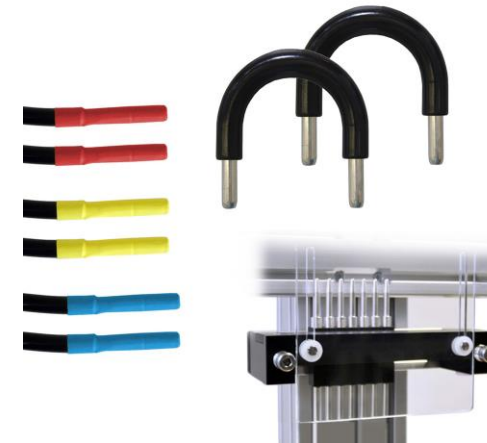
Measurement Uncertainty Budget
Creation of a measurement
uncertainty budget for your
test equipment



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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