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**ZERA**

**MT68xs**  
**Product Catalogue**

Doc.No: 100352722  
Version from: 01.01.2024

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## Device



### MT680s Single Phase Test System

Inclusive adjustment and factory calibration for one mains frequency.

Ord.No. **1016734xx**

Calibration	Ord.No.
Factory 50 Hz	xx → 00
Factory 60 Hz	xx → 01
DAkKS 50 Hz	xx → 02
DAkKS 60 Hz	xx → 03

MT680s consists of a Reference Meter and a current source integrated in one device.  
 Test voltage will be measured at mains on site.  
 Test current will be injected by the test system or measured at mains on-site as application of test system without source.

MT680s is designed for testing of max. 1 test specimen.

#### Configuration:

- Direct current measurement up to 500 V / 120 A
- Accuracy for power/energy measurement: <  $\pm 0.1$  %
- 1~ phase current generation up to 120 A (AC)



### MT686s Single Phase Test System

Inclusive adjustment and factory calibration for one mains frequency.

Ord.No. **1016735xx**

Calibration	Ord.No.
Factory 50 Hz	xx → 00
Factory 60 Hz	xx → 01
DAkKS 50 Hz	xx → 02
DAkKS 60 Hz	xx → 03

MT686s consists of a Reference Meter and a current source integrated in one device.  
 Test voltage will be measured at mains on site.  
 Test current will be injected by the test system or measured at mains on-site as application of test system without source.

MT686s is designed for testing of max. 1 test specimen.

#### Configuration:

- Direct current measurement up to 500 V / 120 A
- Accuracy for power/energy measurement: <  $\pm 0.05$  %
- 1~ phase current generation up to 120 A (AC)

## Power Cords



### Power cord "Plug type B to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x plug type B
- 1x socket IEC 60320 C13

Ord.No.

X00006459



### Power cord "Plug type I to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x plug type I (AS/NZS 3112, 3-pin)
- 1x socket IEC 60320 C13

Ord.No.

X00006460



### Power cord "Plug type G (BS 1363) to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x Plug type G (BS 1363)
- 1x socket IEC 60320 C13

Ord.No.

X00009832



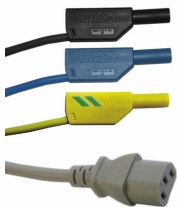
### Power cord "Class I grounded plug type E/F to IEC 60320 C13", 2.5 m

For supply via power socket.

- 1x class I grounded plug type E/F (CEE 7/7), straight
- 1x socket IEC 60320 C13

Ord.No.

M00481006



### Power cord with protective earth "stackable safety plug to IEC 60320 C13", 2.5 m

For supply via test voltage.

- 3x stackable, spring-loaded 4 mm plugs with rigid insulating sleeve (1x black, 1x blue, 1x yellow/green)
- 1x socket IEC 60320 C13

Ord.No.

100067609



**Power cord "Plug type D (BS 546)  
to IEC 60320 C13", 1.8 m**

For supply via power socket.

- 1x Plug type D (BS 546)
- 1x socket IEC 60320 C13

Ord.No. **100929900**



**Power cord "Plug type H"  
to IEC 60320 C13", 1.8 m**

For supply via power socket.

- 1x Plug type H
- 1x socket IEC 60320 C13

Ord.No. **100929903**

## Current Clamps (see also Special Accessories)



**MT3461, AC current clamp 120 A**

The CT is electronically compensated. Calibration independent from the measuring standard inclusive adjustment and factory calibration for one mains frequency.

Ord.No. **1016712xx**

Calibration	Ord.No.
Factory 50 Hz	xx → 00
Factory 60 Hz	xx → 01
DAkkS 50 Hz	xx → 02
DAkkS 60 Hz	xx → 03

**DAkkS calibrations are only performed together with the corresponding measuring standard.**

- Clamping diameter: 16 mm
- Output: D-Sub plug 25-pin
- Measuring range: 5 mA ... 120 A
- Error of measurement:
  - < ±0.15% @ 500 mA ... 120 A
  - < ±0.3% @ 100 mA ... < 500 mA
- Frequency range: 45 ... 65 Hz
- Overvoltage Category: CAT III 600 V / CAT IV 300 V

## Current and Voltage Cables (see also Special Accessories)



### Quick connection cable for voltage/current and power supply, 2.5 m, phase colours: red/black

For preventing connection faults on the instrument side and providing an easy and safe mains supply for MT68xs via test voltage. The quick connector plug consist also fuses to fulfill requirements of (CAT IV), an additional power connection box (100413250) is not applicable anymore.

Ord.No. **100983710**

- Instrument's side: 1x quick connector plug for voltage and current connection with attached power supply socket IEC 60320 C13.
- Mains side: 2x current cables with bended 4-mm- pin; 2x 4-mm- plugs for phase and neutral connection; 1x stackable 4-mm- plug (yellow/green) with 3.5 m length for grounding.
- For max. 120 A



### Laboratory cable with stackable plug, red, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00007597**



### Laboratory cable with stackable plug, black, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00006910**



### Current cable up to 120 A, on double-side socket, 2.0 m,

- 2x 6 mm socket
- Lead cross section: 35 qmm
- Phase colours: Please specify the colour code when ordering. The cables will get a corresponding coloured marking.  
**21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white**

Ord.No. **1011979xx**

xx please select the colour



#### Plug-in Adapter Pin 3 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 3 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120115**



#### Plug-in Adapter Pin 4,2 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 4,2 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120112**



#### Plug-in Adapter Pin 5,5 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 5,5 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120108**



#### Plug-in Adapter Pin 6 mm

The adapter is realized in brass silver plated.

The two sides of the pin have the same dimensions (6 mm) and are special designed for ZERA 6 mm socket system used with current test leads and/or connection to modern ZERA meter test system (MTS).

Ord.No. **Z10120109**



### Plug-in Adapter cable lug 8,5 mm closed

For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 8,5 mm-**cable lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **100640906**



### Plug-in Adapter cable lug 10,5 mm closed

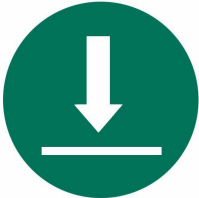
For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 10,5 mm-**cable lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **100640907**

## Software



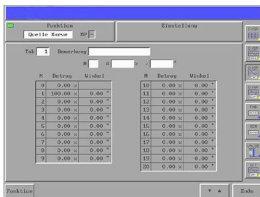
### Software SSM3000 / MTVis

The software runs under Windows 7 or 10.

- SSM3000: For external control via PC.
- MTVis: To readout and display saved data.

The software can be downloaded at [www.zera.de](http://www.zera.de).

Ord.No. **100090720**



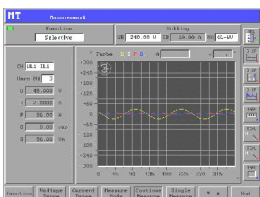
### Software Option for Curve Definition

Software module for generation of harmonic signals:

- Current up to 40<sup>th</sup>  
max. amplitude 40% from fundamental

The module included also defining of programmable wave forms in current line.

Ord.No. **100078841**



### Software option for selective power measurement MT681/MT680s/MT78x/MT36x

To determine and display active, reactive and apparent power on each harmonic value up to 40<sup>th</sup>.

Ord.No. **100078860**

## Impulse Sensor (see also Special Accessories)



### TK118, scanning head

For detection of LED signals of electronic meters.

- Fixing: Via provided suction cup or via optionally available stretchable holding device for scanning heads TK326/TK118.

Ord.No. **100201900**



### TK326, scanning head without holding device

For detection of rotor disc markings on Ferraris meters and LED signals on electronic meters.

- Fixing: Via stretchable holding device for scanning heads TK326/TK118.

Ord.No. **101064901**



### Holding device for scanning head TK326/ TK118

Stretchable holding device to fix the scanning head TK326 or TK118 at the electricity meter.

- Maximum wingspan: 19.0 cm.

Ord.No. **100319600**



### K121, S0 pulse converter with measuring leads

For pulse detection of floating contacts as well as of S0 pulse output on electricity meters. Including two laboratory cables with safety plug/connection pin.

Ord.No. **100004210**



### Connection cable for RJ10 socket input (SC)

The spiral cable for connecting of TKxxx or K121 to the ZERA instrument.

- 2x Modular connector RJ10
- Length: 1.00 m / expanded: 6.00 m

Ord.No. **Z10353027**



**ZZ8636 Start-stop pushbutton for signal entry**

The start-stop pushbutton is used for manual pulse entry when testing electricity meters.

Ord.No. **101091620**

**Connectors (see also Special Accessories)****Accessories bag with connection adapters**

01	Accessories bag	100214400
01	Spring clip	100606750
02	4 mm plug adapter (banana plug)	X00004962
02	Adapter for terminal blocks	101584400
04	Connecting terminals for current	X00011923
01	4 mm test clips (crocodile clips), slim	X00009329
01	4 mm test clips (crocodile clips), wide	X00010059
10	Fuse, 3.15 A, 5 mm x 20 mm, time-lag	M00460525

Ord.No. **100023736**

**Transport (see also Special Accessories)****Accessories case**

Aluminum case with inlet from rigid foam, designed for

- Test leads
- Scanning head
- Current clamps
- Etc.

Overall dimensions:

42 cm x 50 cm x 16 cm (H x W x D)

*Please clarify whether the case size is suitable for the ordered accessories.*

Ord.No. **X00004823**

**Standard Accessories (see also Special Accessories)****USB Flash Drive**

To store customer data and measuring values.  
Provides easy data transfer from the instrument to the PC.  
This flash drive is special formatted for ZERA instruments.

Ord.No. **101198310**



### Interface cable, RS232, crossed wired (null modem cable)

Connection cable for communication

- 2x D-Sub socket, 9-pin
- Cable length: 3.00 m

Ord.No.

X00010844

## Documentation



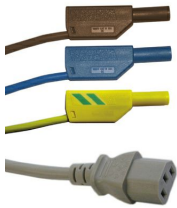
### Complete Documentation

as pdf files on USB flash drive

Ord.No.

100090716

## Special Accessories



### Power cord with protective earth "stackable safety plug to IEC 60320 C13", 2,5 m

For supply via test voltage.

- 3x stackable, spring-loaded 4 mm plugs with rigid insulating sleeve (1x brown, 1x blue, 1x yellow/green)
- 1x socket IEC 60320 C13

Ord.No.

100067610



### Power cord with protective earth "stackable safety plug to IEC 60320 C13", 2,5 m

For supply via test voltage.

- 3x stackable, spring-loaded 4 mm plugs with rigid insulating sleeve (1x red, 1x black, 1x yellow/green)
- 1x socket IEC 60320 C13

Ord.No.

100067611

## Special Accessories (Current and Voltage Cables)



### Quick connection cable for voltage/current and power supply, 2.5 m, 60 A, phase colours: red/green

For preventing connection faults on the instrument side and providing an easy and safe mains supply for MT680s via test voltage. The quick connector plug consist also fuses to fulfill requirements of (CAT IV), an additional power connection box (100413250) is not applicable anymore.

- Instrument's side: 1x quick connector plug for voltage and current connection with attached power supply socket IEC 60320 C13. Plug for Temperature sensor MT3450
- Mains side: 2x current cables with banded 4-mm- pin; 2x stackable 4-mm- plugs for phase and neutral connection; 1x stackable 4-mm- plug (yellow/green) with 3.5 m length for grounding.

Ord.No. **100983720**

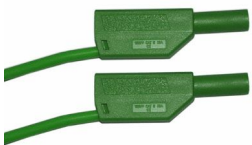


### Laboratory cable with stackable plug, violet, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00006909**



### Laboratory cable with stackable plug, green, 2.0 m

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00006908**



### Laboratory cable with stackable plug, brown, 2.0 m

Measurement category III (CAT III).

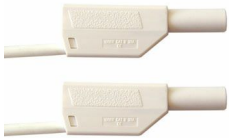
- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **100414100**

**Laboratory cable with stackable plug, grey, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **100414103****Laboratory cable with stackable plug, white, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **100662500****Laboratory cable with stackable plug, yellow, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00006907****Laboratory cable with stackable plug, blue, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No. **X00007598**



### Quick connection cable for voltage/current and power supply, 2.5 m, phase colours: red/green

For preventing connection faults on the instrument side and providing an easy and safe mains supply for MT680s via test voltage. The quick connector plug consist also fuses to fulfill requirements of (CAT IV), an additional power connection box (100413250) is not applicable anymore.

Ord.No. **100983731**

- Instrument's side: 1x quick connector plug for voltage and current connection with attached power supply socket IEC 60320 C13.
- Mains side: 2x current cables with banded 4-mm- pin; 2x 4-mm- plugs for phase and neutral connection; 1x stackable 4-mm- plug (yellow/green) with 3.5 m length for grounding.
- For max. 60 A
- with Temperature sensor MT3450

## Special Accessories (Connectors)

### Connecting terminals for current



- Insulating screw joint for flexible wire connection max cable size 1,5 ... 16 mm<sup>2</sup>
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00011923**

### Adapter for terminal blocks



- Connection via insulated flexible copper conductor.
- Socket: 4 mm rigid socket in insulator, made of brass, accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **101584400**

### 4 mm plug adapter (banana plug)



- Plug: 4 mm spring-loaded plug, made of brass.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004962**



#### 4 mm cable lug adapters

- Cable lug adapter, made of brass for permanent installation, e. g. for connecting screw terminals.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004963**



#### Spring clip

- Connection via spring clip.
- Socket: spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100606750**



#### Test plugs for terminal blocks

- Plug: 4 mm test plug, made of brass with spring-loaded plug for connecting into rail mounted terminals with 4 mm sockets.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100102400**



#### 4 mm test clips (crocodile clips), wide

- Crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00010059**



#### 4 mm test clips (crocodile clips), slim

- Small, slim crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00009329**



**Accessories bag without content**  
DIN A6, material: polypropylene

Ord.No. **100214400**

**Fuse, 3.15 A, 5 mm x 20 mm, time-lag**

Ord.No. **M00460252**



## Special Accessories (Transport)



**Accessories bag**

Nylon bag with inlet from rigid foam, designed for

- Test leads
- Scanning head
- Current clamps
- Etc.

Overall dimensions: 41 cm x 31 cm x 16 cm (H x W x D)

*Please clarify whether the bag size is suitable for the ordered accessories.*

Ord.No. **100148209**



**Nylon bag**

Nylon bag for transport of accessories. With smooth-rolling wheels and telescopic handle.

- Dimensions: H 490 mm x W 420 mm x D 250 mm

*Please clarify whether the bag size is suitable for the ordered accessories.*

Ord.No. **100148203**

## Special Accessories (General)



**Adapter "USB to RS232" (32/64 bit), 1.5 m**

For use with an external PC/Notebook (32/64 bit) with WINDOWS OS (7, 8, 10).

Ord.No. **101421801**

**MT3450, Temperature sensor**

Sensor for measuring of the ambient temperature on site. The measured temperature value is displayed and saved in the MT device.

Temperature range: -20° C ... +60° C ( $\pm 1^\circ$  C)

Resolution: 0,1° C

Cable length: 3 m

Ord.No. **100904000**

## Readjustment (for Service)

**Adjustment of MT68xs**

*Note:* Calibration and Calibration report are not included.

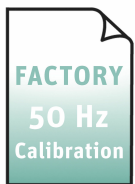
Ord.No. **100033896**

**Adjustment of current clamp MT3461**

*Note:* Calibration and Calibration report are not included.

Ord.No. **100033855**

## Calibration (for Service)



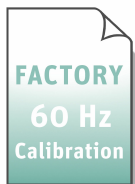
**Factory Calibration for MT68xs, 50 Hz**  
incl. ZERA calibration report.

Ord.No. **100519730**

**Load points according to ZERA regulations.**

Summary of used load points can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**Factory Calibration for MT68xs, 60 Hz**  
incl. ZERA calibration report.

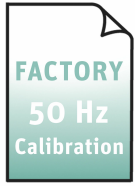
Ord.No. **100519731**

**Load points according to ZERA regulations.**

Summary of used load points can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



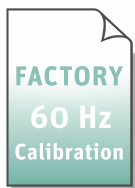


**Factory Calibration for MT3461 50Hz**  
incl. ZERA calibration report.

Ord.No. **101242306**

**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**Factory Calibration for MT3461 60Hz**  
incl. ZERA calibration report.

Ord.No. **101242307**

**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**Factory Calibration**  
**for instrument, each additional**  
**load point for power and energy**

Ord.No. **100007093**



**Factory Calibration**  
**for instrument, each additional**  
**load point for current and/or voltage**

Ord.No. **100007094**



**Factory Calibration**  
**for current clamps, each additional**  
**load point for for power and energy**

Ord.No. **100007092**



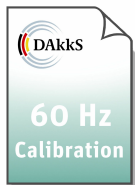
**DAkks DKD-Calibration for MT68xs, 50 Hz**  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100519630**

**Load points for the reference meter according to ZERA regulations.**

Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**DAkks DKD-Calibration for MT68xs, 60 Hz**  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100519631**

**Load points for the reference meter according to ZERA regulations.**

Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**DAkks DKD-Calibration for MT3461, 50 Hz**  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **101173910**

**Load points according to ZERA regulations.**

Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**DAkks DKD-Calibration for MT3461, 60 Hz**  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **101173911**

**Load points according to ZERA regulations.**

Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**DAkks DKD-Calibration (acc. IEC 17025)  
for instrument, each additional  
load point for power and energy**

Ord.No. **100006893**



**DAkks DKD-Calibration (acc. IEC 17025)  
for instrument, each additional  
load point for current / voltage**

Ord.No. **100006894**



**DAkks DKD-Calibration (acc. IEC 17025)  
for current clamps, each additional  
load point for power and energy**

Ord.No. **100006892**

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Kreissparkasse Köln  
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SWIFT (BIC): COKSDE33

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VAT-IdNo. DE 218 515 479  
WEEE-Reg.Nr. DE 53879641

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## Notes on using the product catalogue

When ordering, always state the order number.

Pictures can differ from original product.

We follow ZVEI terms of delivery, see on [www.zera.de](http://www.zera.de)