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**ZERA**

**COM3003**  
**Product Catalogue**

Doc.No: 100352712  
Version from: 01.07.2022

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## Device



### COM3003 Three Phase Comparator

Inclusive adjustment for one mains frequency.

Ord.No.

**101410101**

COM3003 is a highly precise Comparator which offers the opportunity to compare the tractability of the internal frequency and the AC/DC transfer voltage to external Standards. Due to the extreme good long term stability and reliable accuracy the Comparator is often used as Primary Standard at national Metrological Institutes or regional Bureaus of Standards. At accredited test labs from utilities or private holders the Comparator is frequent used to provide the traceability for the repetitive tasks of testing other portable and stationary meter test equipment.

#### Configuration:

- Direct current measurement up to 500 V / 160 A
- High accuracy (class 0,008) independent of measuring mode
- Comprehensive functionalities by integrated user software MT3701
- Pulse input (BNC) for power proportional signals from reference meters (BNC cable optional)
- Scanning head input for pulses from static or electromechanical meters (scanning head optional)



### COM3003[DC] Three Phase Comparator

Inclusive adjustment for one mains frequency.

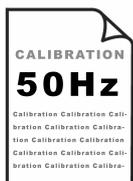
Ord.No. **101445200**

*COM3003[DC]* is a highly precise Comparator which offers the opportunity to compare the tractability of the internal frequency and the AC/DC transfer voltage to external Standards. Due to the extreme good long term stability and reliable accuracy the Comparator is often used as Primary Standard at national Metrological Institutes or regional Bureaus of Standards. At accredited test labs from utilities or private holders the Comparator is frequent used to provide the traceability for the repetitive tasks of testing other portable and stationary meter test equipment. The added DC measurement mode allows the measurement of real DC quantities.

#### Configuration:

- Direct current measurement up to 500 V / 160 A
- High accuracy (class 0,008) independent of measuring mode
- Added DC measuring mode
- Comprehensive functionalities by integrated user software MT3701
- Pulse input (BNC) for power proportional signals from reference meters (BNC cable optional)
- Scanning head input for pulses from static or electromechanical meters (scanning head optional)

## Factory Calibration for New Instrument



**AC Factory Calibration for NEW  
COM300x / COM300x DC, 50 Hz**  
incl. ZERA calibration report.

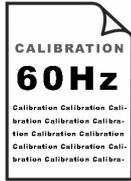
Ord.No. **100007006**

*This article applies only for a purchase of new device.*

#### **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.



**AC Factory Calibration for NEW  
COM100x / COM100x DC, 60 Hz**  
incl. ZERA calibration report.

Ord.No. **100007097**

*This article applies only for a purchase of new device.*

**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.



**AC-Factory Calibration for NEW  
COM100x / COM100x DC, 50 Hz**  
incl. ZERA calibration report.

Ord.No. **100007004**

*This article applies only for a purchase of new device.*

**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.



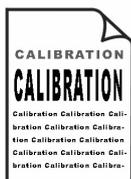
**AC-Factory Calibration for NEW  
COM300x / COM300x DC, 60 Hz**  
incl. ZERA calibration report.

Ord.No. **100007098**

*This article applies only for a purchase of new device.*

**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



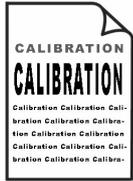
**DC Factory Calibration for NEW  
COM100x DC / COM300x DC**  
incl. ZERA calibration report.

Ord.No. **100519740**

*This article applies only for a purchase of new device.*

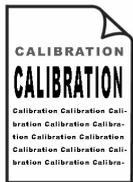
**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

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**

**DAkKS DKD-Calibration for Instrument**



**AC DAkKS DKD-Calibration 50 Hz**  
for COM300x / COM300x DC  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100006803**

**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.



**AC DAkKS DKD-Calibration 60 Hz**  
for COM300x / COM300x DC  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100519634**

**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.



**AC DAkKS DKD-Calibration 50 Hz**  
for COM100x / COM100x DC  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100006804**

**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.

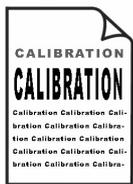


**AC DAkKS DKD-Calibration 60 Hz  
for COM100x / COM100x DC**  
incl. DKD-Calibration Certificate acc. IEC 17025

Ord.No. **100519635**

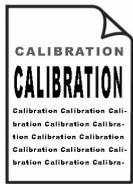
**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

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**

**Power Cords**



**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 “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)
- 1x socket IEC 60320 C13, angled

Ord.No. **M00481004**

**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 "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 and Voltage Cables (see also Special Accessories)



### 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, 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**



### 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 160 A , cable lug, closed // 2.0m

- 1x 8.5 mm cable lug,
- 1x 10.5 mm cable lug,
- Lead cross section: 50 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. **1012036xx**

xx please select the colour



### 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**

xx please select the colour

Ord.No. **1011979xx**



### 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**



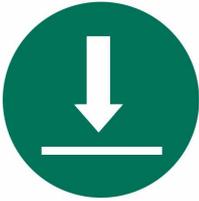
#### Current cable up to 120 A, double-side socket, 1.0 m, for connection between source and reference meter.

- 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. **1012006xx**

xx please select the colour

## 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.

Ord.No. **100090720**

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

## 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**



### TK326-1, 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**



### Connection cable for scanning head input (SC) on ZERA instruments with RJ10 socket

The spiral cable connects TKxxx and K121 to the instrument.

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

Ord.No. **Z10353027**

## Connectors (see also Special Accessories)



### Accessories bag with connection adapters (COM1003)

01	Accessories bag	100214400
02	Spring clip	100606750
02	Adapter for terminal blocks	101584400
02	4-mm test clips (crocodile clips), slim	X00009329
02	4-mm test clips (crocodile clips), wide	X00010059
10	Fuse, 3.15 A 5 mm x 20 mm, time-lag	M00460252

Ord.No. **100023738**



### Accessories bag with connection adapters (COM3003)

01	Accessories bag	100214400
04	Spring clip	100606750
02	Cable bridge, black, 0.25 m	X00003092
10	Adapter for terminal blocks	101584400
04	4-mm test clips (crocodile clips), slim	X00009329
06	4-mm test clips (crocodile clips), wide	X00010059
10	Fuse, 3.15 A 5 mm x 20 mm, time-lag	M00460252

Ord.No. **100023737**

## Transport (see also Special Accessories)



### Transport Case for COM1003/3003

Aluminum case with inlet from rigid foam, designed for

- 1 Instrument
- Accessories

Overall dimensions: 65,2 cm x 44,5 cm x 17,5 cm  
(H x W x D)

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

Ord.No. **X00010008**



### Transport Case 1 with wheels for COM1003/3003

Ultra High Impact Copolymer Polypropylene case with inlet from rigid foam, designed for

- 1 Instrument
- Accessories

Overall dimensions: 63,2 cm x 60,2 cm x 33,3 cm  
(H x W x D)

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

Ord.No. **100023907**

## Standard Accessories (see also Special Accessories)



### USB-Stick

To store customer data and measuring values. Provides easy data transfer from the instrument to the PC.

Ord.No. **101198310**



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

Connection cable

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

Ord.No. **X00010844**



### Coaxial cable with BNC plug, 3 m with BNC plugs on both cable sides

Ord.No. **Z09548330**

## Documentation



### Complete documentation as pdf files on USB Stick

Ord.No. **100090716**

## Special Accessories (Current and Voltage Cables)



### 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, 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, 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. **100739800**



- 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**

## Special Accessories (Connectors)



- Cable bridge, black, 0.25 m**

Ord.No. **X00003092**



#### 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. **X00004961**



#### 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 (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**



**Pulse shaper K129**  
 The adapter K129 can be connected between the TTL-output and the Fin-input. The TTL-level will be converted into an Open-Collector-output. The necessary power supply (> 3.4 V / approx. 40 µA) will be provided by the input, resp. output signal.

Ord.No. **100311100**



**Pulse Scaler K133**  
 The adaptor K133 is for the reduction ratio (1000:1, 100:1, 10:1, 1:1) of working standard pulses. Input pulse active 2 ... 24 V or open collector, max 350 kHz. Output open Collector with pullup to 12 V.

Ord.No. **100453200**

**Readjustment (only for Service)**



**AC-Adjustment of COM300x /COM300x DC**

Ord.No. **100033860**

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

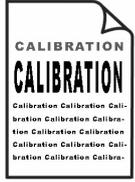


**AC-Adjustment of COM100x /COM100x DC**

Ord.No. **100033861**

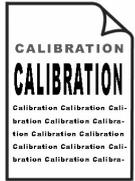
*Note:* Calibration and Calibration report are not included.





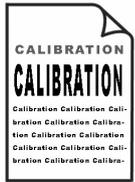
**Factory Calibration  
for instrument, each additional  
load point for power and energy**

Ord.No. **100007093**



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

Ord.No. **100007094**



**DC Factory Calibration for  
COM100x DC / COM300x DC  
incl. ZERA calibration report.**

Ord.No. **100519741**

**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.

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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)